

# B2...VS Series, 2-way, Ball Valve Bronze Body, Stainless Steel Ball and Stem



- Live-load packing set
- Stainless steel ball & stem
- Blow-out proof stem design

## Application

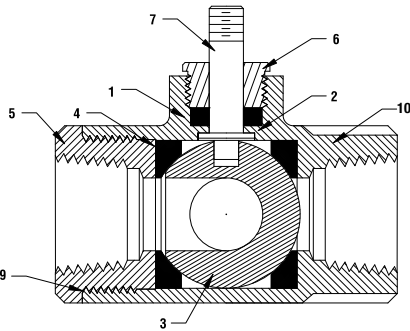
This valve is typically used in air handling units on heating or cooling coils, and fan coil unit heating or cooling coils. Some other common applications include Unit Ventilators, VAV Box re-heat coils and bypass loops. This valve is suitable for use in a hydronic system with variable flow.

This valve is designed with MFT functionality which facilitates the use of various control input.

- Up to 35 psi steam
- ½" - 600 PSIG WOG, Cold Non-Shock.
- Federal Specification: WW-V-35C, Type II  
Composition: BZ  
Style: 3

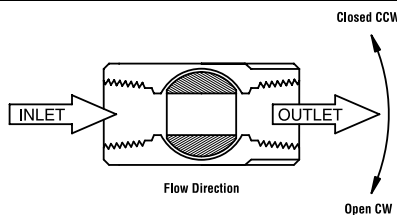
Technical Data	
Media	chilled or hot water, glycol, 35# steam
Flow characteristic	modified equal percentage
Action	90° rotation valve open CW, valve closed CCW
Sizes	½", ¾", 1", 1¼", 1½", 2"
Type of end fitting	SAE NPT (female connections)
Materials:	
1 Stem packing	reinforced PTFE
2 Stem bearing	reinforced PTFE
3 Ball	316 stainless steel
4 Seat (x2)	reinforced PTFE w/ Durafill
5 Retainer	B16 (¾" - 1") stainless steel B584 (1¼" - 2") stainless steel
6 Gland	B16 brass
7 Stem	316 stainless steel
8 Jam nut	stainless steel
9 Body seal	PTFE (1-1/4" to 2")
10 Body	B584-C84400 bronze

C <sub>v</sub>	Valve Nominal Size		Type	Suitable Actuators	
	Inches	DN [mm]	2-way NPT	Spring Return	Non-Spring Return
1	½	15	B2050VS-01	LF Series	LM Series
2	½	15	B2050VS-02		
4	½	15	B2050VS-04		
15	½	15	B2050VS-15	NF	NM
30	¾	20	B219VS		
51	¾	20	B220VS	AF Series	AM Series
43	1	25	B224VS		
68	1	25	B225VS		
48	1¼	32	B232VS		
84	1½	40	B239VS		
177	1½	40	B240VS		
108	2	50	B249VS	GM Series	SY Series

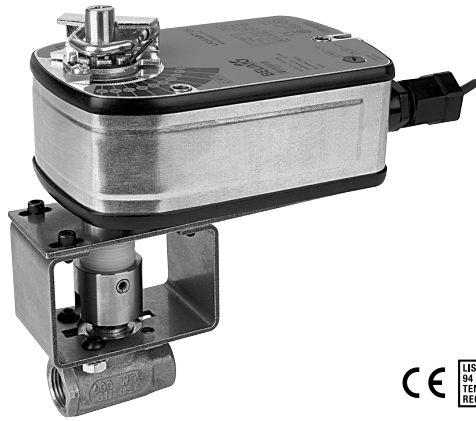


Pressure rating	600 psig WOG
Media temp. range	-22°F to +280°F (-30°C to +138°C)
Close-off pressure	600 psig @ 100°F
Maximum differential pressure (ΔP)	<600 psig

## Flow Patterns



Tech.Doc - 11/14 - Subject to change. © Belimo Aircontrols (USA), Inc.



