

3-way Changeover/ Diverting, Chrome Plated Brass Ball and Nickel Plated Brass Stem



2-year warranty

Picture may differ from product

Type overview

Type	DN
B350L	2" [50]

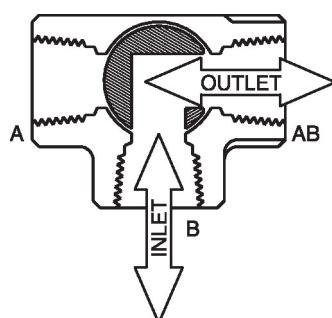
Technical data

	Functional data	Valve size [mm]	2" [50]
Fluid		chilled or hot water, up to 60% glycol	
Fluid Temp Range (water)		0...250°F [-18...120°C]	
Body Pressure Rating		400 psi	
Close-off pressure Δ ps		200 psi	
Flow characteristic		modified linear	
Leakage rate		0%	
Pipe connection		Internal thread NPT (female)	
Servicing		maintenance-free	
Flow Pattern		3-way Changeover/ Diverting	
Controllable flow range		75°	
Cv		87	
Materials	Valve body	Nickel-plated brass body	
	Stem	nickel-plated brass	
	Seat	PTFE	
	Ball	chrome plated brass	
Suitable actuators	Non Fail-Safe	ARB(X)	
	Spring	AFRB(X)	

Product features

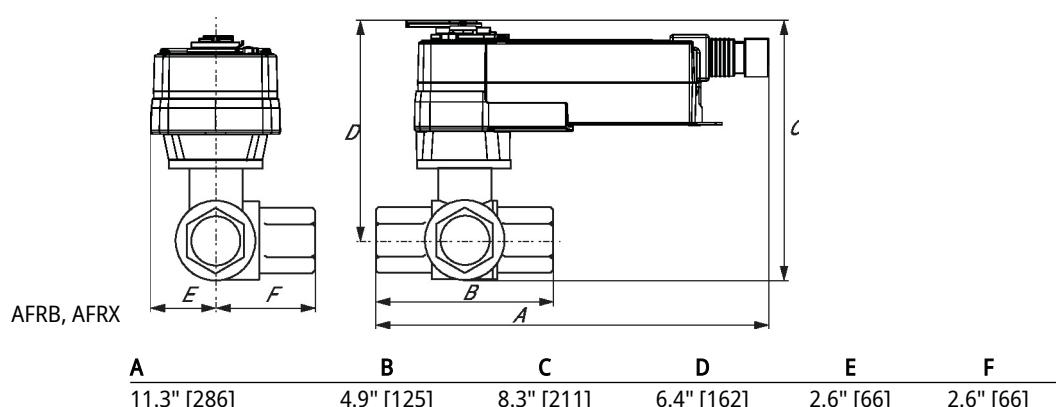
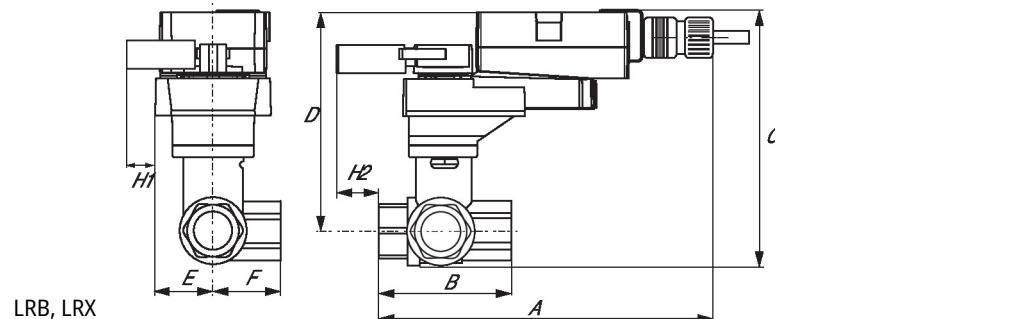
Application This valve is typically used in air handling units on heating or cooling coils, and fan coil unit heating or cooling coils. Some other common applications include Unit Ventilators, VAV box re-heat coils and bypass loops. This valve is suitable for use as diverting or change over valve.

Flow/Mounting details



Dimensions

Type	DN	Weight
B350L	2" [50]	5.7 lb [2.6 kg]



MFT/programmable, Spring return, 24 V



5-year warranty

**MFT**

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	7.5 W	
Power consumption in rest position	3 W	
Transformer sizing	10 VA	
Electrical Connection	18 AWG appliance cable, 1 m, with 1/2" NPT conduit connector	
Overload Protection	electronic throughout 0...95° rotation	
Functional data	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, 1500 Ω for PWM, On/Off and Floating point	
Operating range Y variable	Start point 0.5...30 V End point 2.5...32 V	
Operating modes optional	variable (VDC, PWM, on/off, floating point)	
Position feedback U	2...10 V	
Position feedback U note	Max. 0.5 mA	
Position feedback U variable	VDC variable	
Direction of motion motor	selectable with switch	
Direction of motion fail-safe	reversible with cw/ccw mounting	
Manual override	5 mm hex crank (3/16" Allen), supplied	
Angle of rotation	90°	
Running Time (Motor)	150 s / 90°	
Running time motor variable	70...220 s	
Running time fail-safe	<20 s	
Adaptation Setting Range	off (default)	
Override control	MIN (minimum position) = 0% MID (intermediate position) = 50% MAX (maximum position) = 100%	

Functional data	Noise level, motor	45 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	IP66
	Degree of protection NEMA/UL	NEMA 4X
	Housing	UL Enclosure Type 4X
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU and 2014/35/EU
	Quality Standard	ISO 9001
	Ambient humidity	Max. 100% RH
	Ambient temperature	-22...122°F [-30...50°C]
	Ambient temperature note	-40...50°C [104...122°F] for actuator with integrated heating
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
Weight	Weight	6.7 lb [3.0 kg]
Materials	Housing material	Die cast aluminium and plastic casing

Footnotes †Rated Impulse Voltage 800V, Type of Action 1, Control Pollution Degree 2.

