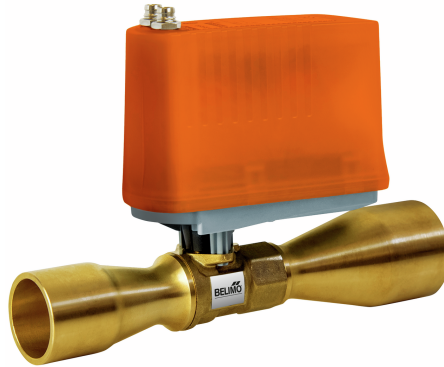


## Expansion valve

- Suitable for HFC, HFO and R290 refrigerants
- Suitable for safety class A3 refrigerants (ISO 817)
- Air-bubble tight
- For refrigerant flow control



Picture may differ from product

## Type Overview

| Type         | Kvs<br>[m <sup>3</sup> /h] | ODF      | PN |
|--------------|----------------------------|----------|----|
| X8016M.113A3 | 1.2                        | 16-16 mm | 50 |
| X8016M.213A3 | 4.8                        | 16-16 mm | 50 |
| X8022M.323A3 | 8                          | 22-22 mm | 50 |
| X8028M.1A3A3 | 1.2                        | 28-28 mm | 50 |
| X8028M.2A3A3 | 4.8                        | 28-28 mm | 50 |
| X8035M.2A3A3 | 4.8                        | 35-35 mm | 50 |
| X8042M.3B3A3 | 8                          | 42-42 mm | 50 |

## 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         | 1 W  |
|                               | Power consumption in rest position     | 0.3 W  |
|                               | Power consumption for wire sizing      | 1.5 VA   |
|                               | Parallel operation                     | Yes (note the performance data)                    |
| <b>Data bus communication</b> | Communicative control                  | MP-Bus   |
| <b>Functional data</b>        | Running time motor                     | 15 s / 90°   |
|                               | Sound power level Motor                | <55 dB(A)  |
|                               | Fluid                                  | HFC, HFO, R290                                     |
|                               | Fluid temperature                      | -20...70°C [-4...158°F]                            |
|                               | Differential pressure $\Delta p_{max}$ | 3500kPa  |
|                               | Flow characteristic                    | equal percentage (VDI/VDE 2173)                    |
|                               | Flow setting                           | See installation instruction                       |
|                               | Leakage rate                           | air-bubble tight, leakage rate A (EN 12266-1)      |
|                               | Angle of rotation note                 | Adjustable<br>Operating range 15...90°             |
|                               | Pipe connection                        | Internal soldering sleeve ODF                      |
|                               | Installation orientation               | upright to horizontal (in relation to the spindle) |
|                               | Servicing                              | maintenance-free                                   |
| Manual override               | with actuator (clicked out)            |  |
| <b>Safety data</b>            | Protection class IEC/EN                | III, Safety Extra-Low Voltage (SELV)               |

**Technical data**

|                     |  |                                      |
|---------------------|--|--------------------------------------|
| <b>Safety data</b>  | Degree of protection IEC/EN            | IP54                                 |
|                     | EMC                                    | CE according to 2014/30/EU           |
|                     | Certification IEC/EN                   | IEC/EN 60730-1 and IEC/EN 60730-2-14 |
|                     | Type of action                         | Type 1                               |
|                     | Rated impulse voltage supply / control | 0.8 kV                               |
|                     | Pollution degree                       | 2                                    |
|                     | Ambient humidity                       | Max. 95% RH, non-condensing          |
|                     | Ambient temperature                    | 5...40°C [41...104°F]                |
| Storage temperature | -40...80°C [-40...176°F]               |                                      |
| <b>Materials</b>    | Valve body                             | CW617N                               |
|                     | Closing element                        | Chrome-plated brass                  |
|                     | Spindle                                | CW617N DW                            |
|                     | Spindle seal                           | HNBR O-ring                          |

**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.
- Outdoor application: only possible in case that no (sea) water, snow, ice, insolation or aggressive gases interfere directly with the device and that it is ensured that the ambient conditions remain within the thresholds according to the data sheet at any time.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied with during installation.
- The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.
- Cables must not be removed from the device.
- 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 valve has been designed for use in stationary electrical heat pumps, air-conditioning systems and dehumidifiers and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- The suitability of these products for applications in which flammable refrigerants are used must be checked by the user for each individual application. Any application is the sole responsibility of the user.
- The valve does not contain any parts that can be replaced or repaired by the user.
- The valve may not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

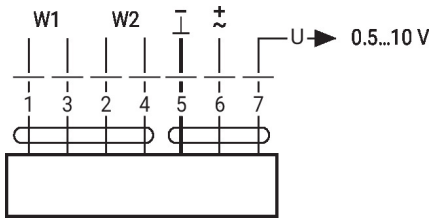
**Product features**

|                        |   |
|------------------------|---|
| <b>Operating mode</b>  | The ball valve is adjusted by a rotary actuator.<br>The ball valve is opened in a counterclockwise direction and closed in a clockwise direction.                           |
| <b>Manual override</b> | Click out the actuator, taking into account the operating conditions of the refrigerant circuit and its components, and adjust the valve using the Belimo accessory ZCQ-FL. |

