

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

- For open and closed cold and warm water systems
- For shut-off functions on the water side and 2-point controls in air handling units and heating systems
- Suitable for drinking water
- Air bubble tight


**Type overview**

Type	kvs [ m <sup>3</sup> /h]	DN [ ]	G ["]	PN [ ]
R415	8.6	15	1	16
R420	21	20	1 1/4	16
R425	26	25	1 1/2	16
R430	16	32	2	16
R432	32	32	2	16
R440	32	40	2 1/4	16
R450	49	50	2 3/4	16

**Technical data**

<b>Functional data</b>	Media	Cold and warm water, drinking water, water with glycol up to max. 50% vol.
	Medium temperature	6...100°C
	Medium temperature note	-10°C with stem heating 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.
	Rated pressure ps	1600 kPa
	Closing pressure Δps	1400 kPa
	Differential pressure Δpmax	400 kPa
	Differential pressure note	200 kPa for low-noise operation
	Leakage rate	Leakage rate A, air-bubble-tight (EN 12266-1)
	Pipe connectors	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
Closing element		Stainless steel
Stem		Stainless steel
Stem seal		O-ring EPDM
Valve seat		PTFE, O-ring Viton
Grease		Klübersynth VR 69-252N (drinking water grade)

**Safety notes**


- The valve has been designed for use in stationary heating, ventilation and air-conditioning systems and is not allowed to 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

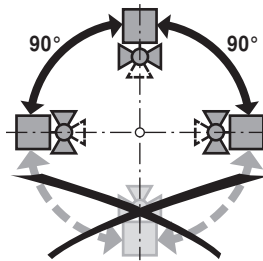
**Mode of operation** The open-close ball valve is adjusted by a rotary actuator. The rotary actuator is connected by an open-close signal. Open the ball valve counterclockwise and close it clockwise.

## Accessories

	Description	Type
Electrical accessories	Spindle heating DN 15-50 (5W)	ZR24-1
	Description	Type
Mechanical accessories	Pipe connector to ballvalves DN 15 Rp 1/2"	ZR4515
	Pipe connector to ballvalves DN 20 Rp 3/4"	ZR4520
	Pipe connector to ballvalves DN 25 Rp 1"	ZR4525
	Pipe connector to ballvalves DN 32 Rp 1 1/4"	ZR4532
	Pipe connector to ballvalves DN 40 Rp 1 1/2"	ZR4540
	Pipe connector to ballvalves DN 50 Rp 2"	ZR4550

## Installation notes

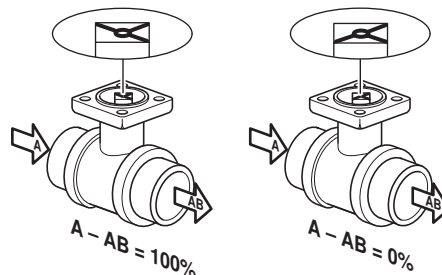
**Recommended installation positions** The ball valve can be installed upright to horizontal. The ball valve may not be installed in a hanging position, i.e. with the stem pointing downwards.



**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.

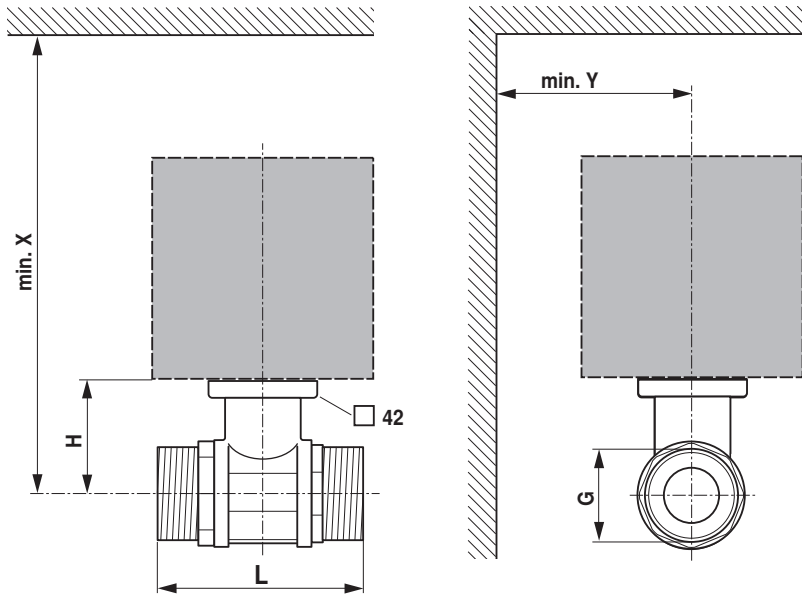
**Maintenance** Ball valves and rotary actuators are maintenance-free. Before any kind of service work is carried out on the actuator, it is essential to isolate the rotary actuator from the power supply (by unplugging the electrical cable). Any pumps in the part of the piping system concerned must also be switched off and the appropriate slide valves closed (allow everything to cool down first if necessary and 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 properly reassembled in accordance with the instructions and the pipeline has been refilled in the proper manner.

