BELIMO

Technical data sheet R7..Rxx-B..

Characterised control valves, 3-way, with with PN 6 flange
- **For closed cold and warm water systems**
- **For modulating water-side control of AHU and heating systems**
- **Air bubble-tight (control path A - AB)**

Overview of types

Type	kvs [m³/h]	DN [mm]	ps [kPa]	n(gl)	Sv min.
R7015RP63-B1	0.63	15	600	3.2	50
R7015R1P6-B1	1.6	15	600	3.2	50
R7015R4-B1	4	15	600	3.2	100
R7020R6P3-B1	6.3	20	600	3.2	100
R7025R10-B2	10	25	600	3.2	100
R7032R16-B3	16	32	600	3.2	100
R7040R16-B3	16	40	600	3.2	100
R7050R25-B3	25	50	600	3.2	100

Technical data

Functional data	Media	Cold and hot water, water with glycol up to max. 50% vol.
	Medium temperature	-10 °C ... 100 °C
	Medium temperature note	The allowed media temperature can be limited, depending on the type of actuator. The correct values can be found in the respective actuator sheets.
	Closing pressure Δps	600 kPa
	Differential pressure Δpmax	100 kPa
	Flow characteristic	Control path A – AB: equal percentage (in accordance with VDI/VDE 2178) Bypass B – AB: linear, flow rate is 70% of kvs value
	Leakage rate	Control path A – AB A, Air bubble-tight (EN 12266-1)
	Leakage class	Bypass B – AB Leakage Class I (DIN EN 1349 and DIN EN 60534-4) max. 1% of kvs
	Pipe connectors	Flange PN 6 (in accordance with EN 1092/1)
	Angle of rotation with limitation	90 ° (operating range control path A – AB 15 ... 90°, bypass B – AB 15 ... 70°)
	Installation position	Upright to horizontal (in relation to the spindle)
	Maintenance	Maintenance-free
Materials	Valve	Forged, nickel-plated brass body
	Valve cone	Chrome-plated brass
	Spindle	Nickel-plated brass
	Stem seal	O-ring EPDM
	Valve seat	PTFE, O-Ring EPDM (DN20 Viton)
	Characterising disk	TEFZEL
	Flange	DN 15 / 20: galvanised steel DN 25 ... 50: aluminium

Safety notes

- **The ball 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 with during installation.**
- **The ball valve does not contain any parts that can be replaced or repaired by the user.**
- **The ball 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

Principle of operation

The characterised control valve is adjusted by a rotary actuator. The actuator is controlled by a commercially available modulating or 3-point control system and moves the ball of the valve – the throttling device – to the position dictated by the positioning signal. Open the characterised control valve counterclockwise and close it clockwise.

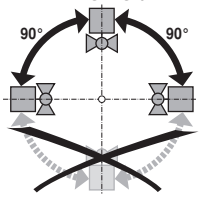
Flow characteristic

Equal percentage flow control is ensured by the integrated characterising disk.

Installation instructions

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 spindle pointing downwards.



Water quality requirements

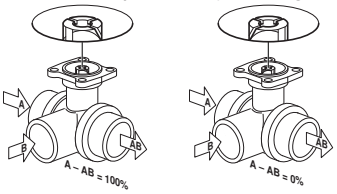
The water quality requirements specified in VDI 2035 must be adhered to. Characterised control valves are regulating devices. The use of dirt filters is recommended in order to prolong their service life as modulating instruments.

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 characterised control valve and the rotary actuator have been properly reassembled in accordance with the instructions and the pipeline has been refilled in the proper manner.

