

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



5-year warranty

Type overview

Type	DN
B220HT464	20

Technical data

Functional data	Valve size [mm]	0.75" [20]
Fluid	high temperature hot water/low pressure steam, up to 60% glycol	
Fluid Temp Range (water)	60...266°F [16...130°C]	
Fluid Temp Range (steam)	250°F [120°C]	
Body Pressure Rating	600 psi	
Close-off pressure Δ ps	200 psi	
Flow characteristic	equal percentage	
Pipe connection	Internal thread NPT (female)	
Servicing	maintenance-free	
Max Differential Pressure (Steam)	15 psi	
Flow Pattern	2-way	
Leakage rate	0%	
Controllable flow range	75°	
Cv	4.64	
Maximum Inlet Pressure (Steam)	15 psi	
Materials	Valve body	Nickel-plated brass (DZR) P-CuZn35Pb2
Stem	stainless steel	
Stem seal	Viton O-ring	
Seat	ETFE	
Characterized disc	ETFE	
O-ring	EPDM (lubricated)	
Ball	stainless steel	
Suitable actuators	Non Fail-Safe	LRB(X)
Spring	LF	

Safety notes

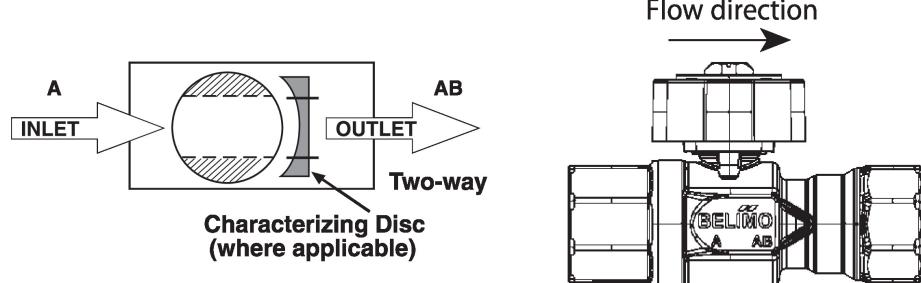
- WARNING: This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to www.p65warnings.ca.gov



Product features

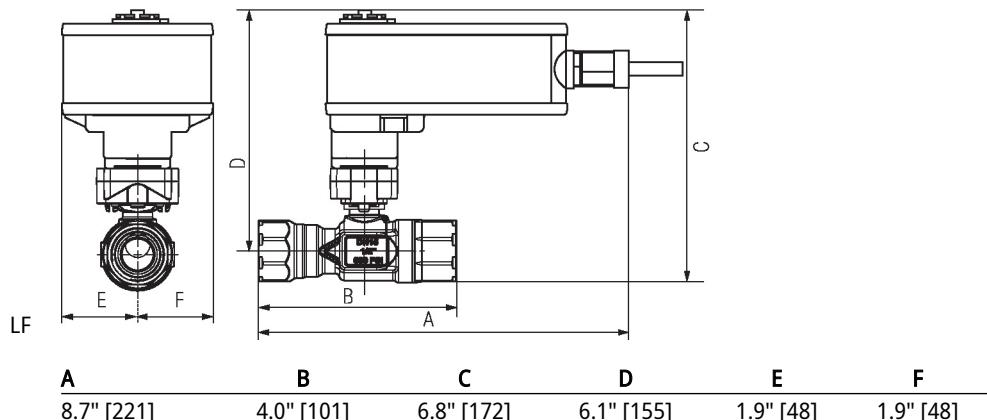
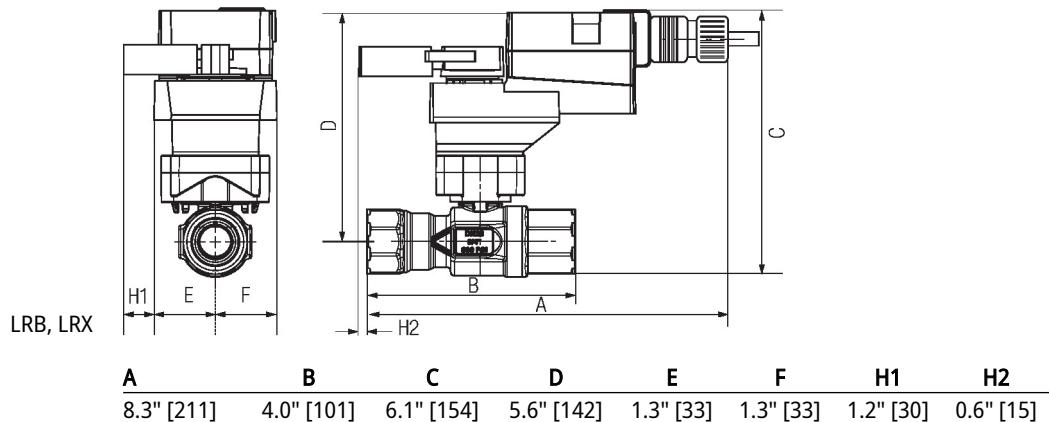
Application This valve is typically used in air handling units on heating or cooling coils, and fan coil unit heating or cooling coils. Some other common applications include unit ventilators, VAV box reheat coils and bypass loops. This valve is suitable for use in a hydronic system with variable flow. This valve is designed to fit in compact areas where on/off, floating point and modulating control is required using 24 VAC.

