

Technical data Multi-turn actuators for open-close duty with 3-phase AC motors

| Type | Speed rpm | | Torque range ¹⁾ | | | Valve attachment ²⁾ | | | Handwheel | | Weight ³⁾ | | | | |
|---------|-----------|---------|----------------------------|---------------------|---------------------|--------------------------------|-----------------|-------------------------|-----------|---------------|----------------------|-------|------|----|-------|
| | 50 Hz | 60 Hz | Min. [Nm] | S2-15 min Max. [Nm] | S2-30 min Max. [Nm] | Standard EN ISO 5210 | Option DIN 3210 | Max. Ø rising stem [mm] | Ø [mm] | Reduct. ratio | approx. [kg] | | | | |
| SA 07.2 | 4 | 4.8 | 10 | 30 | 20 | F07 | - | 26 | 160 | 11 : 1 | 19 | | | | |
| | 5.6 | 6.7 | | | | | | | | 8 : 1 | | | | | |
| | 8 | 9.6 | | | | | | | | 11 : 1 | | | | | |
| | 11 | 13 | | | | | | | | 8 : 1 | | | | | |
| | 16 | 19 | | | | | | | | 11 : 1 | | | | | |
| | 22 | 26 | | | | 8 : 1 | | | | | | | | | |
| | 32 | 38 | | | | 11 : 1 | F10 | G0 | | 34 | | 8 : 1 | | | |
| | 45 | 54 | | | | 11 : 1 | | | | | | | | | |
| | 63 | 75 | | | | 11 : 1 | | | | | | | | | |
| | 90 | 108 | | | | 8 : 1 | | | | | | | | | |
| 125 | 150 | 5.5 : 1 | | | | | | | | | | | | | |
| 180 | 216 | 25 | 4 : 1 | | | | | | | | | | | | |
| SA 07.6 | 4 | 4.8 | 20 | 60 | 40 | F07 | - | 26 | 160 | 11 : 1 | 20 | | | | |
| | 5.6 | 6.7 | | | | | | | | 8 : 1 | | | | | |
| | 8 | 9.6 | | | | | | | | 11 : 1 | | | | | |
| | 11 | 13 | | | | | | | | 8 : 1 | | | | | |
| | 16 | 19 | | | | | | | | 11 : 1 | | | | | |
| | 22 | 26 | | | | 8 : 1 | | | | | | | | | |
| | 32 | 38 | | | | 11 : 1 | F10 | G0 | | 34 | | 8 : 1 | | | |
| | 45 | 54 | | | | 11 : 1 | | | | | | | | | |
| | 63 | 75 | | | | 11 : 1 | | | | | | | | | |
| | 90 | 108 | | | | 8 : 1 | | | | | | | | | |
| 125 | 150 | 5.5 : 1 | | | | | | | | | | | | | |
| 180 | 216 | 50 | 30 | 4 : 1 | | | | | | | | | | | |
| SA 10.2 | 4 | 4.8 | 40 | 120 | 90 | F10 | G0 | 40 | 200 | 11 : 1 | 22 | | | | |
| | 5.6 | 6.7 | | | | | | | | 8 : 1 | | | | | |
| | 8 | 9.6 | | | | | | | | 11 : 1 | | | | | |
| | 11 | 13 | | | | | | | | 8 : 1 | | | | | |
| | 16 | 19 | | | | | | | | 11 : 1 | | | | | |
| | 22 | 26 | | | | | | | | 8 : 1 | | | | | |
