bürkert
FLUID CONTROL SYSTEMS

# Pneumatically operated 2-way angle seat control valve ELEMENT

- Excellent combination of good control characteristic and high flow rate
- Long service life
- Control units can be mounted directly without external tubing
- Stainless steel housing with thread, clamp and weld end connection

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

## Can be combined with

**Type 8696** ▸
Digital electropneumatic positioner for integrated mounting on process control valves

**Type 8693** ▸
Digital electropneumatic process controller for integrated mounting on process control valves

**Type 8692** ▸
Digital electro-pneumatic positioner for integrated mounting on process control valves

**Type 8694** ▸
Digital electropneumatic positioner for integrated mounting on process control valves

**Type 8792** ▸
Digital electropneumatic positioner SideControl

**Type 8793** ▸
Digital electropneumatic Process Controller SideControl

**Type 8791** ▸
Digital electropneumatic positioner SideControl

**Type 8802** ▸
ELEMENT continuous control valve systems – overview

## Type description

In line with Bürkert's philosophy for modular valves and sensors the construction of Type 2300 angle-seat valve fulfils tough criteria for process environments. Unrivalled cycle life and sealing integrity is guaranteed by the proven self adjusting packing gland. The parabolic trim results in a flow characteristic approximately 35 % larger than conventional control valves. It is available in either stainless steel on stainless steel or with a durable PTFE seal for tight shut-off. The design enables the easy integration of automation modules whether they are digital electropneumatic positioner or process controller. The fully integrated system has a compact and smooth design, integrated pneumatic lines, IP65/67, NEMA Type 4X protection class and superior chemical resistance. This system has been engineered for reliable accurate control in applications where high flow rate is an advantage.

DTS 1000475061 EN Version: G Status: RL (released | freigegeben | validé) printed: 16.10.2024




Visit product website ▸

## Table of contents



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## 1. General technical data

| | |
|---|---|
| **Product properties** | |
| Dimensions | Further information can be found in chapter "5. Dimensions" on page 7. |
| Material | Further information can be found in chapter "4. Materials" on page 6. |
| Design | Angle seat control valve |
| Nominal diameter (port connection) | DN 10...DN 65, NPS ⅜...NPS 2½ |
| Safety setting in case of power failure | Normally closed (control function A), normally open (control function B) |
| Flow direction | Flow to open (below seat) |
| **Performance data** | |
| Operating pressure | 0 bar(g)...25 bar(g), vaccum versions up to - 0.9 bar(g) (option)<br>(see "6.1. Fluidic data" on page 13) |
| Nominal pressure | PN 25 (DIN EN 1333), Class 150 (DIN EN 1759) |
| Pilot pressure | 5.6 bar(g)...7 bar(g) (see "6.1. Fluidic data" on page 13) |
| Seat leakage | DIN EN 60534 - 4:2006 (see "6.1. Fluidic data" on page 13) |
| Leakage class III and IV | Stainless steel |
| Leakage class VI | PTFE and PEEK |
| $K_V$ value | 5 $m^3/h$...90 $m^3/h$ (see "6.1. Fluidic data" on page 13) |
| Operating characteristic | Modified equal percentage |
| **Medium data** | |
| Process medium | Steam, water, neutral gases, alcohols, oils, fuels, hydraulic fluids, salt solutions, alkalis, organic solvents and oxygen |
| Medium temperature | - 40 °C...+ 230 °C (see "6.2. Operating limits" on page 15) |
| Viscosity | Max. 600 $mm^2/s$ |
| Control medium | Air, neutral gases |
| **Process/Port connection & communication** | |
| **Port connection** | |
| 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 "3. Approvals and conformities" on page 4. | |
| Material certificate | 2.2, 3.1 |
| **Environment and installation** | |
| Ambient temperature | - 10 °C...+ 80 °C<br>(with remote sensor Type 8798 for positioner or process controller, Type 8791/8792/8793)<br>- 10 °C...+ 55 °C (with positioner or process controller, Type 8692/8693/8694) |
| Degree of protection | IP65/67 |
| Installation position | As required, preferably with actuator in upright position |

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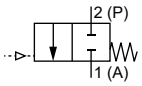
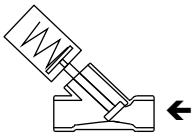
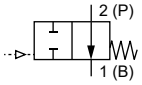
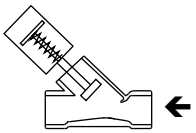
## 2. Control functions

| Symbol | Description | |
|---|---|---|
| **Flow direction below seat for fluids, steam and gases** | | |
|  | **Control function A (CF A)**<br>Pneumatically operated 2/2-way on/off valve<br>Flow direction below seat<br>Normally closed by spring force |  |
|  | **Control function B (CF B)**<br>Pneumatically operated 2/2-way on/off valve<br>Flow direction above seat<br>Normally opened by spring force |  |

## 3. Approvals and conformities

### 3.1. 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 versions can be supplied with the below mentioned approvals or conformities.

### 3.2. 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
- Machinery Directive 2006/42/EG

### 3.3. 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.

### 3.4. Explosion protection

| Approval | Description |
|---|---|
| | **Optional: Explosion protection**<br>As a category 2 device suitable for zone 1/21 and zone 2/22 (optional).<br><br>**ATEX:**<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<br><br>**IECEx:**<br>IECEx EPS 18.0007 X<br>Ex h IIC T4...T2 Gb<br>Ex h IIIC T135 °C...T300 °C Db |

| Temperature class | T2 | T3 | T4 |
|---|---|---|---|
| Permissible surface temperature | + 300 °C | + 200 °C | + 135 °C |
| Ambient temperature<br>Restrictions from the device | - 40...+ 80 °C | - 40...+ 80 °C | - 40...+ 80 °C |
| Maximum medium temperature<br>Restrictions from the device | + 230 °C | + 185 °C | + 125 °C |

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### 3.5. Drinking water

| Conformity | Description |
|---|---|
| $H_2O$ | **Suitable for use in drinking water applications**<br>The materials comply with the assessment principles (UBA) for materials in contact with drinking water (TrinkwasserV).<br><br>**Stainless steel body**<br>PF39: Suitable for products with medium temperature up to 85 °C (hot water) |

### 3.6. Foods and beverages/Hygiene

| Conformity | Description |
|---|---|
| FDA | **FDA – Code of Federal Regulations (valid for the variable code PL02)**<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. |
|  | **EC Regulation 1935/2004 of the European Parliament and of the Council (valid for the variable code PL01, PL02)**<br>All wetted materials are compliant with EC Regulation 1935/2004/EC according to the manufacturer's declaration. |

### 3.7. Others

**Oxygen**

| Conformity | Description |
|---|---|
| $O_2$ | **Optional: Suitability for oxygen (valid for the variable code NL02)**<br>The products are suitable for use with gaseous oxygen, according to the manufacturer's declaration. |

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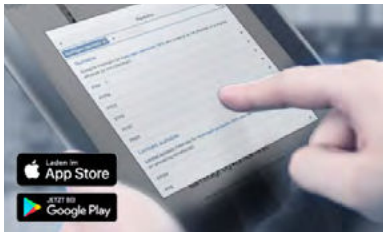
# 4. Materials

## 4.1. Bürkert resistApp

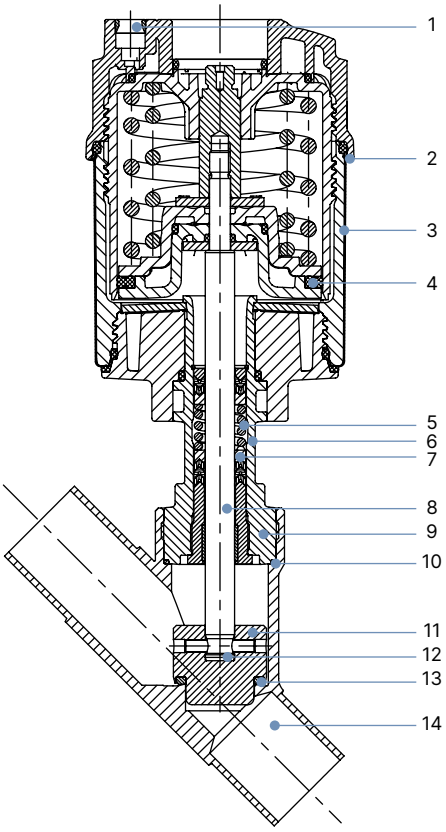



**Bürkert resistApp – Chemical resistance chart**

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

## 4.2. Material specifications




| No. | Element | Material |
|---|---|---|
| **1** | Pilot air ports | Push-in connector PP (standard) |
| **2** | Actuator | PPS |
| **3** | Cover | Stainless steel 1.4561 (316Ti) |
| **4** | Piston seal | FKM |
| **5** | Spring | Stainless steel 1.4310 |
| **6** | Pipe | Stainless steel CF3M |
| **7** | Spindle seal | PTFE V-rings (filled), with spring compensation |
| **8** | Spindle | Stainless steel 1.4401 (316)/1.4404 (316L) |
| **9** | Spindle guide | Stainless steel 1.4404 (316L) |
| **10** | Body seal | Graphite or PTFE |
| **11** | Control cone | Stainless steel 1.4571 |
| **12** | Spring pin | Stainless steel 1.4310 |
| **13** | Seat seal | Stainless steel 1.4571, PTFE or PEEK |
| **14** | Valve body | Stainless steel CF3M |

