

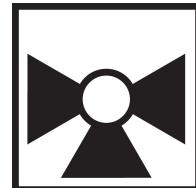
3-way Mixing/Diverting, Characterized Control Valve, Chrome Plated Brass Ball and Nickel Plated Brass Stem



Picture may differ from product



5-year warranty



Type overview

Type	DN
B313B	1/2" [15]

Technical data

Functional data	Valve size [mm]	0.5" [15]
Fluid	chilled or hot water, up to 60% glycol	
Fluid Temp Range (water)	0...250°F [-18...120°C]	
Body Pressure Rating	600 psi	
Close-off pressure Δ ps	200 psi	
Flow	A-port: as stated in chart B-port: 70% of A - AB Cv	
Flow characteristic	A-port equal percentage, B-port modified for constant common port flow	
Leakage rate	0% for A - AB, <2.0% for B - AB	
Pipe connection	Internal thread NPT (female)	
Servicing	maintenance-free	
Flow Pattern	3-way Mixing/Diverting	
Controllable flow range	75°	
Cv	4.7	
Materials	Valve body	Nickel-plated brass body
	Stem	nickel-plated brass
	Stem seal	EPDM (lubricated)
	Seat	PTFE
	Characterized disc	TEFZEL®
	O-ring	EPDM (lubricated)
	Ball	chrome plated brass
Suitable actuators	Non Fail-Safe	TR LRB(X)
	Spring	TFRB(X) LF

Safety notes



- WARNING: This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to www.p65warnings.ca.gov

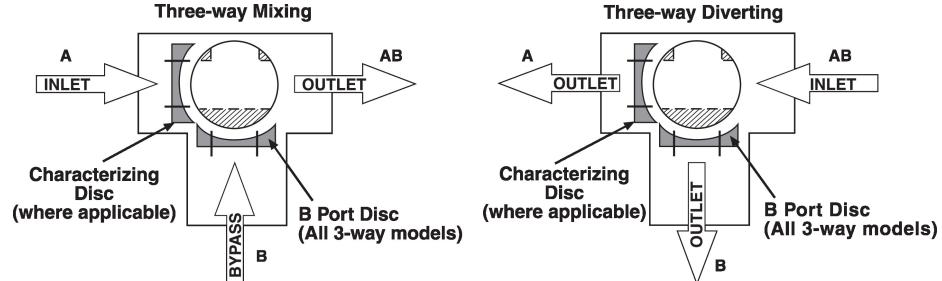
Product features

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.

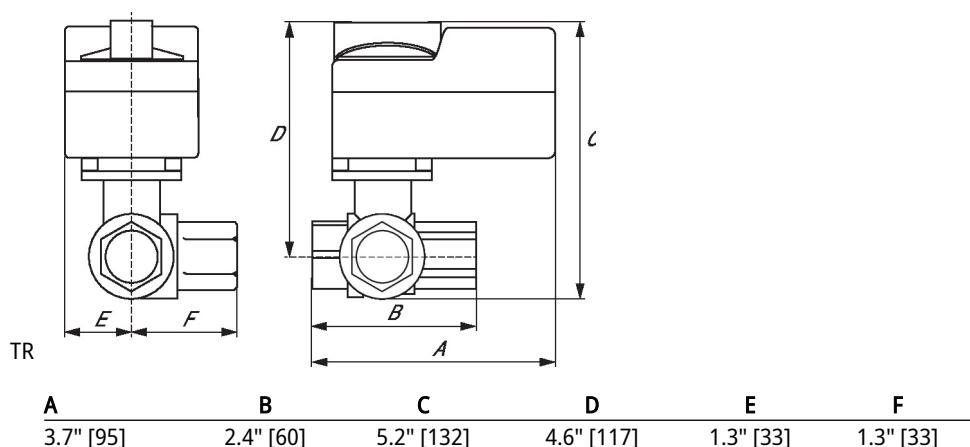
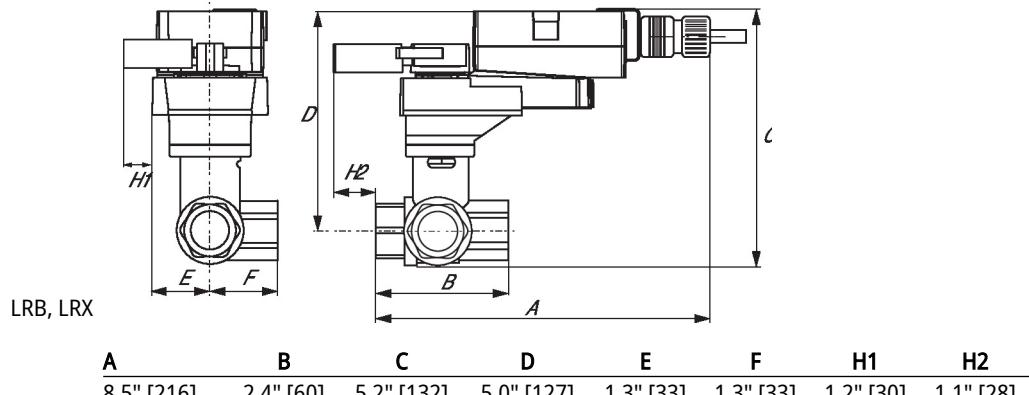
Flow/Mounting details

This valve is not suitable for use as a change over valve.