| | 32 | 38 | | | | | | | | 11 : 1 | | F10 | G0 | 40 | 8 : 1 |
| | 45 | 54 | | | | | | | | 11 : 1 | | | | | |
| | 63 | 75 | | | | | | | | 11 : 1 | | | | | |
| | 90 | 108 | | | | | | | | 8 : 1 | | | | | |
| 125 | 150 | 5.5 : 1 | | | | | | | | | | | | | |
| 180 | 216 | 100 | 70 | 4 : 1 | | | | | | | | | | | |
| SA 14.2 | 4 | 4.8 | 100 | 250 | 180 | F14 | G1/2 | 57 | 315 | 11 : 1 | 44 | | | | |
| | 5.6 | 6.7 | | | | | | | | 8 : 1 | | | | | |
| | 8 | 9.6 | | | | | | | | 11 : 1 | | | | | |
| | 11 | 13 | | | | | | | | 8 : 1 | | | | | |
| | 16 | 19 | | | | | | | | 11 : 1 | | | | | |
| | 22 | 26 | | | | | | | | 8 : 1 | | | | | |
| | 32 | 38 | | | | | | | | 11 : 1 | | F14 | G1/2 | 57 | 8 : 1 |
| | 45 | 54 | | | | | | | | 11 : 1 | | | | | |
| | 63 | 75 | | | | | | | | 11 : 1 | | | | | |
| | 90 | 108 | | | | | | | | 8 : 1 | | | | | |
| 125 | 150 | 5.5 : 1 | | | | | | | | | | | | | |
| 180 | 216 | 200 | 140 | 4 : 1 | | | | | | | | | | | |
| SA 14.6 | 4 | 4.8 | 200 | 500 | 360 | F14 | G1/2 | 57 | 400 | 11 : 1 | 46 | | | | |
| | 5.6 | 6.7 | | | | | | | | 8 : 1 | | | | | |
| | 8 | 9.6 | | | | | | | | 11 : 1 | | | | | |
| | 11 | 13 | | | | | | | | 8 : 1 | | | | | |
| | 16 | 19 | | | | | | | | 11 : 1 | | | | | |
| | 22 | 26 | | | | | | | | 8 : 1 | | | | | |
| | 32 | 38 | | | | | | | | 11 : 1 | | F14 | G1/2 | 57 | 8 : 1 |
| | 45 | 54 | | | | | | | | 11 : 1 | | | | | |
| | 63 | 75 | | | | | | | | 11 : 1 | | | | | |
| | 90 | 108 | | | | | | | | 8 : 1 | | | | | |
| 125 | 150 | 5.5 : 1 | | | | | | | | | | | | | |
| 180 | 216 | 400 | 290 | 4 : 1 | | | | | | | | | | | |
| SA 16.2 | 4 | 4.8 | 400 | 1,000 | 710 | F16 | G3 | 75 | 500 | 11 : 1 | 67 | | | | |
| | 5.6 | 6.7 | | | | | | | | 8 : 1 | | | | | |
| | 8 | 9.6 | | | | | | | | 11 : 1 | | | | | |
| | 11 | 13 | | | | | | | | 8 : 1 | | | | | |
| | 16 | 19 | | | | | | | | 11 : 1 | | | | | |
| | 22 | 26 | | | | | | | | 8 : 1 | | | | | |
| | 32 | 38 | | | | | | | | 11 : 1 | | F16 | G3 | 75 | 8 : 1 |
| | 45 | 54 | | | | | | | | 11 : 1 | | | | | |
| | 63 | 75 | | | | | | | | 11 : 1 | | | | | |
| | 90 | 108 | | | | | | | | 8 : 1 | | | | | |
| 125 | 150 | 5.5 : 1 | | | | | | | | | | | | | |
| 180 | 216 | 800 | 570 | 4 : 1 | | | | | | | | | | | |

