

B212B, 2-Way, Characterized Control Valve

Chrome Plated Brass Ball and Nickel Plated Brass 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 | chrome plated brass |
| Stem | nickel plated brass |
| Stem Packing | EPDM (lubricated) |
| Seat | Teflon® PTFE |
| Seat O-ring | EPDM (lubricated) |
| Characterized Disc | TEFZEL® |
| Body Pressure Rating [psi] | 600 |
| Media Temperature Range (Water) | 0°F to 250°F [-18°C to 120°C] |
| Max Differential Pressure (Water) | 50 psi (345 kPa) |
| Close-Off Pressure | 200 psi |
| Cv | 3 |
| Weight | 0.7 lb [0.3 kg] |
| Leakage | 0% for A to AB |
| Servicing | maintenance free |

Flow Pattern



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 |
|-------|------------|---------|
| B212B | TR, LR | TFR, LF |

Dimensions (Inches [mm])

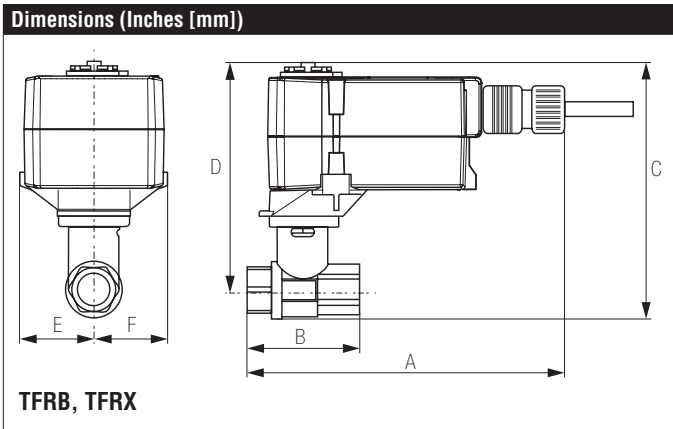


| A | B | C | D | E | F | H1 | H2 |
|------------|------------|-------------|----------|-----------|---|------------|-----------|
| 9.4" [239] | 2.38" [60] | 5.58" [142] | 5" [127] | 1.3" [33] | | 1.18" [30] | 1.1" [28] |

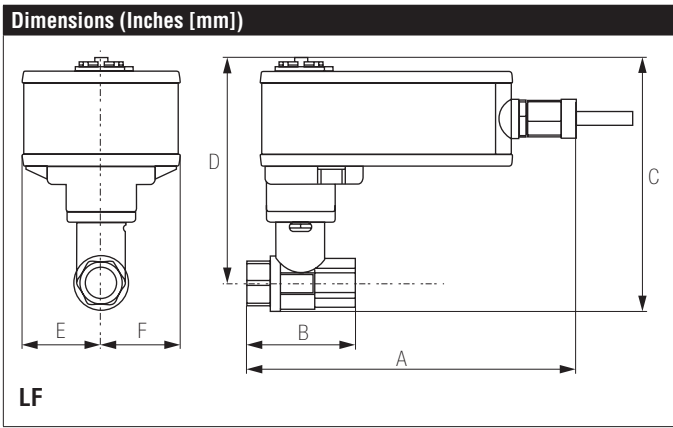
Date created, 06/30/2017 - Subject to change. © Belimo Aircontrols (USA), Inc.



| A | B | C | D | E | F |
|------------|------------|-------------|-------------|------------|---|
| 3.72" [95] | 2.38" [60] | 5.19" [132] | 4.61" [117] | 1.25" [32] | |



| A | B | C | D | E | F |
|-------------|------------|-------------|-------------|------------|---|
| 6.59" [167] | 2.38" [60] | 5.48" [139] | 4.71" [120] | 1.53" [38] | |



| A | B | C | D | E | F |
|-------------|------------|-------------|-------------|------------|---|
| 7.92" [201] | 2.38" [60] | 6.06" [154] | 5.48" [139] | 1.82" [46] | |

TFRX120-S

On/Off, Spring Return, 100 to 240 VAC



| Technical Data | |
|-------------------------------------|---|
| Power Supply | 100...240 VAC, -15% / +10%, 50/60 Hz |
| Power consumption in operation | 2.5 W |
| Power consumption in rest position | 1.3 W |
| Transformer sizing | 5 VA (class 2 power source) |
| Electrical Connection | (2) 18 GA appliance cables, 3 ft [1 m], 10 ft [3 m] or 16ft [5 m], with 1/2" conduit connectors |
| Overload Protection | electronic throughout 0° to 95° rotation |
| Position Feedback | No Feedback |
| Angle of rotation | Max. 95°, adjustable with mechanical stop |
| direction of rotation motor | reversible with CW/CCW mounting |
| direction of rotation spring-return | reversible with CW/CCW mounting |
| Position indication | visual indicator, 0° to 95° (0° is full spring return position) |
| Running Time (Motor) | <75 sec |
| Running Time (Fail-Safe) | <75 sec |
| Ambient humidity | 5...95% r.H. non condensing (EN 60730-1) |
| Ambient temperature | -22...122°F [-30...50°C] |
| Storage temperature | -40...176°F [-40...80°C] |
| Degree of Protection | IP42, NEMA 2, UL Enclosure Type 2 |
| Housing material | UL94-5VA |
| Agency Listing | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC |
| Noise level, motor | <50 dB (A) |
| Noise Level (Fail-Safe) | <63 dB (A) |
| Maintenance | maintenance-free |
| Quality Standard | ISO 9001 |
| Weight | 1.76 lb [0.80 kg] |
| Auxiliary switch | 1 x SPDT, 3 A resistive (0.5 A inductive) @ AC 250 V, adjustable 0...95° |

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

Safety Notes

⚠ WARNING: For Belimo Products sold in California, these Products do or may contain chemicals which are known to the State of California to cause cancer and or birth defects or other reproductive harms. For more information see www.p65warnings.ca.gov.

Wiring Diagrams

INSTALLATION NOTES

- Actuators with appliance cables are numbered.
- Provide overload protection and disconnect as required.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- One built-in auxiliary switch (1x SPDT), for end position indication, interlock control, fan startup, etc.
- 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.
- 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.

