

# 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.

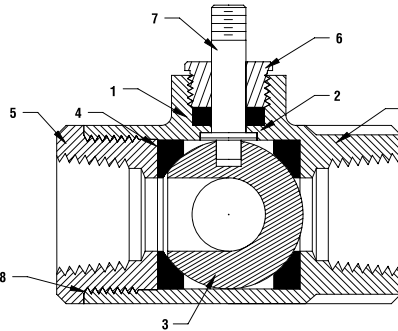
This valve is designed with MFT functionality which facilitates the use of various control input.

- Up to 35 psi steam
- 1/2" - 600 PSIG WOG, Cold Non-Shock.
- Federal Specification: WW-V-35C, Type II  
Composition: BZ  
Style: 3

## Technical Data

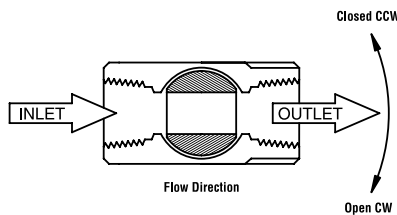
Media	Chilled or hot water, glycol, 35# steam
Flow Characteristic	Modified equal percentage
Action	90° rotation valve open CW, valve closed CCW
Sizes	1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3"
Type of end fitting	SAE NPT (Female Connections)
<b>Materials:</b>	
1 Stem Packing	Reinforced PTFE
2 Stem Bearing	Reinforced PTFE
3 Ball	316 Stainless Steel
4 Seat (x2)	Reinforced PTFE w/ Durafill
5 Retainer	B16 (3/4" - 1") Brass B584 (1 1/4" - 3") Brass
6 Gland	B16 Brass
7 Stem	316 Stainless Steel
8 Jam Nut	Stainless Steel
9 Body Seal	PTFE (1-1/4" to 3")
10 Body	B584-C84400 Bronze

Cv	Valve Nominal Size		Type	Suitable Return Actuators	
	Inches	DN [mm]	2-way NPT	Spring	Non-Spring
1	1/2	15	B2050VS-01	LF Series	LM Series
2	1/2	15	B2050VS-02		
4	1/2	15	B2050VS-04		
15	1/2	15	B2050VS-15	NF	NM
30	3/4	20	B219VS		
51	3/4	20	B220VS	AF Series	AM Series
43	1	25	B224VS		
68	1	25	B225VS		
48	1 1/4	32	B232VS		
84	1 1/2	40	B239VS		
177	1 1/2	40	B240VS		
108	2	50	B249VS	GM Series	SY Series
389	2	50	B250VS		
503	2 1/2	65	B265VS		
370	3	80	B280VS		

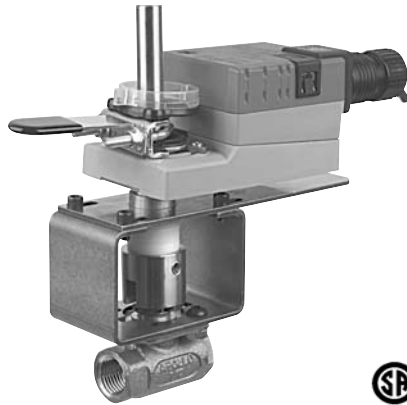


Pressure rating	600 psig WOG
Media temp. range	-22°F to 280°F (-30°C to 138°C)
Close-off pressure	600 psig @ 100°F
Maximum differential pressure (ΔP)	<600 psig

## Flow Patterns



K20851 - 10/08 - Subject to change. © Belimo Aircontrols (USA), Inc.

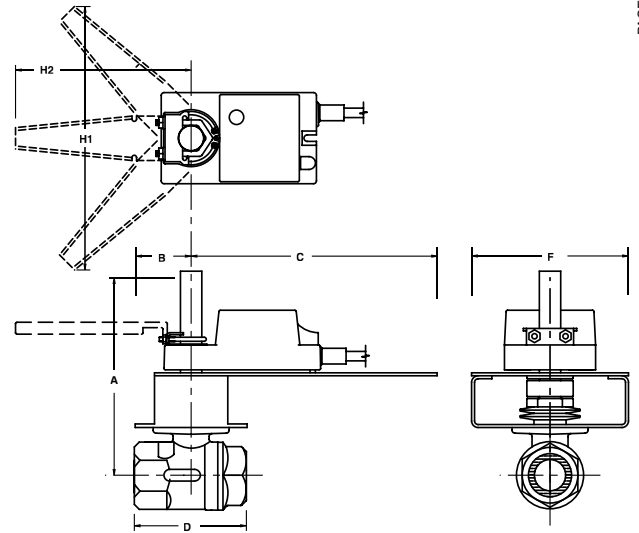


### Models

AMB24-3-X1  
AMX24-3-X1

Technical Data	
Control	On/Off, Floating Point
Power supply	24 VAC ± 20% 50/60 Hz 24 VDC ± 10%
Power consumption	running 2.5 W
	holding 0.2 W
Transformer sizing	5.5 VA (class 2 power source)
Electrical connection	½" conduit connector
AMB24-3-X1	3 ft, 18 GA plenum rated cable
Overload protection	electronic throughout 0° to 95° rotation
Input Impedance	600 Ω
Angle of rotation	max 95°, adjustable with mechanical stop
Torque	180 in-lb [20 Nm]
Direction of rotation	reversible with  switch
Position indication	reflective visual indicator (snap-on)
Manual override	external push button
Running time	95 seconds, constant independent of load
Humidity	5 to 95% RH non-condensing (EN 60730-1)
Ambient temperature	-22° F to 122° F [-30° C to 50° C]
Storage temperature	-40° F to 176° F [-40° C to 80° C]
Housing	NEMA type 2/IP54
Housing material	UL94-5VA
Agency listings	cULus acc. to UL 60730-1/-2-14, CAN/CSA C22.2 No. 24 certified, CE acc. to 73/23/EEC
Noise level	<45 db(A)
Servicing	maintenance free
Quality standard	ISO 9001

