

Change-over ball valve, 3-way, Internal thread

- For closed cold and warm water systems
- For switching functions on the water side and 2-point controls in air handling units and heating systems
- Air bubble-tight (control path A - AB)


**Type overview**

Type	kvs [ m <sup>3</sup> /h]	DN [ ]	Rp ["]	PN [ ]
R3015-S1	15	15	1/2	16
R3020-S2	32	20	3/4	16
R3025-S2	26	25	1	16
R3032-S3	32	32	1 1/4	16
R3040-S3	31	40	1 1/2	16
R3050-S4	49	50	2	16

**Technical data**

<b>Functional data</b>	Media	Cold and warm water, water with glycol up to max. 50% vol.
	Medium temperature	-10...120°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.
	Rated pressure ps	1600 kPa
	Closing pressure Δps	1400 kPa
	Differential pressure Δpmax	1000 kPa
	Differential pressure note	200 kPa for low-noise operation
	Flow rate	Bypass B – AB: Approx. 50% of kvs value
	Leakage rate	Port A - AB: Leakage rate A, air-bubble-tight (EN 12266-1), Bypass B - AB: Leakage class I (EN 1349 and EN 60534-4) max. 1% of the kvs value
	Pipe connectors	Internal thread according to ISO 7-1
	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 EPDM

## 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

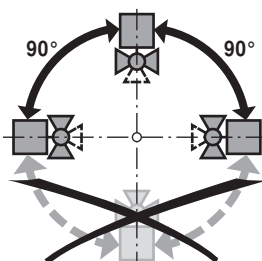
**Mode of operation** The change-over ball valve is adjusted by a rotary actuator. The rotary actuator is connected by an open-close signal.

## Accessories

	Description	Type
<b>Mechanical accessories</b>	Pipe connector to ballvalves DN 15 Rp 1/2"	ZR2315
	Pipe connector to ballvalves DN 20 Rp 3/4"	ZR2320
	Pipe connector to ballvalves DN 25 Rp 1"	ZR2325
	Pipe connector to ballvalves DN 32 Rp 1 1/4"	ZR2332
	Pipe connector to ballvalves DN 40 Rp 1 1/2"	ZR2340
	Pipe connector to ballvalves DN 50 Rp 2"	ZR2350

## 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.



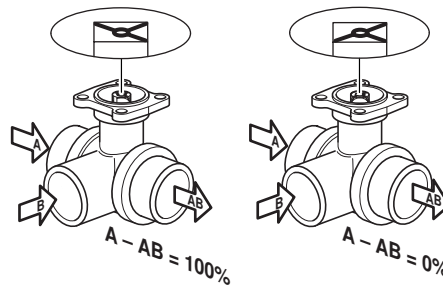
**Water quality requirements** The water quality requirements specified in VDI 2035 must be adhered to. Belimo valves are regulating devices. For the valves to function correctly in the long term, they must be kept free from particle debris (e.g. welding beads during installation work).

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.

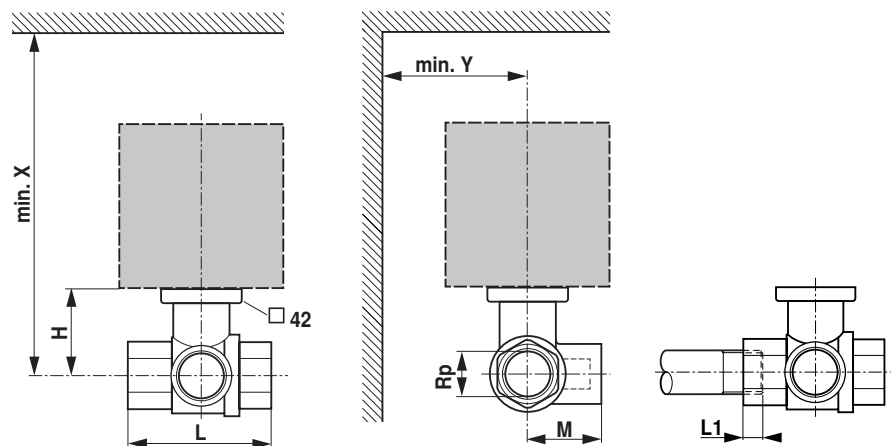
## Installation notes

**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



L1: Maximum screwing depth.