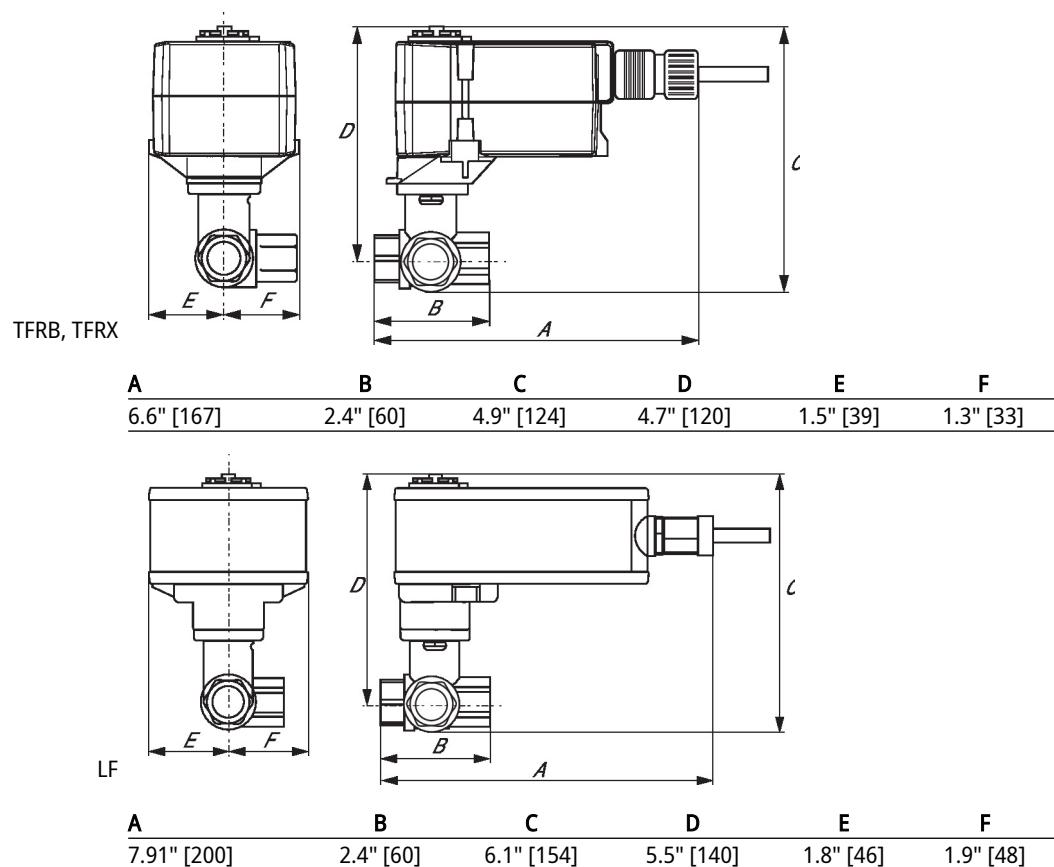


Dimensions

Type	DN	Weight
B313B	1/2" [15]	0.72 lb [0.33 kg]



Dimensions



The technical drawings illustrate the dimensions of two BELIMO actuators: TFRB and LF. The top row shows the TFRB model, and the bottom row shows the LF model. Each row provides a front view on the left and a side view on the right, with dimension lines labeled A through F. Dimension A represents the width of the actuator body, B represents the width of the mounting flange, C represents the height of the actuator body, D represents the total height including the mounting flange, E represents the thickness of the mounting flange, and F represents the thickness of the actuator body. The TFRB model has a smaller mounting flange (B) and a shorter total height (D) compared to the LF model.