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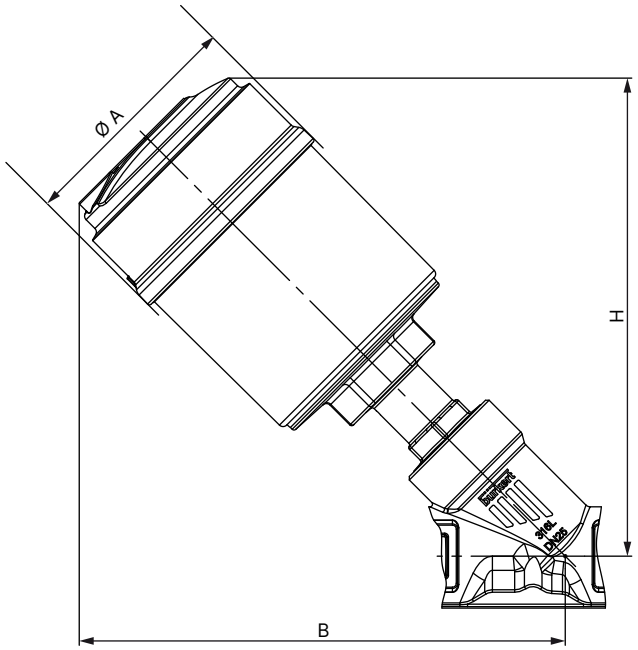
# 5. Dimensions

## 5.1. Actuator




| Nominal diameter (port connection) | | Actuator size | Ø A | B [1.)] | H [1.)] |
|---|---|---|---|---|---|
| DN | NPS | | | | |
| 10 | ⅜ | 50 (D) | 64.5 | 166 | 163 |
| | | 70 (M) | 91 | 182 | 178 |
| 15 | ½ | 50 (D) | 64.5 | 166 | 163 |
| | | 70 (M) | 91 | 182 | 178 |
| 20 | ¾ | 50 (D) | 64.5 | 174 | 171 |
| | | 70 (M) | 91 | 189 | 186 |
| 25 | 1 | 50 (D) | 64.5 | 175 | 173 |
| | | 70 (M) | 91 | 191 | 188 |
| | | 90 (N) | 120 | 228 | 227 |
| 32 | 1¼ | 90 (N) | 120 | 201 | 197 |
| | | 130 (P) | 159 | 243 | 242 |
| 40 | 1½ | 90 (N) | 120 | 247 | 246 |
| | | 130 (P) | 159 | 296 | 296 |
| 50 | 2 | 90 (N) | 120 | 262 | 261 |
| | | 130 (P) | 159 | 312 | 312 |
| 65 | 2½ | 130 (P) | 159 | 342 | 342 |

1.) The dimensions for B and H are maximum dimensions and may be up to 6 mm less, depending on the nominal diameter (port connection) and standard.

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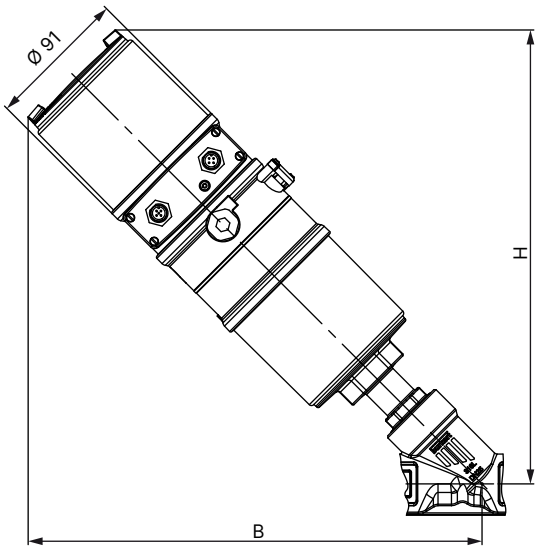
### Valve system Continuous ELEMENT

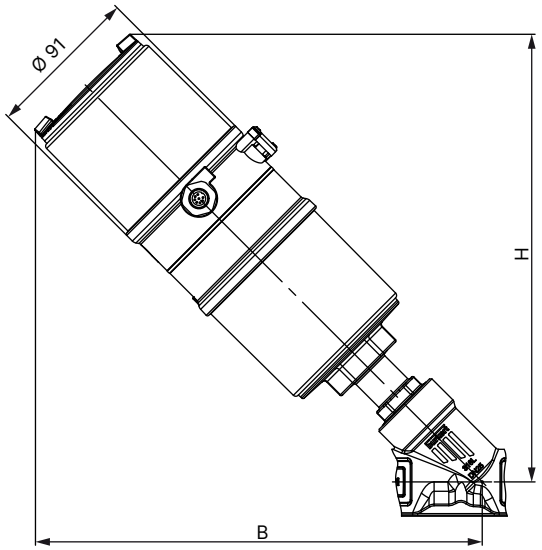
**Note:**

- Dimensions in mm
- Please note actuator size A in table "5.1. Actuator" on page 7

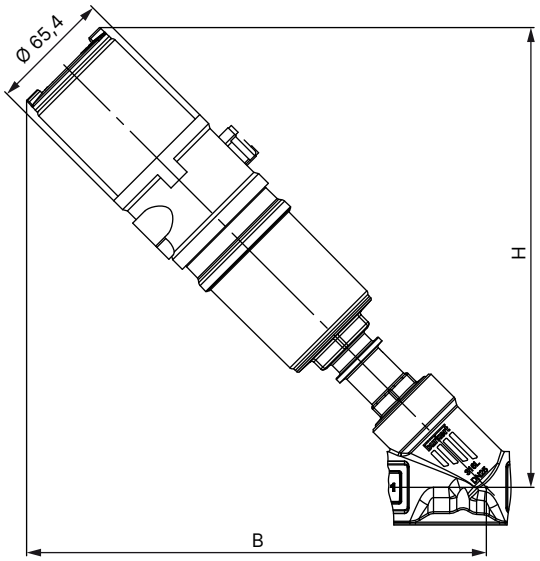
**With positioner TopControl Type 8692 ▶**
**or with process controller TopControl Type 8693 ▶**




**With positioner TopControl Basic Type 8694 ▶**




**With positioner TopControl Type 8696 ▶**




| Nominal diameter (port connection) | | Actuator size | B/H[1.] with | |
|---|---|---|---|---|
| DN | NPS | | Type 8692 or Type 8693 | Type 8694 or Type 8696 |
| 10 | ⅜ | 50 (D) | – | 239 |
| | | 70 (M) | 285 | 257 |
| 15 | ½ | 50 (D) | – | 239 |
| | | 70 (M) | 285 | 257 |
| 20 | ¾ | 50 (D) | – | 247 |
| | | 70 (M) | 293 | 264 |
| 25 | 1 | 50 (D) | – | 249 |
| | | 70 (M) | 295 | 266 |
| | | 90 (N) | 332 | 303 |
| 32 | 1¼ | 90 (N) | 304 | 276 |
| | | 130 (P) | 347 | 318 |
| 40 | 1½ | 90 (N) | 351 | 322 |
| | | 130 (P) | 387 | 359 |
| 50 | 2 | 90 (N) | 366 | 337 |
| | | 130 (P) | 403 | 375 |
| 65 | 2½ | 130 (P) | 433 | 405 |

1.) The dimensions for B and H are maximum dimensions and may be up to 6 mm less, depending on the nominal diameter (port connection) and standard.

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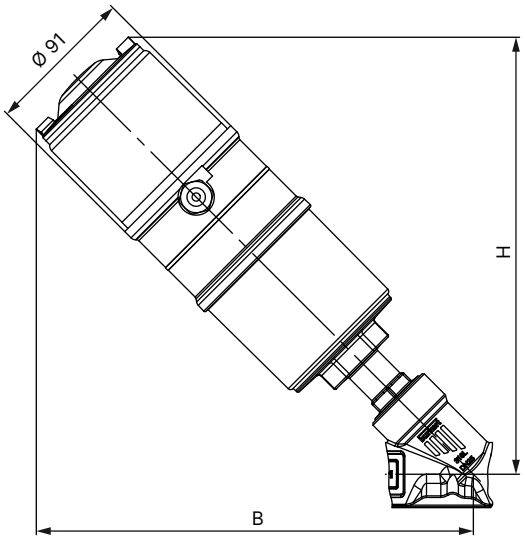
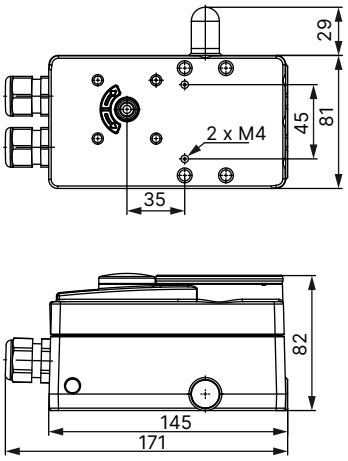
## With remote positioner SideControl Type 8792 ▶ or with remote process controller SideControl Type 8793 ▶




| Nominal diameter (port connection) | | Actuator size | B / H with 8792 or 8793 |
|---|---|---|---|
| DN | NPS | | |
| 10 | ⅜ | 70 (M) | 257 |
| 15 | ½ | 70 (M) | 257 |
| 20 | ¾ | 70 (M) | 264 |
| 25 | 1 | 70 (M) | 266 |
| | | 90 (N) | 303 |
| 32 | 1¼ | 90 (N) | 276 |
| | | 130 (P) | 318 |
| 40 | 1½ | 90 (N) | 322 |
| | | 130 (P) | 359 |
| 50 | 2 | 90 (N) | 337 |
| | | 130 (P) | 375 |
| 65 | 2½ | 130 (P) | 405 |

1.) The dimensions for B and H are maximum dimensions and may be up to 6 mm less, depending on the nominal diameter (port connection) and standard.

