



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 Δps	200 psi
	Flow characteristic	A-port equal percentage
	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
	Pipe connection	NPT
	O-ring	EPDM (lubricated)
	Ball	stainless steel
Suitable actuators	Non-Spring	LRB(X)
	Spring	LF

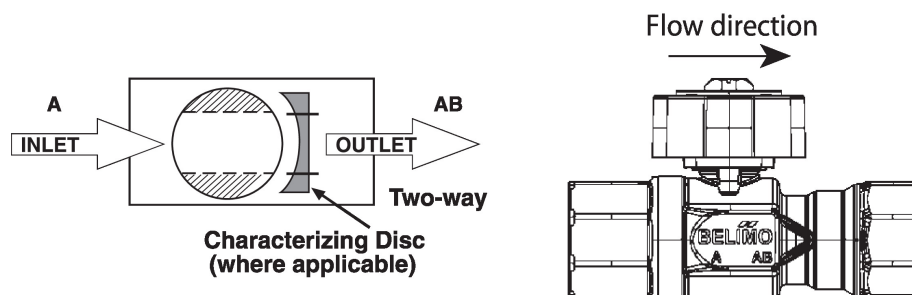
Safety notes



- 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 re-heat 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	0.88 lb [0.40 kg]

Front view of the LRB, LRX valve assembly. Dimension H1 is the total height from the base to the top of the handle. Dimension E is the height from the base to the center of the handle. Dimension F is the height from the base to the top of the handle.

Side view of the LRB, LRX valve assembly. Dimension D is the total height from the base to the top of the handle. Dimension C is the height from the base to the top of the handle. Dimension B is the height from the base to the center of the handle. Dimension A is the height from the base to the top of the handle. Dimension H2 is the height from the base to the top of the handle.

LRB, LRX

A	B	C	D	E	F	H1	H2
8.3" [211]	4.0" [101]	6.1" [154]	5.6" [142]	1.3" [33]	1.3" [33]	1.2" [30]	0.6" [15]

Technical drawing of a valve assembly, showing two views: a front view (left) and a side view (right).

The front view shows the valve body with dimensions E and F indicating the width of the valve body and the flange, respectively. The side view shows the valve body with dimensions A, B, C, and D indicating the overall length, the distance from the flange to the valve body, the distance from the valve body to the actuator, and the distance from the actuator to the end of the valve body, respectively.

Dimensions are listed in inches [millimeters]:

Dimension	Value
A	8.7" [221]
B	4.0" [101]
C	6.8" [172]
D	6.1" [155]
E	1.9" [48]
F	1.9" [48]



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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	2.5 W
	Power consumption in rest position	1 W
	Transformer sizing	5 VA
	Electrical Connection	18 GA appliance cable, 1 m, with 1/2" conduit connector
	Overload Protection	electronic throughout 0...95° rotation
Functional data	Position feedback U note	No Feedback
	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 note	constant, independent of load
	Running time fail-safe	<25 s @ -4...122°F [-20...50°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
	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	-22...122°F [-30...50°C]
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
Weight	Weight	3.3 lb [1.5 kg]
Materials	Housing material	galvanized steel

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

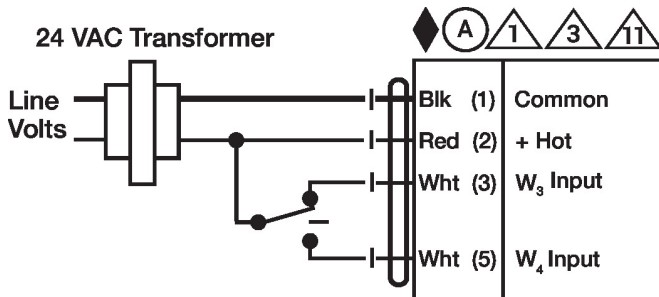
Electrical installation

✂ INSTALLATION NOTES

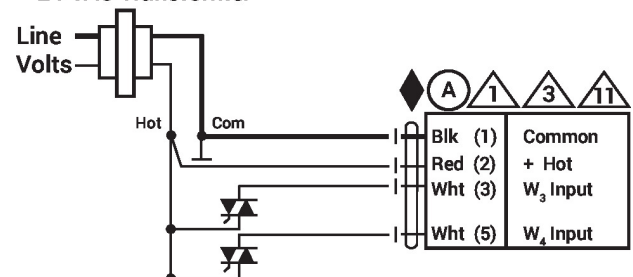
- Ⓐ Actuators with appliance cables are numbered.
- 1 Provide overload protection and disconnect as required.
- 3 Actuators may also be powered by DC 24 V.
- 6 Actuators Hot wire must be connected to the control board common. Only connect common to neg. (-) leg of control circuits. Terminal models (-T) have no-feedback.
- 11 Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.
- ◆ 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

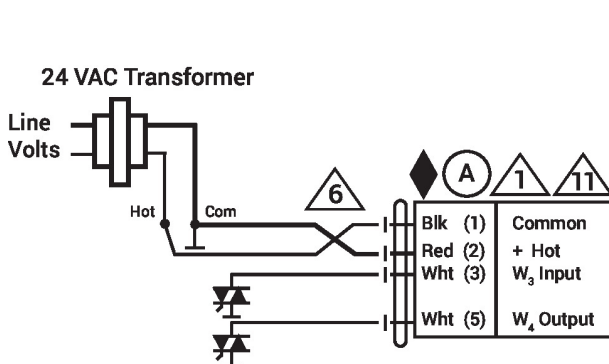
Floating Point



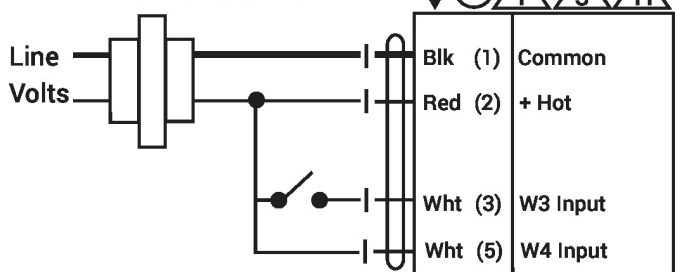
Floating Point - Triac Source 24 VAC Transformer



Floating Point - Triac Sink



24 VAC Transformer



On/Off