








## Explosion Proof Rotary Actuator - On/Off and control

- Direct mounting for quarter-turn valves
- Manual override
- Corrosion resistant
- Adjustable limit switches
- ATEX II 2 GD Ex d II B T6

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

### Can be combined with

|   |  |   |
|---|--|---|
|   | <b>Type 2651</b><br>2/2 or 3/2 way Ball Valve, 2-Piece | ▶ |
|  | <b>Type 2654</b><br>2/2 way ball valve 3-piece         | ▶ |
|  | <b>Type 2657</b><br>Ball Valve, manually-operated      | ▶ |
|  | <b>Type 2671</b><br>Butterfly valve                    | ▶ |
|  | <b>Type 2674</b><br>Plastic butterfly valve            | ▶ |

### Type description

The rotary actuator type 3004 is a compact, powerful and explosion proofed actuator system which provides a long service life. Materials and components have been chosen for maintenance-free operation and ensure low thermal loading on the actuator. The modular design offers many options such as extra limit switches or potentiometers, to be added to the basic unit.

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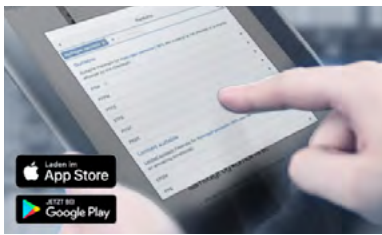
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## 1. General Technical Data

| Product properties                      |  |
|---|--|
| Dimensions                              | Detailed information can be found in chapter <a href="#">“3. Dimensions”</a> on page 4.  |
| <b>Material</b>                         |  |
| Cover / Body                            | Epoxy coated aluminium   |
| Axis / Screw                            | Stainless steel  |
| Gear                                    | Stainless steel  |
| <b>ISO Mounting</b>                     |  |
| Motor 25, 45, 75 Nm                     | F05/F07  |
| Motor 100, 150, 300 Nm                  | F07/F10  |
| <b>Drive</b>                            |  |
| Motor 25 Nm                             | Female star 17 mm; conversion sleeve star 17/11 mm enclosed  |
| Motor 45, 75 Nm                         | Female star 17 mm; conversion sleeve star 17/14 mm enclosed  |
| Motor 100, 150, 300 Nm                  | Female star 22 mm; conversion sleeve star 22/17 mm enclosed  |
| <b>Manual override</b>                  |  |
| Motor 25, 45, 75 Nm                     | By outgoing axis with return spring  |
| Motor 100, 150, 300 Nm                  | By hand wheel  |
| <b>Weight</b>                           |  |
| Motor 25, 45, 75 Nm                     | 4 kg   |
| Motor 100, 150, 300 Nm                  | 6 kg   |
| Mechanical limit stops                  | Standard   |
| Optical position indicator              | Standard   |
| Performance data                        |  |
| Torque                                  | 25, 45, 75, 100, 150 und 300 Nm<br>Detailed information can be found in chapter <a href="#">“6. Ordering information”</a> on page 9.   |
| Position angle                          | 90° (±5°)  |
| Actuating time (10...90 %)              | 7...50 sec.<br>Detailed information can be found in chapter <a href="#">“6. Ordering information”</a> on page 9.   |
| Options                                 | Rotation 180° or 270°<br>3 position actuator (for 180°)<br>Feedback On/Off actuators:<br>- Potentiometer 1K, 5K, or 10K<br>- Analogue signal 4...20 mA<br>Fail safe option* (on request)<br>2 extra limit switches |
| Electrical data                         |  |
| Operating voltage                       | 100...240 V AC / 50...60 Hz oder 24 V AC/DC ± 10 %   |
| Limit switches                          | 4 adjustable (2 for motor and 2 additional for feedback) max. 250 V AC/5 A   |
| Power consumption                       | 45 W...85 W  |
| Voltage tolerance                       | ± 10 %   |
| Analogue signals control version        |  |
| Input                                   | -0...10 V / -4...20 mA / -0...20 mA  |
| Output                                  | -0...10 V / -4...20 mA / -0...20 mA  |
| Motor protection                        | Electronic torque limited  |
| Duty cycle                              | At max. torque: 50 % of the time<br>Control actuator: 50 % of max. torque  |
| Heating resistor                        | 10 W   |
| Process/Port connection & communication |  |
| Electrical connection                   | 2 cable glands ISO 20  |
| Environment and installation            |  |
| Installation position                   | Do not mount the actuator upside down!   |
| Ambient temperature                     | -20 °C...+70 °C  |
| Degree of protection                    | IP67   |

