

3-way Mixing/Diverting, Characterized Control Valve, Stainless Steel Ball and Stem



Picture may differ from product



5-year warranty



### Type overview

<b>Type</b>	<b>DN</b>
B312	1/2" [15]

### Technical data

<b>Functional data</b>	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 Δps	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	3
	<b>Materials</b>	Valve body
Stem		stainless steel
Stem seal		EPDM (lubricated)
Seat		PTFE
Characterized disc		TEFZEL®
O-ring		EPDM (lubricated)
Ball		stainless steel
<b>Suitable actuators</b>	Non Fail-Safe	TR LRB(X) LRQB(X) NRB(X) N4
	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](http://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.

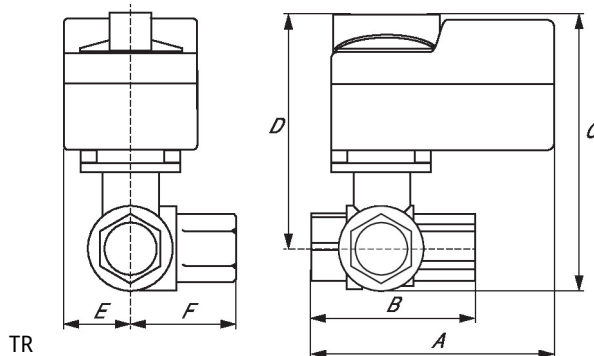
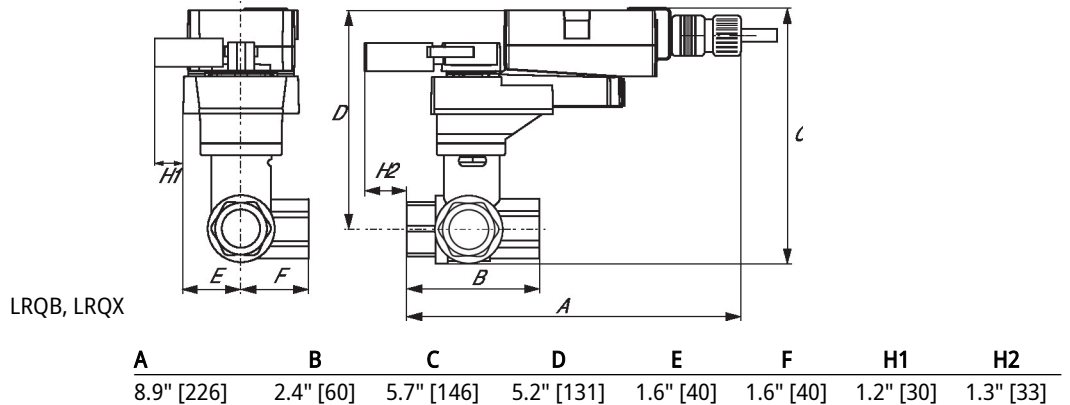
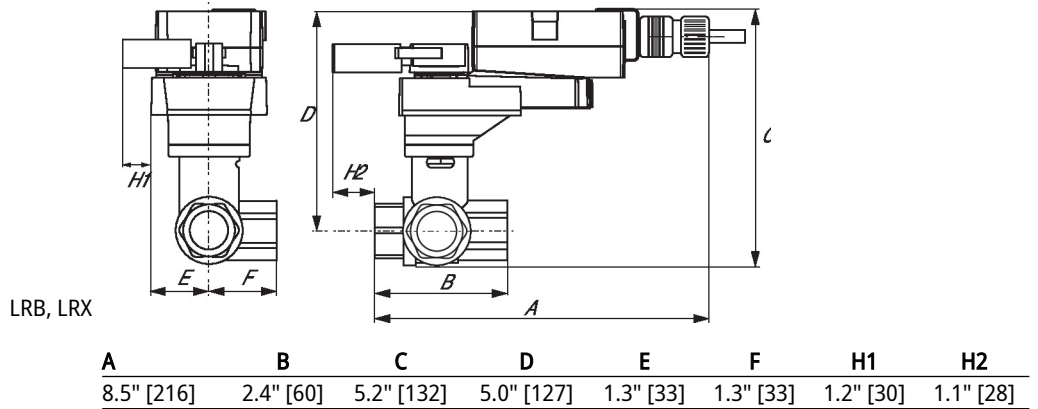
**Flow/Mounting details**

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



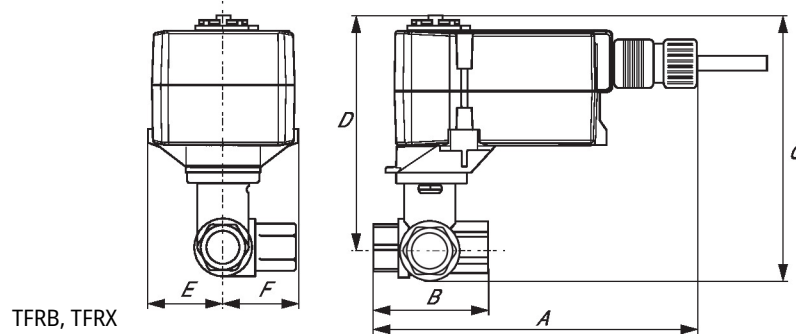
Dimensions

Type	DN	Weight
B312	1/2" [15]	0.72 lb [0.33 kg]