### Dimensions with 2-Way Valve

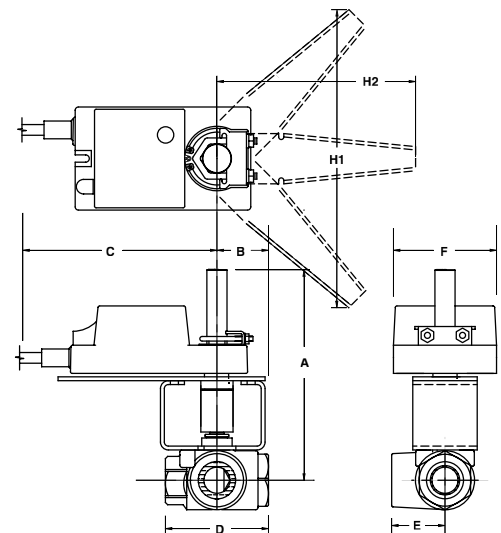


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Valve Nominal Size Dimensions (Inches)

Valve Body	COP	Inches	DN [mm]	A	B	C	D	F	H1	H2
B224VS	400	1	25	7.00	2.00	8.00	3.37	6.25	9.75	8.50
B225VS	200	1	25	7.00	2.00	8.00	3.62	6.25	9.75	8.50
B232VS	400	1¼	32	7.25	2.00	8.00	3.97	6.25	9.75	8.50
B224VSS	1000	1	25	7.00	2.00	8.00	3.37	6.25	9.75	8.50
B232VSS	1000	1¼	32	7.25	2.00	8.00	3.97	6.25	9.75	8.50

### Dimensions with 3-Way Valve



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Valve Nominal Size Dimensions (Inches)

Valve Body	COP	Inches	DN [mm]	A	B	C	D	E	F	H1	H2
B320VS	75	¾	20	6.70	1.50	6.88	2.82	1.62	3.15	9.75	8.50
B325VS	75	1	25	7.00	1.50	6.88	3.56	1.88	3.15	9.75	8.50
B332VS	75	1¼	32	7.00	2.00	7.48	4.13	2.07	3.46	9.75	8.50

## Wiring Diagrams

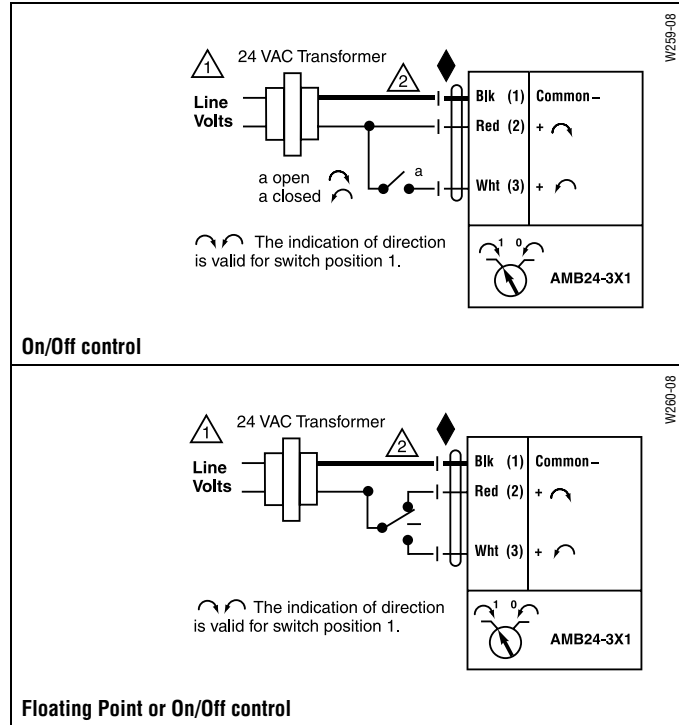
### INSTALLATION NOTES

- 1 Provide overload protection and disconnect as required.
- 2 **CAUTION Equipment damage!**  
Actuators may be connected in parallel.  
Power consumption and input impedance must be observed.
- 3 Actuators may also be powered by 24 VDC.
- 5 Only connect common to neg. (-) leg of control circuits.

### 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.



### Piping

The valve should be mounted in a weather-protected area in a location that is within the ambient limits of the actuator. Allow sufficient room for valve with actuator and for service. Allow 6" for cover removal and 12" for complete actuator removal. The assembly can be mounted with the actuator vertical or horizontal in relation to the pipe. The actuators should never be mounted underneath the valve, as condensation can build up and result in a failure of the actuators. Do not reverse flow direction.