## 2. Materials

### 2.1. Chemical Resistance Chart – Bürkert resistApp



**Bürkert resistApp – Chemical Resistance Chart**

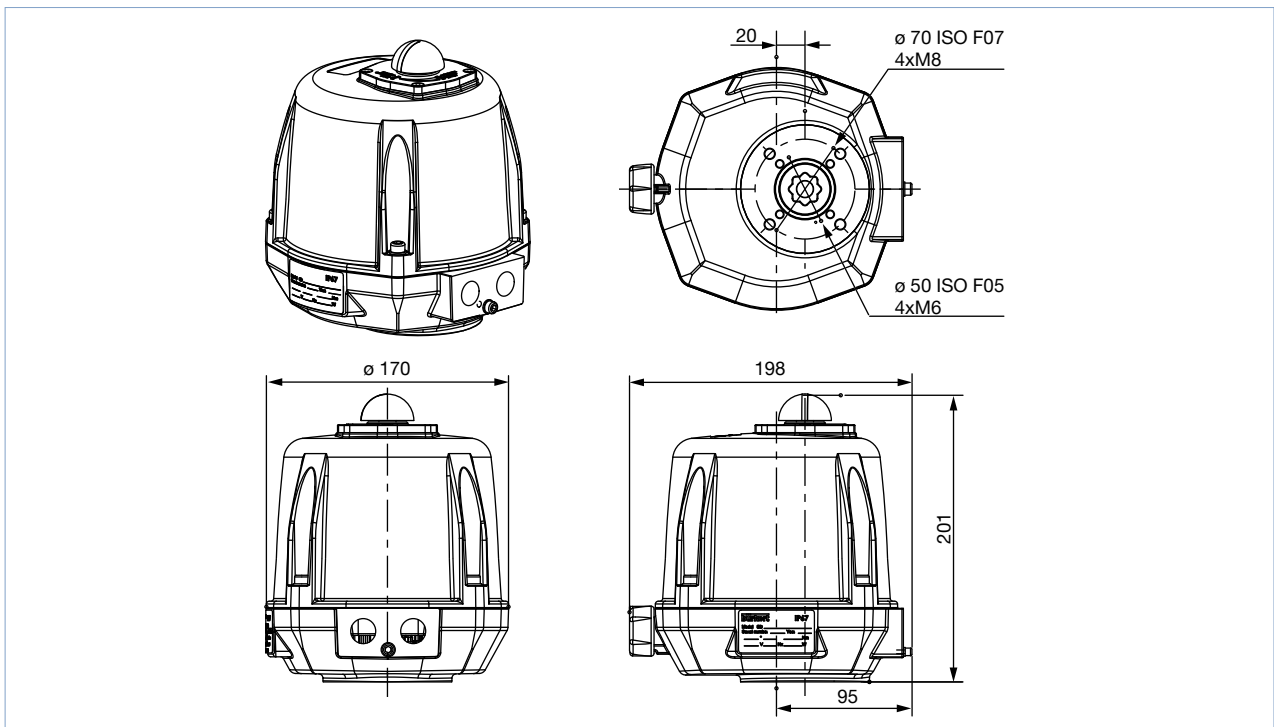
You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start Chemical Resistance Check](#)

