

# B3...VS Series, 3-Way, Ball Valve Bronze Body, Stainless Steel Ball and Stem



- 316 Stainless Ball and Stem
- Reinforced PTFE seats and stuffing box
- Blow-out proof stem design
- Adjustable packing gland

## Application

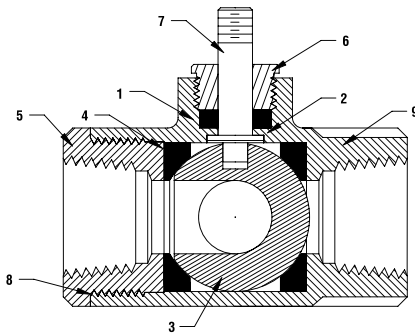
These threaded valves are designed to provide modulating or two position control of hot or chilled water.

Typical applications include reheat coils, VAV terminal control, unit ventilators, and air handlers, especially in areas which have minimum profile requirements.

- 400 PSIG WOG, Cold Non-Shock

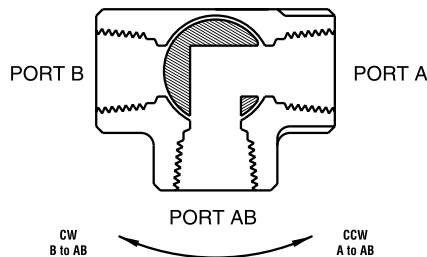
Technical Data	
Media	chilled or hot water, glycol
Flow characteristic	modified equal percentage
Action	90° rotation A to AB open CCW, B to AB open CW
Sizes	½", ¾", 1", 1¼", 1½", 2"
Type of end fitting	SAE NPT (female connection)
Materials:	
1 Stem Packing	PTFE
2 Stem Bearing	PTFE
3 Ball	316 Stainless Steel
4 Seat (x2)	PTFE w/ Durafill
5 Retainer	B16 (½" - 1") Brass B584 (1¼" - 2") Brass
6 Gland	ASTM B16 Brass
7 Stem	316 Stainless steel
8 Jam Nut	PTFE (1¼" - 2")
9 Body Seal	B584-C84400 Bronze

C <sub>v</sub>	Valve Nominal Size		Type	Suitable Return Actuators		
	Inches	DN [mm]		Spring		Non-Spring
4.8	½	15	B315VS	LF	NF	LM
11	¾	20	B320VS	NF		NM Series
21	1	25	B325VS	AF Series		
33	1¼	32	B332VS			AM
49	1½	40	B340VS			GM Series
91	2	50	B350VS			

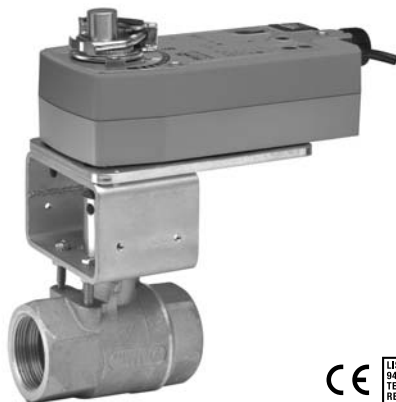


Pressure rating	400 psig WOG
Media temp. range	-22°F to 250°F (-30°C to 120°C)
Close-off pressure	400 psig @ 100°F
Maximum differential pressure (ΔP)	<75 psig

## Flow Patterns



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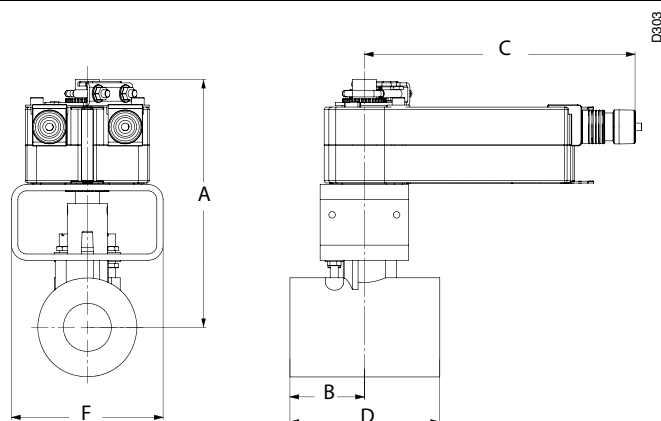


## Models

NFB24-X1  
 NFBUP-S-X1 w/built-in Aux. Switch  
 NFBUP-X1

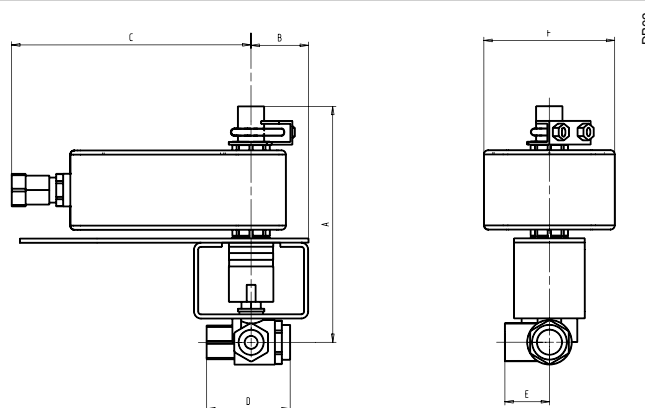
Technical Data	
Control	on/off
Power consumption	
NFB24-X1	running 6 W
	holding 2.5 W
NFBUP(-S)-X1	running 6 W
	holding 2.5 W
Transformer sizing	
NFB24-X1	8.5 VA
NFBUP(-S)-X1	9.5 VA
Electrical connection	1/2" conduit connector
(-S model has 2 cables)	3 ft [1m], 18 GA appliance cables
Electrical protection	120 V actuators double insulated
Overload protection	electronic throughout 0° to 95° rotation
Angle of rotation	95°
Position indication	visual indicator
Running time	control <75 seconds
	spring <20 seconds
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)
<b>NFBUP-S-X1</b>	
Auxiliary switch	2 x SPDT, 3A (0.5A inductive) @ 250V

## Dimensions with 2-Way Valve



Valve Body	COP	Valve Nominal Size		Dimensions (Inches)				
		Inches	DN [mm]	A	B	C	D	F
B2075VS-30	400	3/4	20	7.50	2.00	9.76	3.00	4.60
B2075VS-51	400	3/4	20	7.50	2.00	9.76	3.20	4.60
B2100VS-43	400	1	25	7.81	2.00	9.76	3.40	4.60
B2075VSS-30	1000	3/4	20	7.50	2.00	9.76	3.00	4.60
B2100VSS-43	1000	1	25	7.81	2.00	9.76	3.40	4.60

## Dimensions with 3-Way Valve



Valve Body	COP	Valve Nominal Size		Dimensions (Inches)					
		Inches	DN [mm]	A	B	C	D	E	F
B315VS	200	1/2	15	7.00	2.00	8.00	3.56	1.88	6.25
B320VS	75	3/4	20	7.00	2.00	8.00	3.56	1.88	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 24V actuators can be powered by 24 VAC/DC.

4 For end position indication, interlock control, fan startup, etc.,  
(-S) Models: 2 SPDT, 3A (0.5 inductive) @250V, one switch fixed at 10°, one adjustable 10° to 90°.

#### 📄 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.