**Electrical installation**

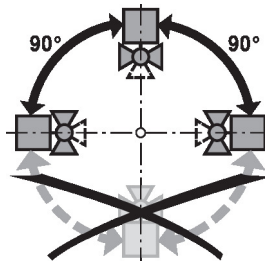

**Supply from isolating transformer.**  
**Parallel connection of other actuators possible. Observe the performance data.**

Electrical installation



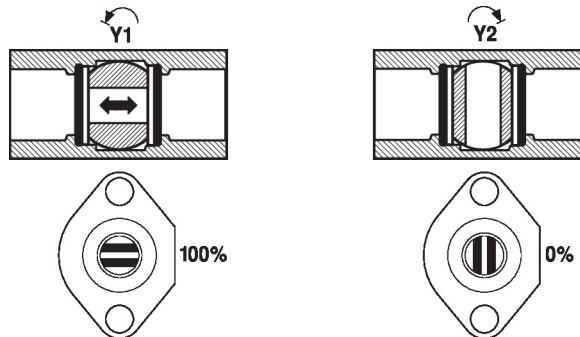
Installation notes

**Permissible installation orientation** The ball valve can be installed upright to horizontal. The ball valve may not be installed in a hanging position, i.e. with the spindle pointing downwards.

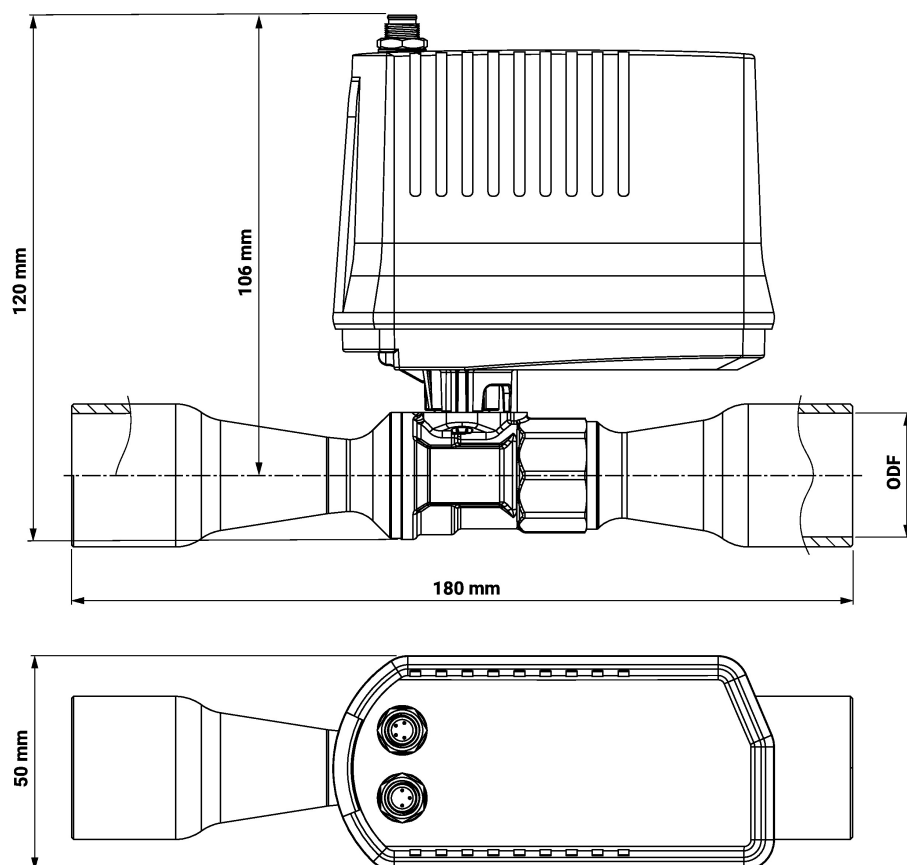


**Servicing** Ball valves and rotary actuators are maintenance-free.  
Before any service work on the control element is carried out, it is essential to isolate the rotary actuator from the power supply (by unplugging the electrical cable if necessary). The operating conditions of the refrigerant circuit and its components must be observed.

**Flow direction** Direction of flow in both directions possible.



## Dimensions



| Type         | ODF      | Weight  |
|--------------|----------|---------|
| X8016M.113A3 | 16-16 mm | 0.23 kg |
| X8016M.213A3 | 16-16 mm | 0.23 kg |
| X8022M.323A3 | 22-22 mm | 0.23 kg |
| X8028M.1A3A3 | 28-28 mm | 0.23 kg |
| X8028M.2A3A3 | 28-28 mm | 0.23 kg |
| X8035M.2A3A3 | 35-35 mm | 0.23 kg |
| X8042M.3B3A3 | 42-42 mm | 0.23 kg |