**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



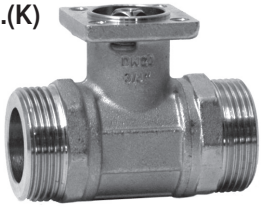
X/Y: Minimum distance with respect to the valve centre.  
The actuator dimensions can be found on the respective actuator data sheet.

Type	DN [ ]	G ["]	L [ mm]	H [ mm]	X [ mm]	Y [ mm]	Weight approx. [ kg]
R415	15	1	74	44	220	90	0.6
R420	20	1 1/4	85.5	46	220	90	0.8
R425	25	1 1/2	84.5	46	220	90	0.9
R430	32	2	97.5	46	220	90	1.1
R432	32	2	102	50.5	230	90	1.3
R440	40	2 1/4	103	50.5	230	90	1.4
R450	50	2 3/4	115.5	56	240	90	2.3

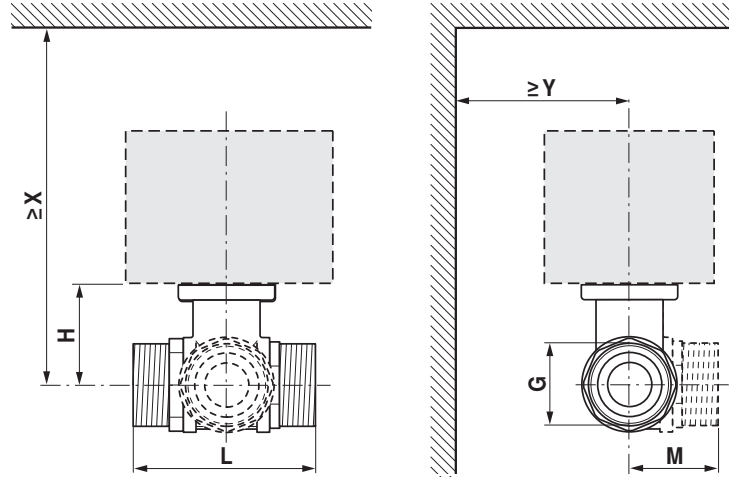
### Further documentation

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

R4..(K)