## 3. Dimensions

### 3.1. Motor 25, 45, 75 Nm

**Note:**  
Dimensions in mm

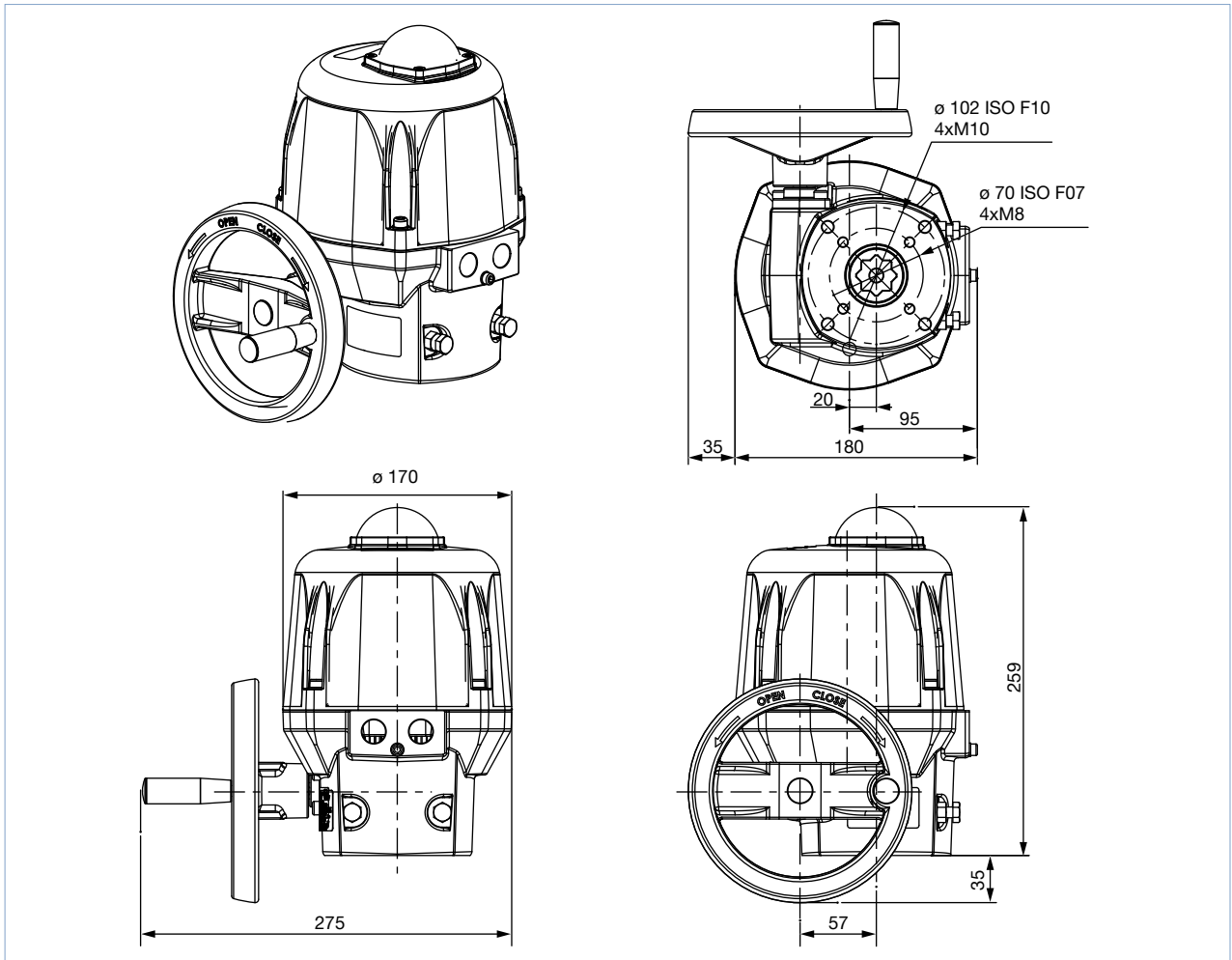


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3.2. Motor 100, 150, 300 Nm

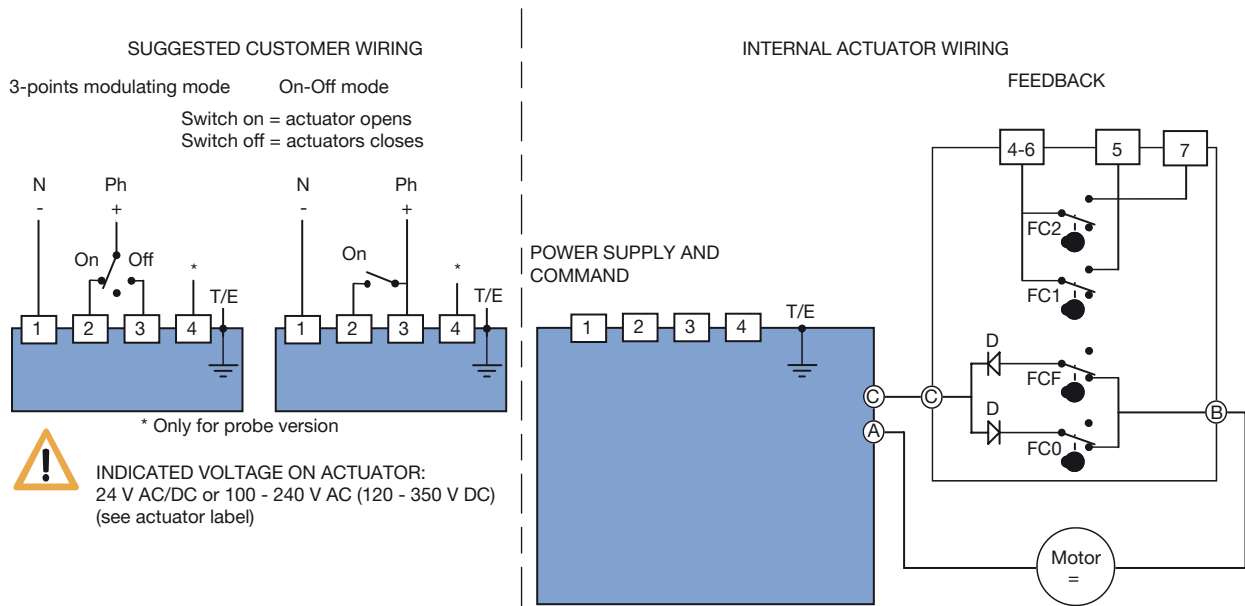
Note:

Dimensions in mm



## 4. Device/Process connections

### 4.1. Multi-voltage