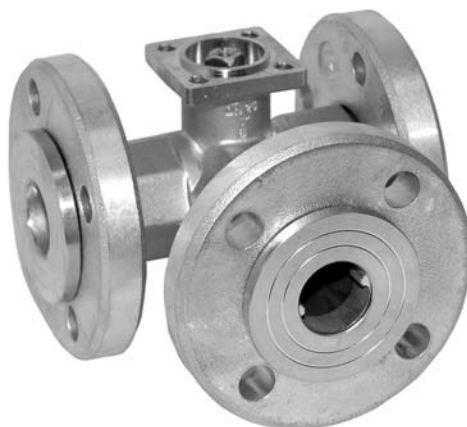


Characterized control valves, 3-way,
with flange PN 6

- for open and closed cold and warm water systems
- for modulating control on the water side of air-handling and heating systems
- air bubble-tight (control path A – AB)



Type overview

Type	k_{vs} [m ³ /h]	DN [mm]	DN [Inches]	p_s [kPa]	$n(gl)$ ¹⁾	S_v
R709R	0.63	15	3/8"	600	3.2	>50
R711R	1.6	15	1/2"	600	3.2	>50
R713R	4	15	1/2"	600	3.9	>100
R718R	6.3	20	3/4"	600	3.9	>100
R723R	10	25	1"	600	3.9	>100
R731R	16	32	1 1/4"	600	3.9	>100
R738R	16	40	1 1/2"	600	3.9	>100
R748R	25	50	2"	600	3.9	>100

¹⁾ optimized in the opening range

Technical data

Functional data	Flow media	Cold and hot water, water with max. 50% volume of glycol
Temperature of medium		+5°C ... +110°C ¹⁾ (lower or higher temperatures on request)
Rated pressure p_s		see «Type overview»
Flow characteristic		Control path A – AB: equal percentage (to VDI/VDE 2173) $n(gl)$: see «Type overview» Bypass B – AB: linear, flow rate is 70% of k_{vs} value
Rangeability S_v		See «Type overview»
Leakage rate		Control path A – AB: Air bubble-tight (BO 1, DIN3230 T3) Bypass B – AB: Approx. 1...2% of k_{vs} value (in relation to the highest value within the DN (e.g. R713))
Pipe connector		Flange PN 6 to EN 1092/1
Differential pressure Δp_{max}		100 kPa
Closing pressure Δp_s		600 kPa
Angle of rotation		90°↔ (Operating range control path A – AB 15 ... 90°↔, bypass B – AB 15 ... 70°↔)
Installation position		Upright to horizontal (in relation to the stem)
Maintenance		Maintenance-free
Materials	Fitting	Forged, nickel-plated brass body
	Valve cone and stem	Chrome-plated brass
	Stem seal	O-Ring, EPDM
	Ball seat	PTFE, O-Ring Viton
	Characterizing disk	TEFZEL
	Flange ring	DN 15 / 20: Zinc-plated steel DN 25 ... 50: Aluminum
	Flange joint surface	Nickel-plated brass
Dimensions / Weights		see «Dimensions and weights», page 3
Motorizing		see the complete overview of water solutions

¹⁾ The allowed media temperature can be limited, depending on the type of actuator. The correct values can be found in the corresponding actuator data sheets.

Safety notes



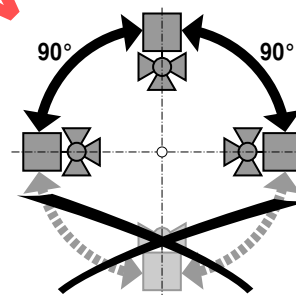
- The valve has been designed for use in stationary heating, ventilation and air conditioning systems and is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- It may only be installed by suitably trained personnel.
All applicable legal or institutional installation regulations must be complied with.
- The valve does not contain any parts that can be replaced or repaired by the user.
- The valve is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.
- The recognized rules should be applied when determining the flow characteristic of final controlling elements.

Product features

- Mode of operation** The characterized control valve is operated by a rotary actuator. The actuator is controlled by a standard modulating or 3-point control system and move the ball of the valve – the throttling device – to the opening position dictated by the control signal. Open the ball valve counterclockwise and close it clockwise.
- Flow characteristic** Equal-percentage characteristic of the flow rate ensured by the integral characterizing disc.

