



## Electromotive 2-way tank bottom diaphragm valve (positioner)

- Safety position through energy storage
- Adjustable driving force
- Diagnostics functions and fieldbus connection
- Wetted surfaces in  $Ra \leq 0.38 \mu\text{m} \dots 1.6 \mu\text{m}$  (optionally electropolished)
- Available in nominal diameters DN 06...DN 100



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

### Can be combined with

|   |   |   |
|---|---|---|
|   | <b>Type SV02</b><br>Diaphragms  | ▶ |
|  | <b>Type ME61</b><br>EDIP process display                              | ▶ |
|  | <b>Type ME63</b><br>Industrial Ethernet gateway,<br>IP65/ IP67/ IP69k | ▶ |
|  | <b>Type ME43</b><br>Fieldbus gateway                                  | ▶ |
|  | <b>Type 8098</b><br>FLOWave SAW flowmeter                             | ▶ |

### Type description

The externally controlled Type 3365 diaphragm valve consists of an electrically controlled linear actuator (positioner), a diaphragm and a tank bottom valve body. The electric actuator with ball screw ensures usage under hygienic or aggressive ambient conditions. The flow-optimised valve body with minimum dead space enables high flow rates and a wide range of possible applications. An optional energy storage device guarantees the safety position in the event of a power failure. The position is indicated by means of a 360° LED light ring. To protect the diaphragm the actuator has a drive force adjustment. A correspondingly high IP protection IP65/IP67 ensures adequate splash protection. The electromotive actuator of the tank bottom diaphragm valve with ball screw moves to the desired end position at a particularly high speed up to 4 mm/s. In addition the valve is also equipped with a mechanical position indicator and corresponding explosion protection ATEX/II 3G Ex ec IIC T4 Gc/II 3D Ex tc IIIC T135 °C Dc.

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## 1. General technical data

### Note:

- AG2: actuator size 2 with a nominal force of 1300 or 2500 N for diaphragm size 8...40
- AG3: actuator size 3 with a nominal force of 7700 or 11500 N for diaphragm size 40...100

| Product properties                                 |  |
|--|--|
| Dimensions   | Further information can be found in chapter <b>"4. Dimensions"</b> on page 8.  |
| <b>Material</b>                                    |  |
| Block body (VH) <sup>1)</sup>                      | Bloc material 1.4435 according to DIN EN 10088 and 316 I according to ASTM A479/A479M  |
| Block body (VI) <sup>1)</sup>                      | Bloc material 1.4435 according to BN2 and 316L according to ASME BPE table DT- 3   |
| Design   | Diaphragm control valve  |
| Diaphragm  | EPDM (AD) <sup>1)</sup> , PTFE/EPDM (EA) <sup>1)</sup> , Advanced PTFE/EPDM (EU) <sup>1)</sup> , laminate of GYLON® and EPDM (ER) <sup>1)</sup>  |
| Diaphragm size                                     | 8...100  |
| <b>Standard surface quality</b> <sup>2)</sup>      |  |
| Block body (VI etc) <sup>1)</sup>                  | Internally electrically polished: Ra ≤ 0.38 µm (NO17) <sup>1)</sup> (ASME BPE SF4/DIN HE4)<br>(externally surface electrically polished)<br>Internally mechanically polished: Ra ≤ 0.5 µm (NO14) <sup>1)</sup> (ASME BPE SF1)<br>(externally surface mechanically machined)  |
| Safety setting in case of power failure            | With energy storage SAFEPOS energy-pack: open, closed or freely programmable<br>Without energy storage SAFEPOS energy-pack: blocked in last position   |
| Service life of energy storage SAFEPOS energy-pack | Up to 10 years (depending on operating conditions)   |
| Controller variant                                 | Positioner or process controller (optional)  |
| <b>Performance data</b>                            |  |
| Closing time                                       | AG2: 1.5...4.5 s<br>AG3: 5.7...12.0 s<br>(Depending on travel speed, stroke and operating conditions)  |
| Travel speed                                       | 4 mm/s (for AG2 actuator force 2500 N)<br>3 mm/s (for AG3 actuator force 11500 N)  |
| Dead band of the positioner                        | ± 0.4 %  |
| <b>Electrical data</b>                             |  |
| Operating voltage                                  | 24 V DC ± 10 % (maximum residual ripple 10 %)  |
| Operating current <sup>3)</sup>                    | AG2: maximum 3 A (at maximum load and including 1 A charging current of the optional energy storage SAFEPOS energy-pack). At minimum operating temperature additionally 2 A<br><br>AG3: maximum 5 A (at maximum load and including charging current of the optional energy storage SAFEPOS energy-pack). At minimum operating temperature additionally 6 A |
| Protection class (DIN EN 61140)                    | III  |
| Duty cycle   | 100 %  |
| Standby consumption <sup>3)</sup>                  | 1...5 W  |
| <b>Communication and control</b>                   |  |
| Standard signal (analogue)                         | Set-point value: 0/4...20 mA, 0...5/10 V and binary input (optionally further inputs and outputs, see <b>"5.2. Electrical control and interfaces"</b> on page 16)  |
| Fieldbus (digital)                                 | Bürkert system bus (bÜS)<br>CANopen (optionally)<br>EtherNet/IP, PROFINET, Modbus/TCP (optionally, via integrated gateway)   |
| <b>Medium data</b>                                 |  |
| Operating medium                                   | Neutral gases and fluids, highly purified, sterile, aggressive or abrasive mediums<br>(see <b>chemical resistance chart</b> ►)   |
| <b>Medium temperature</b>                          |  |
| EPDM (AD) <sup>1)</sup>                            | - 10...+ 143 °C (steam sterilisation + 150 °C for 60 min)  |
| PTFE/EPDM (EA) <sup>1)</sup>                       | - 10...+ 130 °C (steam sterilisation + 140 °C for 60 min)  |
| Advanced PTFE/EPDM (EU) <sup>1)</sup>              | - 5...+ 143 °C (steam sterilisation + 150 °C for 60 min)   |
| Laminate of GYLON® and EPDM (ER) <sup>1)</sup>     | - 5...+ 130 °C (steam sterilisation + 140 °C for 60 min)   |

### Process/Port connection & communication

Nominal diameter (port connection) DN 06...DN 100 (1/8"... 4")

#### Port connection <sup>2.)</sup>

##### For stainless steel body

|                                  |  |
|----------------------------------|--|
| Welded connection <sup>2.)</sup> | DIN EN ISO 1127 / ISO 4200 / DIN 11866 series B<br>DIN 11850 - 2 / DIN 11866 series A / DIN EN 10357 series A<br>ASME BPE / DIN 11866 series C |
| Clamp connection <sup>2.)</sup>  | DIN 32676 series A (DIN pipe)<br>DIN 32676 series B (ISO pipe)<br>ASME BPE   |

#### Electrical connection

|                  |  |
|------------------|--|
| Actuator         | Terminal strip with cable gland (only AG2), 2 x M20 or 2 x M12 circular plugs, 5-pin and 8-pin |
| Fieldbus gateway | 2 x M12 circular sockets, 4-pin (only with Industrial Ethernet)                                |

### Approvals and conformities

Further information can be found in chapter **"2. Approvals and conformities"** on page 5.

Detergent resistance According to Ecolab test method: R&D/P3-E No. 40 - 1

### Environment and installation

|                       |  |
|-----------------------|--|
| Ambient temperature   | - 10 °C... + 65 °C <sup>4.)</sup> (without display)<br>- 10 °C... + 60 °C <sup>4.)</sup> (with display)<br>- 10 °C... + 55 °C <sup>4.)</sup> (with energy storage SAFEPOS energy-pack) |
| Degree of protection  | IP65/IP67 (DIN EN 60529), NEMA 4X  |
| Installation position | As required, preferably with actuator upright  |

1.) This information is part of the product key (see **"7.3. Bürkert Product Enquiry Form"** on page 22).

2.) Other approvals/declarations of conformity/certificates are available on request.

3.) All values relate to a supply voltage of 24 V at + 25 °C.