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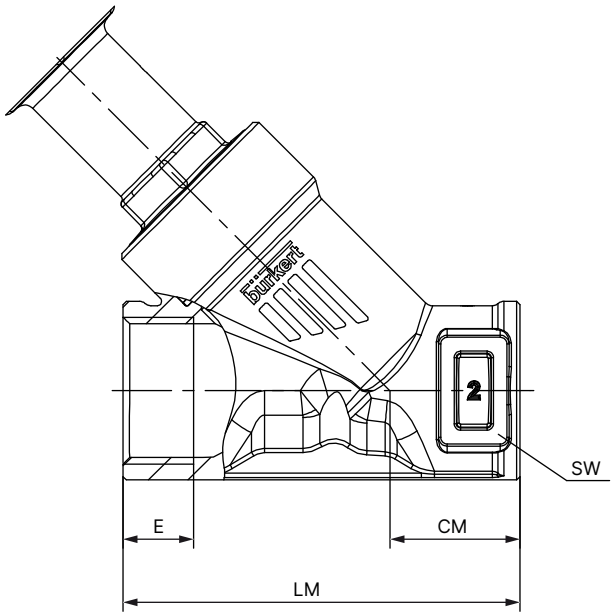
## 5.2. Body with threaded connection




| Nominal diameter (port connection) | | G (DIN ISO 228 - 1)<br>NPT (ASME B1.20.1)<br>RC (ISO 7 - 1) | | | | | |
|---|---|---|---|---|---|---|---|
| | | E | | | CM | LM | SW |
| DN | NPS | [G] | [NPT] | [RC] | | | |
| 15 | ½ | 14 | 13.7 | 13.2 | 24 | 65 | 27 |
| 20 | ¾ | 16 | 14.0 | 14.5 | 27 | 75 | 34 |
| 25 | 1 | 18 | 16.8 | 16.8 | 29.5 | 90 | 41 |
| 32 | 1¼ | 16 | 17.3 | 19.1 | 36 | 110 | 50 |
| 40 | 1½ | 18 | 17.3 | 19.1 | 35 | 120 | 55 |
| 50 | 2 | 24 | 17.6 | 23.4 | 45 | 150 | 70 |
| 65 | 2½ | 26 | 23.7 | 26.7 | 57 | 185 | 85 |

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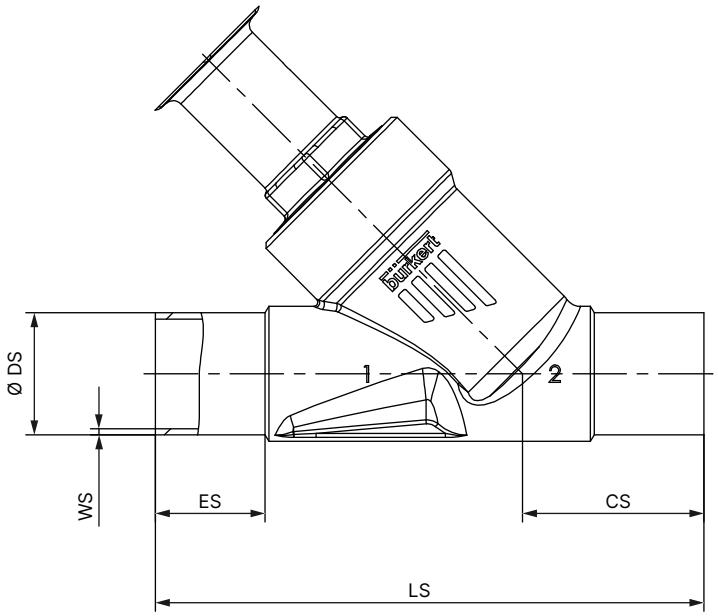
## 5.3. Body with welded connection




| Nominal diameter (port connection) | DIN EN ISO 1127 / ISO 4200 / DIN 11866 series B | | | | | DIN 11850 - 2 / DIN 11866 series A | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DN | ES | CS | LS | Ø DS | WS | ES | CS | LS | Ø DS | WS |
| 15 | 19 | 34 | 100 | 21.3 | 1.6 | 19 | 34 | 100 | 19 | 1.5 |
| 20 | 20 | 39 | 115 | 26.9 | 1.6 | 20 | 39 | 115 | 23 | 1.5 |
| 25 | 26 | 43 | 130 | 33.7 | 2.0 | 26 | 43 | 130 | 29 | 1.5 |
| 32 | 26 | 45 | 145 | 42.4 | 2.0 | 26 | 45 | 145 | 35 | 1.5 |
| 40 | 26 | 49 | 160 | 48.3 | 2.0 | 26 | 49 | 160 | 41 | 1.5 |
| 50 | 26 | 50 | 175 | 60.3 | 2.0 | 26 | 50 | 175 | 53 | 1.5 |
| 65 | 26 | 50 | 210 | 76.1 | 2.3 | 26 | 50 | 210 | 70 | 2 |

| Nominal diameter (port connection) | ASME BPE / DIN 11866 series C | | | | |
|---|---|---|---|---|---|
| NPS | ES | CS | LS | Ø DS | WS |
| ½ | 30 | 46 | 135 | 12.7 | 1.65 |
| ¾ | 30 | 52 | 145 | 19.05 | 1.65 |
| 1 | 30 | 51 | 152 | 25.4 | 1.65 |
| 1½ | 30 | 60 | 182 | 38.1 | 1.65 |
| 2 | 30 | 64 | 210 | 50.8 | 1.65 |
| 2½ | 26 | 56 | 230 | 63.5 | 1.65 |

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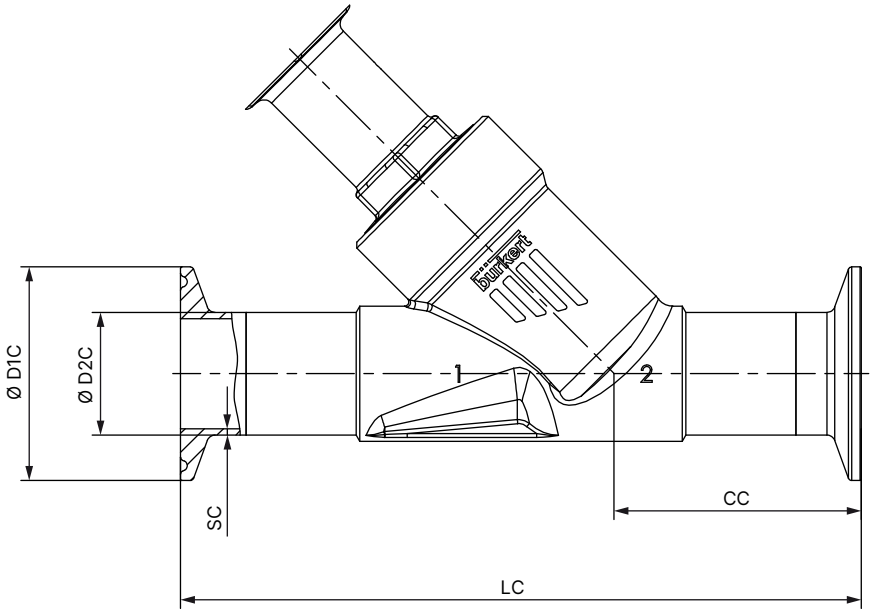
## 5.4. Body with clamp connection




| Nominal diameter (port connection) | Clamp: DIN 32676 series B<br>Pipe: DIN EN ISO 1127 / ISO 4200 / DIN 11866 series B | | | | | Clamp: DIN 32676 series A<br>Pipe: DIN 11850 - 2 / DIN 11866 series A | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **DN** | **LC** | **CC** | **Ø D1 C** | **ØD2 C** | **SC** | **LC** | **CC** | **Ø D1 C** | **Ø D2 C** | **SC** |
| 15 | 156 | 49.0 | 50.5 | 21.3 | 1.6 | 130 | 49.5 | 34.0 | 19 | 1.5 |
| 20 | 150 | 56.5 | 50.5 | 26.9 | 1.6 | 150 | 57.0 | 34.0 | 23 | 1.5 |
| 25 | 160 | 58.0 | 50.5 | 33.7 | 2.0 | 160 | 58.5 | 50.5 | 29 | 1.5 |
| 32 | 200 | 57.5 | 50.5 | 42.4 | 2.0 | 180 | 58.0 | 50.5 | 35 | 1.5 |
| 40 | 200 | 69.0 | 64.0 | 48.3 | 2.0 | 200 | 69.5 | 50.5 | 41 | 1.5 |
| 50 | 230 | 77.5 | 77.5 | 60.3 | 2.6 | 230 | 78.0 | 64.0 | 53 | 1.5 |

| Nominal diameter (port connection) | Clamp: ASME BPE<br>Pipe: ASME BPE / DIN 11866 series C | | | | |
|---|---|---|---|---|---|
| **NPS** | **LC** | **CC** | **Ø D1 C** | **Ø D2 C** | **SC** |
| ½ | 130 | 49.0 | 25.0 | 12.7 | 1.65 |
| ¾ | 150 | 56.5 | 25.0 | 19.05 | 1.65 |
| 1 | 160 | 58.0 | 50.5 | 25.4 | 1.65 |
| 1½ | 200 | 69.0 | 50.5 | 38.1 | 1.65 |
| 2 | 230 | 77.5 | 64.0 | 50.8 | 1.65 |

