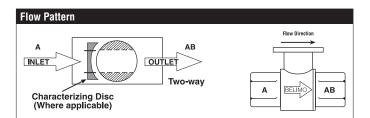
# **B220B, 2-Way, Characterized Control Valve** Chrome Plated Brass Ball and Nickel Plated Brass Stem





WARRANTY

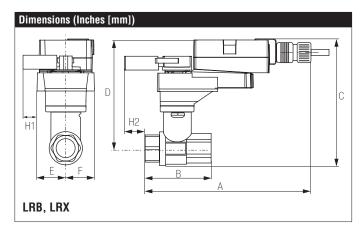
Technical Data	
Service	chilled, hot water, up to 60% glycol
Flow Characteristic	equal percentage
Controllable Flow Range	75°
Size [mm]	0.75" [20]
End Fitting	NPT female ends
Body	forged brass, nickel plated
Ball	chrome plated brass
Stem	nickel plated brass
Stem Packing	EPDM (lubricated)
Seat	Teflon® PTFE
Seat O-ring	EPDM (lubricated)
Characterized Disc	No Disc (full flow)
Body Pressure Rating [psi]	600
Media Temperature Range	0°F to 250°F [-18°C to 120°C]
(Water)	
Max Differential Pressure (Water)	50 psi (345 kPa)
Close-Off Pressure	200 psi
Cv	14
Weight	0.7 lb [0.3 kg]
Leakage	0% for A to AB
Servicing	maintenance free



### 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 flow.

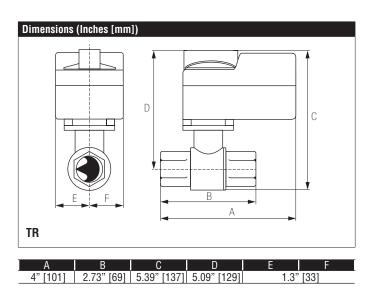
Suitable Actuators				
	Non-Spring	Spring		
B220B	TR, LR	TFR, LF		

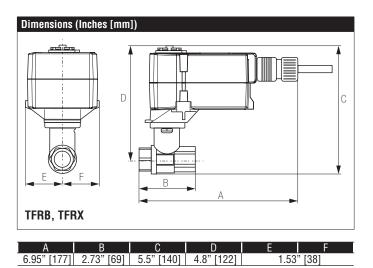


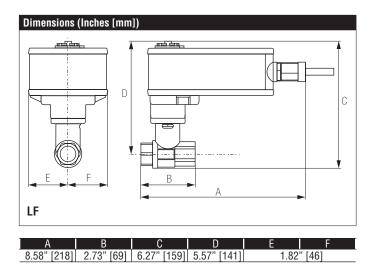
A	В	C	D	E	F	H1	H2
9.4"	2.73"	5.79"	5.09"	1.3"	[33]	1.18"	1" [25]
[239	[69]	[147]	[129]			[30]	



# B220B, 2-Way, Characterized Control Valve Chrome Plated Brass Ball and Nickel Plated Brass Stem











Technical Data			
Power Supply	24 VAC, ±20%, 50/60 Hz, 24 VDC, ±10%		
Power Consumption Running	2 W		
Power Consumption Holding	1 W		
Transformer Sizing	4 VA (class 2 power source)		
Electrical Connection	3ft [1m], 18 GA plenum cable with 1/2" conduit connector		
Overload Protection	electronic throughout 0° to 95° rotation		
Operating Range Y	2 to 10 VDC, 4 to 20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)		
Input Impedance	100 k $\Omega$ for 2 to 10 VDC (0.1 mA), 500 $\Omega$ for 4 to 20 mA		
Feedback Output U	2 to 10 VDC, 0.5 mA max		
Angle of Rotation	Max. 95°, 90°		
Direction of Rotation (Motor)	reversible with built-in switch		
Direction of Rotation (Fail-Safe)	reversible with CW/CCW mounting		
Position Indication	visual indicator, 0° to 95° (0° is full spring		
	return position)		
Running Time (Motor)	95 sec		
Running Time (Fail-Safe)	<25 sec		
Ambient Humidity	max. 95% RH non-condensing		
Ambient Temperature Range	-22°F to 122°F [-30°C to 50°C]		
Storage Temperature Range	-40°F to 176°F [-40°C to 80°C]		
Housing	NEMA 2, IP42, UL Enclosure Type 2		
Housing Material	UL94-5VA		
Agency Listings†	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC		
Noise Level (Motor)	<35 dB (A)		
Noise Level (Fail-Safe)	<62 dB (A)		
Servicing	maintenance free		
Quality Standard	ISO 9001		
Weight	1.8 lb [0.8 kg]		
	1		

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



#### Wiring Diagrams

/2

/3\

∕₅∖

# 🔀 INSTALLATION NOTES

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 24 VDC.

Only connect common to negative (-) leg of control circuits.

A 500  $\Omega$  resistor (ZG-R01) converts the 4 to 20 mA control signal to 2 to 10 VDC.

Actuators with plenum cable do not have numbers; use color codes instead.

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.

