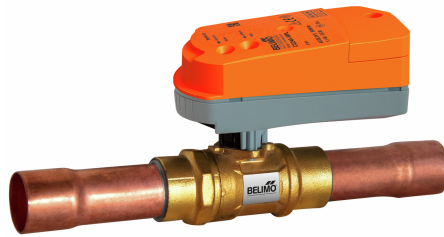


**Characterised control valve**

- 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 [m <sup>3</sup> /h]	ODF	PN
X8016M.1159A	1.2	16-16 mm	50
X8016M.2159A	4.8	16-16 mm	50
X8022M.3259A	8	22-22 mm	50
X8028M.1A59A	1.2	28-28 mm	50
X8028M.2A59A	4.8	28-28 mm	50
X8035M.2A59A	4.8	35-35 mm	50
X8042M.3B59A	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	0.7 W
	Power consumption in rest position	0.6 W
	Power consumption for wire sizing	1.5 VA
	Connection supply / control	Cable 1 m, 4x 0.34 mm <sup>2</sup>
<b>Data bus communication</b>	Communicative control	BACnet MS/TP (factory setting) Modbus RTU
	Number of nodes	BACnet / Modbus see interface description
<b>Functional data</b>	Running time motor	75 s / 90°
	Sound power level Motor	35 dB(A)
	Fluid	HFC, HFO, R290
	Fluid temperature	-20...70°C [-4...158°F]
	Differential pressure Δpmax	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 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)	

**Technical data**

<b>Safety data</b>	Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
	Degree of protection IEC/EN	IP40
	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. 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**


**The wiring of the line for BACnet MS/TP / Modbus RTU is to be carried out in accordance with applicable RS-485 regulations.**  
**Modbus / BACnet: Supply and communication are not galvanically isolated. COM and ground of the devices must be connected to each other.**

**Electrical installation**

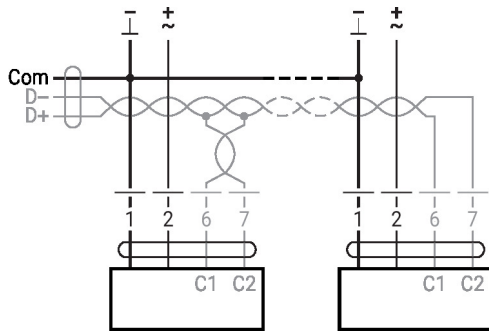
**Wire colours:**

- 1 = black
- 2 = red
- 6 = pink
- 7 = grey

**Functions:**

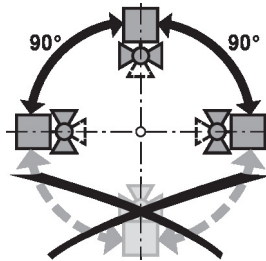
- C1 = D- = A (wire 6)
- C2 = D+ = B (wire 7)

BACnet MS/TP / Modbus RTU



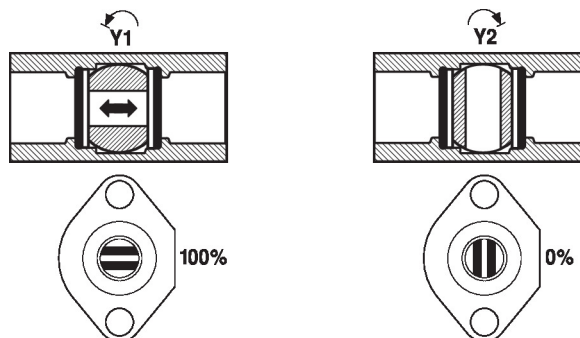
**Installation notes**

**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.

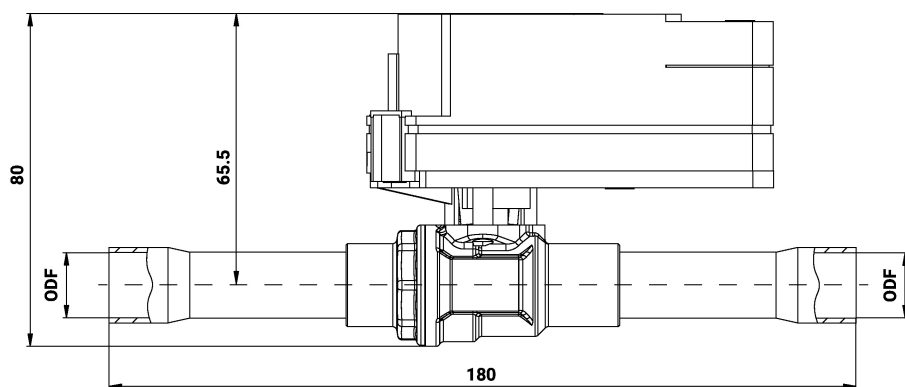


**Servicing** Ball valves and rotary actuators are maintenance-free.  
Before any service work on the control element is carried out, it is essential to isolate the rotary actuator from the power supply (by unplugging the electrical cable if necessary). The operating conditions of the refrigerant circuit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

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



## Dimensions



Type	ODF	Weight
X8016M.1159A	16-16 mm	0.23 kg
X8016M.2159A	16-16 mm	0.23 kg
X8022M.3259A	22-22 mm	0.23 kg
X8028M.1A59A	28-28 mm	0.23 kg
X8028M.2A59A	28-28 mm	0.23 kg
X8035M.2A59A	35-35 mm	0.23 kg
X8042M.3B59A	42-42 mm	0.23 kg