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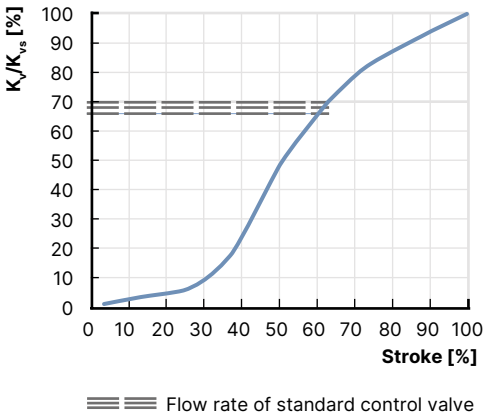
# 6. Performance specifications

## 6.1. Fluidic data

### Flow characteristics

**Note:**

- Modified equal percentage flow characteristic.
- Higher flow values compared to globe control valves




### Overview of fluidic data for flow below seat (for liquids, steam and gases)

**Note:**

- $K_V$ value [m³/h]: measurement with water according to DIN EN 60534 - 2 - 4
- Operating limits (see "6.2. Operating limits" on page 15)

| Nominal diameter (port connection) | | Actuator size Ø | Operating pressure max. CF A (seat leakage class) | | | $K_V$ value at stroke [m³/h] | | | | | | | | | | $K_{VS}$ value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Seat seal | | | | | | | | | | | | | |
| | | | Stainless steel | PTFE | PEEK | | | | | | | | | | | |
| DN | NPS | [mm] | [bar(g)] | | | 5 % | 10 % | 20 % | 30 % | 40 % | 50 % | 60 % | 70 % | 80 % | 90 % | [m³/h] |
| **ASME BPE (12.7 mm x 1.65 mm / 0.5" x 0.065")** | | | | | | | | | | | | | | | | |
| 15 | ½ | 50 (D) | 16 (IV) | 16 (VI) | 10 (VI) | 0.22 | 0.24 | 0.30 | 0.56 | 1.2 | 1.5 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| | | 70 (M) | 25 (IV) | 25 (VI) | 25 (VI) | | | | | | | | | | | |
| **Alle Normen** | | | | | | | | | | | | | | | | |
| 15 | ½ | 50 (D) | 16 (IV) | 16 (VI) | 10 (VI) | 0.16 | 0.17 | 0.22 | 0.40 | 1.2 | 2.7 | 3.5 | 4.0 | 4.5 | 4.8 | 5.0 |
| | | 70 (M) | 25 (IV) | 25 (VI) | 25 (VI) | | | | | | | | | | | |
| 20 | ¾ | 70 (M) | 25 (IV) | 25 (VI) | 10 (VI) | 0.26 | 0.27 | 0.40 | 1.1 | 4.0 | 5.9 | 7.2 | 8.3 | 9.1 | 9.6 | 10.0 |
| | | 90 (N) | 25 (IV) | 25 (VI) | 25 (VI) | | | | | | | | | | | |
| 25 | 1 | 70 (M) | 12 (IV) | 12 (VI) | 7 (VI) | 0.34 | 0.36 | 0.62 | 1.5 | 5.2 | 8.9 | 11.5 | 13.0 | 14.2 | 15.4 | 16.0 |
| | | 90 (N) | 25 (IV) | 25 (VI) | 20 (VI) | | | | | | | | | | | |
| 32 | 1¼ | 70 (M) | 6 (III) | 6 (VI) | – | 0.43 | 0.52 | 0.82 | 1.4 | 4.0 | 9.3 | 13.8 | 16.4 | 19.2 | 21.5 | 23.0 |
| | | 90 (N) | 16 (IV) | 16 (VI) | 10 (VI) | | | | | | | | | | | |
| | | 130 (P) | 25 (IV) | 25 (VI) | 20 (VI) | | | | | | | | | | | |
| 40 | 1½ | 90 (N) | 12 (III) | 12 (VI) | 7 (VI) | 0.47 | 0.62 | 1.1 | 2.6 | 10.0 | 17.0 | 21.5 | 25.5 | 29.0 | 31.5 | 34.0 |
| | | 130 (P) | 25 (IV) | 25 (VI) | 20 (VI) | 0.48 | 0.66 | 1.4 | 5.1 | 14.0 | 20.0 | 24.5 | 28.5 | 31.5 | 34.5 | 36.0 |
| 50 | 2 | 90 (N) | 7 (III) | 7 (VI) | – | 0.85 | 1.1 | 1.6 | 2.7 | 10.2 | 20.0 | 28.5 | 35.5 | 40.5 | 45.0 | 49.0 |
| | | 130 (P) | 25 (20 [1.]) (IV) | 25 (20 [1.]) (VI) | 20 (VI) | 0.87 | 1.2 | 1.8 | 4.0 | 15.2 | 26.0 | 35.0 | 40.5 | 45.0 | 48.0 | 53 |
| 65 | 2½ | 130 (P) | 16 (15 [1.]) (IV) | 16 (15 [1.]) (VI) | 10 (VI) | 1.7 | 2.0 | 6.5 | 20.0 | 35.0 | 48.0 | 58 | 67 | 75 | 83 | 90 |

1.) According to pressure equipment directive 97/23/EC for compressible fluids of group 1 (dangerous gases and vapours) according to article 3, number 1.3, letter a, first indent)

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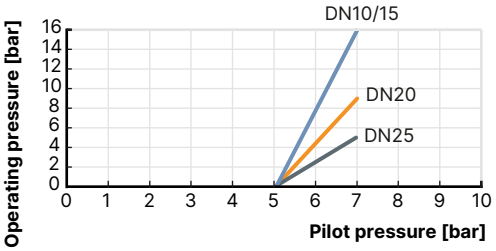
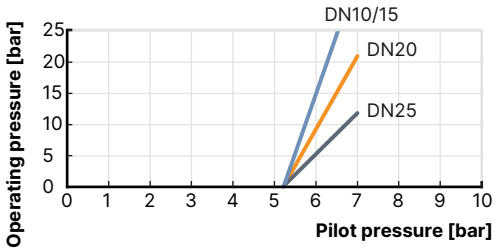
**Pilot pressure diagram with flow direction below seat (control function B)**

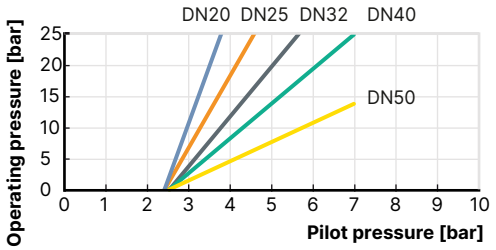
**Actuator size Ø 50 mm**
Maximum control pressure 7 bar(g)



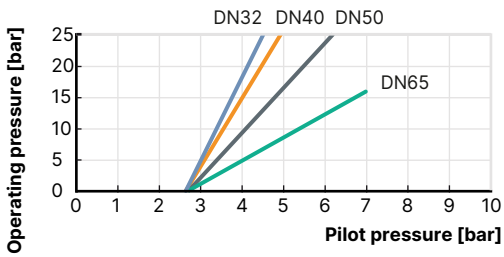

**Actuator size Ø 70 mm**
Maximum control pressure 7 bar(g)




**Actuator size Ø 90 mm**
Maximum control pressure 7 bar(g)




**Actuator size Ø 130 mm**
Maximum control pressure 7 bar(g)

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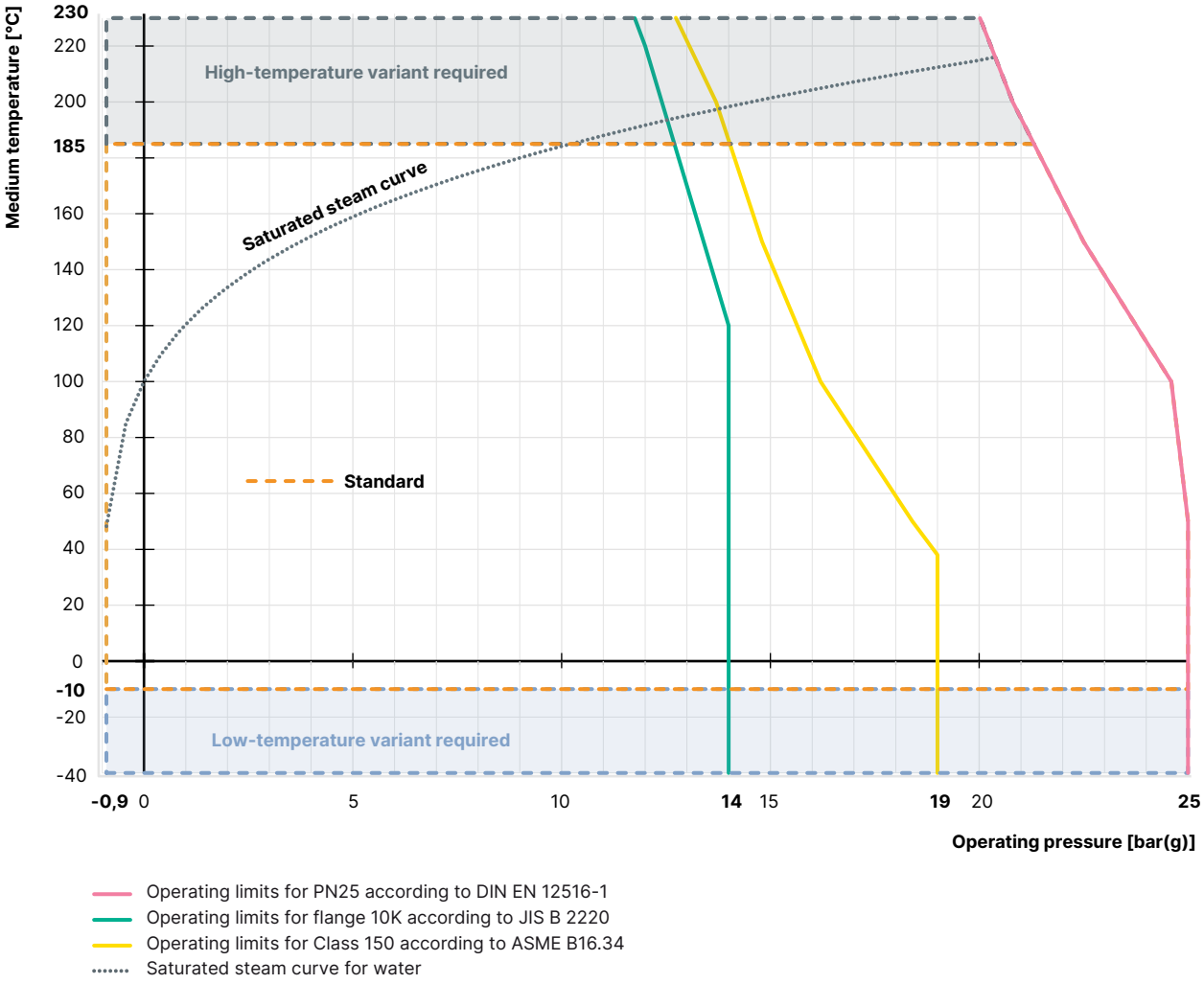
## 6.2. Operating limits