## Models

LF24 US	
LF24-S US	w/built-in Aux. Switch
LF120 US	
LF120-S US	w/built-in Aux. Switch

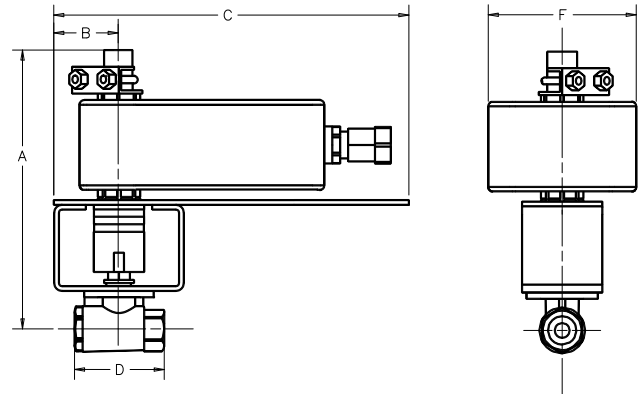
Technical Data	
Control	on/off, floating point
Power supply	
LF24(-S) US	24 VAC ± 20% 50/60 Hz 24 VDC ± 10%
LF120(-S) US	120 VAC ± 10% 50/60 Hz
Power consumption	
LF24(-S) US	running 5 W holding 2.5 W
LF120(-S) US	running 5.5 W holding 3.5 W
Transformer sizing	7 VA, class 2 power source
Electrical connection	½" conduit connector
(-S models have 2 cables)	3 ft. [1m], 18 GA appliance cable
Electrical protection	120V actuators double insulated
Overload protection	electronic throughout rotation
Angle of rotation	95°
Spring return direction	reversible with CW/CCW mounting
Position indication	visual indicator 0° to 90°
Running time	<40 to 75 sec. (on/off)
spring	<25 sec. @ -4°F to +122°F [-20°C to +50°C] <60 sec. @ -22°F [-30°C]
Ambient temperature	-22° F to +122° F [-30° C to +50° C]
Housing	NEMA 2
Agency listings†	UL 873, CSA C22.2 No. 24 certified, CE
Quality standard	ISO 9001
Noise level	max. 62 dB(A)

## LF...-S US

Auxiliary switch	1 x SPDT, 6A (1.5A) @ 250 VAC, UL Listed, adjustable 0° to 95° (double insulated)
------------------	---

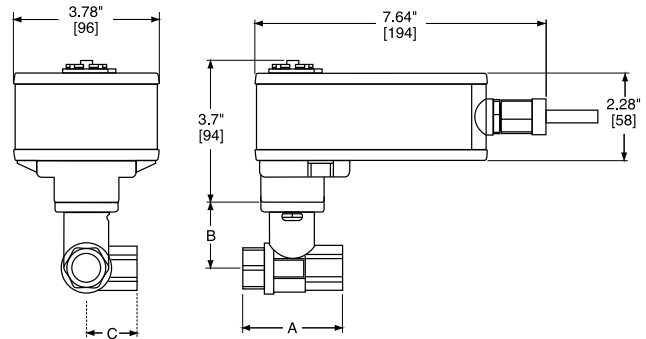
† Rated impulse voltage 800V (4kV for 120V model), Control pollution degree 3, Type of action 1.AA (1.AA.B for -S models)

## Dimensions with 2-Way Valve



Valve Body	COP	Valve Nominal Size		Dimensions (Inches)				
		Inches	DN [mm]	A	B	C	D	F
B2050VS-01	50	½	15	6.75	2.00	6.75	2.25	4.00
B2050VS-02	50	½	15	6.75	2.00	6.75	2.25	4.00
B2050VS-04	50	½	15	6.75	2.00	6.75	2.25	4.00
B2050VS-15	50	½	15	6.70	2.00	8.00	2.25	6.25

## Dimensions with 3-Way Valve



Valve Body	COP	Valve Nominal Size		Dimensions (mm)		
		Inches	DN [mm]	A	B	C
B315L	50	½	15	2.63" [67]	1.73" [44]	1.42" [36]
B320L	50	¾	20	3.01" [78]	1.81" [46]	1.63" [42]
B325L	50	1	25	3.42" [87]	1.81" [46]	1.77" [45]

### Wiring Diagrams

#### ✂️ INSTALLATION NOTES

1 Provide overload protection and disconnect as required.

2 **CAUTION Equipment damage!**  
Actuators may be connected in parallel.  
Power consumption must be observed.

3 Actuator may also be powered by 24 VDC.

4 For end position indication, interlock control, fan startup, etc., LF24-S US and LF120-S US incorporates a built-in auxiliary switch: 1 x SPDT, 6A (1.5A) @ 250 VAC, UL listed, adjustable 0° to 95°.

#### 📄 APPLICATION NOTES

◆ Meets cULus or UL and CSA 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.

