Date created, 10/27/2017 - Subject to change. Belimo Aircontrols (USA), Inc.

B211, **2-Way, Characterized Control Valve** Stainless Steel Ball and Stem

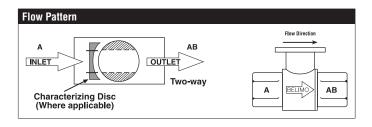








Technical Data			
Service	chilled, hot water, up to 60% glycol		
Flow Characteristic	equal percentage		
Controllable Flow Range	75°		
Size [mm]	0.5" [15]		
End Fitting	NPT female ends		
Body	forged brass, nickel plated		
Ball	stainless steel		
Stem	stainless steel		
Stem Packing	EPDM (lubricated)		
Seat	Teflon® PTFE		
Seat O-ring	EPDM (lubricated)		
Characterized Disc	TEFZEL®		
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	1.9		
Weight	0.4 lb [0.2 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.

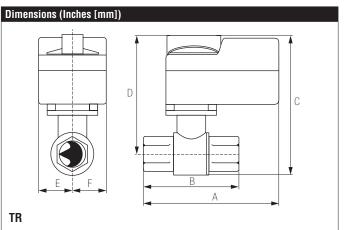
Suitable Actuators

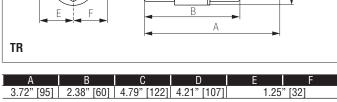
	Non-Spring	Spring
B211	TR, LR, NR	TFR, LF

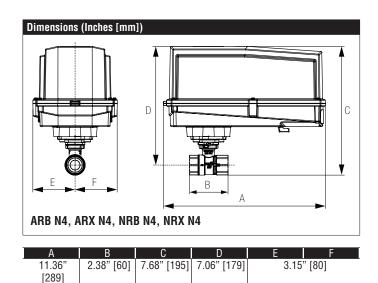


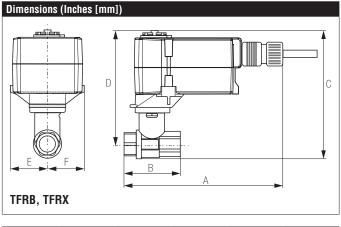
Α	В	C	D	E	F	H1	H2
9.4"	2.38"	5.19"	4.61"	1.3"	[33]	1.18"	1.1" [28]
[239]	[60]	[132]	[117]			[30]	

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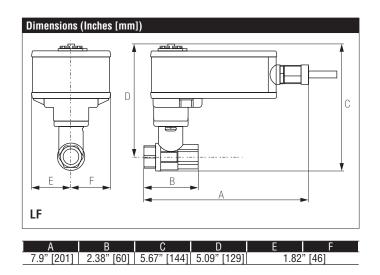








Α	В	С	D	E	F
6.59" [167]	2.38" [60]	4.9" [124]	4.32" [110]	1.53	" [38]



TFRX24-3-S Floating Point, Spring Return, 24 V





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Technical Data	
Power Supply	24 VAC, ±20%, 50/60 Hz, 24 VDC, ±10%
Power Consumption Running	2.5 W
Power Consumption Holding	1 W
Transformer Sizing	4 VA (class 2 power source)
Electrical Connection	(2) 3ft [1m], 10ft [3m] or 16ft [5m] 18 GA appliance cables, with 1/2" conduit connectors
Overload Protection	electronic throughout 0° to 95° rotation
Input Impedance	1000 Ω (0.6 W)
Feedback Output U	No Feedback
Angle of Rotation	Max. 95°, adjustable with mechanical stop
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]
Auxiliary switch	1 x SPDT, 3A resistive (0.5A inductive) @ 250 VAC, adjustable 0° to 95°
Degree of Protection IEC/EN	IP42

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







Wiring Diagrams



X INSTALLATION NOTES



Actuators with appliance cables are numbered.



Provide overload protection and disconnect as required.



impedance must be observed. Actuators may also be powered by 24 VDC.



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.

Actuators may be connected in parallel. Power consumption and input



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.



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.

