



5-year warranty



Type overview

<b>Type</b>	<b>DN</b>
B317	20

Technical data

<b>Functional data</b>	Valve size [mm]	0.75" [20]	
	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 characteristic	A-port equal percentage, B-port modified for constant common port flow	
	Servicing	maintenance-free	
	Flow Pattern	3-way Mixing/Diverting	
	Leakage rate	0% for A – AB, <2.0% for B – AB	
	Controllable flow range	75°	
	Cv	4.7	
	Cv Flow Rating	A-port: as stated in chart B-port: 70% of A – AB Cv	
	<b>Materials</b>	Valve body	Nickel-plated brass body
		Spindle	stainless steel
Spindle seal		EPDM (lubricated)	
Seat		PTFE	
Characterized disc		TEFZEL®	
Pipe connection		NPT female ends	
O-ring		EPDM (lubricated)	
Ball		stainless steel	
<b>Suitable actuators</b>	Non-Spring	TR LRB(X) NRB(X) N4	
	Spring	TFB(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

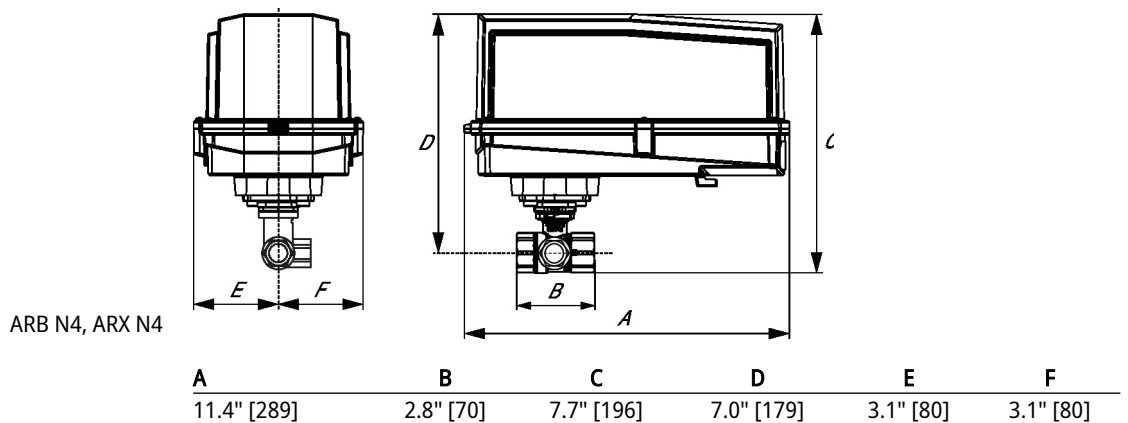
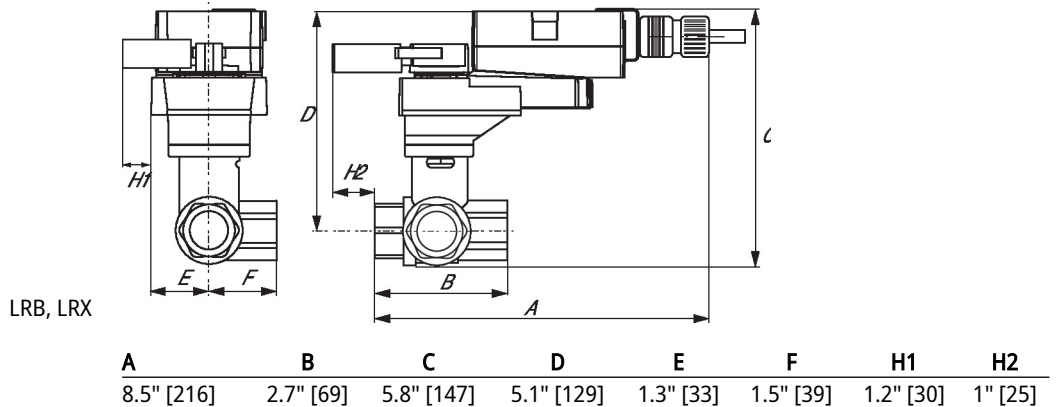


