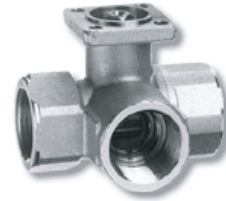



3-way mixing characterized control valves DN 15...50
Equal-percentage characteristics for modulating control of cold and hot water


- Applications**
- Water-side control of air handling unit in air conditioning systems
 - Water-side control in heating systems


Technical data

Flow medium	Cold and hot water, water with max. 50% volume of glycol	
Temperature of medium	- 5°C...100°C	
Rated pressure ΔP_s	DN15... 32	4140 kPa
	DN32... 50	2760 kPa
Flow characteristic	Control path A-AB	equal percentage
	By path A-AB	Linear, flow rate is 70% of Kvs value
Rangeability	DN15*	Sv>50
	DN15...50**	Sv>100
Leakage rate	Control path A-AB	Air bubble-tight (DIN 3230 Part 3)
	Leakage rate	Approx. 1...2% of Kvs value
Pipe connector	Internal thread to ISO7/1	
Differential pressure Δp_{max}	350 kPa (200 kPa for low-noise operation)	
Closing pressure Δp_s	1400 kPa	
Angle of rotation	90°C	
Installation position	Upright to horizontal (in relation to the stem)	
Maintenace	Maintenace-free	
Materials		
Body	Forged, nickel-plated brass body	
Ball	Stainless steel	
Seat	PTFE	
Stem	Stainless steel	
Stem seal	EPDM	
Characterizing disk	TEFZEL	

*= Kvs up to 2.5;
 **= DN15 Kvs \geq 4

Product features

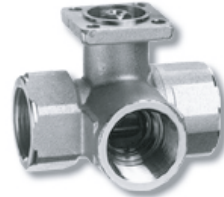
Mode of operation The characterized control valve is operated by a rotary actuator. The actuator is controlled by a standard modulating or 3-point control system and drives the ball of the valve - the throttling device - to the opening position dictated by the control signal.

Equal-percentage characteristic Equal-percentage characteristic of the flow rate ensured by the integral characterizing disc.

Manual operation Please refer to page 13...35.


**3-way open-close mixing ball valves
DN 15...50**
**Change-over function and 2-point controls
in cold and hot water circuits**
Applications

For changing over cold and hot water circuits in heating and ventilation systems on the water side or for 2-point control of these circuits.


Technical data

Flow medium	Cold and hot water, water with max. 50% volume of glycol	
Temperature of medium	-5°C...100°C	
Rated pressure Ps	DN15...32	4140 kPa
	DN32...50	2760 kPa
Flow rate	Bypass A-AB	Approx. 50% of Kvs
Leakage rate	Control path A-AB	Air bubble-tight (DIN 3230 Part 3)
	Bypass B-AB	1% of Kvs
Pipe connector	Internal thread to ISO7/1	
Differential pressure Δp_{max}	1000 kPa (200 kPa for low-noise operation)	
Closing pressure Δps	1400 kPa	
Angle of rotation	90°C	
Installation position	Upright to horizontal (in relation to the stem)	
Maintenace	Maintenace-free	
Materials		
Body	Forged, nickel-plated brass body	
Ball	Stainless steel	
Seat	PTFE	
Stem	Stainless steel	
Stem seal	EPDM	

Product features

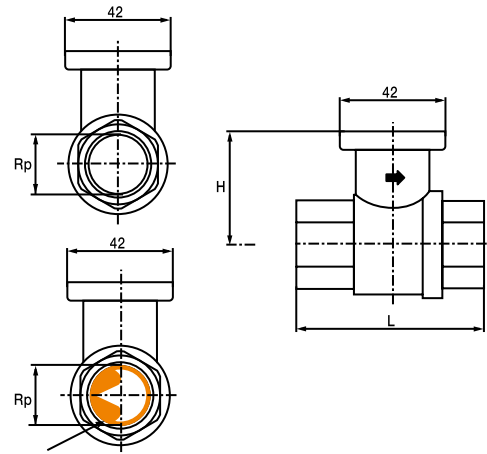
Mode of operation The open-close ball valve is operated by a rotary actuator. The rotary actuator is controlled by an open-close signal.