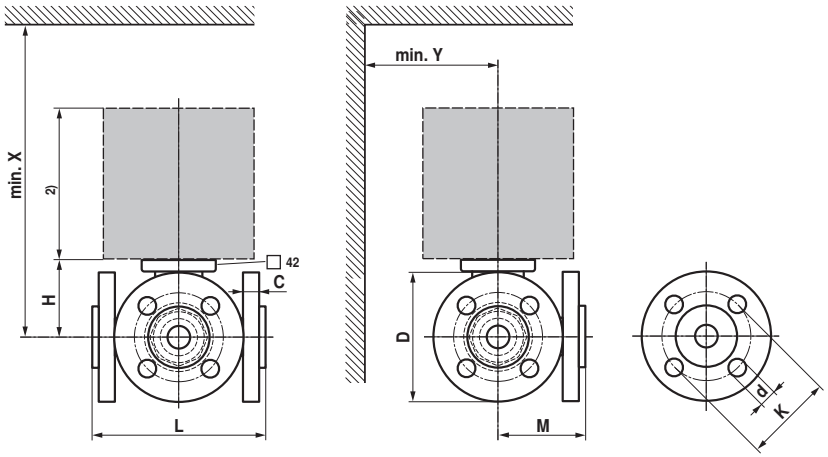
Flow direction

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



DN	Type	Weight approx. [kg]	L [mm]	H [mm]	M [mm]	X [mm]	Y [mm]
15	R7015RP63-B1	1.8	101.5	36	73	230	90
15	R7015R1P6-B1	1.8	101.5	45	73	230	90
15	R7015R4-B1	1.8	101.5	45	73	230	90
20	R7020R6P3-B1	2.4	112	47.5	79	235	90
25	R7025R10-B2	2.5	132	47.5	92	235	90
32	R7032R16-B3	3.4	143.5	52	102.5	240	90
40	R7040R16-B3	4	149.5	52	105	240	90
50	R7050R25-B3	5.6	165	58	121	245	90

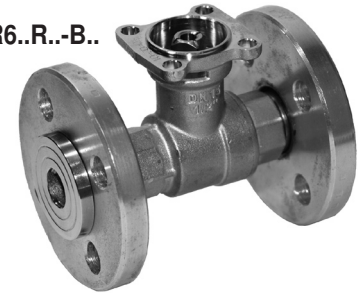
X/Y: Minimum distance with respect to the valve centre.
The actuator dimensions can be found on the respective actuator data sheet.

Further documentation

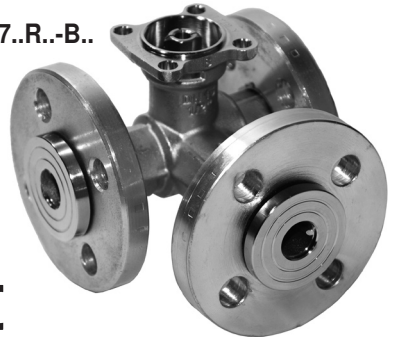
- Complete overview «The complete product range of water solutions»
- Data sheets actuators
- Installation instructions for actuators and/or ball valves, respectively
- Notes for project planning (hydraulic characteristic curves and hydronic circuits, installation instructions, commissioning, maintenance, etc.)

BELIMO

R6..R..-B..



R7..R..-B..



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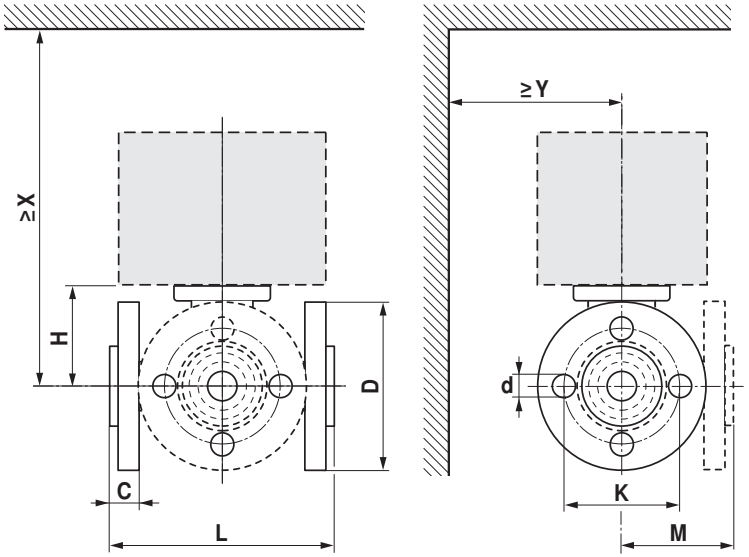
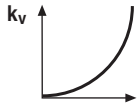
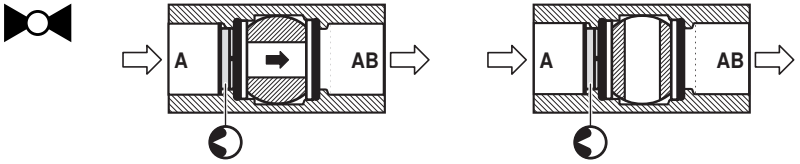