or 24 V AC/DC standard version



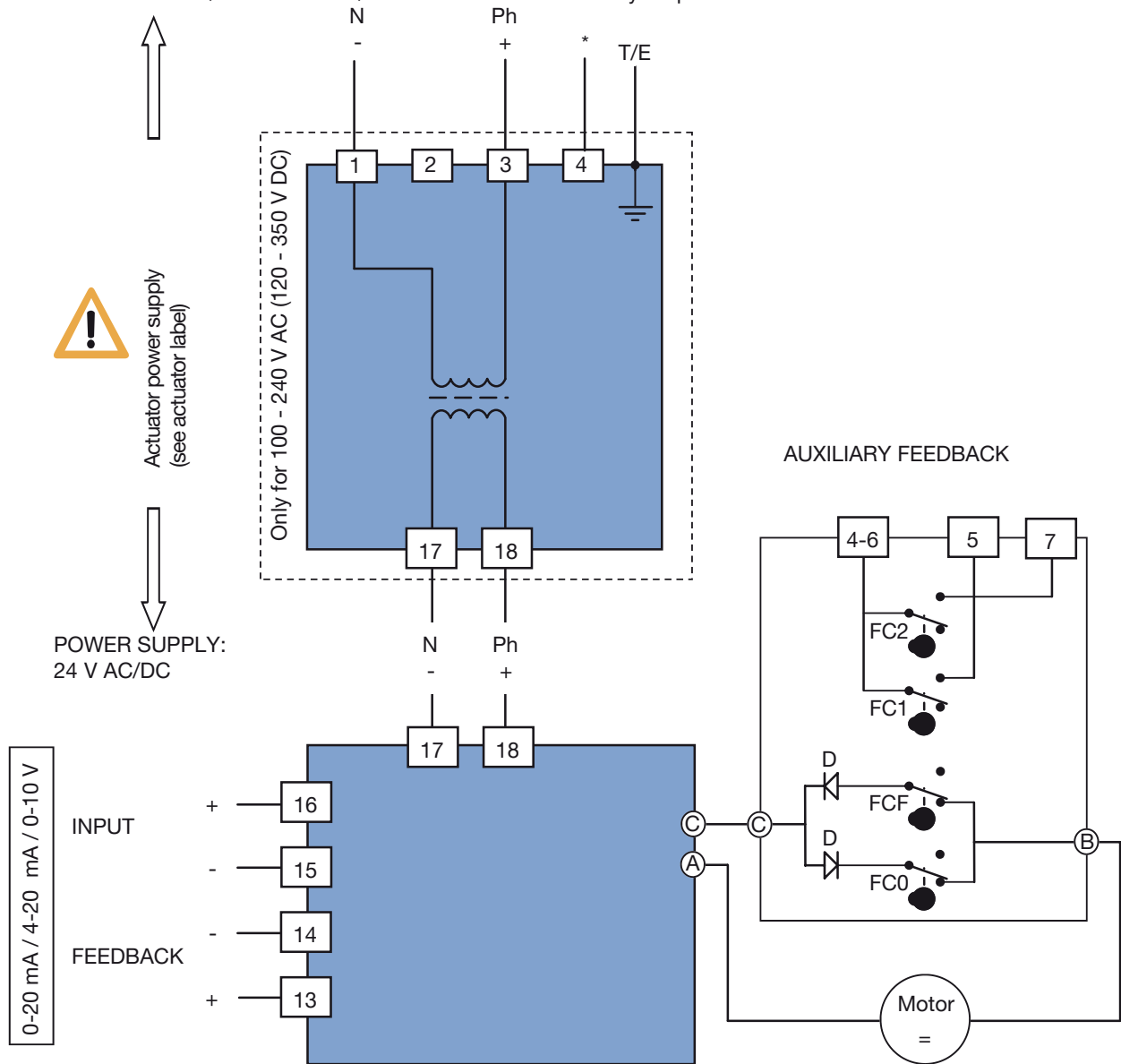
| Symbol     | Description              |
|------------|--------------------------|
| <b>FCO</b> | Open limit switch        |
| <b>FCF</b> | Close limit switch       |
| <b>FC1</b> | Auxiliary 1 limit switch |
| <b>FC2</b> | Auxiliary 2 limit switch |