A	B	C	D	E	F
6.6" [167]	2.4" [60]	4.9" [124]	4.7" [120]	1.5" [39]	1.3" [33]

A	B	C	D	E	F
7.91" [200]	2.4" [60]	6.1" [154]	5.5" [140]	1.8" [46]	1.9" [48]

On/Off, Floating point, Spring return, 24 V



5-year warranty



Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V
	Power consumption in operation	2.5 W
	Power consumption in rest position	1 W
	Transformer sizing	5 VA
	Electrical Connection	18 GA appliance cable, 3 ft [1 m], with 1/2" NPT conduit connector
	Overload Protection	electronic throughout 0...95° rotation
Functional data	Position feedback U note	No Feedback
	Direction of motion motor	selectable with switch 0/1
	Direction of motion fail-safe	reversible with cw/ccw mounting
	Angle of rotation	90°
	Running Time (Motor)	150 s / 90°
	Running time motor note	constant, independent of load
	Running time fail-safe	<25 s @ -4...122°F [-20...50°C], <60 s @ -22°F [-30°C]
	Noise level, motor	50 dB(A)
	Noise level, fail-safe	62 dB(A)
	Position indication	Mechanical
Safety data	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2
	Enclosure	UL Enclosure Type 2
	Agency Listing	cULus acc. To UL 873 and CAN/CSA C22.2 No. 24-93
	Quality Standard	ISO 9001
	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-22...122°F [-30...50°C]
	Storage temperature	-40...176°F [-40...80°C]

Technical data

Safety data	Servicing	maintenance-free
Weight	Weight	□
Materials	Housing material	galvanized steel

Footnotes †Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3

Electrical installation

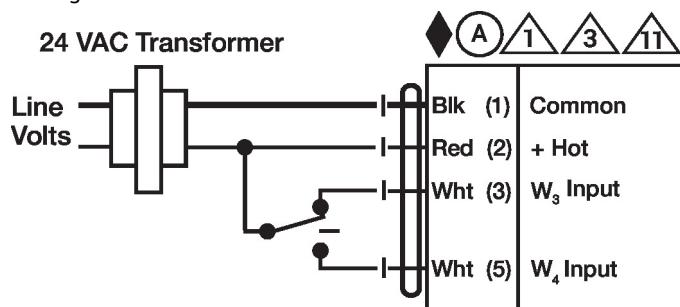
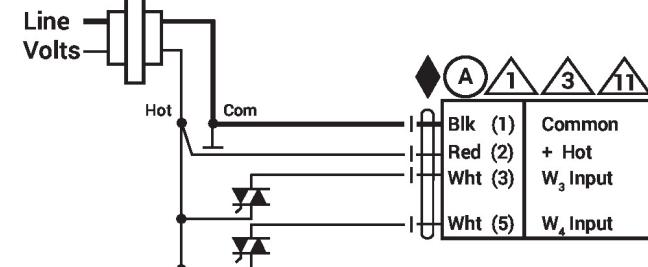
 **INSTALLATION NOTES**

- ◆ A Actuators with appliance cables are numbered.
- ▲ 1 Provide overload protection and disconnect as required.
- ▲ 3 Actuators may also be powered by DC 24 V.
- ▲ 6 Actuators Hot wire must be connected to the control board common. Only connect common to neg. (-) leg of control circuits. Terminal models (-T) have no-feedback.
- ▲ 11 Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.
- ◆ Meets cULus requirements without the need of an electrical ground connection.
- ⚠ Warning! Live electrical components!

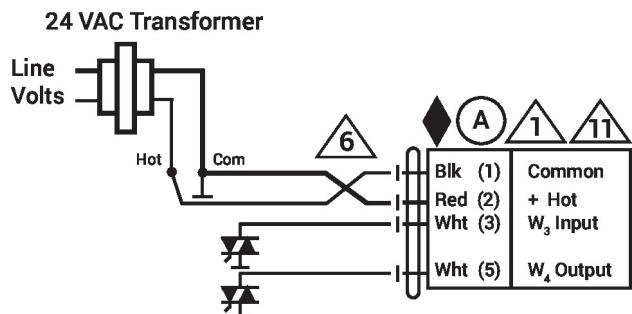
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

Wiring diagrams

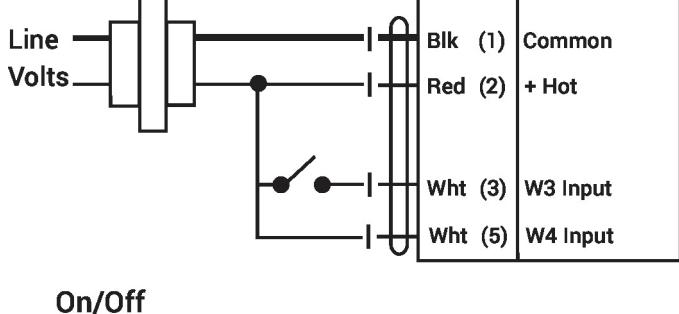
Floating Point

Floating Point - Triac Source
24 VAC Transformer

Floating Point - Triac Sink



24 VAC Transformer



On/Off