

B2...VS Series, 2-Way, Ball Valve Bronze Body, Stainless Steel Ball and Stem



- Live-load packing set
- Stainless steel ball & stem
- Blow-out proof stem design

Application

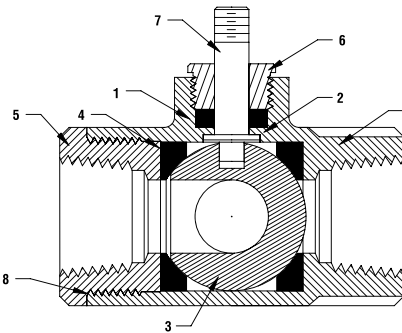
This valve is typically used in air handling units on heating or cooling coils, and fan coil unit heating or cooling coils. Some other common applications include Unit Ventilators, VAV Box re-heat coils and bypass loops. This valve is suitable for use in a hydronic system with variable flow.

This valve is designed with MFT functionality which facilitates the use of various control input.

- Up to 35 psi steam
- 1/2" - 600 PSIG WOG, Cold Non-Shock.
- Federal Specification: WW-V-35C, Type II
Composition: BZ
Style: 3

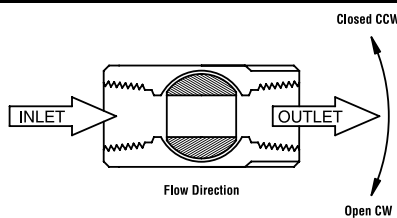
| Technical Data | |
|---------------------|---|
| Media | chilled or hot water, glycol, 35# steam |
| Flow characteristic | modified equal percentage |
| Action | 90° rotation valve open CW, valve closed CCW |
| Sizes | 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3" |
| Type of end fitting | SAE NPT (female connections) |
| Materials: | |
| 1 Stem Packing | Reinforced PTFE |
| 2 Stem Bearing | Reinforced PTFE |
| 3 Ball | 316 Stainless Steel |
| 4 Seat (x2) | Reinforced PTFE w/ Durafill |
| 5 Retainer | B16 (3/4" - 1") Brass B584 (1 1/4" - 3") Brass |
| 6 Gland | B16 Brass |
| 7 Stem | 316 Stainless Steel |
| 8 Jam Nut | Stainless Steel |
| 9 Body Seal | PTFE (1-1/4" to 3") |
| 10 Body | B584-C84400 Bronze |

| Cv | Valve Nominal Size | | Type | Suitable Return Actuators | |
|-----|--------------------|---------|-------------|---------------------------|------------|
| | Inches | DN [mm] | 2-way NPT | Spring | Non-Spring |
| 1 | 1/2 | 15 | B2050VS-01 | LF Series | LM Series |
| 2 | 1/2 | 15 | B2050VS-02 | | |
| 4 | 1/2 | 15 | B2050VS-04 | | |
| 15 | 1/2 | 15 | B2050VS-15 | NF | NM |
| 30 | 3/4 | 20 | B2075VS-30 | | |
| 51 | 3/4 | 20 | B2075VS-51 | | |
| 43 | 1 | 25 | B2100VS-43 | AF Series | AM Series |
| 68 | 1 | 25 | B2100VS-68 | | |
| 48 | 1 1/4 | 32 | B2125VS-48 | | |
| 84 | 1 1/2 | 40 | B2150VS-84 | | |
| 177 | 1 1/2 | 40 | B2150VS-177 | GM Series | SY Series |
| 108 | 2 | 50 | B2200VS-108 | | |
| 389 | 2 | 50 | B2200VS-389 | | |
| 503 | 2 1/2 | 65 | B2250VS-503 | | |
| 370 | 3 | 80 | B2300VS-370 | | |

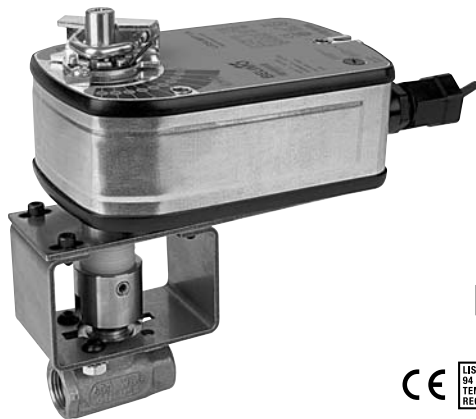


| | |
|------------------------------------|---------------------------------|
| Pressure rating | 600 psig WOG |
| Media temp. range | -22°F to 280°F (-30°C to 138°C) |
| Close-off pressure | 600 psig @ 100°F |
| Maximum differential pressure (ΔP) | <600 psig |

Flow Patterns



IM40006 - 05/10 - Subject to change. © Belimo Aircontrols (USA), Inc.