### 4.2. Multi-voltage or 24 V AC/DC with programmable analogue signal input or output

POWER SUPPLY:

100 - 240 V AC (120 - 350 V DC)

\* Only for probe version



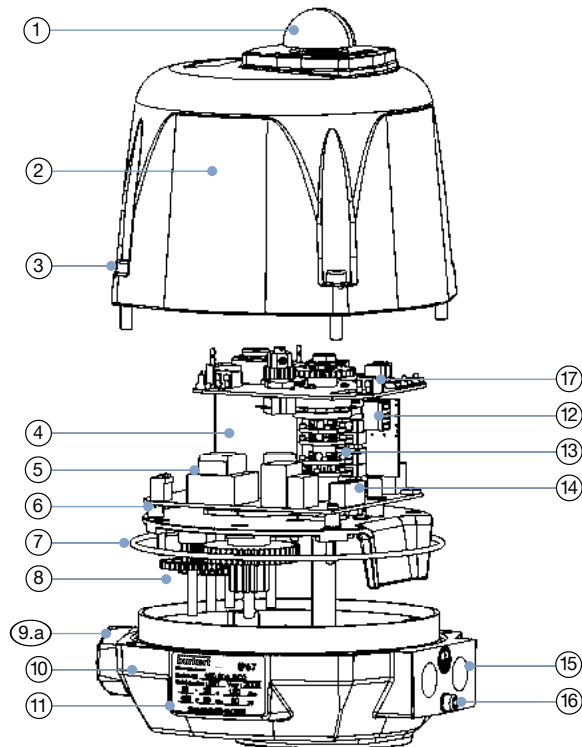
| Symbol     | Description              |
|------------|--------------------------|
| <b>FC0</b> | Open limit switch        |
| <b>FCF</b> | Close limit switch       |
| <b>FC1</b> | Auxiliary 1 limit switch |
| <b>FC2</b> | Auxiliary 2 limit switch |

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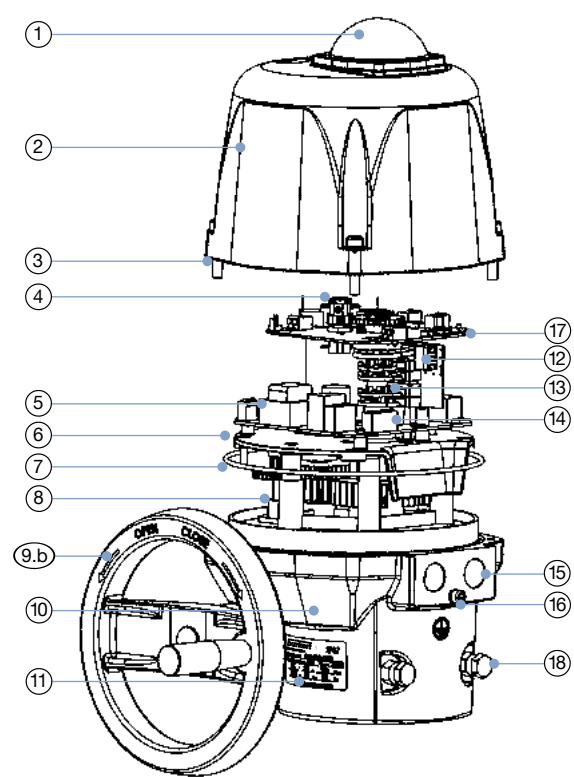
## 5. Product design and assembly