**Operating limits for medium temperature and operating pressure**

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

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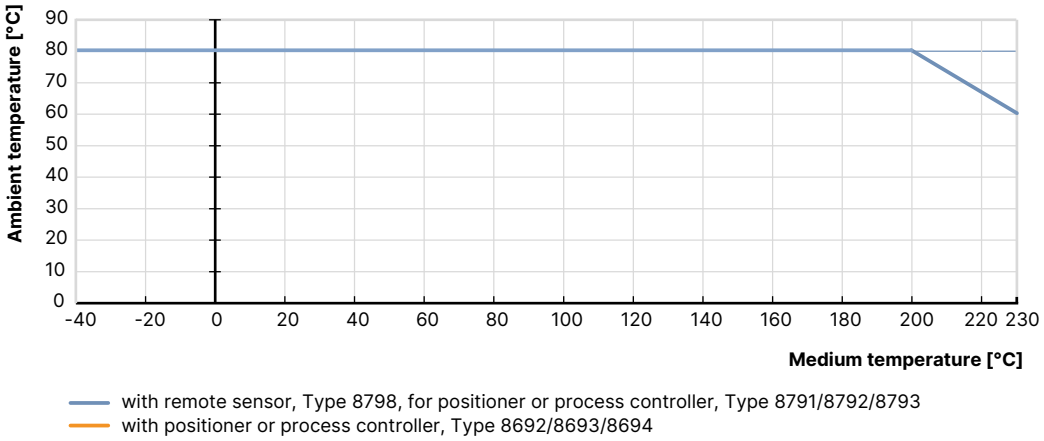
### Operating limits for ambient and medium temperature

**ELEMENT Actuator**




### Operating limits for seat seal

| Tight sealing required | Leakage class (DIN EN 60534 - 4) | Medium temperature | Seat seal |
|---|---|---|---|
| No<br><br>An additional shut-off valve is recommended | III/IV (metal seals)<br><br>Metal-sealed valves have larger leakages (0.1 % or 0.01 % of the nominal flow rate are permissible).<br><br>Metallic seals are impervious even under demanding process conditions. | - 40...+ 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...+ 130 °C (recommended for ≤ + 130 °C) | PTFE |
| | | - 10...+ 230 °C (recommended for > + 130 °C) | PEEK |

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**Operating limits for optional versions**

**High-temperature version**
Thanks to an adaption of the spindle seal, this version is suitable for applications with steam, neutral gases and other heat transfer mediums up to + 230 °C.

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

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

**Vacuum version**
Without leakage bore, this design is suitable for pressures down to - 0.9 bar(g).

**Low-temperature version**
Suitable for minimum medium temperatures down to - 40 °C

**Version for oxygen**
Non-metallic wetted materials are tested for suitability with oxygen and are suitable for operating pressures up to 25 bar(g) and medium temperatures up to+ 60 °C.

## 7. Product accessories

| **Process controller TopControl** | |
|---|---|
| **Type 8693 ▸ Actuator size Ø 70/90/130 mm** | |
|  | The intelligent process controller Type 8693 is designed for integrated mounting on pneumatic actuators from the process control valve series Type 23xx/2103 and especially for the requirements of hygienic process conditions. Using the TUNE functions, the positioner and process controller can be initialised automatically. Easy operation and selection of additional software functions as well as parameterisation are carried out via the large graphic display and a touch keypad. Device configuration and parameterisation can also be conveniently carried out by the Bürkert Communicator software via a PC interface.<br><br>**Features**<br>• Contactless position sensor<br>• Universal control system for single and double acting actuators<br>• Highly dynamic actuating system without internal control air consumption in the balanced state<br>• Integrated diagnostic functions for valve monitoring<br>• Automatic initialisation of the positioner and process controller using the TUNE function<br>• Safeguarding in the event of failure of the electrical or pneumatic auxiliary power<br>• PROFIBUS DPV1, EtherNet/IP, PROFINET, Modbus TCP, Bürkert system bus (büS)<br>• Compact and robust hygienic stainless steel design<br><br>**Customer benefits**<br>• Quick and easy commissioning<br>• Intuitive and simple operation via a graphic display with backlight and touch keypad<br>• High system availability due to increased drive service life by means of spring chamber ventilation<br>• Guaranteed reliability and predictable maintenance through valve monitoring and diagnostics<br>• Easy maintenance and process monitoring |

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## Positioner TopControl

### Type 8692 ▶ Actuator size Ø 70/90/130 mm

The intelligent electropneumatic positioner Type 8692 is designed for integrated attachment to pneumatic actuators of the process control valve series Type 23xx/2103 and especially for the requirements of hygienic process conditions. The positioner can be initialised automatically using the TUNE function. Easy operation and the selection of the extensive additional software functions as well as parameterisation are carried out via the large graphic display and the touch keypad. The device configuration and parameterisation can also be conveniently carried out using the Bürkert Communicator software via a PC interface.

**Features**

- Contactless position sensor
- Universal positioning system for single and double-acting actuators in the balanced state
- Highly dynamic positioning system without internal control air consumption
- Integrated diagnostic functions for valve monitoring
- Automatic initialisation of the positioner by using the TUNE function
- Safeguard in the event of failure of the electrical or pneumatic auxiliary power
- PROFIBUS DPV1, EtherNet/IP, PROFINET, Modbus TCP, Bürkert system bus (büS)
- Compact and robust hygienic stainless steel design

**Customer benefits**

- Quick and easy commissioning
- Intuitive and simple operation via graphic display with backlight and touch keypad
- High system availability due to increased drive service life by means of spring chamber ventilation
- Guaranteed reliability and predictable maintenance through valve monitoring and diagnostics

## Positioner TopControl BASIC

### Type 8694 ▶ Actuator size Ø 70/90/130 mm

The compact positioner Type 8694/8696 is designed for integrated attachment to pneumatic actuators of the Type 23xx/2103 process control valve series and especially for the requirements of hygienic process conditions. Operation and parameterisation are performed via push buttons and DIP switches. The device configuration and parameterisation can also be conveniently carried out using the Bürkert Communicator software via a PC interface.

**Features**

- Contactless position sensor
- Universal positioning system for single and double-acting actuators
- Ultra dynamic positioning system without internal control air consumption
- AS-Interface, IO-Link, Bürkert system bus (büS) (only 8694)
- Compact and robust hygienic stainless steel design

**Customer benefits**

- Simple and safe commissioning using the teach function
- Minimum space requirement in the plant pipework for more flexibility in plant design
- High system availability due to increased drive service life by means of spring chamber ventilation

### Type 8696 ▶ Actuator size Ø 50 mm

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## Process controller SideControl Remote

### Type 8793 ▸ with remote sensor 8798 ▸ Actuator size Ø 70/90/130 mm

The intelligent digital positioner and process controller Type 8793 is designed for mounting on lift or swivel drives with standardisation in accordance with IEC 534 - 6 or VDI/VDE 3845 for demanding control tasks. The variant with remote position sensor Type 8798 is used to control Bürkert process control valves. It is operated via a graphic display with backlight. The initialisation of the positioner and process controller can be done automatically using the TUNE function. The type of controlled system is automatically recognised and the appropriate controller structure with the corresponding optimum parameter set is determined.

