

B219, 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] | 0.75" [20] |
| 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 (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 | 10 |
| 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 |
|------|------------|---------|
| B219 | TR, LR, NR | TFR, LF |

Dimensions (Inches [mm])



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

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

B219, 2-Way, Characterized Control Valve Stainless Steel Ball and Stem

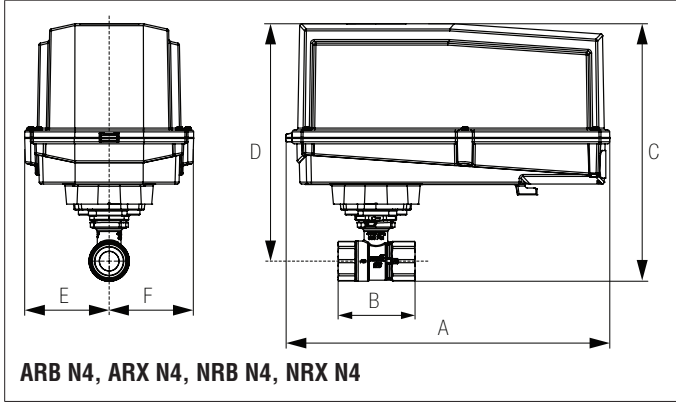
Dimensions (Inches [mm])



TR

| A | B | C | D | E | F |
|----------|------------|-------------|-------------|-----------|---|
| 4" [101] | 2.73" [69] | 5.39" [137] | 5.09" [129] | 1.3" [33] | |

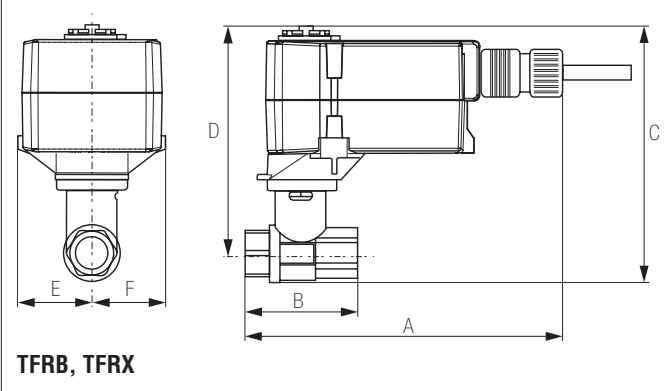
Dimensions (Inches [mm])



ARB N4, ARX N4, NRB N4, NRX N4

| A | B | C | D | E | F |
|--------------|------------|-------------|-------------|------------|---|
| 11.36" [289] | 2.73" [69] | 7.85" [199] | 7.15" [181] | 3.15" [80] | |

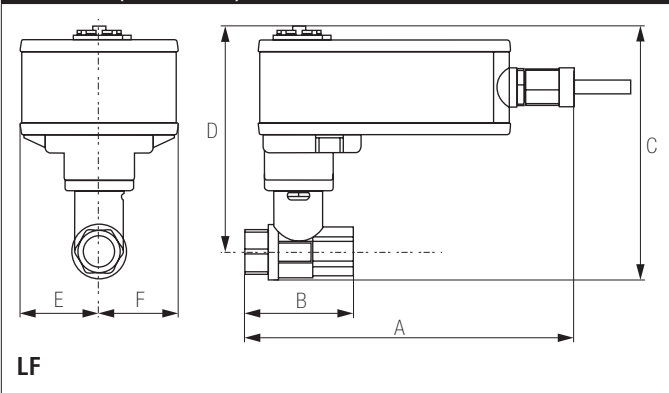
Dimensions (Inches [mm])



TFRB, TFRX

| A | B | C | D | E | F |
|-------------|------------|------------|------------|------------|---|
| 6.95" [177] | 2.73" [69] | 5.5" [140] | 4.8" [122] | 1.53" [38] | |

Dimensions (Inches [mm])



LF

| A | B | C | D | E | F |
|-------------|------------|-------------|-------------|------------|---|
| 8.58" [218] | 2.73" [69] | 6.27" [159] | 5.57" [141] | 1.82" [46] | |

TR24-SR-T US

Modulating, Non-Spring Return, 24 V, for 2 to 10 VDC or 4 to 20 mA



| Technical Data | |
|-------------------------------|--|
| Power Supply | 24 VAC, $\pm 20\%$, 50/60 Hz, 24 VDC, $\pm 10\%$ |
| Power Consumption Running | 0.5 W |
| Transformer Sizing | 1 VA (class 2 power source) |
| Electrical Connection | screw terminal (for 26 to 14 GA wire) |
| Overload Protection | electronic throughout full 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 Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA |
| Angle of Rotation | 90° |
| Direction of Rotation (Motor) | reversible with protected switch |
| Position Indication | integrated into handle |
| Manual Override | push down handle |
| Running Time (Motor) | 90 sec |
| 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 Type 1 / IP40 |
| 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) |
| Servicing | maintenance free |
| Quality Standard | ISO 9001 |
| Degree of Protection IEC/EN | IP40 |

Date created, 01/26/2018 - Subject to change. © Belimo Aircontrols (USA), Inc.

Wiring Diagrams
INSTALLATION NOTES

- Provide overload protection and disconnect as required.
- Actuators may also be powered by 24 VDC.
- Only connect common to negative (-) leg of control circuits.
- A 500 Ω resistor (ZG-R01) converts the 4 to 20 mA control signal to 2 to 10 VDC.
- Actuators are provided with a numbered screw terminal strip instead of a cable.
- 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.

