Selection			R3..BL Open/Close ball valves, 3-way	
k_{vs} [m³/h]	DN mm	DN Imp.	Type	Suitable rotary actuator for Open/Close control
4.5	15	½"	R315BL	 LR24(-S) AC/DC 24 V  LR230(-S) AC 230 V
8.5	20	¾"	R320BL	
9	25	1"	R325BL	
8	32	1¼"	R330BL	
15	32	1¼"	R332BL	 NR24-3(-S) AC 24 V  NR230-3(-S) AC 230 V
14	40	1½"	R340BL	
17	50	2"	R350BL	

Technical data	R3..BL Open/Close ball valves, 3-way
Flow media	Cold and hot water, water with glycol up to 50% by volume
Temperature of medium	+5 °C...110 °C (lower and higher temperatures to order)
Rated pressure ps	4140 kPa (R315BL…R330BL) / 2760 kPa (R332BL…R350BL)
Leakage rate	Air bubble-tight
Pipe connections	Female screw to ISO7/1
Diff. pressure Δpmax Closing pressure Δps	1000 kPa (200 kPa for low-noise operation) 1400 kPa
Angle of rotation	90°
Mounting position	Vertical to horizontal (referred to the spindle)
Maintenance	Maintenance-free
Materials	
Body	chromium-plated brass
Ball	stainless steel
Seal	PTFE
Spindle	chromium-plated brass
Spindle seal	EPDM
Discbypass	TEFZEL

3-way Open/Close ball valves DN 15…50

Changeover functions of cold and hot water systems

Applications
Water-side changeover or 2-point control of cold and hot water circuits in heating or ventilation plants.

Mode of operation
The Open/Close ball valve is operated by a Type LR or NR rotary actuator. The actuator is controlled by an Open/Close signal.

Product features

Manual operation by lever after disengaging the gearing latch on the Type LR or NR rotary actuator.

An order for an R3..BL Open/Close ball valve includes a suitable Type LR or NR rotary actuator.

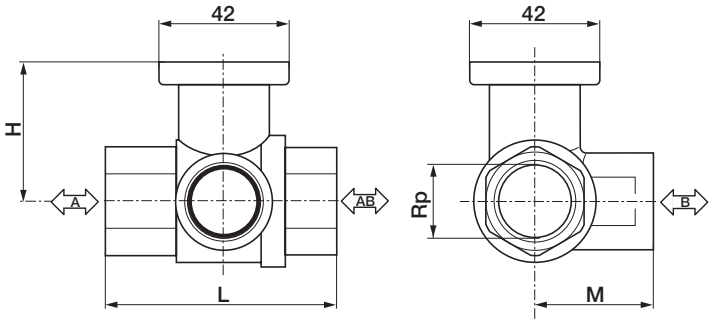
Examples for ordering: (with LR230)

a) Open/Close ball valve R315BL with LR230
- Rotary actuator pre-assembled
- Order Code: R315BL+LR230

b) Open/Close ball valve R315BL and LR230
- Rotary actuator enclosed
- Order Code: R315BL/LR230

Dimensions R3..BL, Open/Close ball valves, 3-way

DN mm	DN Imp.	Dimensions [mm] L	H	M	Thread Rp	Max. Thread engagement [mm]	Weight [kg]
15	½"	67	45	39	½"	13	0,45
20	¾"	78	47.5	41.5	¾"	13	0,6
25	1"	87	47.5	45	1"	17	0,9
32	1¼"	105	47.5	55.5	1¼"	19	1,2
32	1¼"	105	52	55.5	1¼"	19	1,3
40	1½"	111	52	56	1½"	19	1,5
50	2"	125	58	68	2"	22	2,4



Sizing table for Open/Close ball valves

Diff. presssures Δp_{v100} [kPa]	0.1	1	3	10	k_{vs} [m³/h]	DN [mm]	3-way
Volumetric flow $\dot{V}_{100}$ [m³/h]	0.14	0.45	0.78	1.42	4.5	15	R315BL
	0.27	0.85	1.47	2.69	8.5	20	R320BL
	0.28	0.90	1.56	2.85	9	25	R325BL
	0.25	0.80	1.39	2.53	8	32	R330BL
	0.47	1.50	2.60	4.74	15	32	R332BL
	0.44	1.40	2.42	4.43	14	40	R340BL
	0.54	1.70	2.94	5.38	17	50	R350BL

