

**Rotary actuator for butterfly valves**

- Nominal torque 90 Nm (not constant)
- Nominal voltage AC/DC 24 V
- Control Open-close
- Running time motor 35 s
- Optimum weather protection for use outdoors


**Technical data**

|                        |  |   |
|------------------------|--|---|
| <b>Electrical data</b> | Nominal voltage                        | AC/DC 24 V  |
|                        | Nominal voltage frequency              | 50/60 Hz  |
|                        | Nominal voltage range                  | AC 19.2...28.8 V / DC 21.6...28.8 V                                   |
|                        | Power consumption in operation         | 9 W   |
|                        | Power consumption in rest position     | 2 W   |
|                        | Power consumption for wire sizing      | 12 VA   |
|                        | Connection supply / control            | Cable 1 m, 3 x 0.75 mm <sup>2</sup>                                   |
|                        | Parallel operation                     | No  |
| <b>Functional data</b> | Torque motor                           | Max. 90 Nm (not constant)   |
|                        | Manual override                        | Gear disengagement with push-button, can be locked                    |
|                        | Running time motor                     | 35 s / 90°  |
|                        | Sound power level motor                | 62 dB(A)  |
|                        | Position indication                    | Yes   |
| <b>Safety</b>          | Protection class IEC/EN                | III Safety extra-low voltage  |
|                        | Protection class UL                    | UL Class 2 Supply   |
|                        | Degree of protection IEC/EN            | IP66  |
|                        | Degree of protection NEMA/UL           | NEMA 4, UL Enclosure Type 4   |
|                        | EMC                                    | CE according to 2004/108/EC   |
|                        | Certification IEC/EN                   | IEC/EN 60730-1 and IEC/EN 60730-2-14                                  |
|                        | Certification UL                       | cULus according to UL 60730-1A, UL 60730-2-14 and CAN/CSA E60730-1:02 |
|                        | Mode of operation                      | Type 1  |
|                        | Rated impulse voltage supply / control | 0.8 kV  |
|                        | Control pollution degree               | 4   |
|                        | Ambient temperature                    | -30...50 °C   |
|                        | Ambient temperature note               | -40...50 °C for actuator with integrated heating                      |
|                        | Non-operating temperature              | -40...80 °C   |
| Ambient humidity       | 100% r.h.                              |   |
| Maintenance            | Maintenance-free                       |   |
| <b>Mechanical data</b> | Connection flange                      | F07   |
| <b>Weight</b>          | Weight approx.                         | 5.8 kg  |

**Safety notes**

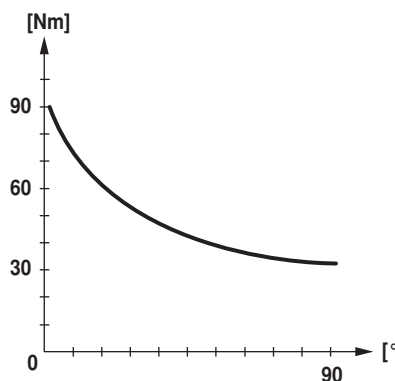

- This device has been designed for use in stationary heating, ventilation and air conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- Junction boxes must at least correspond with enclosure IP degree of protection!
- The cover of the protective housing may be opened for adjustment and servicing. When it is closed afterwards, the housing must seal tight (see installation instructions).
- The switch for changing the direction of rotation may not be adjusted.
- The angle of rotation is not permitted to be subjected to mechanical limitation. It is forbidden to alter the mechanical end stops.

## Safety notes

- The device may only be opened in the manufacturer's factory. It does not contain any parts that can be replaced or repaired by the user.
- The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.
- The actuator is not designed for applications where chemical influences (gases, fluids) are present or for utilisation in corrosive environments in general.
- The actuator may not be used in plenary applications (e.g. suspended ceilings or raised floors).
- The materials used may be subjected to external influences (temperature, pressure, construction fastening, effect of chemical substances, etc.), which cannot be simulated in laboratory tests or field trials. In case of doubt, we definitely recommend that you carry out a test. This information does not imply any legal entitlement. Belimo will not be held liable and will provide no warranty.
- If cables which are not authorised for UL (NEMA) Type 4 applications are guided out of the unit, then flexible metallic cable conduits or suitable threaded cable conduits of equal value are to be used.