Manual operation Please refer to page 13...35.

Dimensions

R2.. AC 2-way ball valves

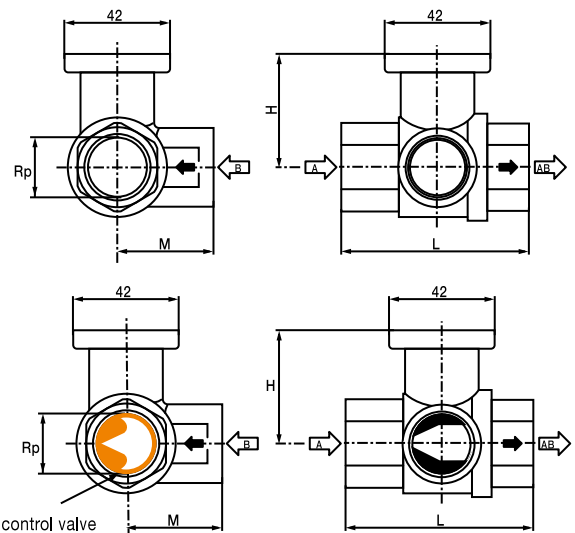
	DN		Thread Rp	Dimensions [mm]		Weight [Kg]
	mm	Imp.		L	H	
R209AC/R210AC/R211AC R212AC/R213AC/R215AC	15	1/2"	1/2"	70	43.5	0.38
R217AC/R218AC/R220AC	20	3/4"	3/4"	77	46	0.48
R222AC/R223AC/R225AC	25	1"	1"	85	47.6	0.63
R229AC/R231AC/R232AC	32	1 1/4"	1 1/4"	94	51	0.84
R238AC/R239AC/R240AC	40	1 1/2"	1 1/2"	104	53.5	1.1
R248AC/R249AC/R250AC	50	2"	2"	116.5	58.1	1.6



Disc for characterized control valve

R3.. 3-way ball valves

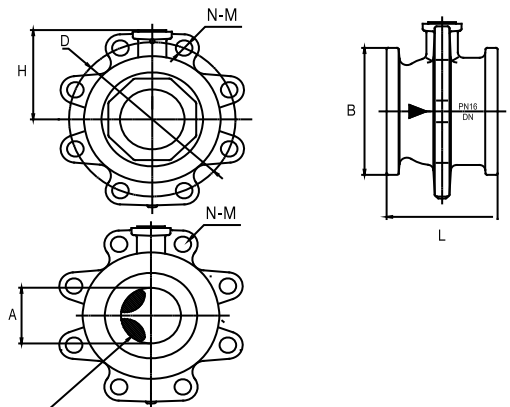
Valve type	DN		Dimensions [mm]			Thread Rp	Weight [kg]
	mm	Imp.	L	H	M		
R309...R315	15	1/2"	67	45	34	1/2"	0.45
R317...R320	20	3/4"	76	47.5	38.5	3/4"	0.6
R322...R325	25	1"	87	47.5	43.5	1"	0.9
R329, R330	32	1 1/4"	102	47.5	51	1 1/4"	1.2
R331, R332	32	1 1/4"	113	52	56.5	1 1/4"	1.5
R338, R340	40	1 1/2"	113	52	56.5	1 1/2"	1.5
R348, R350	50	2"	127	58	63.5	2"	2.4



Disc for characterized control valve

R6..AC 2-way ball valves

Valve type	DN		Dimensions [mm]							Weight [kg]
	mm	Imp.	A	B	D	L	H	N	M	
R664AC/R665AC	65	2.5"	ø44	ø101	ø145	93	86	4	ø18	4.3
R679AC/R680AC	80	3"	ø55	ø125	ø160	108	94.5	8	ø18	6.5
R6099AC/R6100AC	100	4"	ø64	ø148	ø180	120	104	8	ø18	10.5
R6124AC/R6125AC	125	5"	ø77	ø174	ø210	142	118	8	ø18	13.0
R6149AC/R6150AC	150	6"	ø96	ø204	ø240	170	136.5	8	ø22	19.5



Disc for characterized control valve