Product features

Default/Configuration	Default parameters for 2 to 10 VDC applications of the AF..-MFT actuator are assigned during manufacturing. If required, custom versions of the actuator can be ordered. The parameters are variable and can be changed by three means: Factory pre-set or custom configuration, set by the customer using PC-Tool software or the handheld ZTH US.
Factory settings	Default parameters for 2 to 10 VDC applications of the AF..-MFT actuator are assigned during manufacturing. If required, custom versions of the actuator can be ordered. The parameters are variable and can be changed by three means: Factory pre-set or custom configuration, set by the customer using PC-Tool software or the handheld ZTH US.

Accessories

Gateways	Description	Type
	Gateway MP to BACnet MS/TP	UK24BAC
	Gateway MP to Modbus RTU	UK24MOD
	Gateway MP to LonWorks	UK24LON
Tools	Description	Type
	Connecting cable 10 ft [3 m], A: RJ11 6/4 ZTH EU, B: 3-pin Weidmüller and supply connection	ZK4-GEN
	Service tool, with ZIP-USB function, for configurable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US
Factory add-on option only	Description	Type
	Heater, with adjustable thermostat	ACT_PACK_H

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.

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.

8 Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 V line.

10 For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller; the actuator internal common reference is not compatible.

12 IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).

46 Actuators may be controlled in parallel. Current draw and input impedance must be observed.

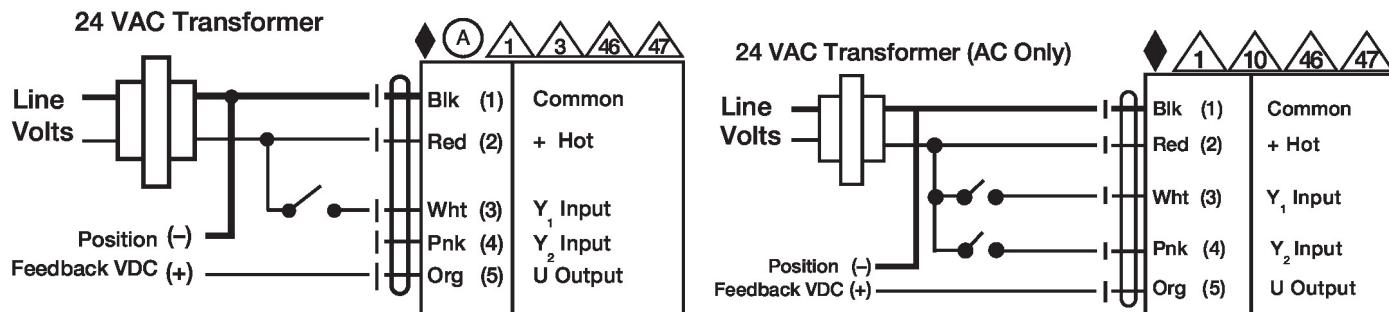
47 Master-Slave wiring required for piggy-back applications. Feedback from Master to control input(s) of Slave(s).

◆ Meets cULus requirements without the need of an electrical ground connection.

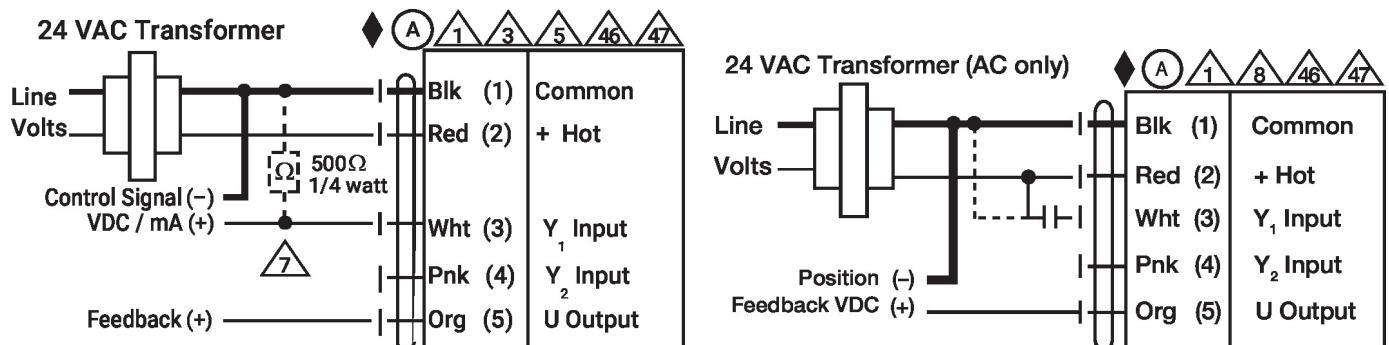
! **Warning! Live electrical components!**
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components 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

On/Off



VDC/mA Control



Electrical installation

Wiring diagrams

Override Control