**Features**

- Universal control system for single and double acting actuators
- Integrated diagnostic functions for valve monitoring
- Automatic initialisation of the position and process controller using the TUNE function
- Ultra-dynamic actuating system without internal control air consumption
- Illuminated graphic display with backlight and touch keypad
- PROFIBUS DPV1, EtherNet/IP, PROFINET, Modbus TCP, Bürkert system bus (büS)
- Compact and robust design
- Adaptation according to IEC 534 - 6 or VDI/VDE 3845 for lift and swivel drives or as remote variant on Bürkert process valves

**Customer benefits**

- Quick and easy commissioning
- Intuitive and simple operation via graphic display with backlight and touch keypad
- Guaranteed reliability and scheduled maintenance thanks to valve monitoring and diagnostics
- Easy maintenance and process monitoring
- Long service life

## Positioner SideControl Remote

### Positioner Type 8792 ▸ with remote sensor Type 8798 ▸ Actuator size Ø 70/90/130 mm

The intelligent digital positioner and process controller Type 8792 is designed for attachment to lift and swivel drives with standardisation according to IEC 534 - 6 or VDI/VDE 3845 for demanding control tasks. The Type 8798 version with remote position sensor is used to control Bürkert process control valves. It is operated via a graphic display with backlight. The initialisation of the positioner and process controller can be done automatically by using the TUNE function.

**Features**

- Illuminated graphic display with backlight and touch keypad
- Universal control system for single and double acting actuators
- Ultra-dynamic actuating system without internal control air consumption
- Integrated diagnostic functions for valve monitoring
- PROFIBUS DPV1, EtherNet/IP, PROFINET, Modbus TCP, Bürkert system bus (büS)
- Compact and robust design
- Adaptation according to IEC 534 - 6 or VDI/VDE 3845 for lift and swivel drives or as remote variant on Bürkert process valves

**Customer benefits**

- Quick and easy commissioning
- Intuitive and simple operation via a graphic display with backlight and touch keypad
- Guaranteed reliability and scheduled maintenance thanks to valve monitoring and diagnostics
- Long service life

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**Positioner SideControl BASIC Remote**

**Positioner Type 8791 ▶ with remote sensor Type 8798 ▶ Actuator size Ø 70/90/130 mm**

**Positioner IP20 Type 8791 ▶ with remote sensor Type 8798 ▶ Actuator size Ø 70/90/130 mm**

The intelligent digital positioner and process controller Type 8791/8798 is designed for mounting on linear and rotary actuators with standardisation in accordance with IEC 534 - 6 or VDI/VDE 3845 for demanding control tasks. The variant with remote position sensor Type 8798 is used for controlling Bürkert process control valves. It is operated via a graphic display with backlight. The positioner and process controller can be initialised automatically using the TUNE functions.

**Features**

- Simple design
- Universal control system for single and double acting actuators
- Highly dynamic actuating system without internal control air consumption in the balanced state
- Adaptation according to IEC 534 - 6 or VDI/VDE 3845 for lift and swivel drives or as remote variant on Bürkert process valves
- AS-Interface, IO-Link, Bürkert system bus (büS) (only for positioner Type 8791 BASIC Remote)

**Customer benefits**

- Simple commissioning
- Simple device for simple control tasks
- Low energy consumption

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## 8. Networking and combination with other Bürkert products

The **angle seat valve Type 2300** can be combined with the **process controller Type 8693** or the positioner controller **Type 8692/8694** to form the **Continuous ELEMENT valve system Type 8802-YG**.

**Note:**

- Use the **Product Enquiry Form** for the configuration of other valve systems (see "9.3. Bürkert Product Enquiry Form" on page 23).
- You order two components and receive a completely assembled and tested valve.

| Angle seat valve | | |
|---|---|---|
|  |  |  |
| **Type 2300 threaded connection** | **Type 2300 welded connection** | **Type 2300 clamp connection** |
| ▼ | ▼ | ▼ |
| **Positioner** | **Process controller** | **Positioner** |
|  |  |  |
| **Type 8692** ▶<br>Digital electropneumatic positioner for the integrated mounting on process control valves | **Type 8693** ▶<br>Digital electropneumatic process controller for the integrated mounting on process control valves | **Type 8694** ▶<br>Digital electropneumatic positioner for the integrated mounting on process control valves |
| ▼ | ▼ | ▼ |
| **Valve system Continuous ELEMENT** | | |
|  |  |  |
| **Type 8802-YG-I**<br>ELEMENT continuous valve system | **Type 8802-YG-J**<br>ELEMENT continuous valve system | **Type 8802-YG-L**<br>ELEMENT continuous valve system |

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The **angle seat valve Type 2300** can be combined with the **process controller Type 8793,** the **positioner Type 8792** or the **TopControl Basic Type 8696** to form the **Continuous ELEMENT valve system Type 8802-YG.**

**Note:**

- Use the **Product Enquiry Form** for the configuration of other valve systems (see "9.3. Bürkert Product Enquiry Form" on page 23).
- You order two components and receive a completely assembled and tested valve.

| Angle seat valve | | |
|---|---|---|
|  |  |  |
| **Type 2300 threaded connection** | **Type 2300 welded connection** | **Type 2300 clamp connection** |
| ▼ | ▼ | ▼ |
| **Positioner** | **Process controller** | **TopControl Basic** |
|  |  |  |
| **Type 8792** ▶<br>Digital electropneumatic positioner SideControl | **Type 8793** ▶<br>Digital electropneumatic process controller SideControl | **Type 8696** ▶<br>Digital electropneumatic positioner for the integrated mounting on process control valves |
| ▼ | ▼ | ▼ |
| **Valve system Continuous ELEMENT** | | |
|  |  |  |
| **Type 8802-YG-P**<br>ELEMENT continuous valve system | **Type 8802-YG-Q**<br>ELEMENT continuous valve system | **Type 8802-YG-N**<br>ELEMENT continuous valve system |

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# 9. Ordering information

## 9.1. 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

## 9.2. Bürkert product filter

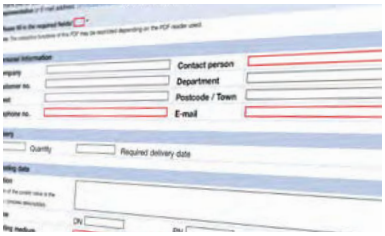
**Bürkert product filter – Get quickly to the right product**

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.

Try out our product filter

## 9.3. 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

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## 9.4. Ordering chart threaded connection

**Valves with flow direction below seat**

| Control function | Nominal diameter (port connection) | Port connection thread | Actuator size Ø | $K_{VS}$ value water | Operating pressure max. +185 °C | Article no. Seat seal | Leakage class | Article no. Seat seal | Leakage class |
|---|---|---|---|---|---|---|---|---|---|
| | DN | [inch] | [mm] | [m³/h] | [bar(g)] | PTFE | | Stainless steel | |
| **G thread** | | | | | | | | | |
| **A (CF A)** see control functions 1.) | 15 | G ½ | 50 (D) | 5 | 16 | 213712 | VI | 213763 | IV |
| | | G ½ | 70 (M) | 5 | 25 | 213713 | VI | 213764 | IV |
| | 20 | G ¾ | 70 (M) | 10 | 25 | 213715 | VI | 213766 | IV |
| | 25 | G 1 | 70 (M) | 16 | 12 | 213718 | VI | 213768 | IV |
| | | G 1 | 90 (N) | 16 | 25 | 245405 | VI | 229276 | IV |
| | 32 | G 1¼ | 70 (M) | 23 | 6 | 213719 | VI | 213769 | III |
| | | G 1¼ | 90 (N) | 23 | 16 | 245406 | VI | 225395 | IV |
| | 40 | G 1½ | 90 (N) | 34 | 12 | 213720 | VI | 213770 | III |
| | | G 1½ | 130 (P) | 36 | 25 | 223307 | VI | 223310 | IV |
| | 50 | G 2 | 90 (N) | 49 | 7 | 203500 | VI | 206230 | III |
| | | G 2 | 130 (P) | 53 | 25 (20 2.)) | 213697 | VI | 213708 | IV |
| | 65 | G 2½ | 130 (P) | 90 | 16 (15 2.)) | 239487 | VI | 239503 | IV |
| **B (CF B)** see control functions 1.) | 15 | G ½ | 50 (D) | 5 | See diagram 3.) | 213722 | VI | 223313 | IV |
| | | G ½ | 70 (M) | 5 | | 213721 | VI | 223314 | IV |
| | 20 | G ¾ | 70 (M) | 10 | | 213724 | VI | 223316 | IV |
| | 25 | G 1 | 70 (M) | 16 | | 213726 | VI | 223318 | III |
| | 32 | G 1¼ | 70 (M) | 23 | | 213727 | VI | 223319 | III |
| | 40 | G 1½ | 90 (N) | 34 | | 213728 | VI | 223320 | IV |
| | 50 | G 2 | 90 (N) | 49 | | 203510 | VI | 223321 | III |
| | 65 | G 2½ | 130 (P) | 90 | | 239495 | VI | 239511 | IV |
| **NPT thread** | | | | | | | | | |
| **A (CF A)** see control functions 1.) | 15 | NPT ½ | 50 (D) | 5 | 16 | 213729 | VI | 213771 | IV |
| | | NPT ½ | 70 (M) | 5 | 25 | 213730 | VI | 213772 | IV |
| | 20 | NPT ¾ | 70 (M) | 10 | 25 | 213732 | VI | 213774 | IV |
| | 25 | NPT 1 | 70 (M) | 16 | 12 | 213734 | VI | 213776 | IV |
| | | NPT 1 | 90 (N) | 16 | 25 | 465032 | VI | 464364 | IV |
| | 32 | NPT 1¼ | 70 (M) | 23 | 6 | 213736 | VI | 213777 | III |
| | | NPT 1¼ | 90 (N) | 23 | 16 | 465033 | VI | 464365 | IV |
| | 40 | NPT 1½ | 90 (N) | 34 | 12 | 213737 | VI | 213778 | III |
| | | NPT 1½ | 130 (P) | 36 | 25 | 223308 | VI | 223311 | IV |
| | 50 | NPT 2 | 90 (N) | 49 | 7 | 203537 | VI | 206239 | III |
| | | NPT 2 | 130 (P) | 53 | 25 (20 2.)) | 213699 | VI | 213709 | IV |
| | 65 | NPT 2½ | 130 (P) | 90 | 16 (15 2.)) | 239488 | VI | 239504 | IV |
| **B (CF B)** see control functions 1.) | 15 | NPT ½ | 50 (D) | 5 | See diagram 3.) | 213738 | VI | 223322 | IV |
| | | NPT ½ | 70 (M) | 5 | | 213739 | VI | 223323 | IV |
| | 20 | NPT ¾ | 70 (M) | 10 | | 213741 | VI | 223325 | IV |
| | 25 | NPT 1 | 70 (M) | 16 | | 213743 | VI | 223327 | III |
| | 32 | NPT 1¼ | 70 (M) | 23 | | 213744 | VI | 223328 | III |
| | 40 | NPT 1½ | 90 (N) | 34 | | 213745 | VI | 223329 | IV |
| | 50 | NPT 2 | 90 (N) | 49 | | 203546 | VI | 223330 | III |
| | 65 | NPT 2½ | 130 (P) | 90 | | 239486 | VI | 239512 | IV |