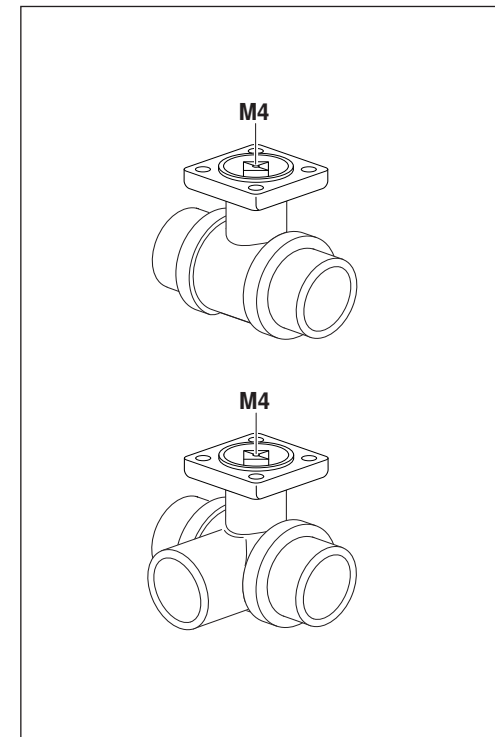
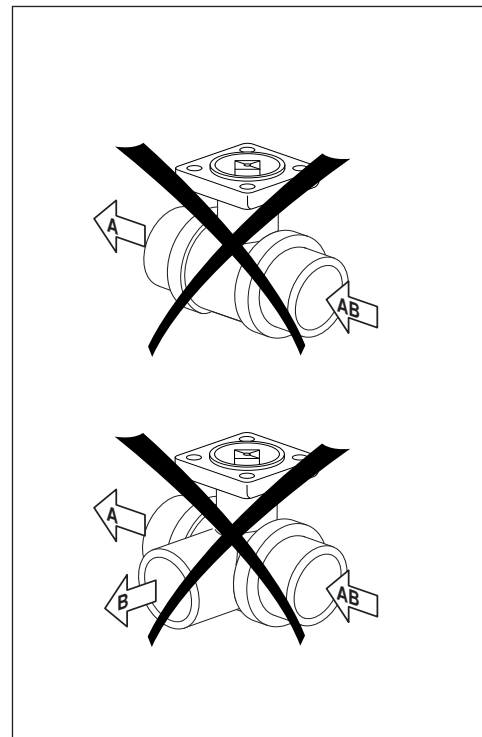
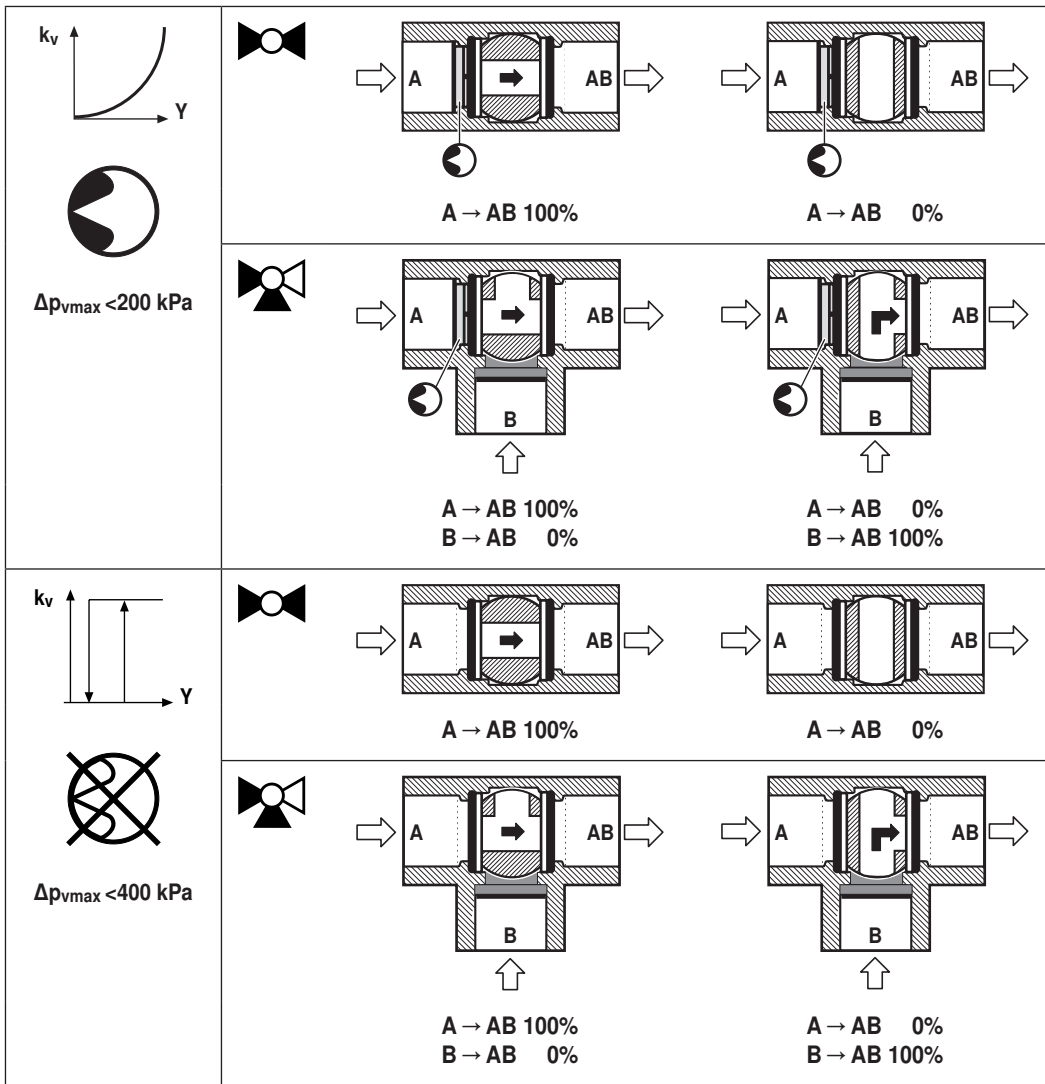


R5..(K)



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		DN	G	mm			80 °C		100 °C						100 °C									
							KR..		TR..		LR..A		NR..A		SR..A		TRF..		LRF..		NRF..A		SRF..A	
		mm	”	L	H	M	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
R405K ... R409K	R505K ... R508K	10	3/4"	69	31.5	34	138	75	173	75	187	75	218	80	218	80	178	60	188	90	188	90	188	90
R409 ... R415	R509 ... R515	15	1"	74	44	37	150	75	185	75	195	75	230	80	230	80	190	60	200	90	220	90	220	90
R417 ... R420	R517 ... R520	20	1 1/4"	85.5	46	42.5					200	75	235	80	235	80			205	90	225	90	225	90
R422 ... R425	R522 ... R525	25	1 1/2"	84.5	46	47.5					200	75	235	80	235	80			205	90	225	90	225	90
R429 ... R430		32	2"	97.5	46						200	75	235	80	235	80			205	90	225	90	225	90
	R529 ... R530	32	2"	103.5	46	56					200	75	235	80	235	80			205	90	225	90	225	90
R431 ... R432		32	2"	102	50.5								240	80	240	80					230	90	230	90
	R531 ... R532	32	2"	107.5	50.5	56							240	80	240	80					230	90	230	90
R438 ... R440		40	2 1/4"	103.5	50.5								240	80	240	80					230	90	230	90
	R538 ... R540	40	2 1/4"	114.5	50.5	60.5							240	80	240	80					230	90	230	90
R448 ... R450		50	2 3/4"	115.5	56										245	80							235	90
	R548 ... R550	50	2 3/4"	131.5	56	71.5									245	80							235	90



	<b>A → AB 100%</b>	<b>A → AB 0%</b>
	<b>B → AB 0%</b>	<b>B → AB 100%</b>