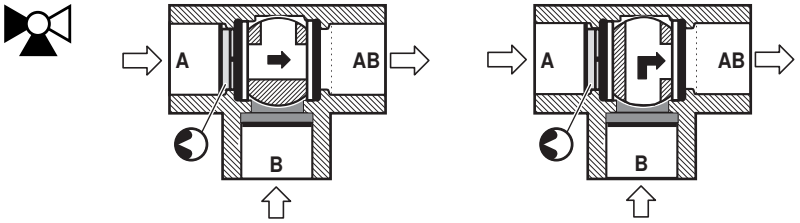
t	–10 ... +100°C
p_s	600 kPa

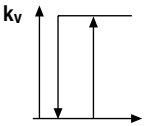
		DN	mm							100°C													
										TR..		LR..A		NR..A		SR..A		TRF..		LRF..		NRF..A		SRF..A	
		mm	L	H	M	D	C	K	d	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
R6015R..-B1	R7015R..-B1	15	101.5	45	73	80	15	55	4 x 11	185	75	195	75	230	80	230	80	190	80	200	90	220	90	220	90
R6020R..-B1	R7020R..-B1	20	112	47.5	79	90	15	65	4 x 11	185	75	200	75	235	80	235	80	190	80	205	90	225	90	225	90
R6025R..-B2	R7025R..-B2	25	132	47.5	92	100	20	75	4 x 11			200	75	235	80	235	80			205	90	225	90	225	90
R6032R..-B3	R7032R..-B3	32	143.5	52	102.5	120	17	90	4 x 14					240	80	240	80					230	90	230	90
R6040R..-B3	R7040R..-B3	40	149.5	52	105	130	18	100	4 x 14					240	80	240	80					230	90	230	90
R6050R..-B3	R7050R..-B3	50	165	58	121	140	18	110	4 x 14							245	80							235	90



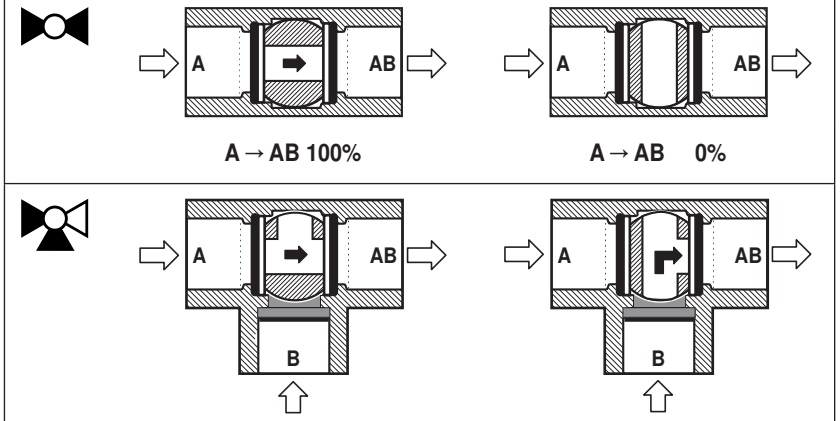
Δp_{vmax} <350 kPa

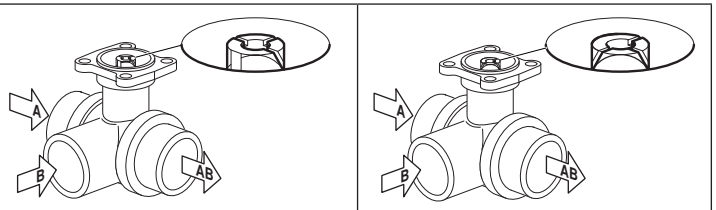






Δp_{vmax} <1000 kPa





	A → AB 100%	A → AB 0%
	B → AB 0%	B → AB 100%