Flow/Mounting details



Dimensions

Type	DN	Weight
B220HT464	20	0.94 lb [0.43 kg]



On/Off, Floating point, Non fail-safe, 24 V



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Technical data

Electrical data		
Nominal voltage	AC/DC 24 V	
Nominal voltage frequency	50/60 Hz	
Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V	
Power consumption in operation	1.5 W	
Power consumption in rest position	0.2 W	
Transformer sizing	2.5 VA	
Electrical Connection	18 GA plenum cable, 3 ft [1 m], with 1/2" NPT conduit connector	
Overload Protection	electronic throughout 0...90° rotation	
Electrical Protection	actuators are double insulated	
Functional data		
Direction of motion motor	selectable with switch 0/1	
Manual override	external push button	
Angle of rotation	90°	
Angle of rotation note	adjustable with mechanical stop	
Running Time (Motor)	90 s / 90°	
Noise level, motor	35 dB(A)	
Position indication	Mechanical, pluggable	
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	
Agency Listing	cULus acc. to UL60730-1A-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU	
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	-22...122°F [-30...50°C]	
Storage temperature	-40...176°F [-40...80°C]	
Servicing	maintenance-free	
Weight		
Weight	1.3 lb [0.59 kg]	
Materials		
Housing material	Galvanized steel and plastic housing	

Footnotes †Rated Impulse Voltage 800V, Type action 1.B, Control Pollution Degree 3.

Accessories

Electrical accessories	Description	Type
	Battery backup system, for non-spring return models	NS24 US
	Battery, 12 V, 1.2 Ah (two required)	NSV-BAT
	Auxiliary switch 1x SPDT add-on	S1A
	Auxiliary switch 2x SPDT add-on	S2A
	Feedback potentiometer 140 Ω add-on, grey	P140A GR
	Feedback potentiometer 1 kΩ add-on, grey	P1000A GR
	Feedback potentiometer 10 kΩ add-on, grey	P10000A GR
	Feedback potentiometer 2.8 kΩ add-on, grey	P2800A GR
	Feedback potentiometer 500 Ω add-on, grey	P500A GR
	Feedback potentiometer 5 kΩ add-on, grey	P5000A GR

Electrical installation

☒ INSTALLATION NOTES

- 1 Provide overload protection and disconnect as required.
- 2 Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- 3 Actuators may also be powered by DC 24 V.
- 6 Actuators Hot wire must be connected to the control board common. Only connect common to neg. (-) leg of control circuits. Terminal models (-T) have no-feedback.
- 18 Actuators with plenum cable do not have numbers; use color codes instead.
- Meets cULus requirements without the need of an electrical ground connection.
- 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.

Wiring diagrams

On/Off

