

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.

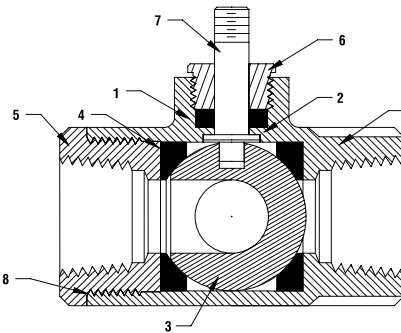
This valve is designed with MFT functionality which facilitates the use of various control input.

- 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

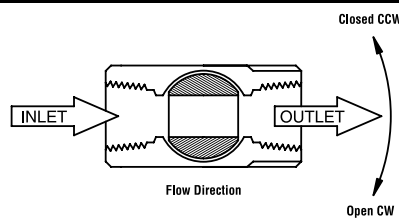
Media	Chilled or hot water, glycol, 35# steam
Flow Characteristic	Modified equal percentage
Action	90° rotation valve open CW, valve closed CCW
Sizes	1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3"
Type of end fitting	SAE NPT (Female Connections)
Materials:	
1 Stem Packing	Reinforced PTFE
2 Stem Bearing	Reinforced PTFE
3 Ball	316 Stainless Steel
4 Seat (x2)	Reinforced PTFE w/ Durafill
5 Retainer	B16 (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	GM Series	SY Series
108	2	50	B249VS		
389	2	50	B250VS		
503	2 1/2	65	B265VS		
370	3	80	B280VS		

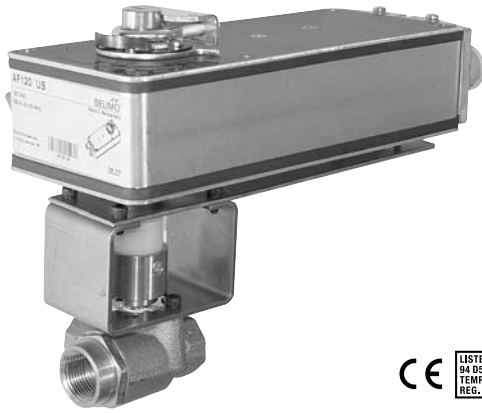


Pressure rating	600 psig WOG
Media temp. range	-22°F to 280°F (-30°C to 138°C)
Close-off pressure	600 psig @ 100°F
Maximum differential pressure (ΔP)	<600 psig

Flow Patterns



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Models

AF24 US	
AF24-S US	w/built-in Aux. Switches
AF120 US	
AF120-S US	w/built-in Aux. Switches

Technical Data

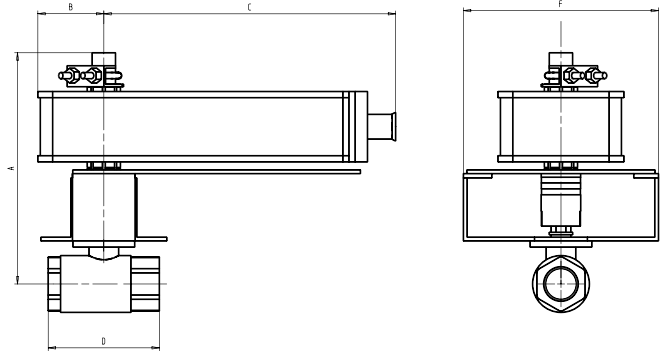
Control	On/Off	
Power consumption		
AF24(-S) US	running	5 W
	holding	1.5 W
AF120(-S) US	running	6 W
	holding	2.3 W
Transformer sizing	10 VA, class 2 power	
Electrical connection	½" conduit connector	
(-S model has 2 cables)	3 ft [1m], 18 GA appliance cables	
Electrical protection	120 V actuators double insulated	
Overload protection	electronic throughout 0° to 95° rotation	
Angle of rotation	95°	
Position indication	visual indicator	
Manual override	hex crank	
Running time	control	150 sec. independent of load
	spring	<20 sec.
Ambient temperature	-22° F to 122° F [-30° C to 50° C]	
Housing	NEMA 2 / IP54	
Agency listings	UL 873, CSA C22.2 No. 24 certified, CE	
Noise level	max. 45 dB(A)	

AF...-S US

Auxiliary switches	2 x SPDT, 7A (2.5A) @ 250 VAC, UL listed, one switch is fixed at +5°, one is adjustable 25° to 85° (double insulated)
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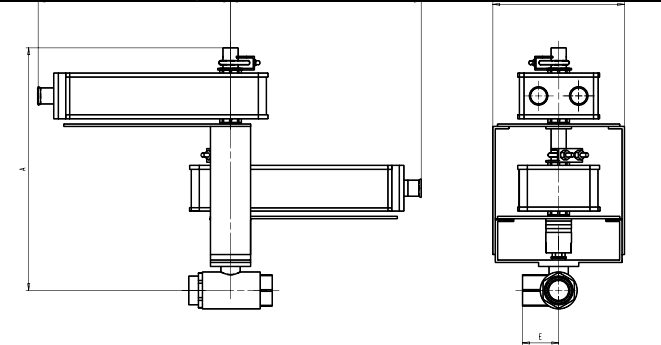
* Dual Mounted Actuators

Dimensions with 2-Way Valve



Valve Body	COP	Valve Nominal Size		Dimensions (Inches)				
		Inches	DN [mm]	A	B	C	D	F
B224VS	400	1	25	7.00	2.00	8.00	3.37	6.25
B225VS	50	1	25	7.00	2.00	8.00	3.62	6.25
B232VS	200	1¼	32	7.25	2.00	8.00	3.97	6.25
*B239VS	400	1½	40	7.50	3.00	8.00	4.37	6.25
*B240VS	50	1½	40	7.50	3.00	8.00	4.75	6.25
*B249VS	200	2	50	8.00	3.00	8.00	4.68	6.25
B219VSS	1000	¾	20	6.70	2.00	8.00	2.25	6.25
B224VSS	1000	1	25	7.00	2.00	8.00	3.37	6.25
B232VSS	400	1¼	32	7.25	2.00	8.00	3.97	6.25
*B232VSS	1000	1¼	32	7.25	2.00	8.00	3.97	6.25
*B239VSS	1000	1½	40	6.70	3.00	8.00	4.37	6.25
*B249VSS	400	2	50	8.00	3.00	8.00	4.68	6.25

Dimensions with 3-Way Valve



Valve Body	COP	Valve Nominal Size		Dimensions (Inches)					
		Inches	DN [mm]	A	B	C	D	E	F
B325VS	75	1	25	7.00	2.00	8.00	3.56	1.88	3.86
B332VS	75	1¼	32	7.00	2.00	8.00	4.13	2.07	6.25
B325VSS	200	1	25	7.00	2.00	8.00	3.56	1.88	3.86
B332VSS	200	1¼	32	7.00	2.00	8.00	4.13	2.07	6.25
*B340VS	75	1½	40	7.00	3.00	8.00	4.44	2.25	6.25
*B350VS	75	2	50	7.00	3.00	8.00	5.38	2.75	6.25

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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 Actuators may also be powered by 24 VDC.

4 For end position indication, interlock control, fan startup, etc., AF24-S US incorporates two built-in auxiliary switches: 2 x SPDT, 7A (2.5A) @ 250 VAC, UL listed, one switch is fixed at +5°, one is adjustable 25° to 85°.

📄 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.