4.) Depends on medium temperature, see chapter **"Operating limits for ambient and medium temperature"** on page 14

## 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 versions 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.


### 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 PX48)</b><br/>As a category 3 device suitable for zone 2/22.</p> <p><b>ATEX:</b><br/>BVS 17 ATEX E 117 X<br/>II 3G Ex ec IIC T4 Gc<br/>II 3D Ex tc IIIC T135 °C Dc</p> <p><b>IECEx:</b><br/>IECEx BVS 17.0100X<br/>Ex ec IIC T4 Gc<br/>Ex tc IIIC T135 °C Dc</p> |

### 2.5. North America (USA/Canada)

| Approval  | Description   |
|---|---|
|  | <p><b>Optional: Actuators UL Listed for the USA and Canada (valid for the variable code PU11)</b><br/>The actuators are UL Listed for the USA and Canada according to:</p> <ul style="list-style-type: none"> <li>• UL 61010-1 (ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE – Part 1: General Requirements)</li> <li>• CAN/CSA-C22.2 No. 61010-1</li> </ul> |


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## 2.6. Foods and beverages/Hygiene

| Conformity  | Description  |
|---|--|
|  | <b>3-A Sanitary Standards Inc. (valid for the variable code PE05)</b><br>The products comply with 3-A Sanitary Standards Inc (3-A SSI) as per certificate.   |
| FDA   | <b>FDA – Code of Federal Regulations</b><br>The diaphragms made of EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU) and laminate of GYLON® and EPDM (ER) comply with the Code of Federal Regulations published by the FDA (Food and Drug Administration, USA).                       |
| USP   | <b>United States Pharmacopeial Convention (USP)</b><br>The diaphragms made of EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU) and laminate of GYLON® and EPDM (ER) are tested according to USP Class VI.  |
|  | <b>EC Regulation 1935/2004 of the European Parliament and of the Council</b><br>The diaphragms made of EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU) and laminate of GYLON® and EPDM (ER) are suitable for use with food and beverages (according to EC Regulation 1935/2004/EC). |

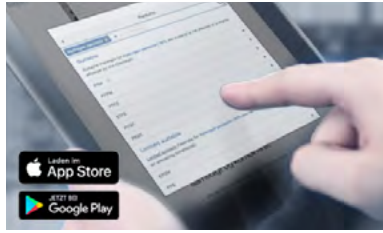
## 2.7. Others

### Oxygen

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

### 3. Materials

#### 3.1. Bürkert resistApp



#### Bürkert resistApp – Chemical resistance chart

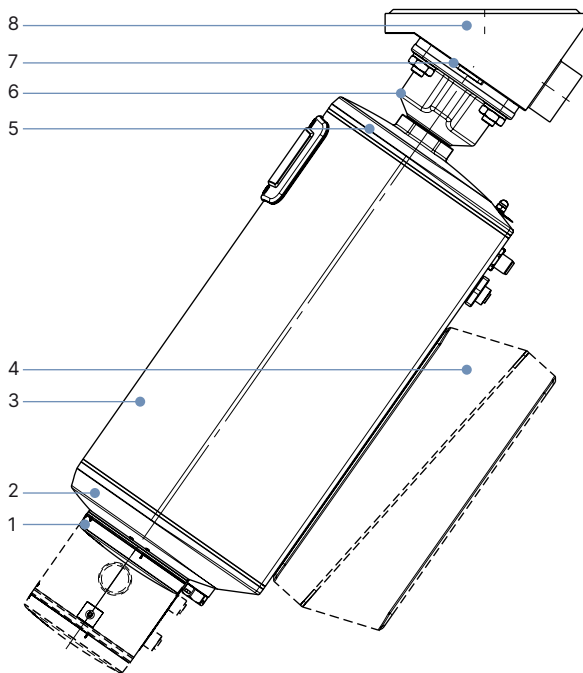
You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start chemical resistance check](#)

#### 3.2. Material specifications

**Note:**

The exemplary representation may differ from the actual product.



#### AG2

| Nr. | Komponente                  | Material   |
|-----|-----------------------------|--|
| 1   | Display housing/blind cover | PPS (standard),<br>Stainless steel 1.4301 (for ATEX/IECEx)                                 |
| 2   | Actuator cover              | PPS  |
| 3   | Actuator body               | Powder-coated aluminium  |
| 5   | Actuator base               | PPS  |
| 6   | Interface                   | Stainless steel 1.4308   |
| 7   | Diaphragm                   | EPDM (AD)<br>PTFE/EPDM (EA)<br>Advanced PTFE/EPDM (EU)<br>Laminate of GYLON® and EPDM (ER) |
| 8   | Valve body                  | See "1. General technical data" on page 3  |

#### AG3

| Nr. | Komponente                                 | Material   |
|-----|--|--|
| 1   | Display housing/blind cover                | PPS (standard),<br>Stainless steel 1.4301 (for ATEX/IECEx)                                 |
| 2   | Actuator cover                             | PC   |
| 3   | Actuator housing                           | Powder-coated aluminium  |
| 4   | Energy storage SAFEPOS energy-pack housing | PC   |
| 5   | Actuator base                              | Stainless steel 1.4308   |
| 6   | Interface                                  | Stainless steel 1.4470   |
| 7   | Diaphragm                                  | EPDM (AD)<br>PTFE/EPDM (EA)<br>Advanced PTFE/EPDM (EU)<br>Laminate of GYLON® and EPDM (ER) |
| 8   | Valve body                                 | See "1. General technical data" on page 3  |

### 3.3. Example of available membrane materials

The diaphragms have been developed to meet the unique challenges of hygienic and sterile requirements. Bürkert offers diaphragms with precise material composition and high accuracy. Bürkert diaphragms are available in a wide range of materials which have been tested and proven in applications in the food and beverage, biotechnology, pharmaceutical and cosmetics industries. The diaphragms are tested during development and production to ensure reliability under difficult process conditions.



- EPDM (AD)
- PTFE/EPDM (EA)
- Advanced PTFE/EPDM (EU)
- Laminate of GYLON® and EPDM (ER)

For further information please refer to our flyer “Diaphragm competence for hygienic applications” on our [website](#) ▶.

