

Open-close ball valve, 2-way, External thread

- For open and closed hot water systems
- For shut-off functions and 2-point controls on the water side of domestic water in district heating applications and heated potable water
- Air bubble tight


**Type overview**

Type	DN [ ]	G ["]	kvs [ m <sup>3</sup> /h]	PN [ ]
R410DK	10	3/4	4	16
R415D	15	1	12	16
R420D	20	1 1/4	25	16

**Technical data**

<b>Functional data</b>	Media	Cold, warm and hot water, potable water, water with glycol up to max. 50% vol.
	Medium temperature	2...130 °C
	Medium temperature note	The allowed media temperature can be limited, depending on the type of actuator. Limitations can be found in the respective data sheets of the actuators.
	Permissible pressure ps	2700 kPa
	Closing pressure Δps	1400 kPa
	Differential pressure Δpmax	800 kPa
	Leakage rate	Leakage rate A, air-bubble-tight (EN 12266-1)
	Pipe connector	External thread according to ISO 228-1
	Angle of rotation	90°
	Installation position	Upright to horizontal (in relation to the stem)
Maintenance	Maintenance-free	
<b>Materials</b>	Housing	Low-lead red casting brass (CuSn4Zn6Pb3)
	Closing element	Stainless steel
	Stem	Stainless steel
	Stem seal	Viton
	Stem bearing	TEFLON (PTFE GF15%)
	Stem end	Brass CW 614 N (DN 10...15) Plastic (PA66 GF30%) (DN 20)
	Ball seat	TEFZEL
	Grease	Unsilikon (drinking water grade)
	Actuator seat	Plastic (PA66 GF30%)
	Diffuser	TEFZEL

## 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.
- National regulations must be observed when using the ball valve in potable water applications.

## Product features

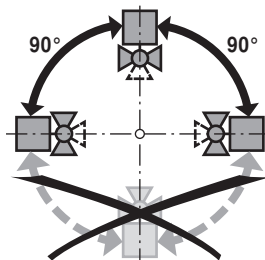
**Mode of operation** The open-close ball valve is adjusted by a rotary actuator. The rotary actuator is connected by an open-close signal. Open the ball valve counterclockwise and close it clockwise.

## Accessories

	Description	Type
Mechanical accessories	Pipe connector to ball valve DN 10 Rp 3/8"	ZR4510
	Pipe connector to ball valve DN 15 Rp 1/2"	ZR4515
	Pipe connector to ball valve DN 20 Rp 3/4"	ZR4520

## 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.

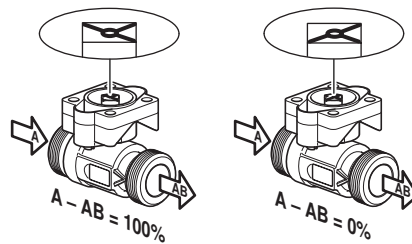


**Water quality requirements** The water quality requirements specified in VDI 2035 must be adhered to. Belimo valves are regulating devices. For the valves to function correctly in the long term, they must be kept free from particle debris (e.g. welding beads during installation work). The installation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

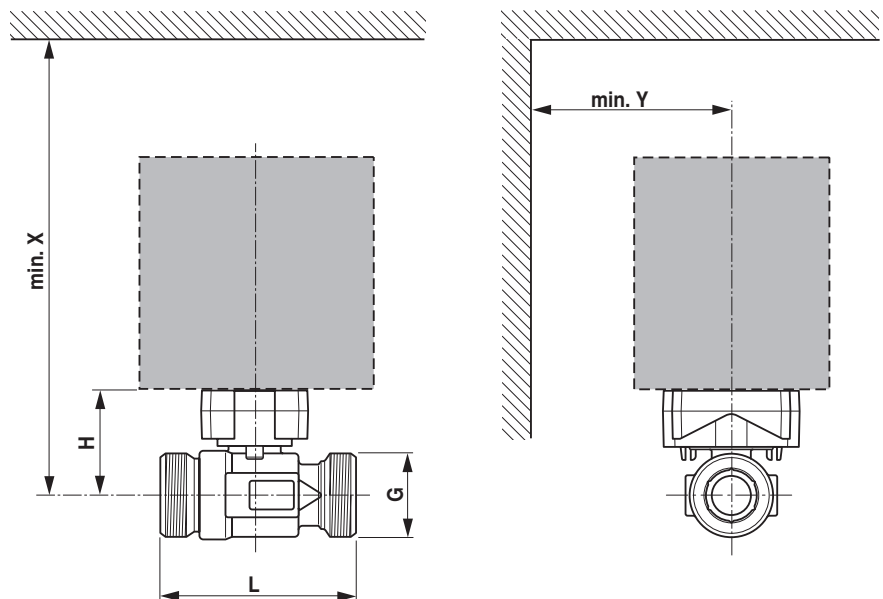
### Installation notes

**Flow direction** The direction of flow, specified by an arrow on the housing, is to be complied with, since otherwise the ball valve could become damaged. Please ensure that the ball is in the correct position (marking on the spindle).



### 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 [ mm]	H [ mm]	X [ mm]	Y [ mm]	Weight [ kg]
R410DK	10	3/4	65	38	190	70	0.29
R415D	15	1	75	42	195	70	0.40
R420D	20	1 1/4	107	55	200	70	0.80

### Further documentation

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