X/Y: Minimum distance with respect to the valve centre.

The actuator dimensions can be found on the respective actuator data sheet.

Type	DN [ ]	Rp ["]	L [ mm]	L1 [ mm]	M [ mm]	H [ mm]	X [ mm]	Y [ mm]	Weight approx. [ kg]
R3015-S1	15	1/2	67	13	36	44	230	90	0.27
R3020-S2	20	3/4	78	14	41.5	46	235	90	0.46
R3025-S2	25	1	87	16	45	46	235	90	0.6
R3032-S3	32	1 1/4	105	19	55.5	50.5	240	90	0.92
R3040-S3	40	1 1/2	111	19	56	50.5	240	90	1.2
R3050-S4	50	2	125	22	68	56	245	90	1.8

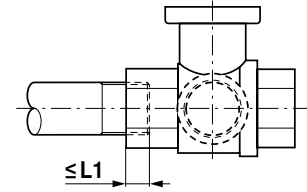
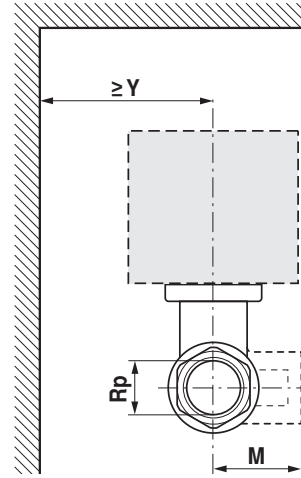
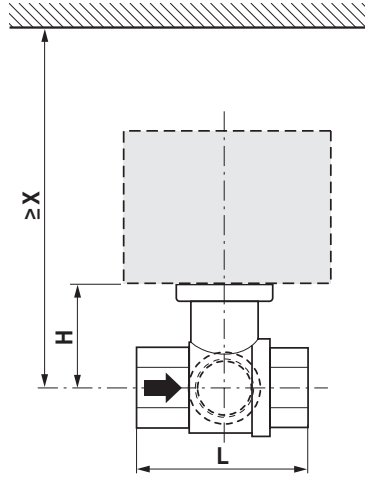
## Further documentation

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

R2..-S..