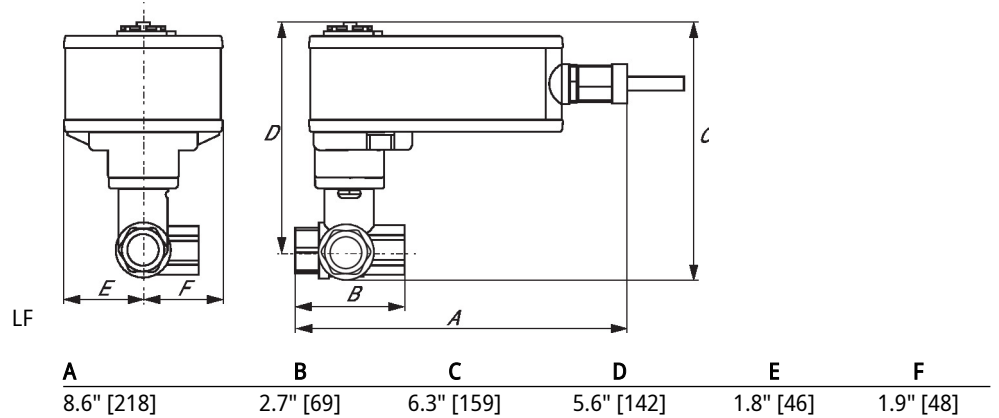
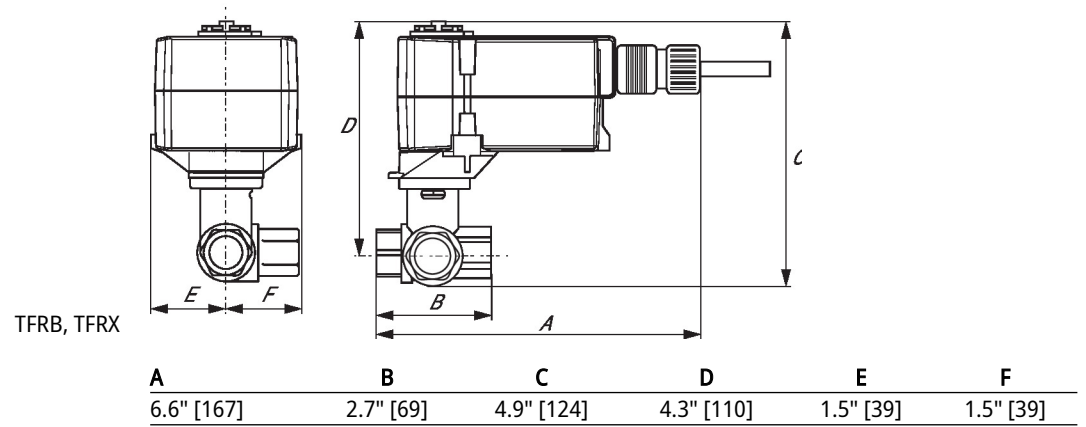
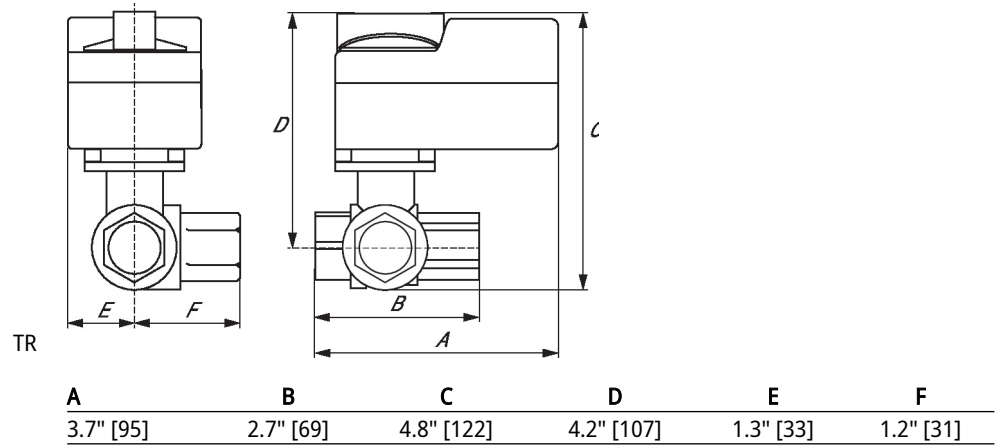
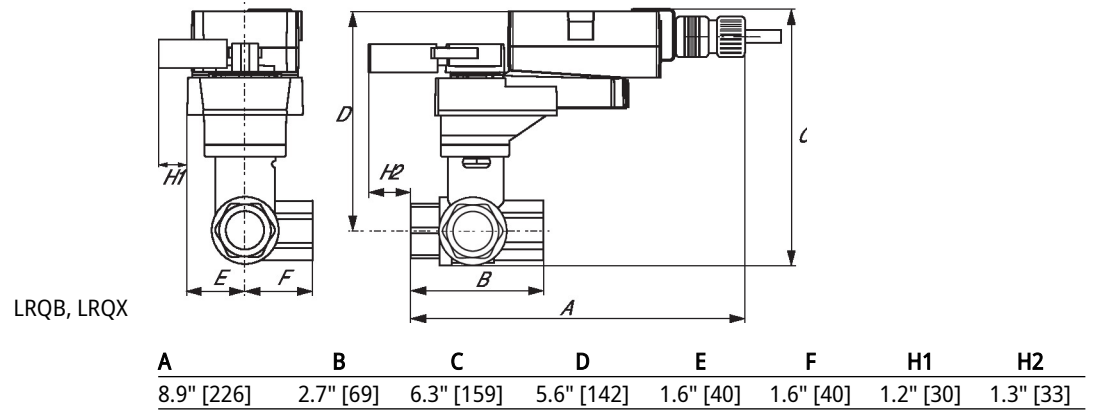
Product features