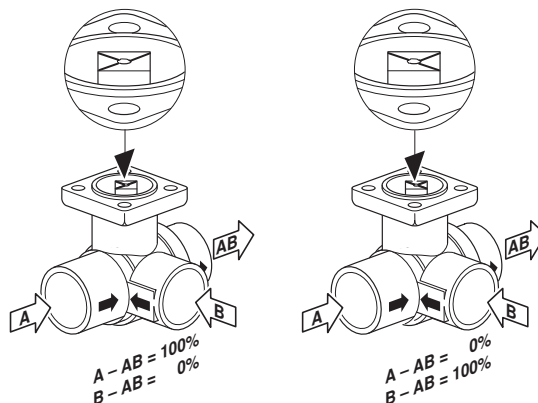
Installation notes

- Recommended mounting positions** The valve may be mounted either **vertically** or **horizontally**. It is not permissible, mounting the valve with the stem pointing downwards.



- Water quality requirements**
- The water quality requirements specified in VDI 2035 must be adhered to.
 - Characterized control valves are relatively sensitive control devices. In order to ensure a long service life, it is advisable to fit **strainers**.
- Maintenance**
- The characterized control valves and rotary actuators are maintenance-free.
 - Before any kind of service work is carried out on actuator sets of this type, it is essential to isolate the rotary actuator from the power supply (by unplugging the power lead). Any pumps in the part of the piping system concerned must also be switched off and the appropriate isolating fittings closed (allow everything to cool down first if necessary and reduce the pressure in the system to atmospheric).
 - 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 pipework has been refilled in the proper manner.

- Direction of flow** The direction of flow, specified by an arrow on the housing, is to be complied with, since otherwise the ball valve can be damaged. Please ensure that the ball is in the correct position.

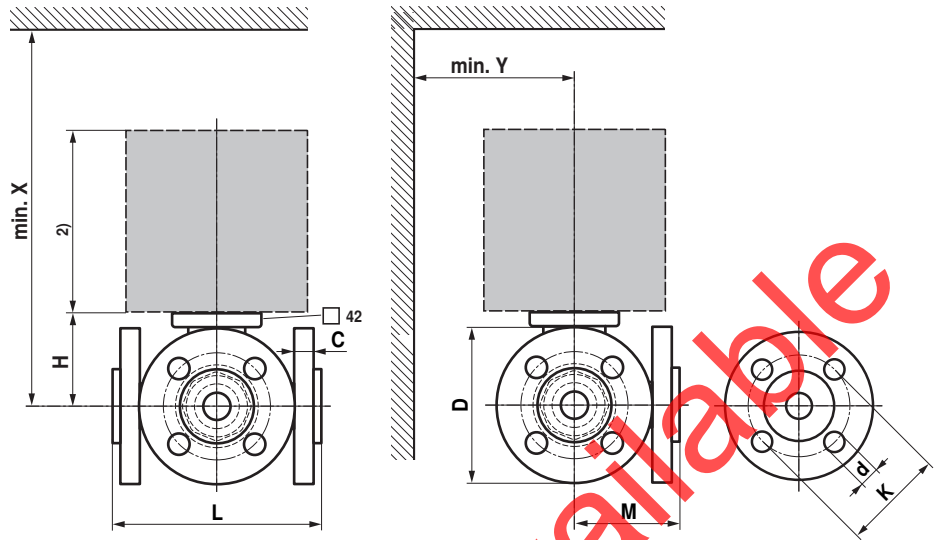


Accessories

	Description
Mechanical accessories	Stem heating ZR24-1

Dimensions and weights

Dimensional drawings



DN [mm]	L [mm]	H [mm]	M [mm]	D [mm]	C [mm]	K [mm]	d [mm]	X ¹⁾ [mm]	Y ¹⁾ [mm]	Weight [kg]
15	101.5	45	73	80	15	55	4 x 11	230	90	1.8
20	112	47.5	79	90	15	65	4 x 11	230	90	2.4
25	132	47.5	92	100	20	75	4 x 11,5	230	90	2.5
32	143.5	52	102.5	120	17	90	4 x 14	240	100	3.4
40	149.5	52	105	130	18	100	4 x 14	240	105	4
50	165	58	121	140	18	110	4 x 14	240	110	5.6

¹⁾ Minimum distance with respect to the valve centre.

²⁾ The actuator dimensions can be found on the respective actuator data sheet.

Product no longer available

Further documentations

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