

2-way, Characterized Control Valve, Stainless Steel Ball and Stem





5-year warranty



overview	

Туре	DN
B223	25

Technical data

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Valve size [mm]	1" [25]	
Fluid	chilled or hot water, up to 60% glycol	
Fluid Temp Range (water)	0250°F [-18120°C]	
Body Pressure Rating	600 psi	
Close-off pressure Δps	200 psi	
Flow characteristic	equal percentage	
Leakage rate	0% for A – AB	
Pipe connection	Internal thread NPT (female)	
Servicing	maintenance-free	
Flow Pattern	2-way	
Controllable flow range	75°	
Cv	10	
Valve body	Nickel-plated brass body	

Materials

Valve body	Nickel-plated brass body	
Stem	stainless steel	
Stem seal	EPDM (lubricated)	
Seat	PTFE	
Characterized disc	TEFZEL®	
O-ring	EPDM (lubricated)	
Ball	stainless steel	
Non Fail-Safe	LRB(X)	

Suitable actuators

Non Fail-Safe	LRB(X)
	LRQB(X)
	NRB(X) N4
Spring	LF

Safety notes



 WARNING: This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to www.p65warnings.ca.gov



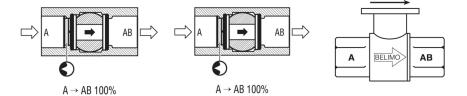
Product features

Dimensions

Application

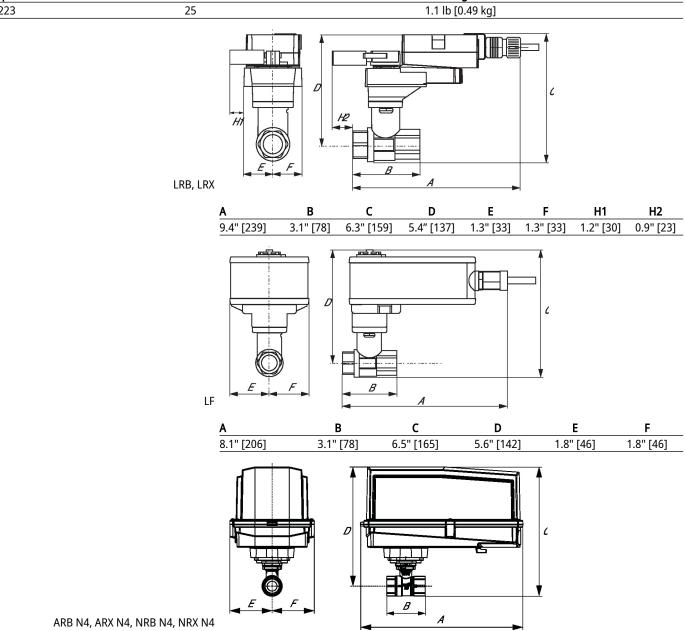
This valve is typically used in air handling units on heating or cooling coils, and fan coil unit heating or cooling coils. Some other common applications include Unit Ventilators, VAV box re-heat coils and bypass loops. This valve is suitable for use in a hydronic system with variable flow.

Flow/Mounting details



Two-way valves should be installed with the disc upstream.

Туре	DN	Weight	
B223	25	1.1 lb [0.49 kg]	
עבבט	23	1.1 lb [0.43 kg]	





Technical data sheet B223

Dimensions

Α	В	С	D	E	F
11.4" [289]	3.1" [78]	7.8" [199]	7.1" [181]	3.1" [80]	3.1" [80]



MFT/programmable, Spring return, 24 V



Technical data		
Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.228.8 V / DC 21.628.8 V
	Power consumption in operation	2.5 W
	Power consumption in rest position	1 W
	Transformer sizing	5 VA
	Auxiliary switch	1x SPDT, 1 mA3 A (0.5 A inductive), DC 5 VAC 250 V, adjustable 095°
	Switching capacity auxiliary switch	1 mA3 A (0.5 A inductive), DC 5 VAC 250 V
	Electrical Connection	(2) 18 GA appliance cables, 3 ft [1 m], with 1/2" NPT conduit connectors
	Overload Protection	electronic throughout 095° rotation
Functional data	Operating range Y	210 V
	Operating range Y note	420 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)
	Input impedance	100 k Ω for 210 V (0.1 mA), 500 Ω for 420 mA, 1500 Ω for PWM, On/Off and Floating point
	Operating range Y variable	Start point 0.530 V End point 2.532 V
	Operating modes optional	variable (VDC, on/off, floating point)
	Position feedback U	210 V
	Position feedback U note	Max. 0.5 mA
	Position feedback U variable	VDC variable
	Direction of motion motor	selectable with switch 0/1
	Direction of motion fail-safe	reversible with cw/ccw mounting
	Angle of rotation	90°
	Running Time (Motor)	150 s / 90°
	Running time motor variable	75300 s
	Running time fail-safe	<25 s @ -4122°F [-2050°C], <60 s @ -22°F [-30°C]
	Noise level, motor	50 dB(A)
	Noise level, fail-safe	62 dB(A)
	Position indication	Mechanical
Safety data	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2
	Enclosure	UL Enclosure Type 2



Technical data		
Safety data	Agency Listing	cULus acc. To UL 873 and CAN/CSA C22.2 No. 24-93
	Quality Standard	ISO 9001
	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-22122°F [-3050°C]
	Storage temperature	-40176°F [-4080°C]
	Servicing	maintenance-free
Weight	Weight	0
Materials	Housing material	galvanized steel

Footnotes *Variable when configured with MFT options.

Accessories

Electrical accessories	Description	Туре
	Service tool, with ZIP-USB function, for programmable and	ZTH US
	communicative Belimo actuators, VAV controller and HVAC performance	
	devices	

Electrical installation



A) Actuators with appliance cables are numbered.

? Provide overload protection and disconnect as required.

 \mathbf{A} Actuators may also be powered by DC 24 V.

6 Only connect common to negative (-) leg of control circuits.

 Λ A 500 Ω resistor (ZG-R01) converts the 4...20 mA control signal to 2...10 V.

Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 V line.

For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller; the actuator internal common reference is not compatible.

Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.

🛕 IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).

One built-in auxiliary switch (1x SPDT), for end position indication, interlock control, fan startup, etc.

Meets cULus requirements without the need of an electrical ground connection.

Apply only AC line voltage or only UL-Class 2 voltage to the terminals of auxiliary switches. Mixed or combined operation of line voltage/safety extra low voltage is not allowed.

★ Warning! Live electrical components!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.



Electrical installation