Maintenance, mounting positions, commissioning, installation instructions

Maintenance

- Ball valves and rotary actuators are both maintenance-free.
- Before any kind of service work is carried out on control devices of this type, it is essential to isolate the actuator from the power supply (by unplugging the power lead). Any pumps in the particular part of the piping system concerned must also be switched off and the appropriate isolating fittings closed (also allow everything to cool down first if necessary and reduce the pressure in the system to atmospheric).
- The systems must not be returned to service until the ball valve and the actuator have been properly re-installed and connected and the pipework has been refilled in the proper manner.

Subsequent removal
In the case of applications where subsequent removal of a ball valve will be necessary, it is advisable to make appropriate preparations beforehand. A typical example is the provision of extra detachable ZR23.. pipe connectors.

Disposal
When a control device (ball valve and actuator) has come to the end of its service life, the two parts must be dismantled and sorted into different materials before being disposed of.

Mounting positions, installation and commissioning

Separate supply
When a ball valve and rotary actuator are supplied separately, they can be assembled on-site.

No special tools are needed for assembly, and instructions will be found packed with the valve and actuator.

Commissioning must not be carried out until the ball valve and rotary actuator have been assembled in accordance with the instructions.

Recommended mounting positions
The ball valves may be mounted either **vertical** (Fig. 1) or **horizontal** (Fig. 2).
However, mounting the ball valves with the spindle pointing downwards, i.e. **upside down** (Fig.3), is not recommended.

Fig. 1

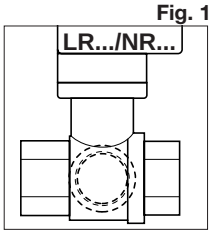


Fig. 2

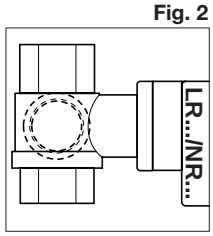
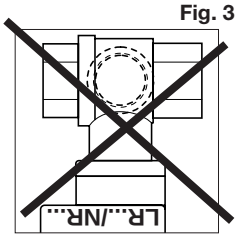
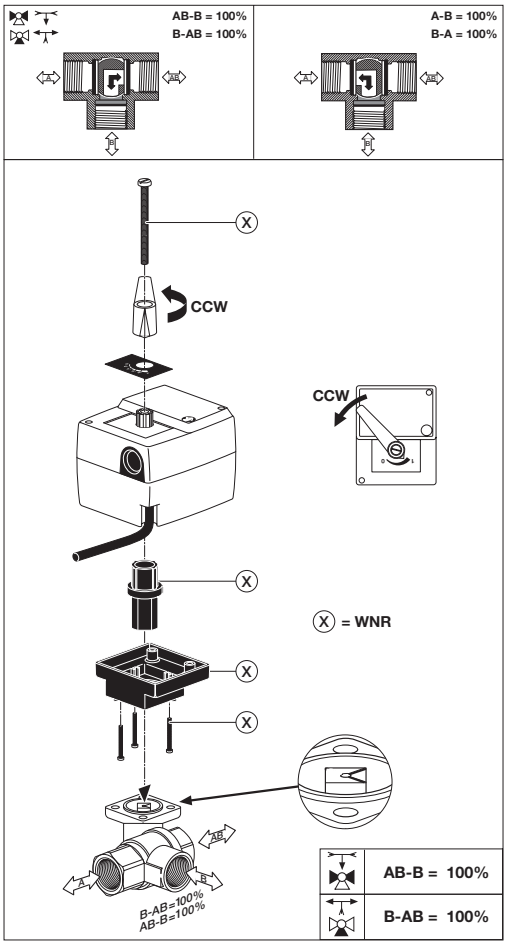


Fig. 3



Installation instructions



Important

Use of Belimo control devices
The control devices described in this publication are intended for use in the closed water circuits of heating, ventilating and air-conditioning systems. Use of the control devices in conjunction with other liquid or gaseous fluids is not allowed.

Flow rates
The recognised rules should be applied when determining the flow characteristic of control devices.

Water quality requirements
The water quality requirements specified in VDI 2035 must be adhered to.