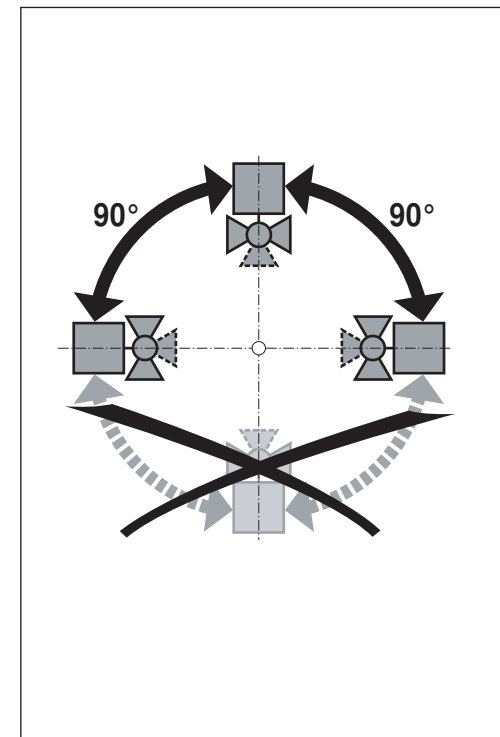
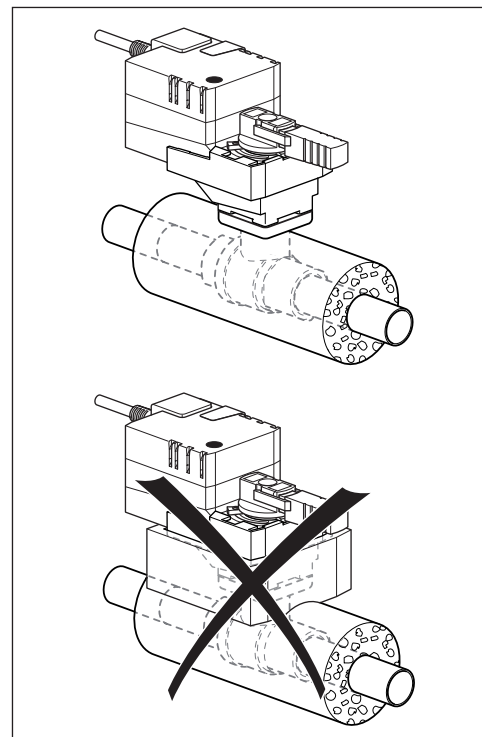
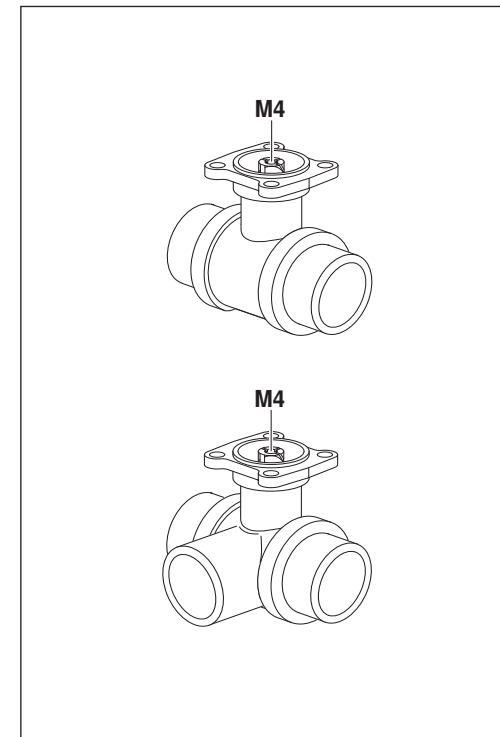
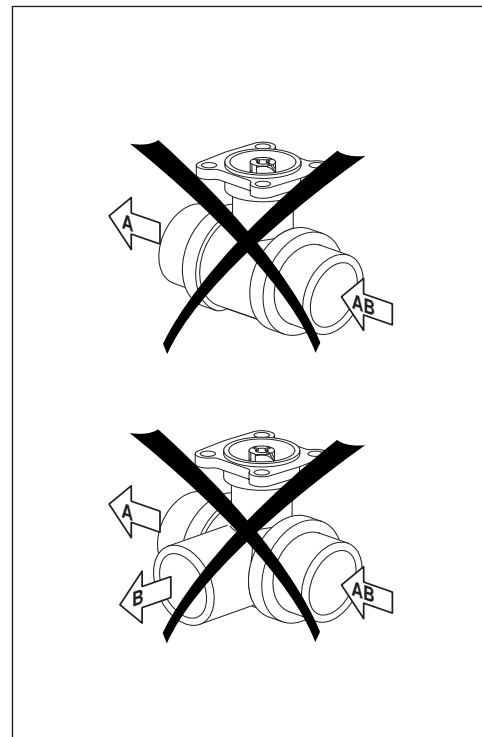
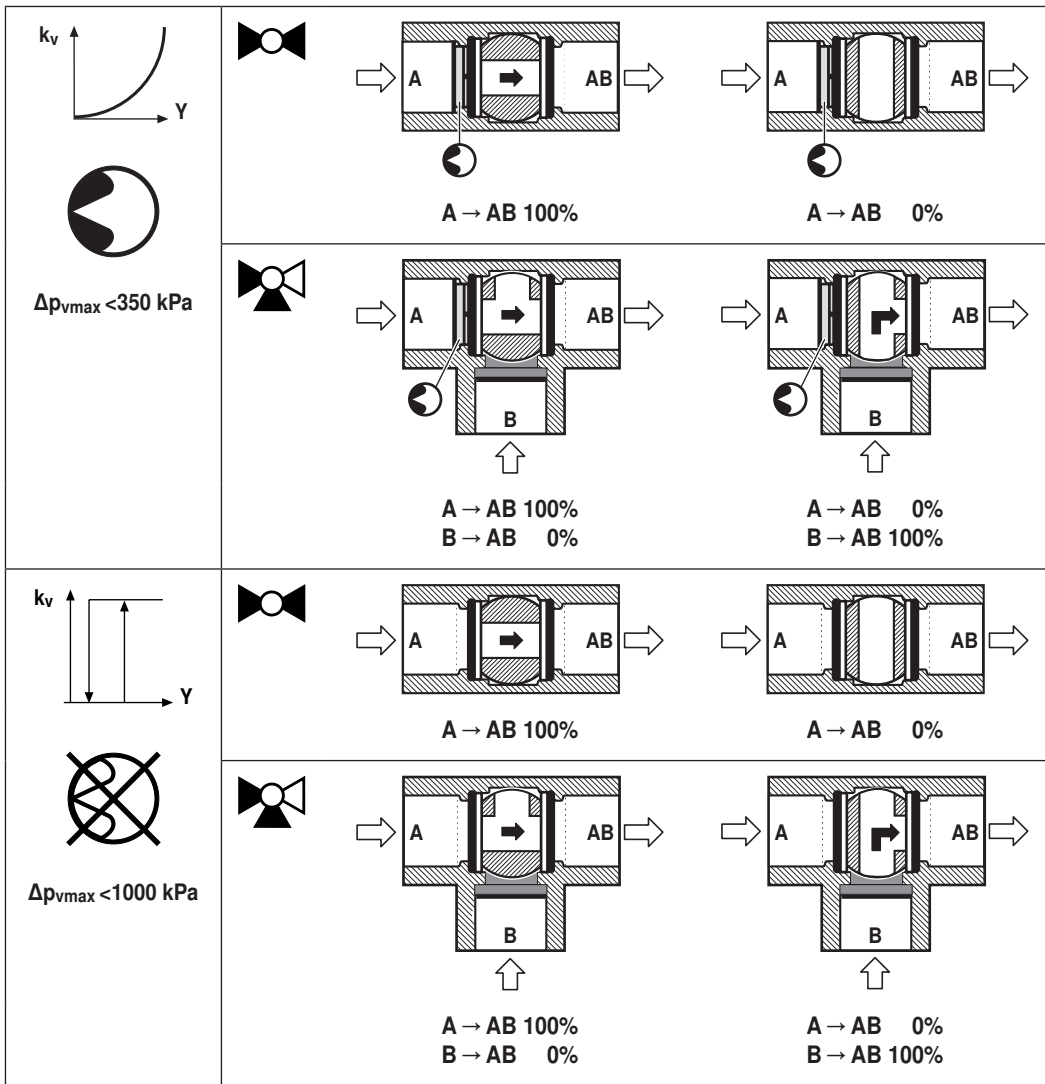
R3..-S..