1) – 3) Refer to notes on page 2.

We reserve the right to alter data according to improvements made. Previous documents become invalid with the issue of this document.

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| General information | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|-----|-----|-----|-----|-----|-----|-----|-----|--|--|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|---|--|--|--|--|------|-----|-----|-----|-----|----|----|----|----|----|
| AUMA NORM multi-turn actuators require electric controls. For sizes SA 07.2 – SA 16.2, AUMA offer AM or AC actuator controls. These can also easily be mounted to the actuator at a later date. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Notes on table on page 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1) Torque range | The tripping torque is adjustable for directions OPEN and CLOSE within the indicated torque range. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2) Valve attachment | Indicated flange sizes apply for output drive types A and B1. Refer to dimension sheets for further output drive types. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3) Weight | Indicated weight includes for AUMA NORM multi-turn actuator with 3-phase AC motor, standard electrical connection, output drive type B1 and handwheel. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Features and functions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of duty | Standard: Short-time duty S2 - 15 min Option: Short-time duty S2 - 30 min For nominal voltage and 40 °C ambient temperature and at average load with 35 % of the max. torque | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Motors | 3-ph AC asynchronous motor, type IM B9 according to IEC 60034 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mains voltage, mains frequency | Standard voltages: <table border="1"> <thead> <tr> <th colspan="11">3-phase AC current - voltages/frequencies</th> </tr> <tr> <th>Volt</th> <td>220</td> <td>230</td> <td>240</td> <td>380</td> <td>400</td> <td>415</td> <td>440</td> <td>460</td> <td>480</td> <td>500</td> </tr> <tr> <th>Hz</th> <td>50</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> <td>60</td> <td>60</td> <td>60</td> <td>50</td> </tr> </thead> </table> Special voltages: <table border="1"> <thead> <tr> <th colspan="5">3-phase AC current - voltages/frequencies</th> </tr> <tr> <th>Volt</th> <td>525</td> <td>575</td> <td>660</td> <td>690</td> </tr> <tr> <th>Hz</th> <td>50</td> <td>50</td> <td>50</td> <td>50</td> </tr> </thead> </table> Permissible variation of mains voltage: ±10 % Permissible variation of mains frequency: ±5 % | 3-phase AC current - voltages/frequencies | | | | | | | | | | | Volt | 220 | 230 | 240 | 380 | 400 | 415 | 440 | 460 | 480 | 500 | Hz | 50 | 50 | 50 | 50 | 50 | 50 | 60 | 60 | 60 | 50 | 3-phase AC current - voltages/frequencies | | | | | Volt | 525 | 575 | 660 | 690 | Hz | 50 | 50 | 50 | 50 |
| 3-phase AC current - voltages/frequencies | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Volt | 220 | 230 | 240 | 380 | 400 | 415 | 440 | 460 | 480 | 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hz | 50 | 50 | 50 | 50 | 50 | 50 | 60 | 60 | 60 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3-phase AC current - voltages/frequencies | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Volt | 525 | 575 | 660 | 690 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hz | 50 | 50 | 50 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Overvoltage category | Category III according to IEC 60364-4-443 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Insulation class | Standard: F, tropicalized Option: H, tropicalized | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Motor protection | Standard: Thermostwitches (NC) Option: PTC thermistors (according to DIN 44082) PTC thermistors additionally require a suitable tripping device in the controls. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Self-locking | Self-locking: Output speeds up to 90 rpm (50 Hz) or 108 rpm (60 Hz) NOT self-locking: Output speeds from 125 rpm (50 Hz) or 150 rpm (60 Hz) Multi-turn actuators are self-locking, if the valve position cannot be changed from standstill while torque acts upon the output drive. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Motor heater (option) | Voltages: 110 – 120 V AC, 220 – 240 V AC or 400 V AC (externally supplied) Power depending on the size 12.5 – 25 W | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Manual operation | Manual drive for setting and emergency operation, handwheel does not rotate during electrical operation Options: Handwheel lockable Handwheel stem extension Power tool for emergency operation with square 30 mm or 50 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Indication for manual operation (option) | Indication whether manual operation is active/not active via single switch (1 change-over contact) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Electrical connection | Standard: AUMA plug/socket connector with screw-type connection Options: Terminals or crimp connection Gold-plated control plug (sockets and plugs) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Threads for cable entries | Standard: Metric threads Options: Pg-threads, NPT-threads, G-threads | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Terminal plan | TPA00R1AA-101-000 (basic version) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Technical data Multi-turn actuators for open-close duty with 3-phase AC motors

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| Valve attachment | Standard: | B1 according to EN ISO 5210 |
| | Options: | A, B2, B3, B4 according to EN ISO 5210 A, B, D, E according to DIN 3210 C according to DIN 3338 |
| | Special output drive types: | AF, B3D, ED, DD, IB1, IB3 A prepared for permanent lubrication of stem |