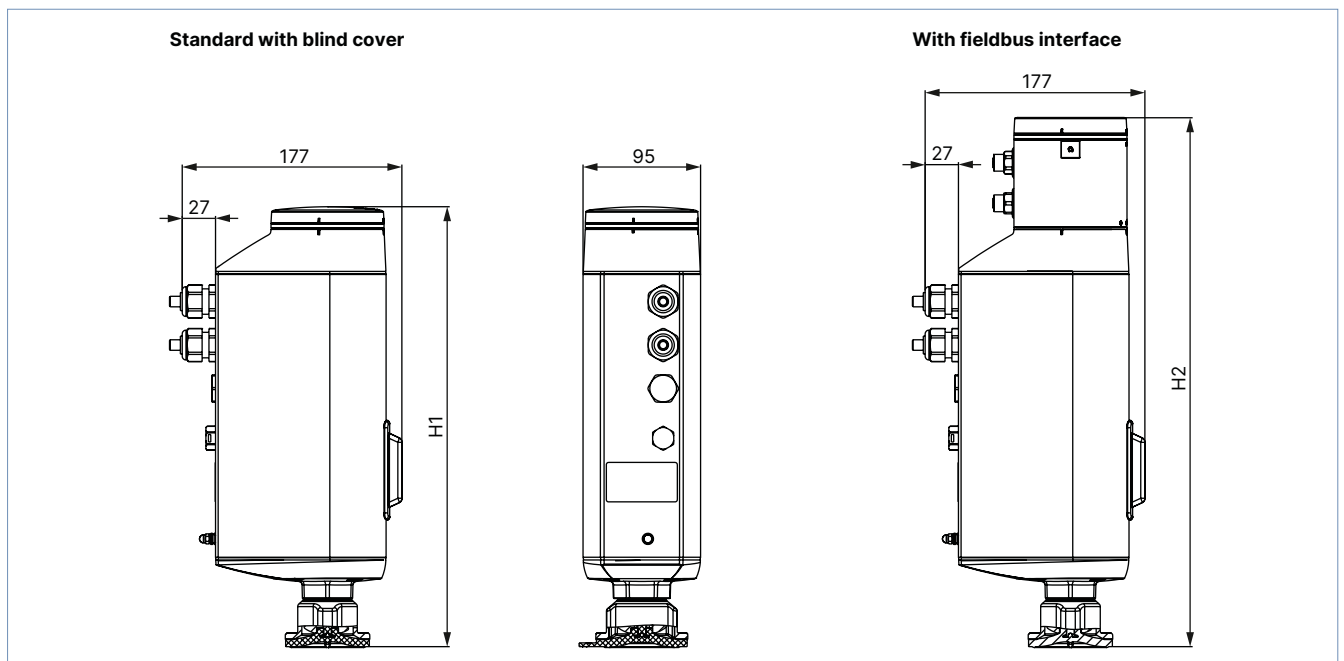
## 4. Dimensions

### 4.1. Actuator

#### AG2

**Note:**

Dimensions in mm, unless otherwise stated



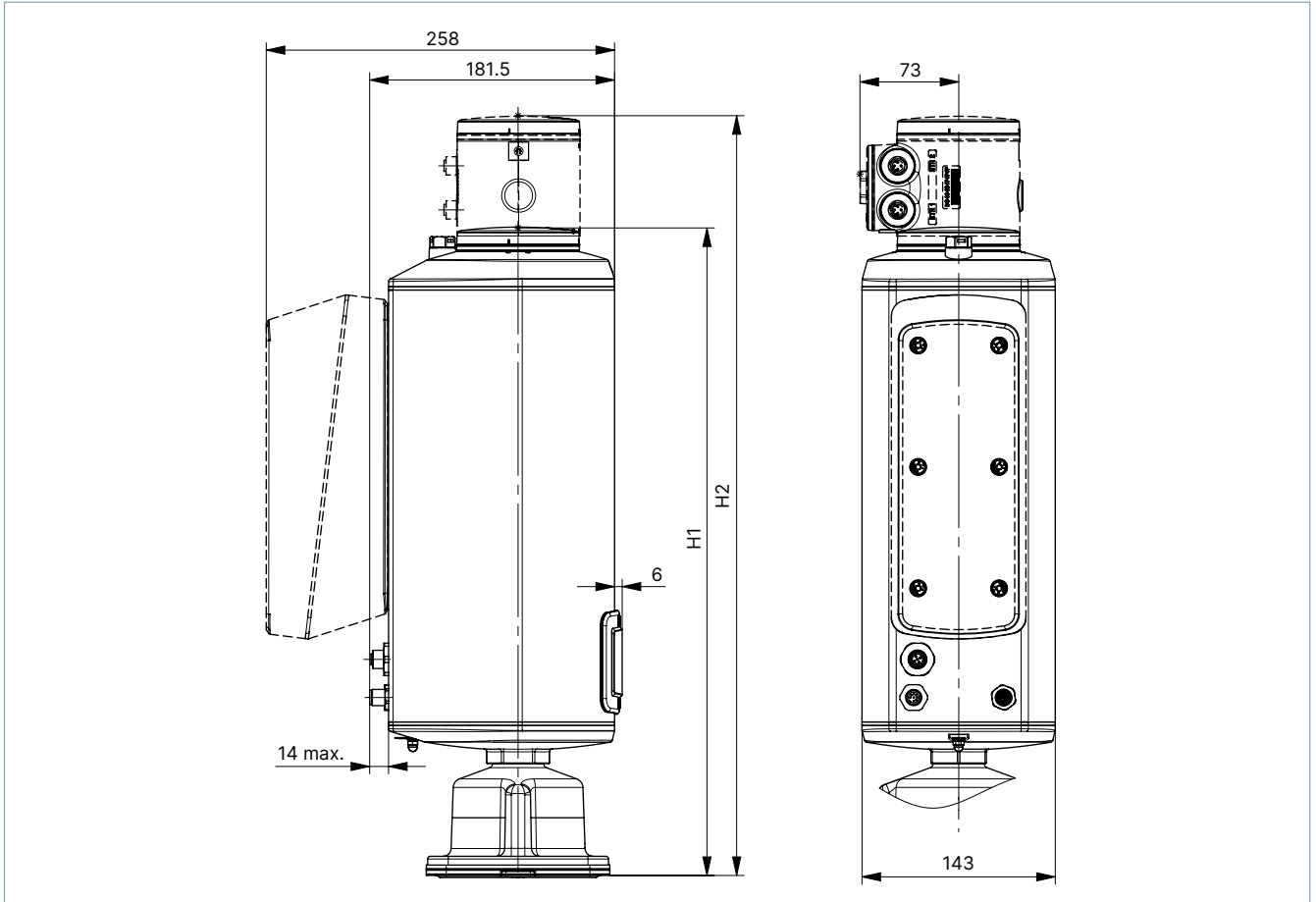
| Diaphragm size | Height                 |   |
|----------------|------------------------|---|
|                | H1<br>Standard variant | H2<br>Fieldbus variant (KOMM ≠ G, N, L) |
| 8              | 342                    | 414                                     |
| 15             | 345                    | 418                                     |
| 20             | 350                    | 422                                     |
| 25             | 355                    | 426                                     |
| 32             | 365                    | 436                                     |
| 40             | 370                    | 442                                     |



**AG3**

**Note:**

Dimensions in mm, unless otherwise stated



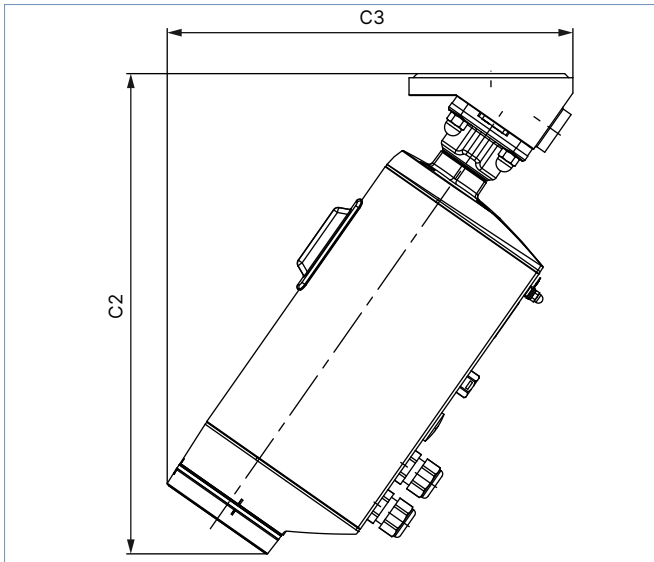
| Diaphragm size | Height                 |   |
|----------------|------------------------|---|
|                | H1<br>Standard variant | H2<br>Fieldbus variant (KOMM ≠ G, N, L) |
| 40             | 452                    | 523                                     |
| 50             | 462                    | 533                                     |
| 65             | 477                    | 548                                     |
| 80             | 479                    | 550                                     |
| 100            | 482                    | 553                                     |

#### 4.2. Actuator with tank bottom body

##### Standard with blind cover

**Note:**

Dimensions in mm, unless otherwise stated

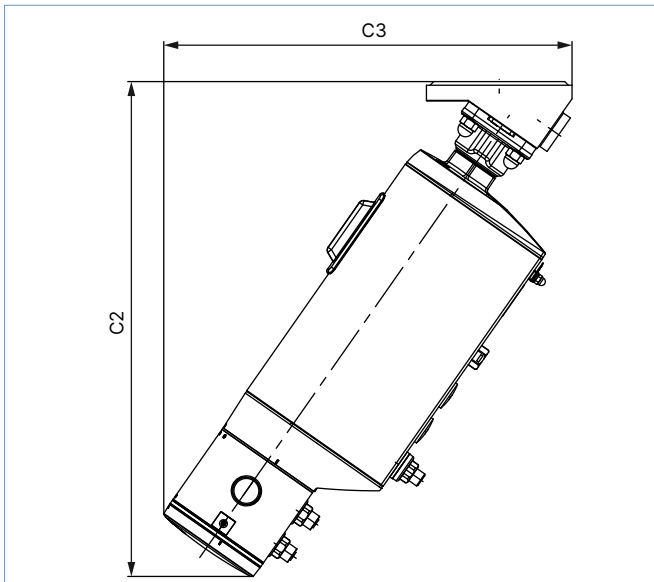


| DN | Standard with blind cover |     |
|----|---------------------------|-----|
|    | C2                        | C3  |
| 8  | 261                       | 325 |
| 15 | 273                       | 332 |
| 20 | 282                       | 338 |
| 25 | 297                       | 352 |
| 32 | -                         | -   |
| 40 | 332                       | 374 |