MFT



Models

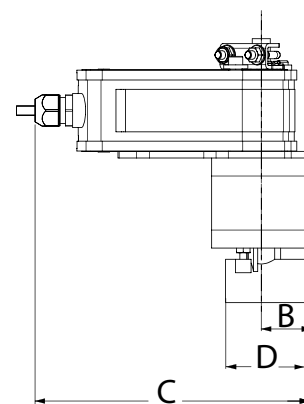
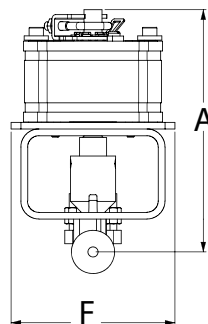
LF24-MFT US
LF24-MFT-S US w/built-in Aux. Switch

| Technical Data | |
|---------------------------|--|
| Control | MFT |
| Control signal | 2 to 10 VDC (4-20mA with 500 Ω resistor) |
| Power consumption | running 2.5 W holding 1 W |
| Transformer sizing | 5 VA (class 2 power source) |
| Electrical connection | ½" conduit connector |
| (-S models have 2 cables) | 3 ft [1m], 18 GA appliance cable |
| Overload protection | electronic throughout 0° to 95° rotation |
| Input impedance | 100 kΩ for 2 to 10 VDC (0.1 mA) 500 Ω for 4 to 20mA 750 Ω for PWM 500 Ω for on/off and floating point |
| Feedback | 2 to 10 VDC, 0.5 mA max |
| Angle of rotation | 95° |
| Direction of rotation | spring reversible with CW/CCW mounting motor reversible with built-in switch |
| Position indication | visual indicator |
| Running time | <40 to 75 seconds (on-off) 150 seconds independent of load (proportional) |
| spring | <25 seconds @ -4°F to 122°F [-20°C to 50°C] <60 seconds @ -22°F [-30°C] |
| Ambient temperature | -22° F to 122° F [-30° C to 50° C] |
| Housing | NEMA 2 |
| Agency listings | UL 873, CSA C22.2 No. 24 certified, CE |
| Noise level | max. 62 dB(A) |
| Quality standard | ISO 9001 |

LF24-MFT-S US

| | |
|------------------|---|
| Auxiliary switch | 1 x SPDT, 6A (1.5A) @ 250 VAC, UL Listed, adjustable 0° to 95° (double insulated) |
|------------------|---|

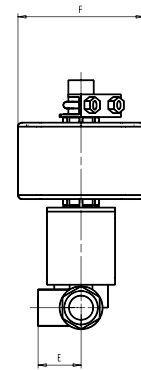
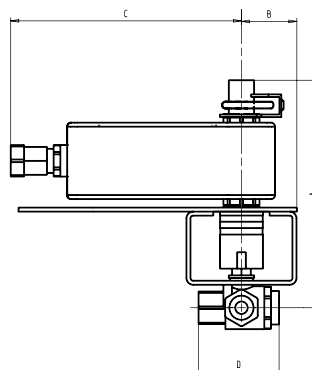
Dimensions with 2-Way Valve



D300

| Valve Body | COP | Valve Nominal Size | | Dimensions (Inches) | | | | |
|-------------|------|--------------------|---------|---------------------|------|------|------|------|
| | | Inches | DN [mm] | A | B | C | D | F |
| B2050VS-01 | 100 | ½" | 15 | 6.75 | 0.98 | 7.69 | 2.20 | 4.72 |
| B2050VS-02 | 100 | ½" | 15 | 6.75 | 0.98 | 7.69 | 2.20 | 4.72 |
| B2050VS-04 | 100 | ½" | 15 | 6.75 | 0.98 | 7.69 | 2.20 | 4.72 |
| B2050VS-15 | 100 | ½" | 15 | 6.75 | 0.98 | 7.69 | 2.20 | 4.72 |
| B2050VSS-15 | 1000 | ½" | 15 | 6.75 | 1.12 | 7.69 | 2.30 | 4.72 |

