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**

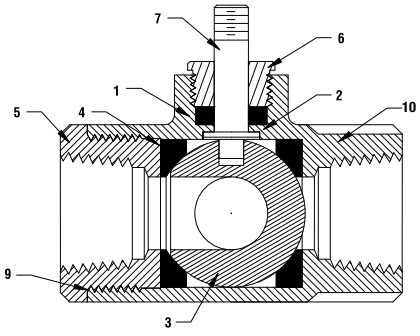
Application

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.

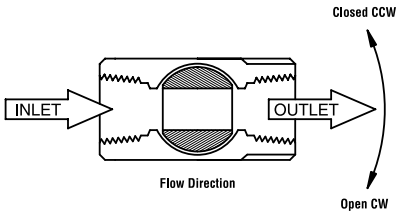
- Up to 35 psi steam
- ½" - 600 PSIG WOG, Cold Non-Shock.
- Federal Specification: WW-V-35C,Type II
  Composition: BZ
  Style: 3

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

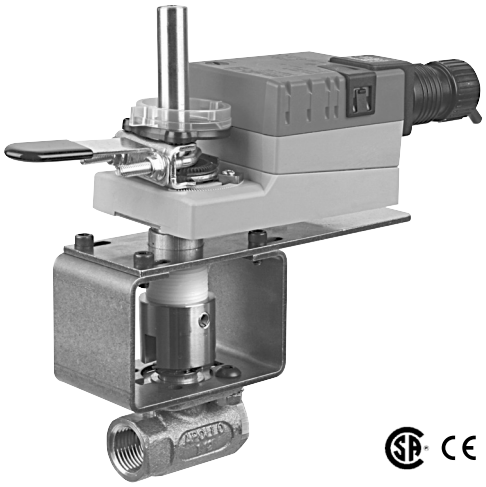


Pressure rating	600 psig WOG
Media temp. range	-22°F to +280°F (-30°C to +138°C)
Close-off pressure	600 psig @ 100°F
Maximum differential pressure (ΔP)	<600 psig

Flow Patterns



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



2 YEAR WARRANTY

Models

LMB24-3-X1
LMX24-3-X1
LRX24-3

Technical Data	
Control	on/off, floating point
Power supply	24 VAC ± 20% 50/60 Hz 24 VDC ± 10%
Power consumption running	1.5 W
holding	0.2 W
Transformer sizing	3 VA (class 2 power source)
Electrical connection LMB24-3-X1	½" conduit connector 3 ft., 18 GA plenum rated cables
Overload protection	electronic throughout 0° to 95° rotation
Input impedance	600 Ω
Angle of rotation	95°
Torque	45 in-lbs [5 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	<35 db(A)
Servicing	maintenance free
Quality standard	ISO 9001

Dimensions with 2-Way Valve

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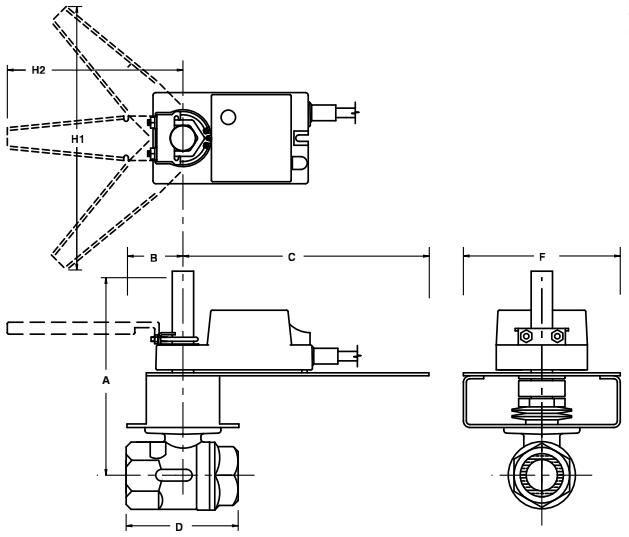
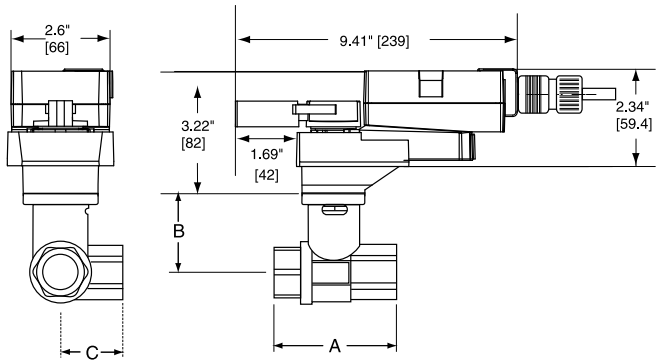


		Valve Nominal Size		Dimensions (Inches)						
Valve Body	COP	Inches	DN [mm]	A	B	C	D	F	H1	H2
B2050VS-01	100	½	15	6.75	2.00	6.75	2.25	4.00	9.75	8.50
B2050VS-02	100	½	15	6.75	2.00	6.75	2.25	4.00	9.75	8.50
B2050VS-04	100	½	15	6.75	2.00	6.75	2.25	4.00	9.75	8.50
B2050VS-15	100	½	15	6.75	2.00	6.75	2.25	4.00	9.75	8.50

Dimensions with 3-Way Valve



		Valve Nominal Size		Dimensions (mm)		
Valve Body	COP	Inches	DN [mm]	A	B	C
B315L	200	½	15	2.63" [67]	1.73" [44]	1.42" [36]
B320L	200	¾	20	3.01" [78]	1.81" [46]	1.63" [42]
B325L	200	1	25	3.42" [87]	1.81" [46]	1.77" [45]

Wiring Diagrams

INSTALLATION NOTES

1 Provide overload protection and disconnect as required.

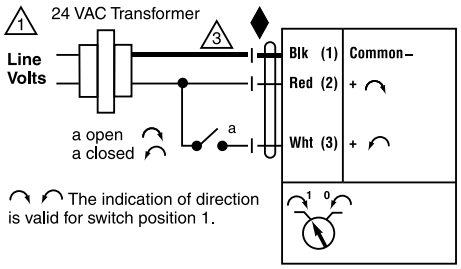
3 Actuators may also be powered by 24 VDC.

APPLICATION NOTES

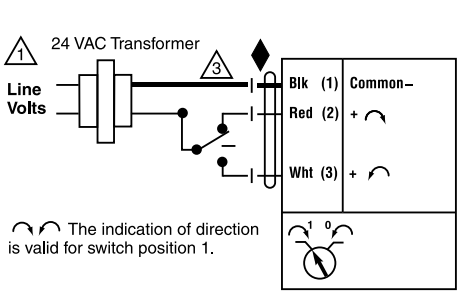
Meets cULus or UL and CSA requirements without the need of an electrical ground connection.

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.



On/Off control



Floating Point or On/Off control

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.