Electromechanical control unit

| | | |
|--|--|---|
| Limit switching | Counter gear mechanism for end positions OPEN and CLOSED Turns per stroke: 2 to 500 (standard) or 2 to 5,000 (option) | |
| | Standard: | Single switches (1 NC and 1 NO) for each end position, not galvanically isolated |
| | Options: | Tandem switches (2 NC and 2 NO) for each end position, switches galvanically isolated Triple switches (3 NC and 3 NO) for each end position, switches galvanically isolated Intermediate position switch (DUO limit switching), adjustable for any position |
| Torque switching | Torque switching adjustable for directions OPEN and CLOSE | |
| | Standard: | Single switches (1 NC and 1 NO) for each direction, not galvanically isolated |
| | Options: | Tandem switches (2 NC and 2 NO) for each direction, switches galvanically isolated |
| Position feedback signal, analogue (options) | Potentiometer or 0/4 – 20 mA (RWG) | |
| Mechanical position indicator (option) | Continuous indication, adjustable indicator disc with symbols OPEN and CLOSED | |
| Running indication | Blinker transmitter | |
| Heater in switch compartment | Standard: | Self-regulating PTC heater, 5 – 20 W, 110 – 250 V AC/DC |
| | Options: | 24 – 48 V AC/DC or 380 – 400 V AC |
| | A resistance type heater of 5 W, 24 V AC is installed in the actuator in combination with AUMA MATIC AM or AUMATIC AC actuator controls. | |

Electronic control unit (only in combination with AC actuator controls)

| | |
|--|---|
| Non-intrusive setting (option) | Magnetic limit and torque transmitter MWG for 1 to 500 turns per stroke or 10 to 5,000 turns per stroke |
| Position feedback signal | Via actuator controls |
| Torque feedback signal | Via actuator controls |
| Mechanical position indicator (option) | Continuous indication, adjustable indicator disc with symbols OPEN and CLOSED |
| Running indication | Blinking signal via controls |
| Heater in switch compartment | Resistance type heater with 5 W, 24 V AC |

Service conditions

| | | |
|--|--|--|
| Use | Indoor and outdoor use permissible | |
| Mounting position | Any position | |
| Installation altitude | ≤ 2,000 m above sea level > 2,000 m above sea level, please contact AUMA | |
| Ambient temperature | Standard: | -40 °C to +80 °C |
| | Options: | -60 °C to +60 °C 0 °C to +120 °C |
| | According to AUMA definition, enclosure protection IP 68 meets the following requirements: | |
| Enclosure protection according to EN 60529 | Standard: | IP 68 with AUMA 3-phase AC motor For special motors differing enclosure protection: refer to name plate |
| | Option: | DS Terminal compartment additionally sealed against interior (double sealed) |
| | <ul style="list-style-type: none"> • Depth of water: maximum 8 m head of water • Duration of continuous immersion in water: Max. 96 hours • Up to 10 operations during continuous immersion | |
| Pollution degree | Pollution degree 4 (when closed) according to EN 50178 | |

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| Vibration resistance according to IEC 60068-2-6 | 2 g, from 10 Hz to 200 Hz Resistant to vibration during start-up or for failures of the plant. However, a fatigue strength may not be derived from this. Valid for multi-turn actuators in version AUMA NORM (with AUMA plug/socket connector, without actuator controls). Not valid in combination with gearboxes. | | |
| Corrosion protection | Standard: | KS | Suitable for installation in industrial units, in water or power plants with a low pollutant concentration as well as for installation in occasionally or permanently aggressive atmosphere with a moderate pollutant concentration (e.g. wastewater treatments plants, chemical industry) |
| | Options: | KX | Suitable for installation in extremely aggressive atmospheres with high humidity and high pollutant concentration |
| | | KX-G | Same as KX, however aluminium-free version (outer parts) |
| Finish coating | Powder paint Two-component iron-mica combination | | |
| Colour | Standard: | AUMA silver-grey (similar to RAL 7037) | |
| | Option: | Other colours are possible on request. | |
| Lifetime | AUMA multi-turn actuators meet or even exceed the lifetime requirements of EN 15714-2. Detailed information can be provided on request. | | |

| Further information | |
|----------------------------|--|
| EU Directives | Electromagnetic Compatibility (EMC): (2004/108/EC) Low Voltage Directive: (2006/95/EC) Machinery Directive: (2006/42/EC) |
| Reference documents | Product description Electric multi-turn actuators SA .2 with AM .1 and AC .2 Dimensions SA 07.2 – SA 16.2/SAR 07.2 – SAR 16.2 Electrical data SA 07.2 – SA 16.2 with 3-phase AC motors Technical data for switches Technical data Electronic position transmitter/potentiometer Technical data Output speeds, motors, reduction ratios and blinker transmitters |