

Zone valve, 2-way, External thread

- For closed cold and warm water systems
- For shut-off functions and modulating controls on the water side of air handling units and heating systems
- Snap-assembly of the actuator
- kvs variable


Type overview

Type	DN []	G ["]	kvs [m³/h]	PN []
C415Q-J	15	3/4	4.5	25
C420Q-K	20	3/4	7.8	25

Technical data

Functional data	Media	Cold and warm water, water with glycol up to max. 50% vol.
Medium temperature		2...90 °C
Permissible pressure ps		1600 kPa
Closing pressure Δps		350 kPa
Differential pressure Δpmax		280 kPa
Differential pressure note		50 kPa for low-noise operation
Flow characteristic		equal percentage, optimised in the opening range
Leakage rate		Leakage rate A, tight (EN 12266-1)
Flow setting		see Installation instructions
Pipe connector		External thread according to ISO 228-1
Angle of rotation		90°
Angle of rotation note		Operating range 15...90°
Installation position		Upright to horizontal (in relation to the stem)
Maintenance		Maintenance-free
Materials	Housing	Brass body
	Closing element	chrome-plated brass
	Stem	Brass
	Stem seal	O-ring EPDM
	Ball seat	PTFE, O-ring EPDM

Safety notes


- The valve 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.
- 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.
- When determining the flow rate characteristic of controlled devices, the recognised directives must be observed.

Product features

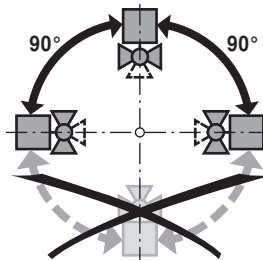
- Mode of operation** The ball valve is adjusted by a rotary actuator. The rotary actuator is controlled by an open-close signal or by a commercially available modulating or 3-point control system and moves the ball of the ball valve – the throttling device – to the position preset by the control signal. Open the ball valve is carried out counterclockwise and close it clockwise.
- Simple direct mounting** Tool-free snap assembly.
The actuator can be plugged on the valve by hand (Caution! Just vertical movements). Pins must match the holes on the flange.
The mounting orientation in relation to the valve can be selected in 180° increments. (Possible two times)

Accessories

	Description	Type
Mechanical accessories	Pipe connector DN 15 Rp 1/2", for ball valve DN 15 G 3/4"	ZR4515Q
	Pipe connector DN 20 Rp 3/4", for ball valve DN 20 G 3/4"	ZR4520Q
	Spindle extension CQ, for cooling applications only	ZCQ-E

Installation notes

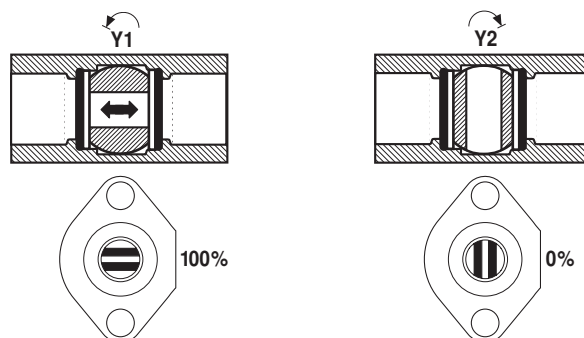
- Recommended installation positions** The ball valve can be installed upright to horizontal. The ball valve may not be installed in a hanging position, i.e. with the stem pointing downwards.



- Water quality requirements** The water quality requirements specified in VDI 2035 must be adhered to. Belimo valves are regulating devices. For the valves to function correctly in the long term, they must be kept free from particle debris (e.g. welding beads during installation work). The installation of suitable strainer is recommended.

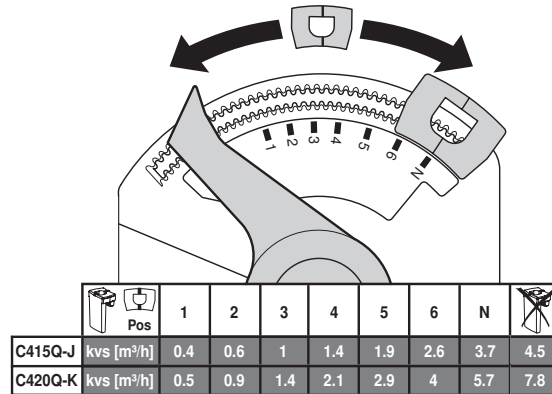
- Maintenance** Ball valves and rotary actuators are maintenance-free.
Before any service work on the final controlling device is carried out, it is essential to isolate the rotary actuator from the power supply (by unplugging the electrical cable if necessary). Any pumps in the part of the piping system concerned must also be switched off and the appropriate slide valves closed (allow all components to cool down first if necessary and always reduce the system pressure to ambient pressure level).
The system must not be returned to service until the ball valve and the rotary actuator have been correctly reassembled in accordance with the instructions and the pipeline has been refilled by professionally trained personnel.

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



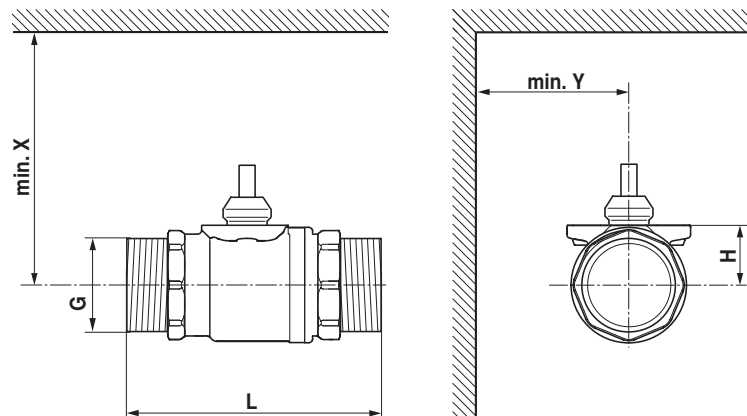
Installation notes

Flow setting The angle of rotation of the actuator can be changed by a clip in 2.5° increments. This is used to set the kvs value (maximum flow rate of the valve). Remove end stop clip and place at desired position. After every change of the flow setting by means of end stop clip, an adaptation must be triggered on the modulating actuators.



Dimensions / Weight

Dimensional drawings



X/Y: Minimum distance with respect to the valve centre.
The actuator dimensions can be found on the respective actuator data sheet.

Type	DN	G	L	H	X	Y	Weight
	[]	["]	[mm]	[mm]	[mm]	[mm]	[kg]
C415Q-J	15	3/4	70	14.5	110	35	0.24
C420Q-K	20	3/4	76	16.5	110	35	0.28

Further documentation

- Overview Valve-actuator combinations
- Data sheets for actuators CQ..
- Installation instruction for zone valves and actuators
- General notes for project planning