## Product features

|                                    |   |
|------------------------------------|---|
| <b>Fields of application</b>       | The actuator is particularly suitable for utilisation in outdoor applications and is protected against the following weather conditions: <ul style="list-style-type: none"> <li>- UV radiation</li> <li>- rain / snow</li> <li>- dirt / dust</li> <li>- Humidity</li> <li>- Changing atmosphere / frequent and severe temperature fluctuations (recommendation: use the actuator with integrated factory-installed heating which can be ordered separately to prevent internal condensation)</li> </ul> |
| <b>Simple direct mounting</b>      | Simple direct mounting on the butterfly valve. The mounting orientation in relation to the butterfly valve can be selected in 90° (angle) increments.   |
| <b>Manual override</b>             | Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked).<br>The housing cover must be removed for manual override.  |
| <b>High functional reliability</b> | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.  |
| <b>Combination valve/actuator</b>  | For valves with the following mechanical specifications in accordance with ISO 5211 F07: <ul style="list-style-type: none"> <li>- Square stem head SW = 17 mm for form-fit coupling of the rotary actuator.</li> <li>- Hole circle d = 70 mm</li> </ul>   |
| <b>Torque not constant</b>         | Due to the non linear torque characteristic the actuator can only be used for butterfly valves and not for other armatures.   |



Accessories

|                        | Description                                | Type    |
|------------------------|--|---------|
| Electrical accessories | Auxiliary switch, add-on, 1 x SPDT         | S1A     |
|                        | Auxiliary switch, add-on, 2 x SPDT         | S2A     |
|                        | Feedback potentiometer 140 Ohm, add-on     | P140A   |
|                        | Feedback potentiometer 200 Ohm, add-on     | P200A   |
|                        | Feedback potentiometer 500 Ohm, add-on     | P500A   |
|                        | Feedback potentiometer 1 kOhm, add-on      | P1000A  |
|                        | Feedback potentiometer 2.8 kOhm, add-on    | P2800A  |
|                        | Feedback potentiometer 5 kOhm, add-on      | P5000A  |
|                        | Feedback potentiometer 10 kOhm, add-on     | P10000A |
|                        | Heating with mechanical humidistat HH24-MG | HH24-MG |
|                        | Heating with adjustable thermostat HT24-MG | HT24-MG |

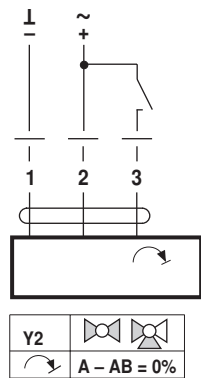
Electrical installation

**Notes**

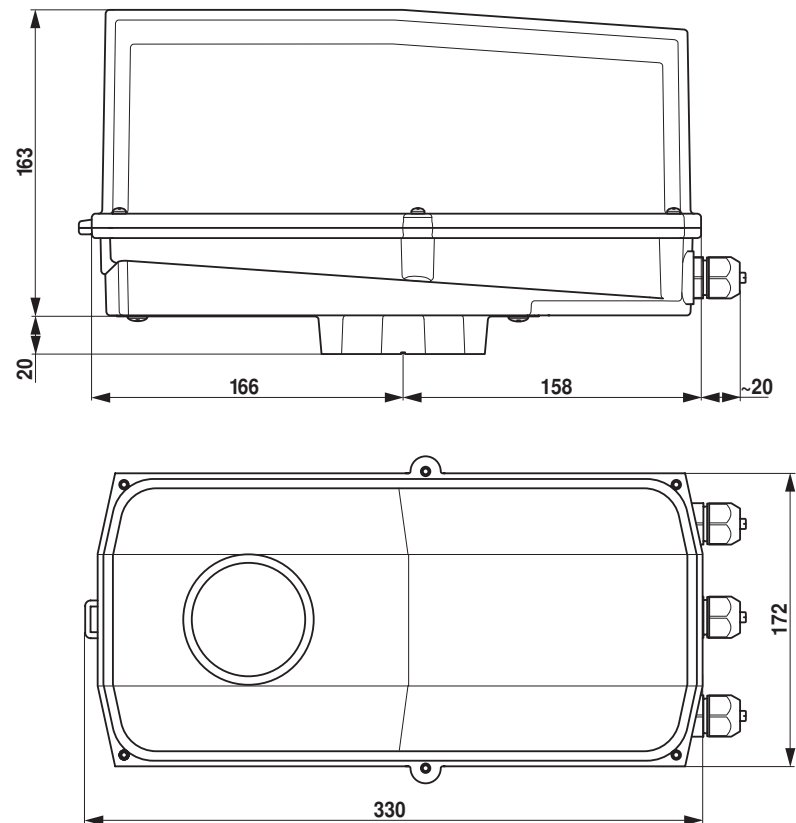
- Connection via safety isolating transformer.
- Direction of rotation switch is covered. Factory setting: Direction of rotation Y2.

Wiring diagrams

AC/DC 24 V, open-close



**Cable colours:**  
 1 = black  
 2 = red  
 3 = white

**Dimensions [mm]****Dimensional drawings****Further documentation**

- Overview Valve-actuator combinations
- Data sheets for butterfly valves
- Installation instructions for actuators and/or butterfly valves
- General notes for project planning