

Characterised control valve, 3-way, Internal thread

- For closed cold and warm water systems
- For modulating water-side control of air handling units and heating systems
- Air bubble-tight (control path A - AB)


Type overview

Type	kvs [m ³ /h]	DN []	Rp ["]	PN []	n(gl) []	Sv min. []
R3015-P25-S1	0.25	15	1/2	40	3.2	50
R3015-P4-S1	0.4	15	1/2	40	3.2	50
R3015-P63-S1	0.63	15	1/2	40	3.2	50
R3015-1-S1	1	15	1/2	40	3.2	50
R3015-1P6-S1	1.6	15	1/2	40	3.2	50
R3015-2P5-S1	2.5	15	1/2	40	3.2	50
R3015-4-S1	4	15	1/2	40	3.2	100
R3020-4-S1	4	20	3/4	40	3.2	100
R3020-6P3-S1	6.3	20	3/4	40	3.2	100
R3025-6P3-S2	6.3	25	1	40	3.2	100
R3025-10-S2	10	25	1	40	3.2	100
R3032-10-S2	10	32	1 1/4	25	3.2	100
R3032-16-S3	16	32	1 1/4	25	3.2	100
R3040-16-S3	16	40	1 1/2	25	3.2	100
R3040-25-S4	25	40	1 1/2	25	3.2	100
R3050-25-S4	25	50	2	25	3.2	100
R3050-40-S4	40	50	2	25	3.2	100
R3050-58-S4	58	50	2	25	3.2	100

Technical data

Functional data	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.
	Closing pressure Δp_s	1400kPa
	Differential pressure Δp_{max}	350kPa
	Differential pressure note	200kPa for low-noise operation
	Flow rate	Bypass B – AB: 70% of kvs value
	Flow characteristic	Control path A – AB: equal percentage (VDI/VDE 2178), optimised in the opening range, Bypass B – AB: linear (VDI/VDE 2178)
	Leakage rate	Control path A - AB: Leakage rate A, air-bubble-tight (EN 12266-1), Bypass B - AB: Leakage class I (EN 1349 and EN 60534-4) approx. 1...2% of the kvs value, with respect to the largest value within the DN
	Pipe connectors	Internal thread according to ISO 7-1
	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	Housing	Brass body nickel-plated
	Closing element	Stainless steel
	Stem	Stainless steel
	Stem seal	O-ring EPDM
	Valve seat	PTFE, O-ring EPDM
	Characterising disc	TEFZEL R3040-25-S4, R3050-40-S4, R3050-58-S4: Stainless steel

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

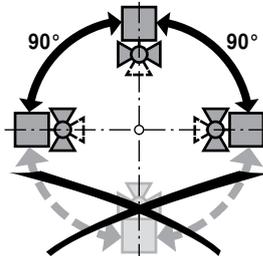
Mode of operation	The characterised control valve is adjusted by a rotary actuator. The actuator is controlled by a commercially available modulating or 3-point control system and moves the ball of the valve – the throttling device – to the position dictated by the positioning signal. Open the characterised control valve counterclockwise and close it clockwise.
Flow characteristic	Equal percentage flow control is ensured by the integrated characterising disc.

Accessories

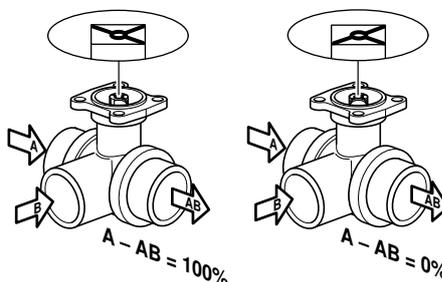
	Description	Type
Mechanical accessories	Pipe connector to ballvalves DN 15 Rp 1/2"	ZR2315
	Pipe connector to ballvalves DN 20 Rp 3/4"	ZR2320
	Pipe connector to ballvalves DN 25 Rp 1"	ZR2325
	Pipe connector to ballvalves DN 32 Rp 1 1/4"	ZR2332
	Pipe connector to ballvalves DN 40 Rp 1 1/2"	ZR2340
	Pipe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

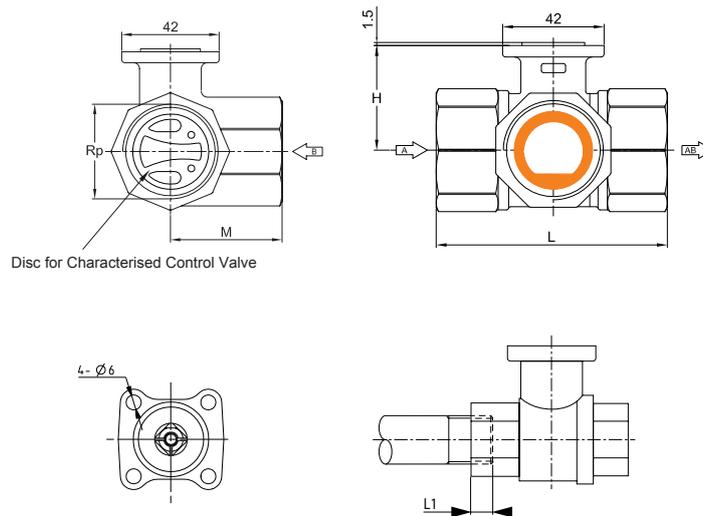


Water quality requirements	The water quality requirements specified in VDI 2035 must be adhered to. Belimo valves are regulating devices. For the valves to function correctly in the long term, they must be kept free from particle debris (e.g. welding beads during installation work). The installation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

Dimensional drawings



L1: Maximum screwing depth.
The actuator dimensions can be found on the
respective actuator data sheet.

Type	DN []	Rp ["]	L [mm]	L1 [mm]	M [mm]	H [mm]	Weight approx. [kg]
R3015-P25-S1	15	1/2	67	13	36	35	0.27
R3015-P4-S1	15	1/2	67	13	36	35	0.27
R3015-P63-S1	15	1/2	67	13	36	35	0.27
R3015-1-S1	15	1/2	67	13	36	35	0.27
R3015-1P6-S1	15	1/2	67	13	36	35	0.27
R3015-2P5-S1	15	1/2	67	13	36	44	0.37
R3015-4-S1	15	1/2	67	13	36	44	0.37
R3020-4-S1	20	3/4	79	14	41.5	46	0.45
R3020-6P3-S1	20	3/4	79	14	41.5	46	0.45
R3025-6P3-S2	25	1	87	16	45	46	0.65
R3025-10-S2	25	1	87	16	45	46	0.65
R3032-10-S2	32	1 1/4	105	19	55.5	46	0.97
R3032-16-S3	32	1 1/4	105	19	55.5	50.5	0.99
R3040-16-S3	40	1 1/2	111	19	56	50.5	1.15
R3040-25-S4	40	1 1/2	122	19	66.5	62	1.15
R3050-25-S4	50	2	125	22	68	56	1.9
R3050-40-S4	50	2	142	22	79	68	1.8
R3050-58-S4	50	2	142	22	79	68	1.8