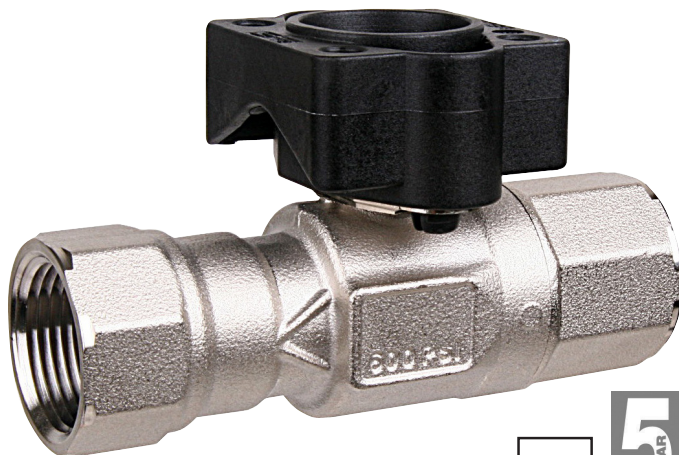


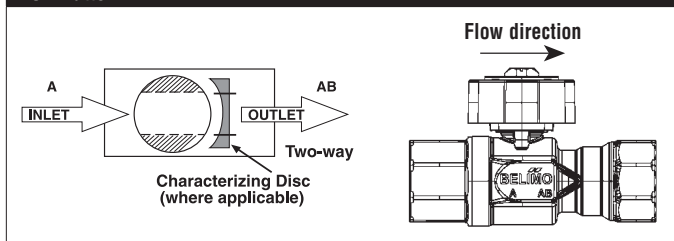
B220HT186, 3/4", High Temperature CCV Stainless Steel Ball and Stem



Technical Data

| | |
|---------------------------------------|---|
| Service | high temperature hot water/low pressure steam, up to 60% glycol |
| Flow Characteristic | A-port equal percentage |
| Controllable Flow Range | 75° |
| Size [mm] | 0.75" [20] |
| End Fitting | NPT female ends |
| Body | nickel plated brass (DZR) P-CuZn35Pb2 |
| Ball | stainless steel |
| Stem | stainless steel |
| Stem Packing | Viton O-ring |
| Seat | ETFE |
| Seat O-ring | EPDM (lubricated) |
| Characterized Disc | ETFE |
| Body Pressure Rating [psi] | 600 |
| Max Inlet Pressure (Steam) | 15 psi |
| Media Temperature Range (Water) | 60°F to 266°F [16°C to 130°C] |
| Media Temperature Range (Steam) | 250°F [120°C] |
| Maximum Differential Pressure (Steam) | 15 psi |
| Max Differential Pressure (Water) | 60 psi partially open ball, 116 psi full open |
| Close-Off Pressure | 200 psi |
| Cv | 1.86 |
| Weight | 0.9 lb [0.4 kg] |
| Leakage | 0% |
| Servicing | maintenance free |

Flow Pattern



Application

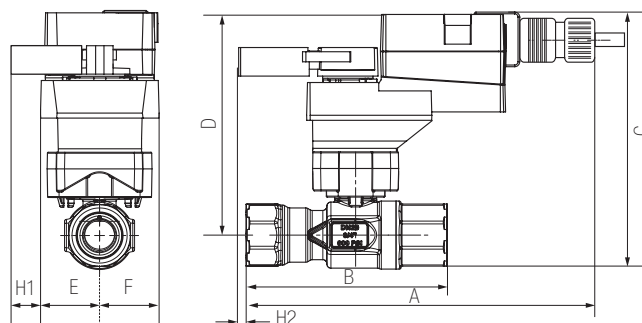
This valve is typically used in air handling units on heating or cooling coils, and fan coil unit heating or cooling coils. Some other common applications include unit ventilators, VAV box re-heat coils and bypass loops. This valve is suitable for use in a hydronic system with variable flow.

This valve is designed to fit in compact areas where on/off, floating point and modulating control is required using 24 VAC.

Suitable Actuators

| | Non-Spring | Spring |
|-----------|------------|--------|
| B220HT186 | LR | LF |

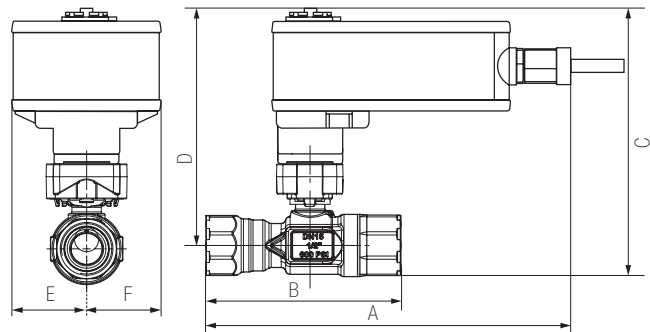
Dimensions (Inches [mm])



LRB, LRX

| A | B | C | D | E | F | H1 | H2 |
|----------------|----------------|----------------|----------------|-----------|---|---------------|-----------|
| 8.32" [211] | 3.96" [101] | 6.15" [156] | 5.59" [142] | 1.3" [33] | | 1.18" [30] | 0.5" [15] |

Dimensions (Inches [mm])



LF

| A | B | C | D | E | F |
|------------|-------------|-------------|-------------|------------|---|
| 8.7" [221] | 3.96" [101] | 6.74" [171] | 6.07" [154] | 1.89" [48] | |

LF24-3 US, Valve Actuator

Floating Point, Spring Return, 24 V



| Technical Data | |
|-----------------------------------|---|
| Power Supply | 24 VAC \pm 20%, 50/60 Hz, 24 VDC \pm 10% |
| Power Consumption Running | 2.5 W |
| Power Consumption Holding | 1 W |
| Transformer Sizing | 5 VA (class 2 power source) |
| Electrical Connection | 3ft [1m], 18 GA appliance cable with 1/2" conduit connector |
| Overload Protection | electronic throughout 0° to 95° rotation |
| Operating Range Y | floating point |
| Input Impedance | 1000 Ω (0.6 W) |
| Feedback Output U | No Feedback |
| Angle of Rotation | 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) | 150 sec constant, independent of load |
| Running Time (Fail-Safe) | <25 sec @ -4°F to 122°F [-20°C to 50°C], < 60 sec @ -22°F [-30°C] |
| 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, IP54 |
| Agency Listings† | cULus acc. To UL 873 and CAN/CSA C22.2 No. 24-93 |
| Noise Level (Motor) | <50 dB (A) |
| Noise Level (Fail-Safe) | <62 dB (A) |
| Servicing | maintenance free |
| Quality Standard | ISO 9001 |

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

Wiring Diagrams

✂️ INSTALLATION NOTES

- (A) Actuators with appliance cables are numbered.
- 1 Provide overload protection and disconnect as required.
- 3 Actuators may also be powered by 24 VDC.
- 6 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.
- 11 Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.
- 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.