##### With optional fieldbus gateway

**Note:**

Dimensions in mm, unless otherwise stated

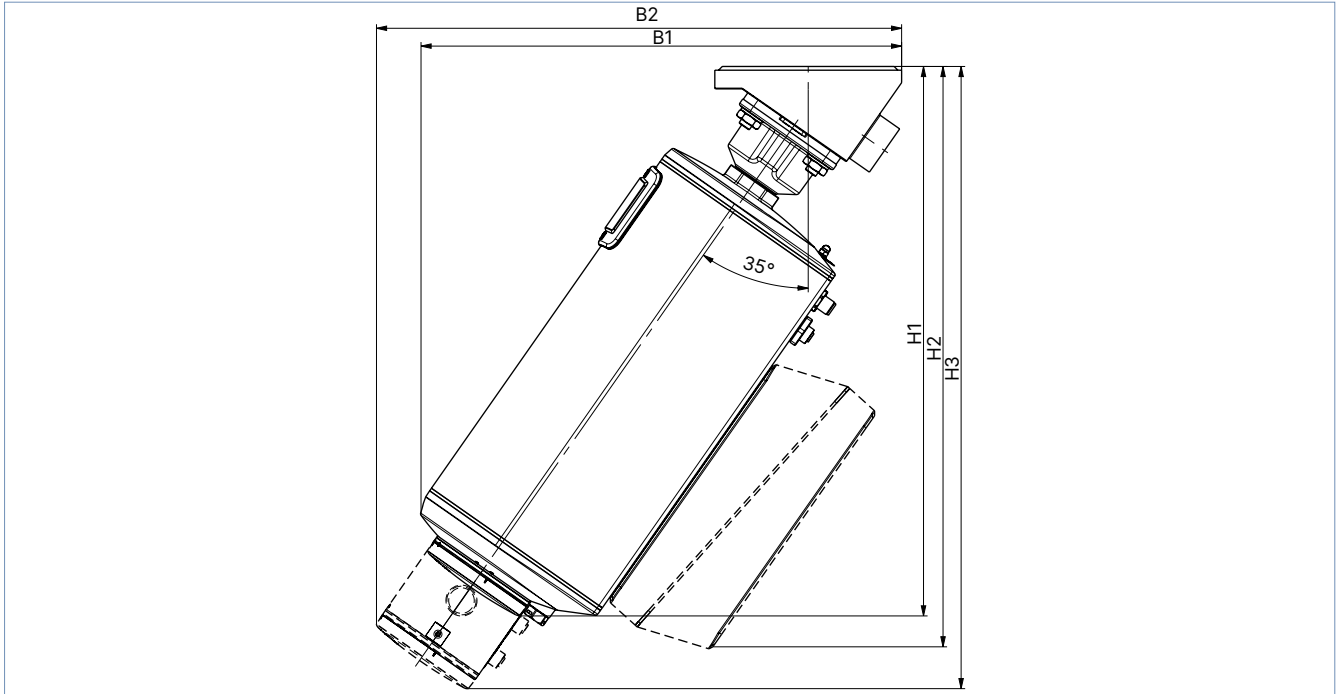


| DN | With optional fieldbus gateway |     |
|----|--------------------------------|-----|
|    | C2                             | C3  |
| 8  | 302                            | 383 |
| 15 | 314                            | 391 |
| 20 | 324                            | 397 |
| 25 | 337                            | 408 |
| 32 | -                              | -   |
| 40 | 373                            | 433 |

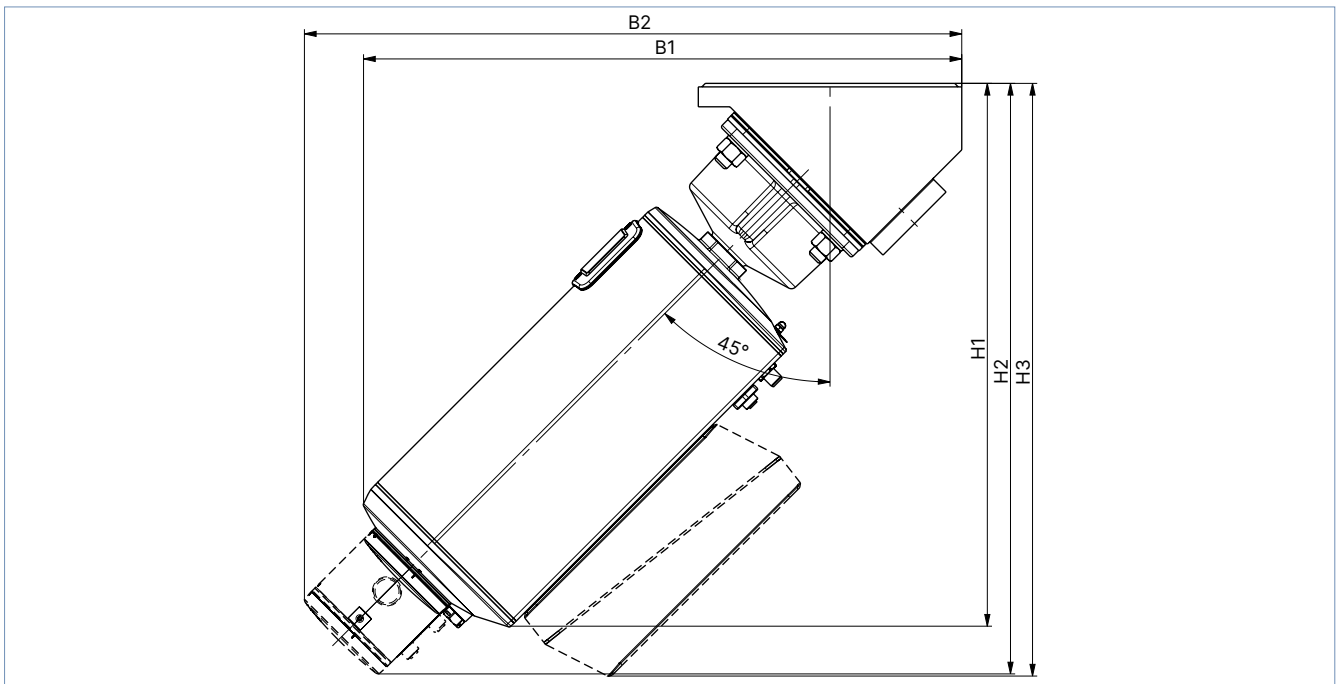
**AG3**

**Note:**

Dimensions in mm, unless otherwise stated



| DN  | H1    | H2    | H3    | B1    | B2    |
|-----|-------|-------|-------|-------|-------|
| 40  | 440.6 | 467.4 | 499.6 | 385.9 | 421.7 |
| 50  | 456.6 | 483.5 | 515.6 | 403.2 | 439   |
| 65  | 484.6 | 511.5 | 543.6 | 430.4 | 466.1 |
| 100 | 515   | 541.8 | 574   | 486.6 | 522.4 |



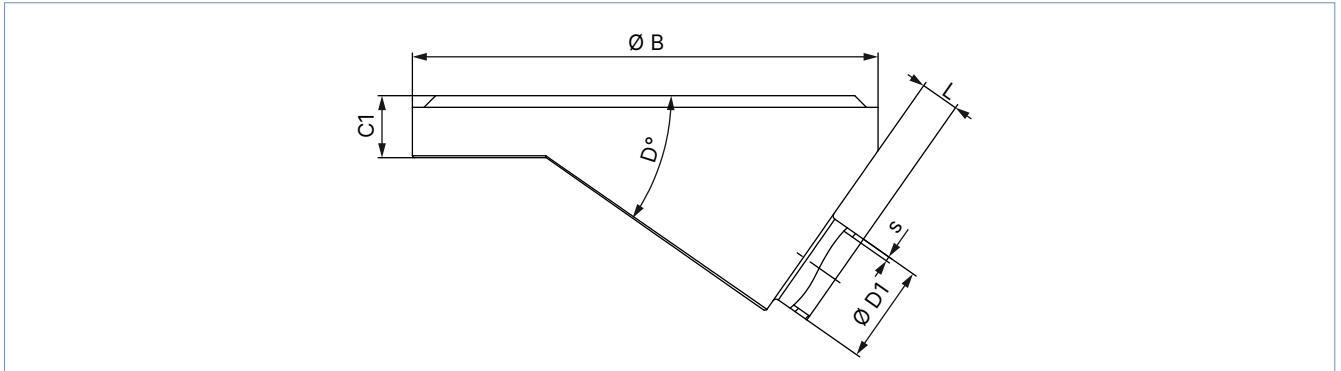
| DN | H1    | H2    | H3    | B1    | B2    |
|----|-------|-------|-------|-------|-------|
| 80 | 463.6 | 504.3 | 506.2 | 510.9 | 561.4 |

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### 4.3. Tank bottom body with welded connection