### 5.1. Product features

Motor 25, 45, 75 Nm



Motor 100, 150, 300 Nm




| No. | Element  |
|-----|--|
| 1   | Optical position indicator                             |
| 2   | Cover  |
| 3   | Stainless steel screws                                 |
| 4   | Motor  |
| 5   | Power supply card                                      |
| 6   | Gear box   |
| 7   | O-ring   |
| 8   | Gear   |
| 9.a | Manual override  |
| 9.b | Hand wheel   |
| 10  | Housing  |
| 11  | Identification label                                   |
| 12  | Auxiliary limit switch terminal                        |
| 13  | Cams   |
| 14  | Power supply terminal                                  |
| 15  | Internal thread M20 × 1.5                              |
| 16  | Earth screw  |
| 17  | Positioning card (only actuator with position control) |
| 18  | Mechanical limit stops                                 |

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## 6. Ordering information

### 6.1. Bürkert eShop – Easy ordering and quick delivery




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### 6.2. Bürkert product filter



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

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### 6.3. Ordering chart

#### Standard version without analogue signal input

**Note:**

- For the actuator choice, we recommend a safety torque equal to 1.5 times of the valve maximal torque (2 times for the control version).
- Other regulating times and delay angles on request

| Drive stars | Conversion adapter star | Connection flange | Torque | 90° ravel | Power consumption | Voltage / Frequency                                  | Article no. |  |   |        |  |        |
|-------------|-------------------------|-------------------|--------|-----------|-------------------|--|-------------|--|---|--------|--|--------|
| [mm]        | [mm]                    |                   | [Nm]   | [s]       | [W]               | [V / Hz]   |             |  |   |        |  |        |
| 17          | 17/11                   | F05-F07           | 25     | 7         | 45                | 100...240 V AC, / 50/60 Hz / 100...350 V DC          | 181308      |  |   |        |  |        |
|             |                         |                   |        |           |                   | 15...30 V AC, 50/60 Hz / 12...48 V DC <sup>1.)</sup> | 181309      |  |   |        |  |        |
|             | 17/14                   | F05-F07           | 45     | 15        | 45                | 100...240 V AC, / 50/60 Hz / 100...350 V DC          | 181310      |  |   |        |  |        |
|             |                         |                   |        |           |                   | 15...30 V AC, 50/60 Hz / 12...48 V DC <sup>1.)</sup> | 181311      |  |   |        |  |        |
|             |                         |                   |        |           |                   | 75   | 20          | 45   | 100...240 V AC, / 50/60 Hz / 100...350 V DC | 181312 |  |        |
|             |                         |                   |        |           |                   | 15...30 V AC, 50/60 Hz / 12...48 V DC <sup>1.)</sup> | 181313      |  |   |        |  |        |
| 22          | 22/17                   | F07-F10           | 100    | 15        | 45                | 100...240 V AC, / 50/60 Hz / 100...350 V DC          | 181314      |  |   |        |  |        |
|             |                         |                   |        |           |                   | 15...30 V AC, 50/60 Hz / 12...48 V DC <sup>1.)</sup> | 181315      |  |   |        |  |        |
|             |                         |                   | 150    | 30        | 45                | 30   | 45          | 100...240 V AC, / 50/60 Hz / 100...350 V DC          | 181316                                      |        |  |        |
|             |                         |                   |        |           |                   |  |             | 15...30 V AC, 50/60 Hz / 12...48 V DC <sup>1.)</sup> | 181317                                      |        |  |        |
|             |                         |                   |        |           |                   |  |             | 300  | 60  | 45     | 100...240 V AC, / 50/60 Hz / 100...350 V DC          | 181318 |
|             |                         |                   |        |           |                   |  |             |  |   |        | 15...30 V AC, 50/60 Hz / 12...48 V DC <sup>1.)</sup> | 181319 |

