

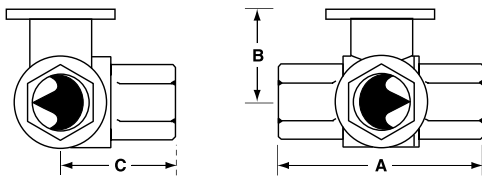
B3 Series, 3-Way, Characterized Control Valve Chrome Plated Brass Ball and Brass Stem



Technical Data	
Service	chilled or hot water, 60% glycol
Flow characteristic	A-port equal percentage B-port modified for constant common port flow
Action	90° rotation
Sizes	½", ¾"
Type of end fitting	NPT female ends
Materials:	
Body	forged brass, nickel plated
Ball	chrome plated brass
Stem	nickel plated brass
Seats	PTFE
Characterizing disc	Tefzel®
Packing	2 EPDM O-rings, lubricated
Body pressure rating	600 psi
Media temp. range	0°F to 212°F [-18°C to 100°C]
Close off pressure	200 psi
Maximum differential pressure (ΔP)	30 psi for typical applications
Leakage	0% for A to AB <2.0% for B to AB
External leakage	according to EN 12266-1:2003
C _v rating	A-port: see product chart for values B-port: 70% of A to AB C _v

Tefzel® is a registered trademark of DuPont

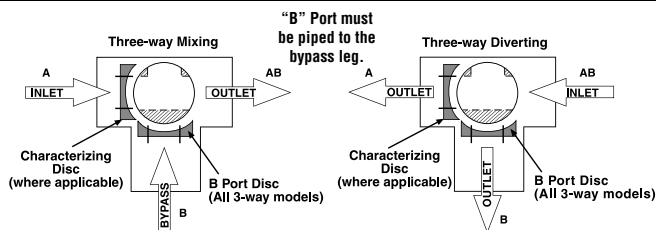
Dimensions



3WayValve-B307-B320

Valve Body	Valve Nominal Size		Dimensions (Inches [mm])		
	Inches	DN [mm]	A	B	C
B307B-B311B	½"	15	2.41" [61.1]	1.39" [35.2]	1.20" [30.6]
B312B-B315B	½"	15	2.38" [60.4]	1.78" [45.2]	1.29" [32.8]
B317B-B320B	¾"	20	2.73" [69.3]	1.87" [47.4]	1.47" [37.3]

Flow Patterns



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 or constant flow.

C _v	Valve Nominal Size		Type	Suitable Actuators			
	Inches	DN [mm]	3-way NPT	Non-Spring		Spring	
0.3	½"	15	B307B	TR Series	LR Series	TF Series	LF Series
0.46	½"	15	B308B				
0.8	½"	15	B309B				
1.2	½"	15	B310B				
1.9	½"	15	B311B				
3	½"	15	B312B				
4.7	½"	15	B313B				
10	½"	15	B315B*				
4.7	¾"	20	B317B				
7.4	¾"	20	B318B				
24	¾"	20	B320B*				

*Models without characterizing disc

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TF24-3 Actuators, Floating Point



Models

TF24-3 US
TF24-3-S US w/built-in Aux. Switch

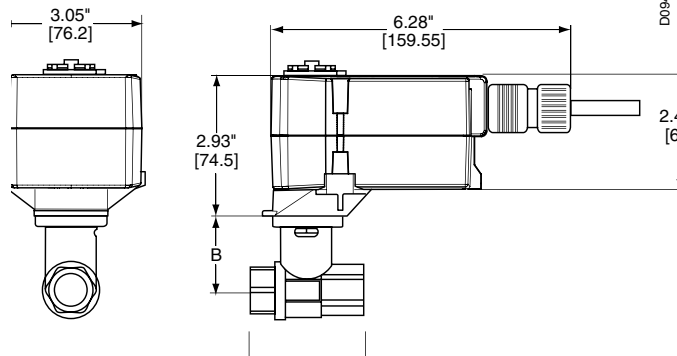
Technical Data	
Control	floating point
Power supply	24VAC ± 20%, 50/60Hz
Power consumption	running 2.5 W holding 1.0 W
Transformer sizing	4 VA (class 2 power source)
Electrical connection	½" conduit connector 18 GA plenum rated cable
	TF24-3 US 3 ft [1m] TF24-3 /300 US 10 ft [3m] TF24-3 /500 US 16 ft [5m]
Overload protection	electronic throughout 0° to 95° rotation
Input impedance	1000 Ω (0.6w) control inputs
Angle of rotation	95°
Torque	min. 18 in-lb [2 Nm]
Direction of rotation	spring motor reversible with CW/CCW mounting reversible with built-in switch
Position indication	visual indicator, 0° to 95°
Running time	motor 95 sec constant, independent of load spring <25 sec @ -4°F to 122°F [-20°C to 50°C] <60 sec @ -22°F [-30°C]
Humidity	5 to 95% RH non-condensing
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/IP42
Housing material	UL94 - 5VA
Agency listings†	cULus according to UL 60730-1A/-2-14, CAN/CSA E60730-1:02, CE according to 2004/108/EC and 2006/95/EC for line voltage and/or -S versions
Noise level (max)	running <35 db (A) spring return 62 db (A)
Quality standard	ISO 9001

TF24-3-S US

Auxiliary switch 1 x SPDT, 3A (0.5A) @ 250 VAC, UL Listed, adjustable 0° to 95°

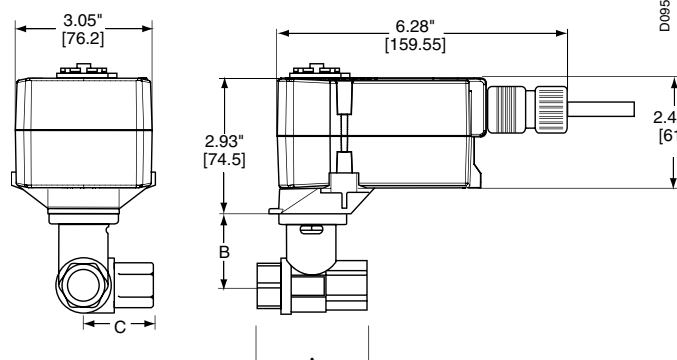
† Rated impulse voltage 800V (4kV for 120V model), Control pollution degree 3, Type of action 1.AA (1.AA.B for -S models)

Dimensions with 2-Way Valve



Valve Body	Valve Nominal Size		Dimensions (Inches [mm])	
	Inches	DN [mm]	A	B
B207(B)-B211(B)	½"	15	2.41" [61.1]	1.39" [35.2]
B212(B)-B215(B)	½"	15	2.38" [60.4]	1.78" [45.2]
B217(B)-B220(B)	¾"	20	2.73" [69.3]	1.87" [47.4]

Dimensions with 3-Way Valve



Valve Body	Valve Nominal Size		Dimensions (Inches [mm])		
	Inches	DN [mm]	A	B	C
B307(B)-B311(B)	½"	15	2.41" [61.1]	1.39" [35.2]	1.20" [30.6]
B312(B)-B315(B)	½"	15	2.38" [60.4]	1.78" [45.2]	1.29" [32.8]
B317(B)-B320(B)	¾"	20	2.73" [69.3]	1.87" [47.4]	1.47" [37.3]

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