**Note:**

Dimensions in mm, unless otherwise stated



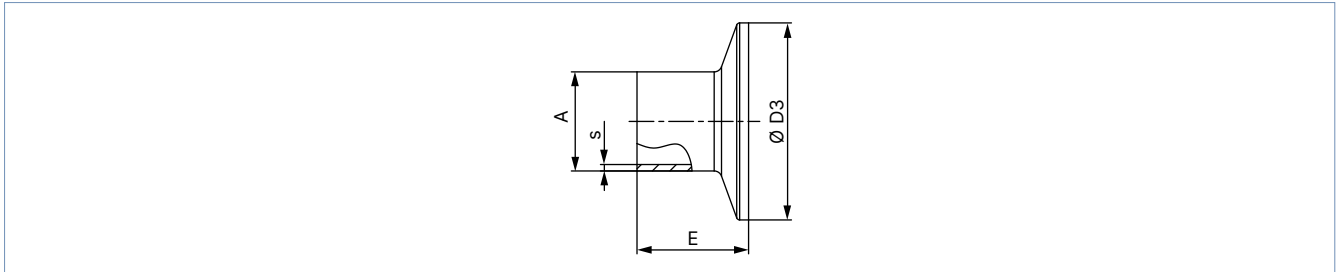
| Diaphragm size  | Port connection DN | Ø B | C1 | D       | Ø D1           | s    | L    | Product key <sup>1)</sup> |
|---|--------------------|-----|----|---------|----------------|------|------|---------------------------|
| <b>DIN EN ISO 1127 / ISO 4200 / DIN 11866 series B</b>            |                    |     |    |         |                |      |      |                           |
| 8   | 8                  | 50  | 8  | 35°     | 13.5           | 1.6  | 5    | SA40                      |
| 15  | 15                 | 65  | 12 | 35°     | 21.3           | 1.6  | 4    | SA42                      |
|   |                    | 85  |    |         |                |      | 8    | SA42                      |
| 20  | 20                 | 85  | 12 | 35°     | 26.9           | 1.6  | 5.6  | SA43                      |
| 25  | 25                 | 120 | 16 | 35°     | 33.7           | 2    | 8    | SA44                      |
| 40  | 32                 | 150 | 18 | 35°     | 42.4 (port 32) | 2    | 20   | SA45                      |
|   | 40                 |     |    |         | 48.3           |      | 15   | SA46                      |
| 50  | 50                 | 180 | 22 | 35°     | 60.3           | 2    | 12   | SA47                      |
| 80  | 65                 | 225 | 20 | 40°     | 76.1           | 2    | 16   | SA48                      |
|   | 80                 |     |    |         | 88.9           | 2.3  | 10   | SA49                      |
| 100   | 100                | 298 | 30 | 40°     | 114.3          | 2.3  | 16.5 | SA39                      |
| <b>DIN 11850 - 2 / DIN 11866 series A / DIN EN 10357 series A</b> |                    |     |    |         |                |      |      |                           |
| 8   | 10                 | 50  | 8  | 35°     | 13             | 1.5  | 5    | SD40                      |
| 15  | 15                 | 85  | 12 | 35°     | 19             | 1.5  | 8    | SD42                      |
| 20  | 20                 | 85  | 12 | 35°     | 23             | 1.5  | 7    | SD43                      |
| 25  | 25                 | 120 | 16 | 35°     | 29             | 1.5  | 8    | SD44                      |
| 40  | 40                 | 150 | 18 | 35°     | 41             | 1.5  | 20   | SD46                      |
| 50  | 50                 | 180 | 22 | 35°     | 53             | 1.5  | 15   | SD47                      |
| 80  | 80                 | 225 | 20 | 40°     | 85             | 2    | 16   | SD49                      |
| 100   | 100                | 298 | 30 | 40°/35° | 104            | 2    | 14   | SD50                      |
| <b>ASME BPE / DIN 11866 series C</b>                              |                    |     |    |         |                |      |      |                           |
| 8   | ¼"                 | 50  | 8  | 35°     | 6.35           | 0.89 | 6    | SA90                      |
| 15  | ½"                 | 85  | 12 | 35°     | 12.7           | 1.65 | 10   | SA92                      |
| 20  | ¾"                 | 85  | 12 | 35°     | 19.05          | 1.65 | 8    | SA93                      |
| 25  | 1"                 | 120 | 16 | 35°     | 25.4           | 1.65 | 12   | SODF                      |
| 40  | 1½"                | 150 | 18 | 35°     | 38.1           | 1.65 | 15   | SODH                      |
|   | 2"                 |     |    |         |                |      | 25   | SODH                      |
|   | 2½"                |     |    |         |                |      | 11   | SODJ                      |
| 80  | 2½"                | 225 | 20 | 40°     | 63.5           | 1.65 | 25   | SODJ                      |
|   | 3"                 |     |    |         |                |      | 16   | SODK                      |
| 100   | 4"                 | 298 | 30 | 40°     | 101.6          | 2.11 | 14   | SODL                      |
| <b>SMS 3008</b>   |                    |     |    |         |                |      |      |                           |
| 25  | 25                 | 120 | 16 | 35°     | 25             | 1.2  | 8    | SA60                      |
| 40  | 40                 | 150 | 18 | 35°     | 38             | 1.2  | 20   | SA62                      |
| 50  | 50                 | 180 | 22 | 35°     | 51             | 1.2  | 15   | SA63                      |

1.) This information is part of the product key (see "7.3. Bürkert Product Enquiry Form" on page 22).

#### 4.4. Tank bottom body with clamp connection

**Note:**

- Dimensions in mm, unless otherwise stated
- The clamp dimensions must be added to the welded connection dimensions.



| Port connection                      |        | A     | s    | D3                  | E    | Product key <sup>1)</sup> |
|--------------------------------------|--------|-------|------|---------------------|------|---------------------------|
| [mm]                                 | [inch] |       |      |                     |      |                           |
| <b>DIN 32676 series A (DIN pipe)</b> |        |       |      |                     |      |                           |
| 10                                   | –      | 18    | 1.5  | 34                  | 18   | TD41                      |
| 15                                   | –      | 19    | 1.5  | 34                  | 18   | TD42                      |
| 20                                   | –      | 23    | 1.5  | 34                  | 18   | TD43                      |
| 25                                   | –      | 29    | 1.5  | 50.5                | 21.5 | TD44                      |
| 32                                   | –      | 35    | 1.5  | 50.5                | 21.5 | TD45                      |
| 40                                   | –      | 41    | 1.5  | 50.5                | 21.5 | TD46                      |
| 50                                   | –      | 53    | 1.5  | 64                  | 21.5 | TD47                      |
| 65                                   | –      | 70    | 2    | 91                  | 28   | TD48                      |
| 80                                   | –      | 85    | 2    | 106                 | 28   | TD49                      |
| 100                                  | –      | 104   | 2    | 119                 | 28   | TD50                      |
| <b>DIN 32676 series B (ISO pipe)</b> |        |       |      |                     |      |                           |
| 8                                    | –      | 13.5  | 1.6  | 25                  | 28.6 | TC40                      |
| 8                                    | –      | 13.5  | 1.6  | 34.0 <sup>2.)</sup> | 28.6 | TC51 <sup>2.)</sup>       |
| 10                                   | –      | 17.2  | 1.6  | 34.0 <sup>2.)</sup> | 28.6 | TC41 <sup>2.)</sup>       |
| 15                                   | –      | 21.3  | 1.6  | 34.0 <sup>2.)</sup> | 28.6 | TC42 <sup>2.)</sup>       |
| 15                                   | –      | 21.3  | 1.6  | 50.5                | 28.6 | TC52                      |
| 20                                   | –      | 26.9  | 1.6  | 50.5                | 28.6 | TC43                      |
| 25                                   | –      | 33.7  | 2    | 50.5                | 28.6 | TC44                      |
| 32                                   | –      | 42.4  | 2    | 50.5 <sup>2.)</sup> | 28.6 | TC45 <sup>2.)</sup>       |
| 40                                   | –      | 48.3  | 2    | 64                  | 28.6 | TC46                      |
| 50                                   | –      | 60.3  | 2    | 77.5                | 28.6 | TC47                      |
| 65                                   | –      | 76.1  | 2    | 91                  | 28.6 | TC48                      |
| 80                                   | –      | 88.9  | 2.3  | 106                 | 28.6 | TC49                      |
| 100                                  | –      | 114.3 | 2.3  | 130                 | 28.6 | TC50                      |
| <b>ASME BPE</b>                      |        |       |      |                     |      |                           |
| 8                                    | 1/4"   | 6.35  | 0.89 | 25                  | 28.6 | TG50                      |
| 10                                   | 3/8"   | 9.53  | 0.89 | 25                  | 28.6 | TG01                      |
| 15                                   | 1/2"   | 12.7  | 1.65 | 25                  | 28.6 | TG02                      |
| 20                                   | 3/4"   | 19.05 | 1.65 | 25                  | 28.6 | TG03                      |
| 25                                   | 1"     | 25.4  | 1.65 | 50.5                | 28.6 | TG04                      |
| 40                                   | 1 1/2" | 38.1  | 1.65 | 50.5                | 28.6 | TG05                      |
| 50                                   | 2"     | 50.8  | 1.65 | 64                  | 28.6 | TG06                      |
| 65                                   | 2 1/2" | 63.5  | 1.65 | 77.5                | 28.6 | TG07                      |
| 80                                   | 3"     | 76.2  | 1.65 | 91                  | 28.6 | TG08                      |
| 100                                  | 4"     | 101.6 | 2.11 | 119                 | 28.6 | TG09                      |

1.) This information is part of the product key (see "7.3. Bürkert Product Enquiry Form" on page 22).

