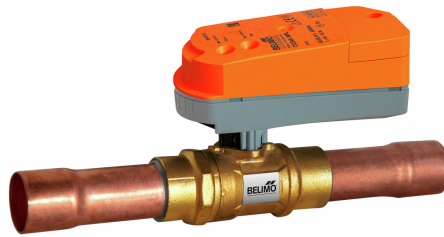


Characterised control valve

- 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 ³ /h]	ODF	PN
X8016M.11A23	1.2	16-16 mm	50
X8016M.21A23	4.8	16-16 mm	50
X8022M.32A23	8	22-22 mm	50
X8028M.1AA23	1.2	28-28 mm	50
X8028M.2AA23	4.8	28-28 mm	50
X8035M.2AA23	4.8	35-35 mm	50
X8042M.3BA23	8	42-42 mm	50

Technical data

Electrical data	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	2.5 W
	Power consumption in rest position	0.5 W
	Power consumption for wire sizing	5 VA
	Connection supply / control	Cable 1 m, 4x 0.34 mm ²
	Parallel operation	Yes (note the performance data)
Functional data	Operating range Y	0.5...10 V
	Input impedance	100 kΩ
	Position feedback U	0.5...10 V
	Running time motor	15 s / 90°
	Running time fail-safe	15 s / 90°
	Sound power level Motor	<55 dB(A)
	Sound power level, fail-safe	<55 dB(A)
	Fluid	HFC, HFO, R290
	Fluid temperature	-20...70°C [-4...158°F]
	Differential pressure Δp _{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 Operating range 15...90°	
Pipe connection	Internal soldering sleeve ODF	

Technical data

Functional data	Installation orientation	upright to horizontal (in relation to the spindle)
	Servicing	maintenance-free
	Manual override	with actuator (clicked out)
Safety data	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.AA
	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]	
Materials	Valve body	CW617N
	Closing element	Chrome-plated brass
	Spindle	CW617N DW
	Spindle seal	HNBR O-ring
Terms	Abbreviations	POP = Power off position / fail-safe position
		PF = Power fail delay time / bridging time

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.

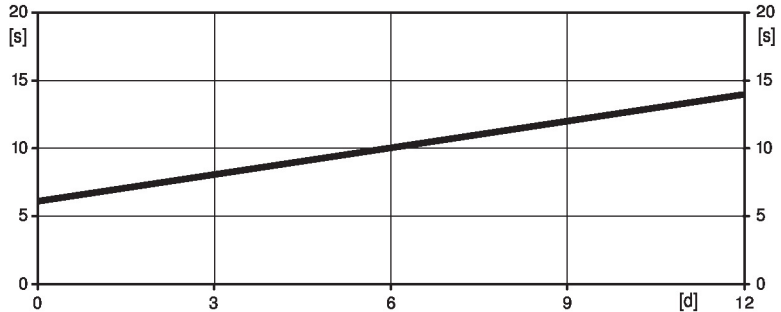
Product features

- Operating mode** The ball valve is adjusted by a rotary actuator.
The ball valve is opened in a counterclockwise direction and closed in a clockwise direction.

Product features

Pre-charging time (start up) The capacitor actuators require a pre-charging time. This time is used for charging the capacitors up to a usable voltage level. This ensures that, in the event of a power failure, the actuator can move at any time from its current position into the fail-safe position. The duration of the pre-charging time depends mainly on how long the power was interrupted.

Typical pre-charging time



[d] = Power failure in days
[s] = Pre-charging time in seconds

	[d]				
	0	3	6	9	12
[s]	6	8	10	12	14

Delivery condition (capacitors) The actuator is completely discharged after delivery from the factory, which is why the actuator requires approximately 25 s pre-charging time before initial commissioning in order to bring the capacitors up to the required voltage level.

Manual override 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

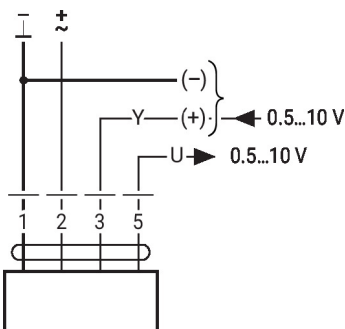


Supply from isolating transformer.
Parallel connection of other actuators possible. Observe the performance data.

Wire colours:

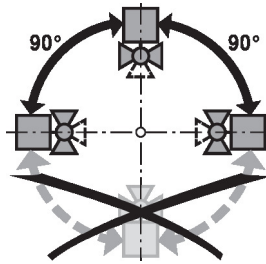
- 1 = black
- 2 = red
- 3 = white
- 5 = orange

AC/DC 24 V, modulating



Installation notes

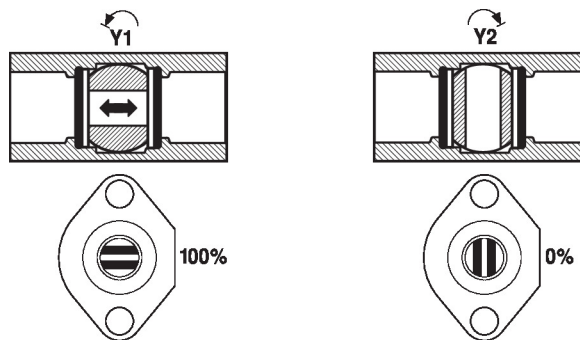
Permissible installation orientation The ball valve can be installed upright to horizontal. The ball valve may not be installed in a hanging position, i.e. with the spindle pointing downwards.



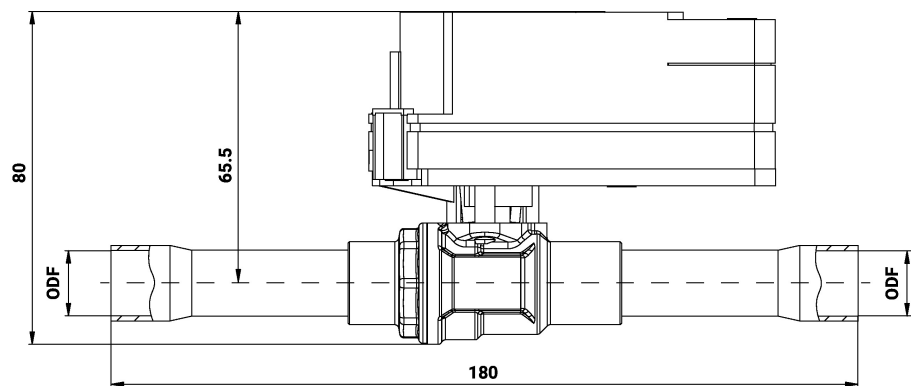
Servicing Ball valves and rotary actuators are maintenance-free.

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.11A23	16-16 mm	0.23 kg
X8016M.21A23	16-16 mm	0.23 kg
X8022M.32A23	22-22 mm	0.23 kg
X8028M.1AA23	28-28 mm	0.23 kg
X8028M.2AA23	28-28 mm	0.23 kg
X8035M.2AA23	35-35 mm	0.23 kg
X8042M.3BA23	42-42 mm	0.23 kg