2-way, Characterized Control Valve, Chrome Plated Brass Ball and Nickel Plated Brass Stem



5-year warranty

## Type overview

| Type | DN |
|---|---|
| B211B | 15 |

## Technical data

| | | |
|---|---|---|
| **Functional data** | Valve size [mm] | 0.5" [15] |
| | 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 | equal percentage |
| | Leakage rate | 0% for A – AB |
| | Pipe connection | Internal thread<br>NPT (female) |
| | Servicing | maintenance-free |
| | Flow Pattern | 2-way |
| | Controllable flow range | 75° |
| | Cv | 1.9 |
| **Materials** | Valve body | Nickel-plated brass body |
| | Stem | nickel-plated brass |
| | Stem seal | EPDM (lubricated) |
| | Seat | PTFE |
| | Characterized disc | TEFZEL® |
| | O-ring | EPDM (lubricated) |
| | Ball | chrome plated brass |
| **Suitable actuators** | Non Fail-Safe | TR<br>LRB(X) |
| | Spring | TFRB(X)<br>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

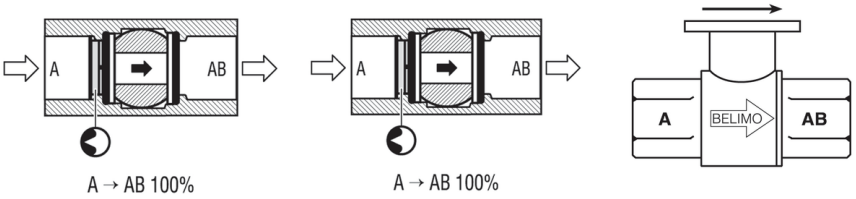
## Product features

**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 flow.

**Flow/Mounting details**

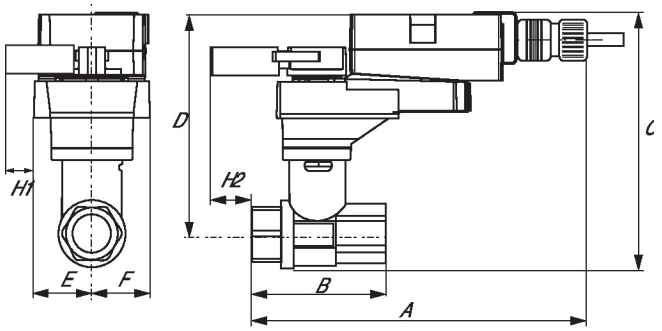
Two-way valves should be installed with the disc upstream.




## Dimensions

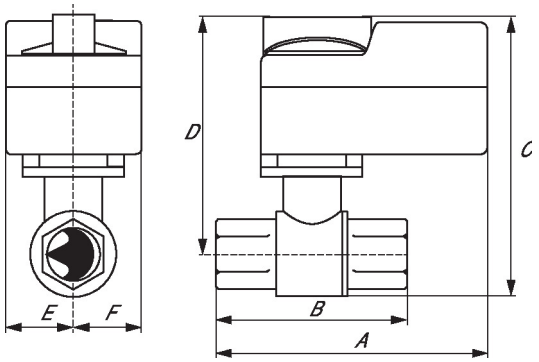
| Type | DN | Weight |
|---|---|---|
| B211B | 15 | 0.51 lb [0.23 kg] |

LRB, LRX




| A | B | C | D | E | F | H1 | H2 |
|---|---|---|---|---|---|---|---|
| 9.4" [239] | 2.4" [60] | 5.2" [132] | 4.6" [117] | 1.3" [33] | 1.3" [33] | 1.2" [30] | 1.1" [28] |

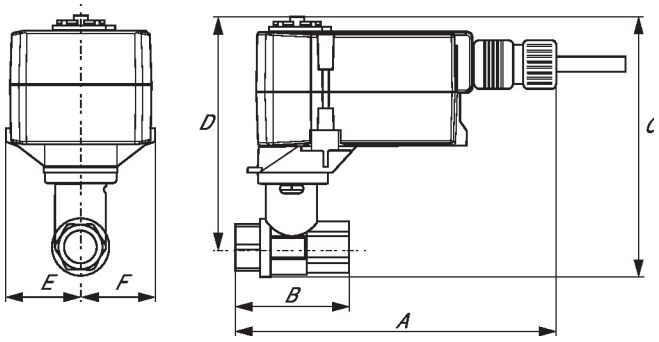
TR




| A | B | C | D | E | F |
|---|---|---|---|---|---|
| 3.7" [95] | 2.4" [60] | 4.8" [122] | 4.2" [107] | 1.3" [33] | 1.3" [33] |