2.) Deviating from standard because of different outside clamp diameter

## 5. Performance specifications

### 5.1. Operating limits

#### Medium pressure

**Note:**

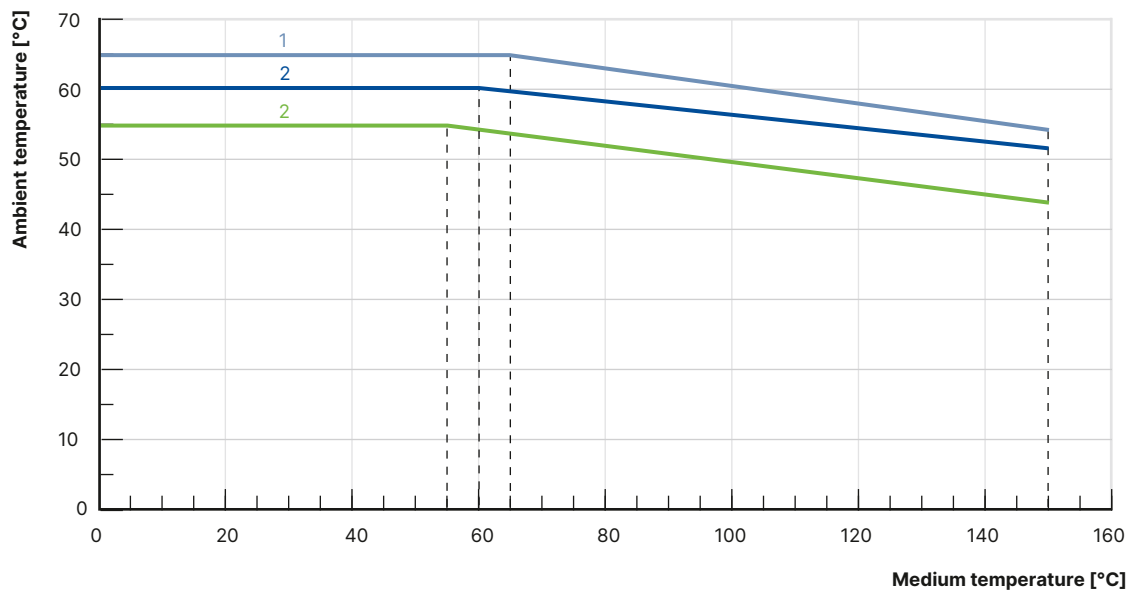
Pressure information [bar]: overpressure to ambient pressure. The valve closes dynamically against maximum operating pressure.

| Diaphragm size | Actuator size     | Operating pressure max. for seal material |                                    |                                  |
|----------------|-------------------|---|------------------------------------|----------------------------------|
|                |                   | EPDM, FKM                                 | PTFE/EPDM, advanced PTFE/EPDM (EU) | Laminate of GYLON® and EPDM (ER) |
| DN             | [N]               | [bar]                                     | [bar]                              | [bar]                            |
| 8              | N (AG2 / 2500 N)  | 10  | 10                                 | 10                               |
| 15             |                   | 10  | 10                                 | 10                               |
| 20             |                   | 10  | 10                                 | 10                               |
| 25             |                   | 10  | 10                                 | 10                               |
| 32             |                   | 8   | 5.5                                | 5.5                              |
| 40             |                   | 4   | 2.5                                | 2.5                              |
| 40             | S (AG3 / 11500 N) | 10  | 10                                 | 10                               |
| 50             |                   | 10  | 10                                 | 10                               |
| 65             |                   | 10  | 6                                  | 6                                |
| 80             |                   | 6   | 2.5                                | 6                                |
| 80             |                   | 3.5                                       | -                                  | -                                |
| 100            |                   | 3.5                                       | -                                  | -                                |

#### Operating limits for ambient and medium temperature

The maximum permissible temperature for the environment and the medium depend on each other. The maximum allowable temperature curves of different device variants are shown in the temperature chart.

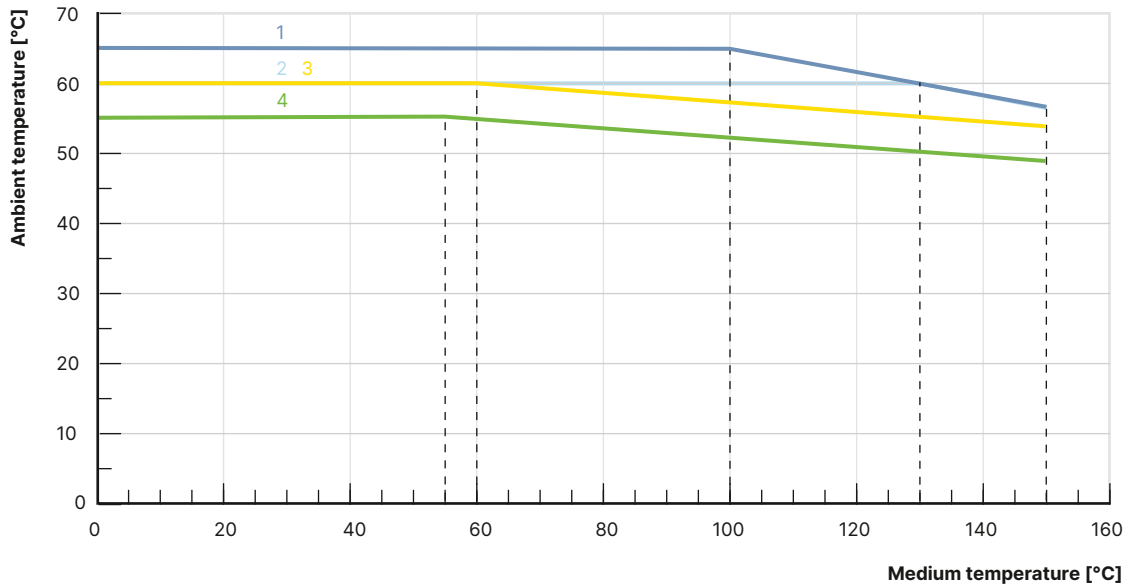
#### Temperature diagram AG2



| No. | Description  |
|-----|--|
| 1   | Devices without module   |
| 2   | Devices with display   |
| 3   | Devices with energy storage SAFEPOS energy-pack or fieldbus gateway, with/without display module |

1.) The service life of the energy storage SAFEPOS energy-pack depends on the medium temperature and the ambient temperature.

Temperature diagram AG3



| No. | Description   |
|-----|---|
| 1   | Devices without module  |
| 2   | Devices with energy storage SAFEPOS energy-pack   |
| 3   | Devices with display module with/without energy storage SAFEPOS energy-pack                               |
| 4   | Devices with fieldbus gateway with/without display module with/without energy storage SAFEPOS energy-pack |

1.) The service life of the energy storage SAFEPOS energy-pack depends on the medium temperature and the ambient temperature.

## 5.2. Electrical control and interfaces

### Interface diagram

The position of the actuator is regulated according to the position set-point value. The position set-point value is specified either by an external standard signal (analogue) or via a fieldbus (digital).

### Analogue control

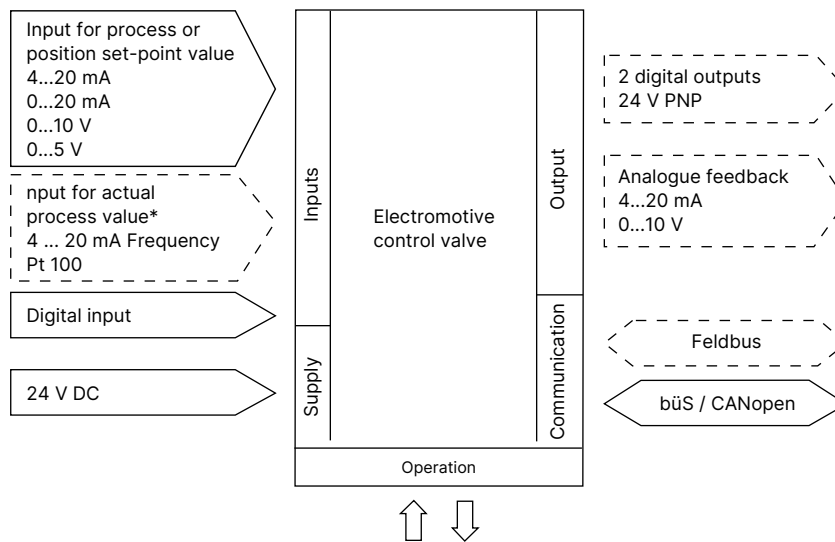
For analogue control, 2 variants are available for each the inputs and outputs and the connection interface.