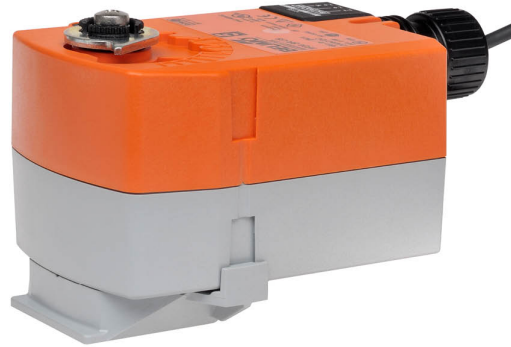
**Mode of operation** Local Control SY2-12, 110vac Mod

Dimensions

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## Technical data

<b>Electrical data</b>	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Power consumption in operation	2 W
	Power consumption in rest position	1 W
	Transformer sizing	4 VA (class 2 power source)
	Auxiliary switch	1 x SPDT, 3 A resistive (0.5 A inductive) @ AC 250 V, adjustable 0...95°
	Switching capacity auxiliary switch	3 A resistive (0.5 A inductive) @ AC 250 V
	Electrical Connection	(2) 18 GA appliance cables with 1/2" conduit connectors, 3 ft [1 m],
	Overload Protection	electronic throughout 0...95° rotation
<b>Functional data</b>	Operating range Y	2...10 V
	Operating range Y note	4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)
	Input Impedance	100 kΩ for 2...10 V (0.1 mA), 500 Ω for 4...20 mA
	Position feedback U	2...10 V
	Position feedback U note	Max. 0.5 mA
	Direction of motion motor	selectable with switch 0/1
	Direction of motion fail-safe	reversible with cw/ccw mounting
	Angle of rotation	Max. 95°
	Running Time (Motor)	95 s
	Running time fail-safe	<25 s @ 20°C
	Noise level, motor	35 dB(A)
	Noise level, fail-safe	62 dB(A)
	Position indication	Mechanical
<b>Safety data</b>	Degree of protection IEC/EN	IP42
	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 and 2014/35/EU; Listed to UL 2043 - suitable for use in air plenums per Section 300.22(c) of the NEC and Section 602.2 of the IMC
	Quality Standard	ISO 9001
	Ambient temperature	-22...122°F [-30...50°C]
	Storage temperature	-40...176°F [-40...80°C]
	Ambient humidity	Max. 95% RH, non-condensing
	Servicing	maintenance-free
	<b>Materials</b>	Housing material

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

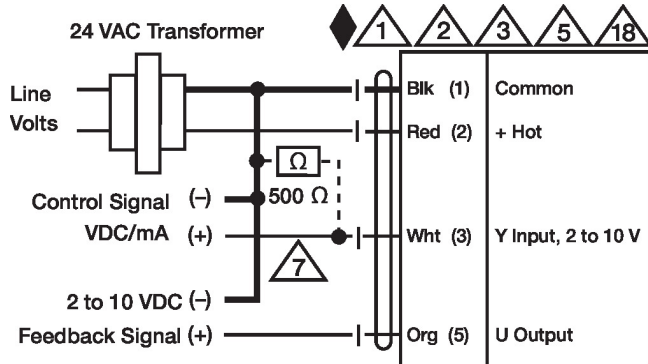
Electrical installation

**✂ INSTALLATION NOTES**

- ⚠1 Provide overload protection and disconnect as required.
- ⚠2 Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- ⚠3 Actuators may also be powered by DC 24 V.
- ⚠5 Only connect common to negative (-) leg of control circuits.
- ⚠7 A 500 Ω resistor (ZG-R01) converts the 4...20 mA control signal to 2...10 V.
- ⚠44 One built-in auxiliary switch (1x SPDT), for end position indication, interlock control, fan startup, etc.
- ◆ Meets cULus requirements without the need of an electrical ground connection.
- ⚠4 Apply only AC line voltage or only UL-Class 2 voltage to the terminals of auxiliary switches. Mixed or combined operation of line voltage/safety extra low voltage is not allowed.
- ⚠1 **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**

2...10 V / 4...20 mA Control



**Auxiliary Switches**