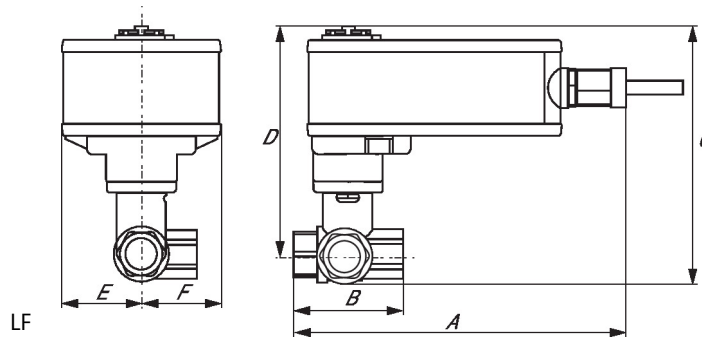


Dimensions

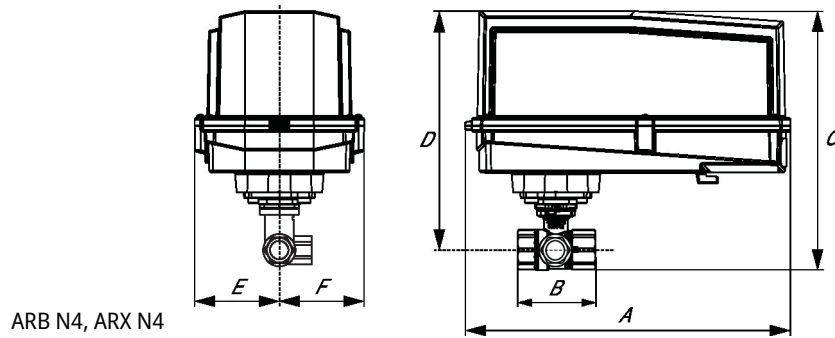
A	B	C	D	E	F
3.7" [95]	2.4" [60]	4.8" [122]	4.2" [107]	1.3" [33]	1.2" [31]



A	B	C	D	E	F
6.6" [167]	2.4" [60]	4.9" [124]	4.3" [110]	1.5" [39]	1.5" [39]



A	B	C	D	E	F
7.91" [200]	2.4" [60]	5.7" [146]	5.1" [129]	1.8" [46]	1.8" [46]



A	B	C	D	E	F
11.4" [289]	2.4" [60]	7.2" [184]	6.7" [169]	3.1" [80]	3.1" [80]

Modulating, Non fail-safe, 24 V



5-year warranty



## Technical data

<b>Electrical data</b>	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	1.2 W
	Transformer sizing	5 VA
	Electrical Connection	18 GA plenum cable, 1 m, 3 m, or 5 m with 1/2" NPT conduit connector, degree of protection NEMA 2 / IP54
	Overload Protection	electronic throughout 0...90° rotation
<b>Functional data</b>	Operating range Y	0...20 V PhC
	Operating range Y note	Phasecut control (PhC) is only for the positive part of the sine wave (max. of 10 volts)
	Input impedance	8000 Ω (50mW)
	Position feedback U	2...10 V
	Position feedback U note	Max. 0.5 mA
	Direction of motion motor	selectable with switch 0/1
	Manual override	external push button
	Angle of rotation	90°
	Running Time (Motor)	90 s / 90°
	Running time motor variable	90 or 150 s
	Noise level, motor	35 dB(A)
	Position indication	Mechanical, pluggable
<b>Safety data</b>	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 UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU
	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

<b>Safety data</b>	Servicing	maintenance-free
<b>Weight</b>	Weight	1.4 lb [0.64 kg]
<b>Materials</b>	Housing material	Galvanized steel and plastic housing
<b>Footnotes</b>	†Rated Impulse Voltage 800V, Type of Action 1, Control Pollution Degree 2.	

Accessories

Electrical accessories	Description	Type
	Battery backup system, for non-spring return models	NSV24 US
	Battery, 12 V, 1.2 Ah (two required)	NSV-BAT
	Auxiliary switch 1x SPDT add-on	S1A
	Auxiliary switch 2x SPDT add-on	S2A
	Feedback potentiometer 140 Ω add-on, grey	P140A GR
	Feedback potentiometer 1 kΩ add-on, grey	P1000A GR
	Feedback potentiometer 10 kΩ add-on, grey	P10000A GR
	Feedback potentiometer 2.8 kΩ add-on, grey	P2800A GR
	Feedback potentiometer 500 Ω add-on, grey	P500A GR
	Feedback potentiometer 5 kΩ add-on, grey	P5000A GR

Electrical installation

- Provide overload protection and disconnect as required.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Actuators may also be powered by DC 24 V.
- Only connect common to negative (-) leg of control circuits.

Wiring diagrams

Phasecut Control