Dimensions with 3-Way Valve



B315_LFPs

| Valve Body | COP | Valve Nominal Size | | Dimensions (Inches) | | | | | |
|------------|-----|--------------------|---------|---------------------|------|------|------|------|------|
| | | Inches | DN [mm] | A | B | C | D | E | F |
| B315VS | 75 | ½" | 15 | 6.50 | 2.00 | 8.00 | 2.30 | 1.25 | 4.00 |

Wiring Diagrams

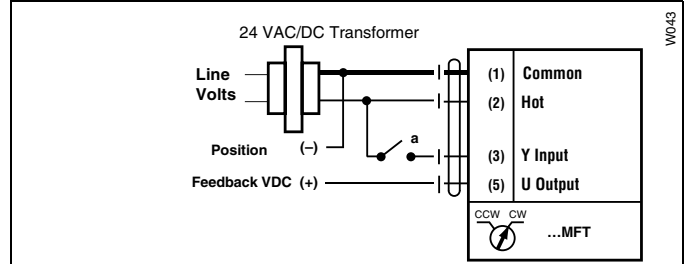
✂️ INSTALLATION NOTES

- 2 **CAUTION Equipment damage!**
Actuators may be connected in parallel if not mechanically mounted to the same shaft. Power consumption and input impedance must be observed.
- 3 Actuators may also be powered by 24 VDC.
- 4 IN4004 or IN4007 diode (IN4007 supplied, Belimo part number 40155).
- 5 Triac A and B can also be contact closures.
- 6 Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- 7 Position feedback cannot be used with Triac sink controller. The actuators internal common reference is not compatible.

📄 APPLICATION NOTES

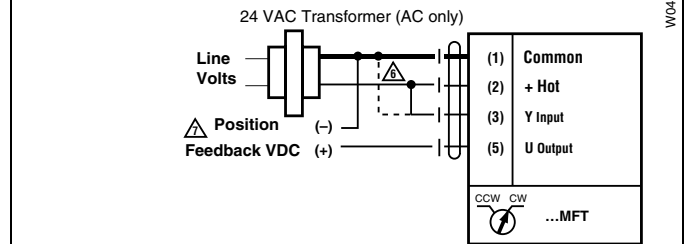
- ◆ The ZG-R01 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC, up to 2 actuators may be connected in parallel.

⚠️ 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.



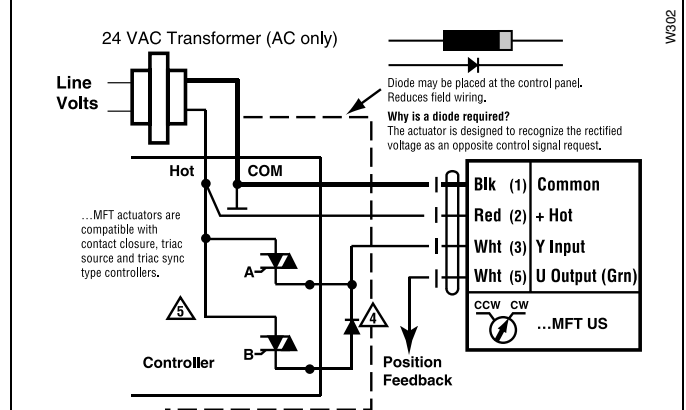
On/Off control

W043



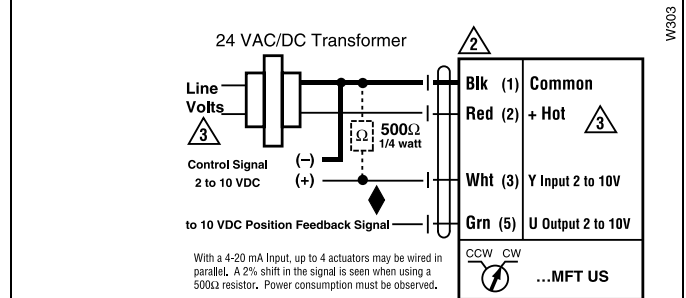
PWM, triac source and sink

W041



Floating Point control

W002



Proportional 2 to 10 or 4 to 20 mA control signal

W003