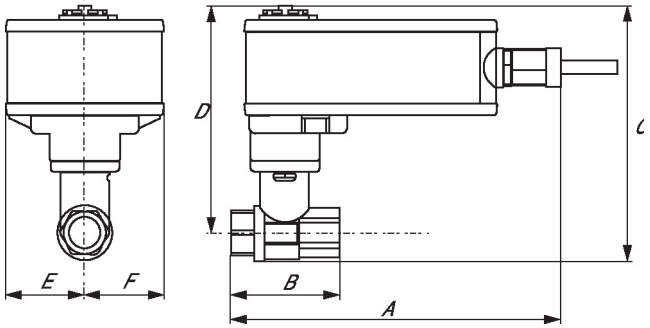
## Dimensions

TFRB, TFRX



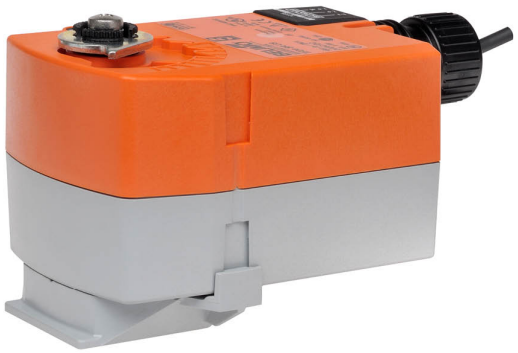

| A | B | C | D | E | F |
|---|---|---|---|---|---|
| 6.6" [167] | 2.4" [60] | 4.9" [124] | 4.3" [110] | 1.5" [39] | 1.5" [39] |

LF




| A | B | C | D | E | F |
|---|---|---|---|---|---|
| 7.91" [200] | 2.4" [60] | 5.7" [146] | 5.1" [129] | 1.8" [46] | 1.8" [46] |

On/Off, Spring return, 100...240 V



5-year warranty

## Technical data

| | | |
|---|---|---|
| **Electrical data** | Nominal voltage | AC 100...240 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Nominal voltage range | AC 85...265 V |
| | Power consumption in operation | 2.5 W |
| | Power consumption in rest position | 1.3 W |
| | Transformer sizing | 5 VA |
| | Auxiliary switch | 1x SPDT, 1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V, adjustable 0...95° |
| | Switching capacity auxiliary switch | 1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V |
| | Electrical Connection | (2) 18 GA appliance cables, 3 ft [1 m], with 1/2" NPT conduit connectors |
| | Overload Protection | electronic throughout 0...95° rotation |
| **Functional data** | Position feedback U note | No Feedback |
| | Direction of motion motor | selectable by ccw/cw mounting |
| | Direction of motion fail-safe | reversible with cw/ccw mounting |
| | Angle of rotation | Max. 95° |
| | Running Time (Motor) | 75 s |
| | Running time fail-safe | <75 s |
| | Noise level, motor | 50 dB(A) |
| | Noise level, fail-safe | 50 dB(A) |
| | Position indication | Mechanical |
| **Safety data** | Power source UL | Class 2 Supply |
| | 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 |
| | Quality Standard | ISO 9001 |
| | UL 2043 Compliant | Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC |
| | Ambient humidity | Max. 95% RH, non-condensing |
| | Ambient temperature | -22...122°F [-30...50°C] |
| | Storage temperature | -40...176°F [-40...80°C] |
| | Servicing | maintenance-free |
| **Weight** | Weight | 1.6 lb [0.70 kg] |

## Technical data

| | | |
|---|---|---|
| **Materials** | Housing material | UL94-5VA |
| **Footnotes** | †Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3 | |

## Electrical installation

**INSTALLATION NOTES**

A Actuators with appliance cables are numbered.

1 Provide overload protection and disconnect as required.

2 Actuators may be connected in parallel. Power consumption and input impedance must be observed.

44 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.

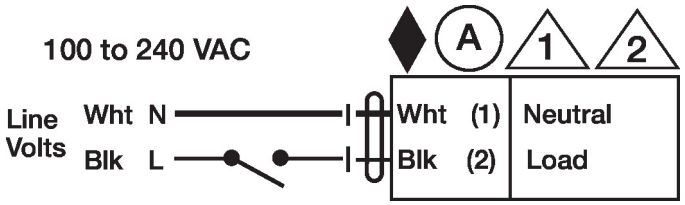
Meets cULus requirements without the need of an electrical ground connection.

**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.

**Wiring diagrams**

On/Off




Auxiliary Switches