### Inputs and outputs:

- 1 analogue input, 1 binary input
- 1 analogue input, 1 binary input, 1 analogue output, 2 binary output (option)
- 1 input for actual process value (for process controller variant)

### Interface:

- Cable gland with connection terminal (only AG2)
- M12 circular plug-in connectors (optional)



Note: Optional outputs are represented with a broken line

| Control data                           |  |
|--|--|
| Analogue input set-point value         | Galvanically isolated from the supply voltage and analogue output<br>0/4...20 mA (input resistance 70 Ω)<br>0...5/10 V (input resistance 22 kΩ)  |
| Analogue output                        | Maximum current 10 mA (for voltage output 0...5/10 V)<br>Load 0...800 Ω (for current output 0/4...20 mA)   |
| Digital input                          | 0...5 V = log „0“, 10...30 V = log „1“, inverted input reversed accordingly  |
| Digital output                         | PNP, current limitation 100 mA   |
| Analogue input actual value (optional) |  |
| 4...20 mA                              | Input resistance: 80 Ω<br>Resolution: 12 bit   |
| Frequency                              | Measuring range: up to 1000 Hz<br>Input resistance: > 30 kΩ<br>Resolution: 0.1% of measurement value<br>Input signal: > 300 mV <sub>ss</sub><br>Signal form: sine, rectangle, triangle |
| Pt 100                                 | Measuring range: - 20 °C...+ 220 °C<br>Resolution: 0.01 °C<br>Measurement current: 1 mA  |
| Communication                          |  |
| Communication interface (bÜS)          | Connection to PC via USB bÜS interface set   |
| Communication software (bÜS)           | Bürkert Communicator, see <b>Type 8920</b> ▶   |

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## 6. Product design and assembly




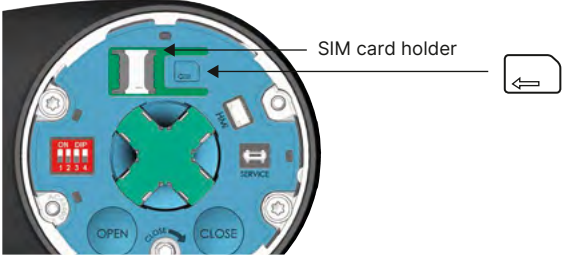
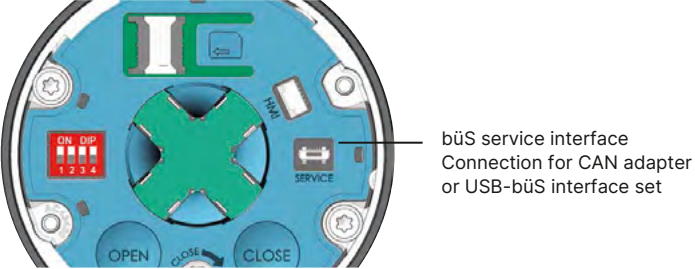
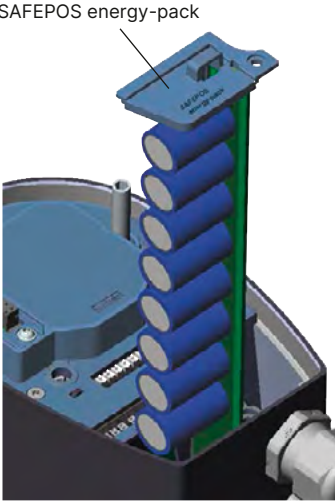
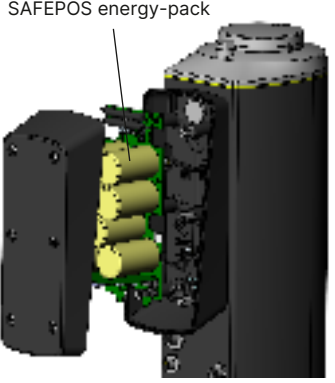
### 6.1. Product features

**Note**

Further information can be found in the **operating instructions Type 3365** ▶.

| User interface   |  |
|--|--|
| <p><b>Device without display module</b></p> <p>The basic functions are operated by 4 DIP switches and 2 push buttons. These are located under the blind cover which can be removed manually by turning. Through the bÜS service access, the device can also be configured in detail with the Bürkert communicator software.</p> <p>For this, the optional USB-bÜS interface kit is required (see <b>"7.4. Ordering chart accessories" on page 23</b>).</p> | <p><b>Blind cover dismantled</b></p> <p>1.) Non-functional in devices with display module. The display must be used for operation!</p> |
| <p><b>Device with display module</b></p> <p>The robust display module is easy to use, it configures and displays all the required functions. In addition to the start screen you can also switch to the configuration view and user-specified views as needed. All functions of the device without display module like bÜS service interface are available, too.</p>   |  |
| Actuation  |  |
| <p><b>Mechanical manual control</b></p> <p>The manual override for mechanical movement of the valve is located for AG2 under the blind cover or display module and for AG3 under the pressure compensation element. It ensures that the actuator can be operated even if the power supply fails.</p>   | <p><b>Mechanical manual override AG2</b></p>   |
| <p><b>Electrical control via operating elements</b></p> <p>The electrical manual override for the procedure is carried out via two buttons under the blind cover.</p>  |  |

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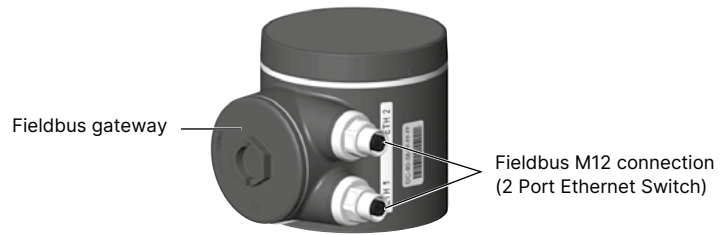
| Display elements  |  |   |
|---|--|---|
| <p><b>Display 360° LED light ring</b><br/>A clearly visible 360° LED ring is attached to the blind cover or display module to indicate the device status, the valve end position and the operating status. The LED light ring lights up, blinks or flashes into one or changing colours, depending on the LED mode set.</p> <p><b>Mechanical position indicator:</b><br/>The mechanical position indicator shows the current valve position even if the supply voltage fails.</p>   |                      | <p><b>Mechanical position indicator</b></p> <p>Valve open → </p> <p>Valve closed → </p> |
| Data transmission (optional)  |  |   |
| <p><b>SIM card (optional)</b><br/>With the optionally available SIM card, device-specific values and user settings can be stored and quickly transferred to another device.</p>   |                      |   |
| <p><b>büS service interface</b><br/>The büS service interface connects the device with the Bürkert Communicator software on a PC, laptop or smartphone. From there a configuration of the device or error diagnosis can be carried out.</p>   |                     |   |
| Safety position via energy storage (optional)   |  |   |
| <p>The safety starting positions in case of power interruption is realised with the optional energy storage SAFEPOS energy-pack. The desired position is set via the menu. In addition to the end positions (open/closed), any desired intermediate position can be defined here. The energy storage has a lifespan of up to 10 years, depending on the operating conditions. The power of the energy storage is monitored and a warning is displayed to indicate its service life coming to an end. The storage device is designed as a plug-in module to facilitate replacement. Without energy storage, the valve remains in the last position it was in.</p> <p>The energy storage device is fully charged and ready for operation after a maximum of 120 seconds (depending on the operating conditions).</p> <p>The energy storage device cannot be retrofitted in the field.</p> | <p><b>AG2</b></p>  | <p><b>AG3</b></p>    |

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**Fieldbus: EtherNet/IP, PROFINET, Modbus TCP (optional)**

The fieldbus gateway for EtherNet/IP, PROFINET and Modbus TCP is integrated in an additional module. It has 2 fieldbus connections with 4-pin M12 circular sockets. The interfaces for the fieldbus connection and the status LEDs are located under the gateway housing cover. If there is a need for it to be included in a network, the Ethernet configuration can be performed via the web server.

The gateway cannot be retrofitted in the field.



## 6.2. Product assembly

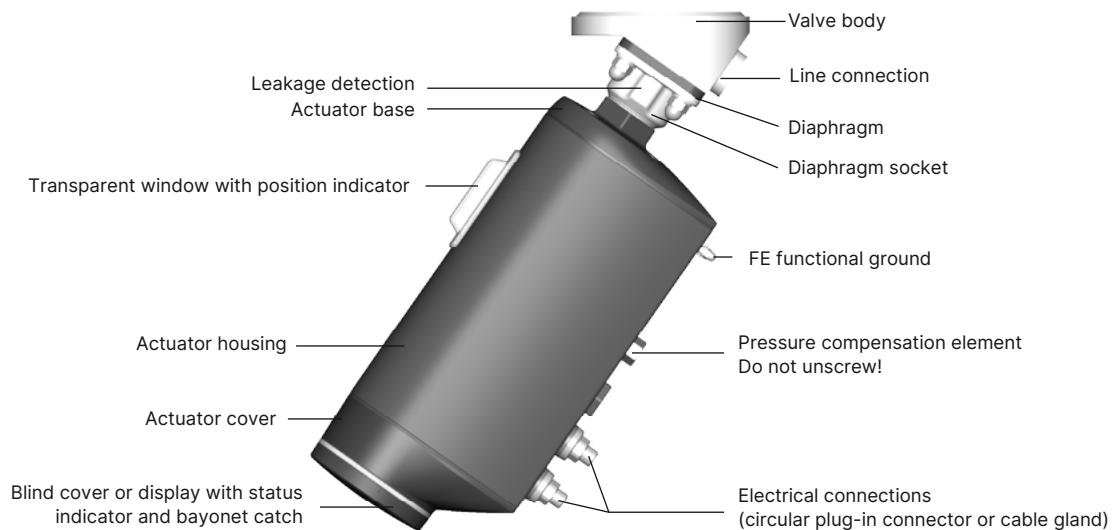
The electromotive linear drive consists of a brushless DC motor, a gear and a spindle system that transfers the force to the closing element. The integrated control electronics are controlled either by standard signals or via a fieldbus (digital). A positioner and a process controller are available as controller variants. The electromotive linear actuator is designed to provide optimum efficiency. At the same time, it keeps the valve tight and in position even at the maximum specified medium pressure in a powerless standstill. The optional energy storage device SAFEPOS energy-pack is available for the device. If the supply voltage fails, it supplies the actuator with the energy required to move the valve into the desired position which can be set in the menu.

