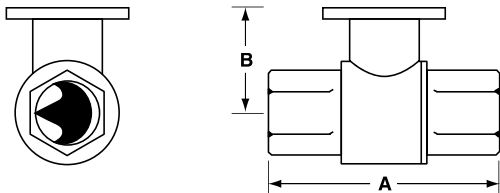




Technical Data	
Service	chilled or hot water, 60% glycol
Flow characteristic	A-port equal percentage
Action	90° rotation
Sizes	½", ¾", 1", 1¼", 1½", 2", 2½", 3"
Type of end fitting	NPT female ends
Materials:	
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seats	PTFE
Characterizing disc	Tefzel®
Packing	2 EPDM O-rings, lubricated
Body pressure rating	
600 psi	½" - 1¼" (B230)
400 psi	1¼" (B231) - 3"
Media temp. range	0°F to 212°F [-18°C to 100°C]
Close off pressure	
200 psi	½" - 2" (B250)
100 psi	2" (B251) - 3"
Maximum differential pressure (ΔP)	30 psi for typical applications
Leakage	0% for A to AB
External leakage	according to EN 12266-1:2003
C _v rating	A-port: see product chart for values

Tefzel® is a registered trademark of DuPont

Dimensions



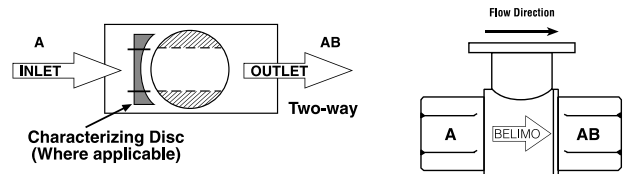
2WayValve-B207-B220

Valve Body	Valve Nominal Size		Dimensions (Inches [mm])	
	Inches	DN [mm]	A	B
B207-B211	½"	15	2.41" [61.1]	1.39" [35.2]
B212-B215	½"	15	2.38" [60.4]	1.78" [45.2]
B217-B220	¾"	20	2.73" [69.3]	1.87" [47.4]
B222-B225	1"	25	3.09" [78.4]	1.87" [47.4]
B229-B230	1¼"	32	3.72" [94.6]	1.87" [47.4]
B231-B232	1¼"	32	3.72" [94.6]	2.04" [51.9]
B238-B240	1½"	40	3.88" [98.5]	2.04" [51.9]
B248-B250	2"	50	4.21" [107.0]	2.27" [57.7]
B251-B254	2"	50	4.93" [125.2]	2.73" [69.5]
B261-B265	2½"	65	5.55" [140.9]	2.73" [69.5]
B277-B280	3"	80	5.82" [147.9]	2.73" [69.5]

C _v	Valve Nominal Size		Type	Suitable Actuators	
	Inches	DN [mm]	2-Way NPT	Non-Spring	Spring
0.3	½"	15	B207	TR Series	
0.46	½"	15	B208		
0.8	½"	15	B209		
1.2	½"	15	B210		
1.9	½"	15	B211		
3	½"	15	B212		
4.7	½"	15	B213		
7.4	½"	15	B214		
10	½"	15	B215*		
4.7	¾"	20	B217		
7.4	¾"	20	B218		
10	¾"	20	B219		
24	¾"	20	B220*		
7.4	1"	25	B222		
10	1"	25	B223		
19	1"	25	B224		
30	1"	25	B225*		
10	1¼"	32	B229		
19	1¼"	32	B230*		
25	1¼"	32	B231		
37	1¼"	32	B232*		
19	1½"	40	B238		
29	1½"	40	B239		
37	1½"	40	B240*		
29	2"	50	B248		
46	2"	50	B249		
57	2"	50	B250*		
65	2"	50	B251		
85	2"	50	B252		
120	2"	50	B253		
240	2"	50	B254*		
60	2½"	65	B261		
75	2½"	65	B262		
110	2½"	65	B263		
150	2½"	65	B264		
210	2½"	65	B265*		
70	3"	80	B277		
130	3"	80	B278		
170	3"	80	B280*		

*Models without characterizing disc

Flow Patterns



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TF24-3 Actuators, Floating Point



Models

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

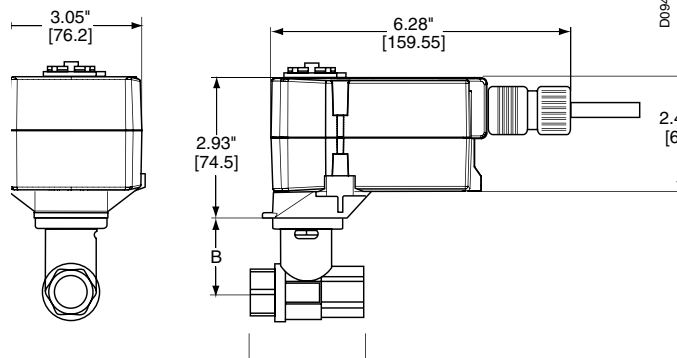
Technical Data	
Control	floating point
Power supply	24VAC ± 20%, 50/60Hz
Power consumption	running 2.5 W holding 1.0 W
Transformer sizing	4 VA (class 2 power source)
Electrical connection	½" conduit connector 18 GA plenum rated cable
	TF24-3 US 3 ft [1m] TF24-3 /300 US 10 ft [3m] TF24-3 /500 US 16 ft [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°

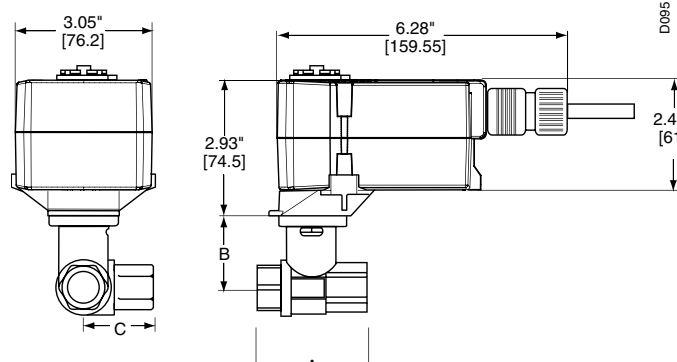
† Rated impulse voltage 800V (4kV for 120V model), Control pollution degree 3, Type of action 1.AA (1.AA.B for -S models)

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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