1.) The operating voltage mustn't to fall below 11.5 V

## Control version with 4...20 mA, 0...20 mA or 0...10 V programmable analogue signal input or output

## Note:

- For the actuator choice, we recommend a safety torque equal to 1.5 times of the valve maximal torque (2 times for the control version).
- Other regulating times and delay angles on request

| Drive stars | Conversion adapter star | Connection flange | Torque | 90° ravel | Power consumption | Voltage / Frequency                                  | Article no. |
|-------------|-------------------------|-------------------|--------|-----------|-------------------|--|-------------|
| [mm]        | [mm]                    |                   | [Nm]   | [s]       | [W]               | [V / Hz]   |             |
| 17          | 17/11                   | F05-F07           | 25     | 15        | 45                | 100...240 V AC, / 50/60 Hz / 100...350 V DC          | 182324      |
|             |                         |                   |        |           |                   | 15...30 V AC, 50/60 Hz / 12...48 V DC <sup>1.)</sup> | 182326      |
|             | 17/14                   | F05-F07           | 45     | 15        | 45                | 100...240 V AC, / 50/60 Hz / 100...350 V DC          | 182327      |
|             |                         |                   |        |           |                   | 15...30 V AC, 50/60 Hz / 12...48 V DC <sup>1.)</sup> | 182330      |
|             |                         |                   |        |           |                   | 100...240 V AC, / 50/60 Hz / 100...350 V DC          | 182335      |
|             |                         |                   |        |           |                   | 15...30 V AC, 50/60 Hz / 12...48 V DC <sup>1.)</sup> | 182384      |
| 22          | 22/17                   | F07-F10           | 100    | 15        | 45                | 100...240 V AC, / 50/60 Hz / 100...350 V DC          | 182385      |
|             |                         |                   |        |           |                   | 15...30 V AC, 50/60 Hz / 12...48 V DC <sup>1.)</sup> | 182386      |
|             | 150                     | F07-F10           | 30     | 45        | 45                | 100...240 V AC, / 50/60 Hz / 100...350 V DC          | 182388      |
|             |                         |                   |        |           |                   | 15...30 V AC, 50/60 Hz / 12...48 V DC <sup>1.)</sup> | 182390      |
|             |                         |                   |        |           |                   | 100...240 V AC, / 50/60 Hz / 100...350 V DC          | 182392      |
|             |                         |                   |        |           |                   | 15...30 V AC, 50/60 Hz / 12...48 V DC <sup>1.)</sup> | 182394      |

1.) The operating voltage mustn't to fall below 11.5 V

## Further versions on request



**Voltage**  
Other voltages


## 6.4. Ordering chart accessories

## Conversion sleeves

| Description                              | Article no. |
|--|-------------|
| Conversion Sleeve star/square 14/9 mm    | 665288      |
| Conversion Sleeve star/square 14/11 mm   | 665289      |
| Conversion Sleeve square/square 17/14 mm | 665290      |
| Conversion Sleeve star/square 17/14 mm   | 773348      |
| Conversion Sleeve star/square 17/11 mm   | 773343      |
| Conversion Sleeve square/square 22/19 mm | 773836      |
| Conversion Sleeve star/square 22/17 mm   | 684858      |
| Conversion Sleeve star/star 22/14 mm     | 666684      |
| Conversion Sleeve star/square 22/11 mm   | 773344      |
| Conversion Sleeve star/square 27/22 mm   | 774594      |
| Conversion Sleeve square/square 27/19 mm | 774279      |
| Conversion Sleeve square/square 27/17 mm | 774193      |

**Replacement battery for actuators with electrical emergency reset function****Note:**

- The battery has to be replaced every 2 years at the latest or after 500 charging cycles.
- Additional Info for Type 3004: The person who changes the battery must be trained and qualified to do modifications on ATEX products.
- Actuators which do not have an electronic emergency reset when delivered cannot be retrofitted with this.

| Description   | Article no.  |
|---|--|
| Replacement battery for actuators of Type 3005 and 3004 (25Nm...300Nm) with electrical emergency reset function | 772991  |

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