The valve position can be changed manually in 2 ways. Either via the electrical manual control or via a mechanical manual control if no supply voltage is available. The device can be set and operated either via 2 capacitive keys and 4 DIP switches or optionally on a display with touch screen. Additionally, you can always operate the device via the bus service interface and using the software Bürkert Communicator.

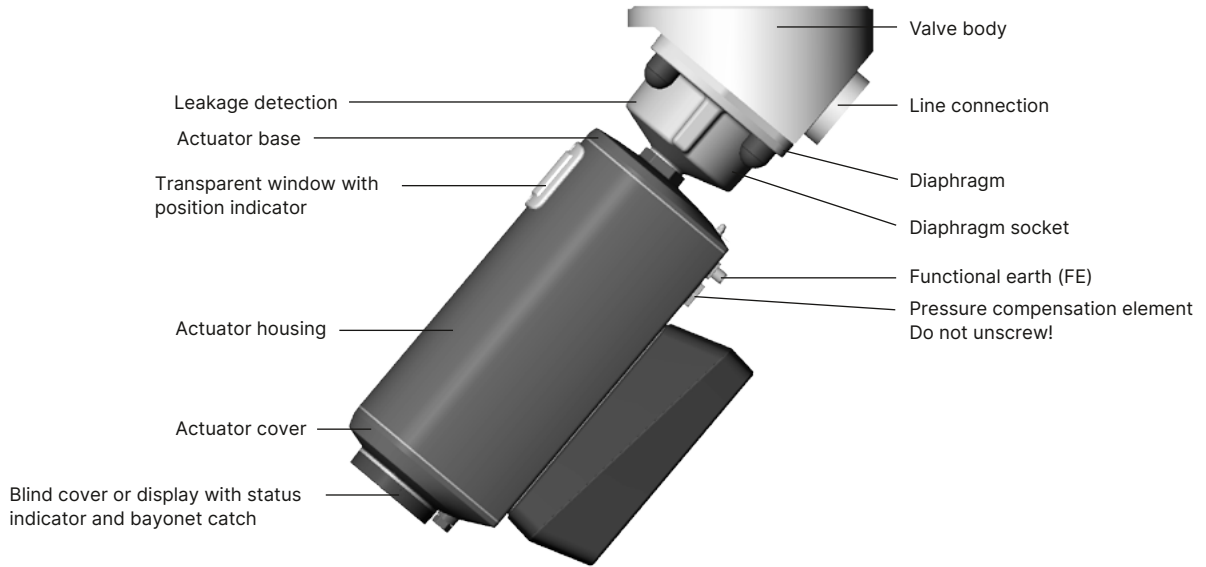
The intelligent process valve Type 3365 offers the operator options for process monitoring, valve diagnosis and preventive maintenance. Internal measurements of the operating status are evaluated and, if necessary, issued as a warning or error message. These signal, for example, impermissible ambient and process conditions, functional deviations of components or the status of the energy storage device. A special feature of the globe control valve is the screwed-in valve seat which can be replaced to reduce the seat size.

To increase diaphragm service life, the drive force is adapted to the diaphragm size. It can also be adapted to the operating conditions to achieve optimum service life.

### Structure of electromotive diaphragm valve Type 3365 AG2

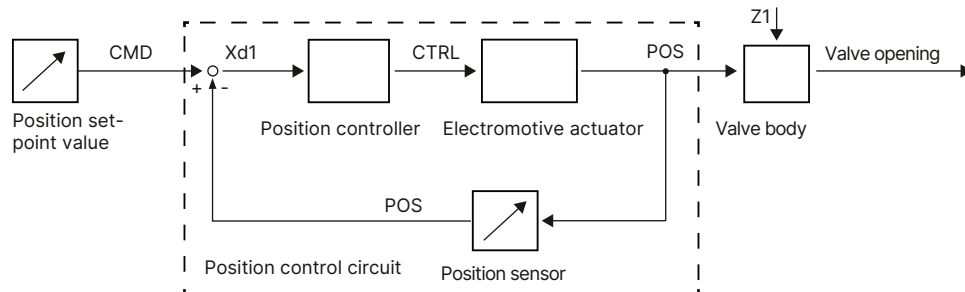


**Structure of electromotive diaphragm valve Type 3365 AG3**



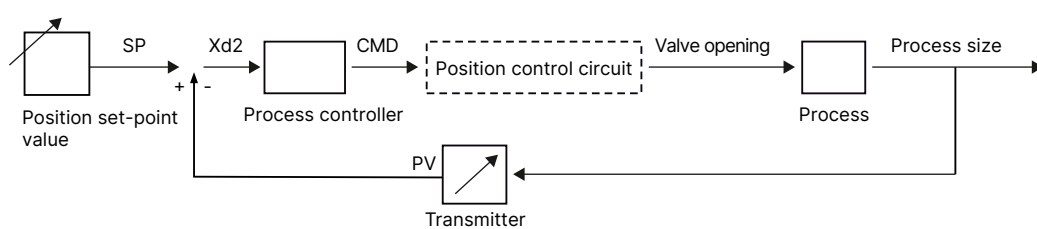
**Integrated position controller**

The position of the actuator (stroke) is controlled according to the position set-point value. The position set-point value is either given by an external standard signal (analogue) or via a fieldbus (digital). The displacement transducer records the actual position (POS) of the electric linear actuator. The positioner compares the actual position value with the position set-point value (CMD) specified as standard signal. If there is a system deviation ( $X_{d1}$ ), the electric motor drive is controlled via the actuating variable CTRL and the actual position value is changed accordingly.



**Integrated process controller (optional)**

The additionally implemented PID controller allows process control. The set-point position of the valve is calculated from the external signal (e.g. level, pressure, flow rate, temperature) for the process set-point and the actual process value via the control parameters (PID controller).



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## 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

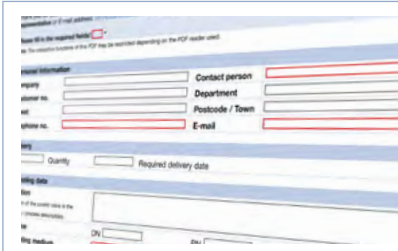
You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

[Try out our product filter](#)

### 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](#)

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## 7.4. Ordering chart accessories

### Standard accessories




| Description  | Article no.  |
|--|--|
| SIM card for data transmission between units                   | 291773  |
| Holding device for port connection DN 08...DN 40 <sup>1)</sup> | 697473  |
| Dummy cover made of plastic                                    | 277881  |
| Spare part energy storage SAFEPOS energy-pack (AG2)            | 285834  |

1.) For diaphragm size 08, the holding device is included in the scope of delivery.

### Accessories cable

#### Note:




For connection to a bus/CANopen network see **cabling guide** ▶

| Description   | Article no.  |
|---|--|
| M12 circular socket with cable, 4-pin, A-coded, cable length: 5 m, for X3, operating voltage AG2 (without communication)  | 918038  |
| M12 circular socket with cable, 8-pin, A-coded, cable length: 2 m, for X1, input and output signals   | 919061  |
| M12 circular plug with cable (shielded), 5-pin, A-coded, cable length: 2 m, for X2, input signals process actual value (only for variant with process controller) | 559177  |

### Bürkert accessories

#### Note:

- For connection to a bus/CANopen network see **cabling guide** ▶
- For detailed accessory tables see **cabling guide** ▶.

| Description  | Article no.  |
|--|--|
| Software Bürkert Communicator, Type 8920   | <b>Type 8920</b> ▶   |
| USB-büS-Interface Set 1 (Type 8923)  | 772426  |
| USB-büS-Interface Set 2 (Type 8923)  | 772551  |
| büS adapter for büS service interface (M12 on büS service interface micro USB), cable length: 0.3 mm | 773254  |