1.) Further information can be found in chapter "2. Control functions" on page 4.

2.) According to pressure equipment directive 97/23/EC for compressible fluids of group 1 (dangerous gases and vapours) according to article 3, number 1.3, letter a, first indent)

3.) See diagrams in chapter "Pilot pressure diagram with flow direction below seat (control function B)" on page 14.

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| Control function | Nominal diameter (port connection) | Port connection thread | Actuator size Ø | $K_{VS}$ value water | Operating pressure max. + 185 °C | Article no. Seat seal | Leakage class | Article no. Seat seal | Leakage class |
|---|---|---|---|---|---|---|---|---|---|
| | DN | [inch] | [mm] | [m³/h] | [bar(g)] | PTFE | | Stainless steel | |
| **RC thread** | | | | | | | | | |
| **A (CF A)** see control functions [1.)] | 15 | RC ½ | 50 (D) | 5 | 16 | 213746 | VI | 213779 | IV |
| | | RC ½ | 70 (M) | 5 | 25 | 213747 | VI | 213780 | IV |
| | 20 | RC ¾ | 70 (M) | 10 | 25 | 213749 | VI | 213782 | IV |
| | 25 | RC 1 | 70 (M) | 16 | 12 | 213751 | VI | 213784 | IV |
| | | RC 1 | 90 (N) | 16 | 25 | 245407 | VI | 245438 | IV |
| | 32 | RC 1¼ | 70 (M) | 23 | 6 | 213752 | VI | 213785 | III |
| | | RC 1¼ | 90 (N) | 23 | 16 | 245408 | VI | 245439 | IV |
| | 40 | RC 1½ | 90 (N) | 34 | 12 | 213753 | VI | 213786 | III |
| | | RC 1½ | 130 (P) | 36 | 25 | 223309 | VI | 223312 | IV |
| | 50 | RC 2 | 90 (N) | 49 | 7 | 203555 | VI | 206249 | III |
| | | RC 2 | 130 (P) | 53 | 25 (20 [2.)]) | 213700 | VI | 213710 | IV |
| | 65 | RC 2½ | 130 (P) | 90 | 16 (15 [2.)]) | 239489 | VI | 239506 | IV |
| **B (CF B)** see control functions [1.)] | 15 | RC ½ | 50 (D) | 5 | See diagram [3.)] | 213755 | VI | 223331 | IV |
| | | RC ½ | 70 (M) | 5 | | 213756 | VI | 223332 | IV |
| | 20 | RC ¾ | 70 (M) | 10 | | 213758 | VI | 223334 | IV |
| | 25 | RC 1 | 70 (M) | 16 | | 213760 | VI | 223336 | III |
| | 32 | RC 1¼ | 70 (M) | 23 | | 213761 | VI | 223337 | III |
| | 40 | RC 1½ | 90 (N) | 34 | | 213762 | VI | 223338 | IV |
| | 50 | RC 2 | 90 (N) | 49 | | 203564 | VI | 223339 | III |
| | 65 | RC 2½ | 130 (P) | 90 | | 239497 | VI | 239513 | IV |

1.) Further information can be found in chapter "2. Control functions" on page 4.

2.) According to pressure equipment directive 97/23/EC for compressible fluids of group 1 (dangerous gases and vapours) according to article 3, number 1.3, letter a, first indent)

3.) See diagrams in chapter "Pilot pressure diagram with flow direction below seat (control function B)" on page 14.

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## 9.5. Ordering chart welded connection

**Valves with flow direction below seat**

| Control function | Nominal diameter (port connection) | Connection Ø DS x WS | Actuator size Ø | $K_{VS}$ value water | Operating pressure max. +185 °C | Article no. Seat seal | Leakage class | Article no. Seat seal | Leakage class |
|---|---|---|---|---|---|---|---|---|---|
| | DN | [inch] | [mm] | [m³/h] | [bar(g)] | PTFE | | Stainless steel | |
| **DIN EN ISO 1127** | | | | | | | | | |
| **A (CF A)** see control functions 1.) | 15 | 21.3 × 1.6 | 50 (D) | 5 | 16 | 203565 | VI | 206250 | IV |
| | | 21.3 × 1.6 | 70 (M) | 5 | 25 | 203566 | VI | 206252 | IV |
| | 20 | 26.9 × 1.6 | 70 (M) | 10 | 25 | 203568 | VI | 206254 | IV |
| | 25 | 33.7 × 2 | 70 (M) | 16 | 12 | 203570 | VI | 206256 | III |
| | | 33.7 × 2 | 90 (N) | 16 | 25 | 245395 | VI | 245403 | IV |
| | 32 | 42.4 × 2 | 70 (M) | 23 | 6 | 203571 | VI | 206257 | III |
| | | 42.4 × 2 | 90 (N) | 23 | 16 | 204766 | VI | 245404 | IV |
| | 40 | 48.3 × 2 | 90 (N) | 34 | 12 | 203572 | VI | 206258 | III |
| | | 48.3 × 2 | 130 (P) | 36 | 25 | 223299 | VI | 223306 | IV |
| | 50 | 60.3 × 2.0 | 90 (N) | 49 | 7 | 274669 | VI | 274670 | III |
| | | 60.3 × 2.0 | 130 (P) | 53 | 25 (20 2.)) | 274672 | VI | 274673 | IV |
| | 65 | 76.1 × 2.3 | 130 (P) | 90 | 16 (15 2.)) | 239490 | VI | 217770 | IV |
| **B (CF B)** see control functions 1.) | 15 | 21.3 × 1.6 | 50 (D) | 5 | See diagram 3.) | 203574 | VI | 223340 | IV |
| | | 21.3 × 1.6 | 70 (M) | 5 | | 203575 | VI | 223341 | IV |
| | 20 | 26.9 × 1.6 | 70 (M) | 10 | | 203577 | VI | 223343 | IV |
| | 25 | 33.7 × 2 | 70 (M) | 16 | | 203579 | VI | 223345 | III |
| | 32 | 42.4 × 2 | 70 (M) | 23 | | 203580 | VI | 223346 | III |
| | 40 | 48.3 × 2 | 90 (N) | 34 | | 203581 | VI | 223347 | IV |
| | 50 | 60.3 × 2.0 | 90 (N) | 49 | | 274674 | VI | 274675 | III |
| | 65 | 76.1 × 2.3 | 130 (P) | 90 | | 239498 | VI | 239515 | IV |
| **DIN 11850 R2** | | | | | | | | | |
| **A (CF A)** see control functions 1.) | 15 | 19 × 1.5 | 50 (D) | 5 | 16 | 203583 | VI | 223349 | IV |
| | | 19 × 1.5 | 70 (M) | 5 | 25 | 203584 | VI | 223350 | IV |
| | 20 | 23 × 1.5 | 70 (M) | 10 | 25 | 203586 | VI | 223352 | IV |
| | 25 | 29 × 1.5 | 70 (M) | 16 | 12 | 203588 | VI | 223354 | III |
| | | 29 × 1.5 | 90 (N) | 16 | 25 | 245396 | VI | 245409 | IV |
| | 32 | 35 × 1.5 | 70 (M) | 23 | 6 | 203589 | VI | 223355 | III |
| | | 35 × 1.5 | 90 (N) | 23 | 16 | 204767 | VI | 245410 | IV |
| | 40 | 41 × 1.5 | 90 (N) | 34 | 12 | 203590 | VI | 223356 | III |
| | | 41 × 1.5 | 130 (P) | 36 | 25 | 223300 | VI | 223357 | IV |
| | 50 | 53 × 1.5 | 90 (N) | 49 | 7 | 203591 | VI | 223358 | III |
| | | 53 × 1.5 | 130 (P) | 53 | 25 (20 2.)) | 213702 | VI | 223359 | IV |
| | 65 | 70 × 2 | 130 (P) | 90 | 16 (15 2.)) | 239491 | VI | 239507 | IV |
| **B (CF B)** see control functions 1.) | 15 | 19 × 1.5 | 50 (D) | 5 | See diagram 3.) | 203592 | VI | 223360 | IV |
| | | 19 × 1.5 | 70 (M) | 5 | | 203593 | VI | 223361 | IV |
| | 20 | 23 × 1.5 | 70 (M) | 10 | | 203595 | VI | 223363 | IV |
| | 25 | 29 × 1.5 | 70 (M) | 16 | | 203597 | VI | 223365 | III |
| | 32 | 35 × 1.5 | 70 (M) | 23 | | 203598 | VI | 223366 | III |
| | 40 | 41 × 1.5 | 90 (N) | 34 | | 203599 | VI | 223367 | IV |
| | 50 | 53 × 1.5 | 90 (N) | 49 | | 203600 | VI | 223368 | III |
| | 65 | 70 × 2 | 130 (P) | 90 | | 239499 | VI | 239516 | IV |

1.) Further information can be found in chapter "2. Control functions" on page 4.