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t -10 ... +120 °C		p <sub>s</sub> 1600 kPa																									
		DN	Rp	mm				80 °C		100 °C		120 °C				100 °C		120 °C									
				L	H	M	L1	KR..	TR..	LR..A	NR..A	SR..A	TRF..	LRF..	NRF..A	SRF..A											
mm	”	mm	”	L	H	M	L1	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y		
R2015..-S1	R3015..-S1	15	1/2”	67	44	36	13	150	75	185	75	195	75	230	80	230	80	190	80	200	90	220	90	220	90		
R2020..-S2	R3020..-S2	20	3/4”	78	46	41.5	14					200	75	235	80	235	80			205	90	225	90	225	90		
R2025..-S2	R3025..-S2	25	1”	87	46	45	16					200	75	235	80	235	80			205	90	225	90	225	90		
R2032..-S3	R3032..-S3	32	1 1/4”	105	50.5	55.5	19							240	80	240	80					230	90	230	90		
R2040..-S3	R3040..-S3	40	1 1/2”	111	50.5	56	19							240	80	240	80					230	90	230	90		
	R3040-25-S4	40	1 1/2”	122	62	66.5	19									250	80							240	90		
R2050..-S4	R3050..-S4	50	2”	125	56	68	22										245	80						235	90		
	R3050-40-S4 R3050-58-S4	50	2”	142	68	79	22										262	80						252	90		



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