2.) According to pressure equipment directive 97/23/EC for compressible fluids of group 1 (dangerous gases and vapours) according to article 3, number 1.3, letter a, first indent)

3.) See diagrams in chapter "Pilot pressure diagram with flow direction below seat (control function B)" on page 14.

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| Control function | Nominal diameter (port connection) | Connection Ø DS x WS | Actuator size Ø | $K_{VS}$ value water | Operating pressure max. +185 °C | Article no. Seat seal | Leakage class | Article no. Seat seal | Leakage class |
|---|---|---|---|---|---|---|---|---|---|
| | DN [inch] | [inch] | [mm] | [m³/h] | [bar(g)] | PTFE | | Stainless steel | |
| **ASME BPE** | | | | | | | | | |
| **A (CF A)** see control functions [1.] | ½ | 12.7 × 1.65 | 50 (D) | 1.6 | 16 | 203601 | VI | 223369 | IV |
| | | 12.7 × 1.65 | 70 (M) | 1.6 | 25 | 203602 | VI | 223370 | IV |
| | ¾ | 19.05 × 1.65 | 70 (M) | 10 | 25 | 203604 | VI | 223372 | IV |
| | 1 | 25.4 × 1.65 | 70 (M) | 16 | 12 | 203606 | VI | 223374 | III |
| | | 25.4 × 1.65 | 90 (N) | 16 | 25 | 245397 | VI | 464366 | IV |
| | 1½ | 38.1 × 1.65 | 90 (N) | 34 | 12 | 203607 | VI | 212906 | III |
| | | 38.1 × 1.65 | 130 (P) | 36 | 25 | 223303 | VI | 223376 | IV |
| | 2 | 50.8 × 1.65 | 90 (N) | 49 | 7 | 203608 | VI | 223377 | III |
| | | 50.8 × 1.65 | 130 (P) | 53 | 25 (20 [2.]) | 213703 | VI | 223378 | IV |
| | 2½ | 63.5 × 1.65 | 130 (P) | 90 | 16 (15 [2.]) | 239492 | VI | 239508 | IV |
| **B (CF B)** see control functions [1.] | ½ | 12.7 × 1.65 | 50 (D) | 1.6 | See diagram [3.] | 203609 | VI | 223379 | IV |
| | | 12.7 × 1.65 | 70 (M) | 1.6 | | 203610 | VI | 223380 | IV |
| | ¾ | 19.05 × 1.65 | 70 (M) | 10 | | 203612 | VI | 223382 | IV |
| | 1 | 25.4 × 1.65 | 70 (M) | 16 | | 203614 | VI | 223384 | III |
| | 1½ | 38.1 × 1.65 | 90 (N) | 34 | | 203615 | VI | 223385 | IV |
| | 2 | 50.8 × 1.65 | 90 (N) | 49 | | 203616 | VI | 223386 | III |
| | 2½ | 63.5 × 1.65 | 130 (P) | 90 | | 239500 | VI | 239517 | IV |

1.) Further information can be found in chapter "2. Control functions" on page 4.

2.) According to pressure equipment directive 97/23/EC for compressible fluids of group 1 (dangerous gases and vapours) according to article 3, number 1.3, letter a, first indent)

3.) See diagrams in chapter "Pilot pressure diagram with flow direction below seat (control function B)" on page 14.

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## 9.6. Ordering chart clamp connection

**Valves with flow direction below seat**

| Control function | Nominal diameter (port connection) | Connection Ø D1 C x SC, Ø D2 C | Actuator size Ø | $K_{VS}$ value water | Operating pressure max. + 185 °C | Article no. Seat seal | Leakage class | Article no. Seat seal | Leakage class |
|---|---|---|---|---|---|---|---|---|---|
| | DN | [inch] | [mm] | [m³/h] | [bar(g)] | PTFE | | Stainless steel | |
| **ISO 2852** | | | | | | | | | |
| **A (CF A)** see control functions 1.) | 15 | 21.3 × 1.6. 50.5 | 50 (D) | 5 | 16 | o. r. | VI | o. r. | IV |
| | | 21.3 × 1.6. 50.5 | 70 (M) | 5 | 25 | 20010520 | VI | 378088 | IV |
| | 20 | 26.9 × 1.6. 50.5 | 70 (M) | 10 | 25 | 203652 | VI | 223426 | IV |
| | 25 | 33.7 × 2.0. 50.5 | 70 (M) | 16 | 12 | 203654 | VI | 223428 | III |
| | | 33.7 × 2.0. 50.5 | 90 (N) | 16 | 25 | 245401 | VI | 245414 | IV |
| | 32 | 42.4 × 2.0. 50.5 | 70 (M) | 23 | 6 | 203655 | VI | 223429 | III |
| | | 42.4 × 2.0. 50.5 | 90 (N) | 23 | 16 | 204768 | VI | 245415 | IV |
| | 40 | 48.3 × 2.0. 64.0 | 90 (N) | 34 | 12 | 203656 | VI | 223430 | III |
| | | 48.3 × 2.0. 64.0 | 130 (P) | 36 | 25 | 223304 | VI | 223431 | IV |
| | 50 | 60.3 × 2.6. 77.5 | 90 (N) | 49 | 7 | 203657 | VI | 223433 | III |
| | | 60.3 × 2.6. 77.5 | 130 (P) | 53 | 25 (20 2.)) | 213706 | VI | 223434 | IV |
| **B (CF B)** see control functions 1.) | 15 | 21.3 × 1.6. 50.5 | 50 (D) | 5 | See diagram 2.) | o. r. | VI | o. r. | IV |
| | | 21.3 × 1.6. 50.5 | 70 (M) | 5 | | o. r. | VI | o. r. | IV |
| | 20 | 26.9 × 1.6. 50.5 | 70 (M) | 10 | | 203661 | VI | 223438 | IV |
| | 25 | 33.7 × 2.0. 50.5 | 70 (M) | 16 | | 203663 | VI | 223440 | III |
| | 32 | 42.4 × 2.0. 50.5 | 70 (M) | 23 | | 203664 | VI | 223441 | III |
| | 40 | 48.3 × 2.0. 64.0 | 90 (N) | 34 | | 203665 | VI | 223442 | IV |
| | 50 | 60.3 × 2.6. 77.5 | 90 (N) | 49 | | 203666 | VI | 223443 | III |
| **ASME BPE** | | | | | | | | | |
| **A (CF A)** see control functions 1.) | ½ | 12.7 × 1.65. 25.0 | 50 (D) | 1.6 | 16 | 203667 | VI | 223444 | IV |
| | | 12.7 × 1.65. 25.0 | 70 (M) | 1.6 | 25 | 203668 | VI | 223445 | IV |
| | ¾ | 19.05 × 1.65. 25.0 | 70 (M) | 10 | 25 | 203670 | VI | 223447 | IV |
| | 1 | 25.4 × 1.65. 50.5 | 70 (M) | 16 | 12 | 203672 | VI | 223449 | III |
| | | 25.4 × 1.65. 50.5 | 90 (N) | 16 | 25 | 245402 | VI | 245416 | IV |
| | 1½ | 38.1 × 1.65. 50.5 | 90 (N) | 34 | 12 | 203673 | VI | 223450 | III |
| | | 38.1 × 1.65. 50.5 | 130 (P) | 36 | 25 | 223305 | VI | 223451 | IV |
| | 2 | 50.8 × 1.65. 64.0 | 90 (N) | 49 | 7 | 203674 | VI | 223452 | III |
| | | 50.8 × 1.65. 64.0 | 130 (P) | 53 | 25 (20 2.)) | 213707 | VI | 223453 | IV |
| **B (CF B)** see control functions 1.) | ½ | 12.7 × 1.65. 25.0 | 50 (D) | 1.6 | See diagram 2.) | 203675 | VI | 223454 | III |
| | | 12.7 × 1.65. 25.0 | 70 (M) | 1.6 | | 203677 | VI | 223455 | IV |
| | ¾ | 19.05 × 1.65. 25.0 | 70 (M) | 10 | | 203679 | VI | 223457 | IV |
| | 1 | 25.4 × 1.65. 50.5 | 70 (M) | 16 | | 203681 | VI | 223459 | III |
| | 1½ | 38.1 × 1.65. 50.5 | 90 (N) | 34 | | 203682 | VI | 223460 | IV |
| | 2 | 50.8 × 1.65. 64.0 | 90 (N) | 49 | | 203683 | VI | 223461 | III |

o. r. = on request

1.) Further information can be found in chapter "2. Control functions" on page 4.

2.) See diagrams in chapter "Pilot pressure diagram with flow direction below seat (control function B)" on page 14.

**Further versions on request**

| | |
|---|---|
| **Process connection** Clampaccording to DIN 32676, BS4825 | **Circuit function** B (normally open) and I (double-acting) |

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