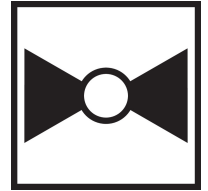




2-year warranty



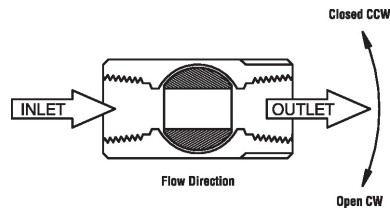
Technical data

|                           |                                       |   |
|---------------------------|---------------------------------------|---|
| <b>Functional data</b>    | Valve Size                            | 2" [50]                                       |
|                           | Fluid                                 | chilled or hot water, up to 60% glycol, steam |
|                           | Fluid Temp Range (water)              | -22...380°F [-30...193°C]                     |
|                           | Fluid Temp Range (steam)              | -22...380°F [-30...193°C]                     |
|                           | Body Pressure Rating                  | ANSI Class 300                                |
|                           | Close-off pressure $\Delta$ ps        | 250 psi                                       |
|                           | Flow characteristic                   | equal percentage                              |
|                           | Rangeability Sv                       | 300:1   |
|                           | Maximum differential pressure (water) | 150 psi                                       |
|                           | Max Differential Pressure (Steam)     | 100 psi                                       |
|                           | Close-Off Pressure (Steam)            | 150 psi                                       |
|                           | Flow Pattern                          | 2-way   |
|                           | Leakage rate                          | ANSI Class IV                                 |
|                           | Controllable flow range               | 75°   |
|                           | Cv                                    | 77  |
|                           | Maximum Inlet Pressure (Steam)        | 150 psi                                       |
| <b>Materials</b>          | Valve body                            | WCC grade carbon steel                        |
|                           | Body finish                           | matt black body finish                        |
|                           | Stem                                  | stainless steel                               |
|                           | Stem seal                             | PTFE V-ring                                   |
|                           | Seat                                  | PTFE  |
|                           | Pipe connection                       | NPT female ends                               |
|                           | Ball                                  | stainless steel                               |
| <b>Suitable actuators</b> | Non-Spring                            | SY1<br>AMB(X)<br>PRB(X)                       |
|                           | Spring                                | AF  |
|                           | Electronic fail-safe                  | PKRB(X)                                       |

Product features

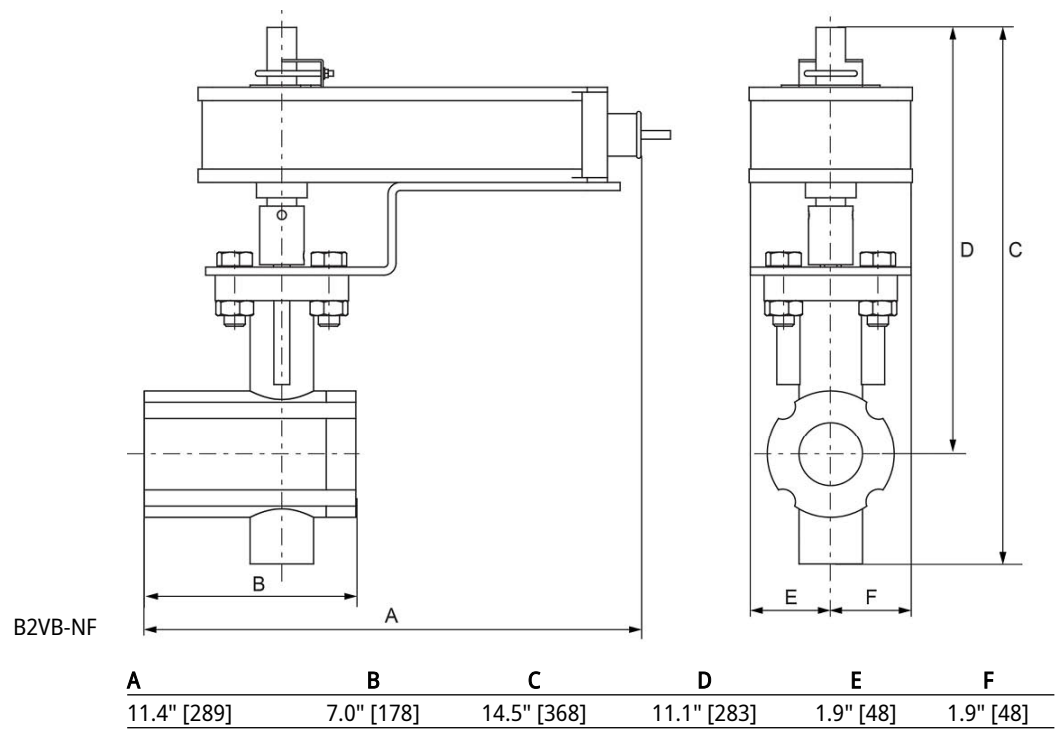
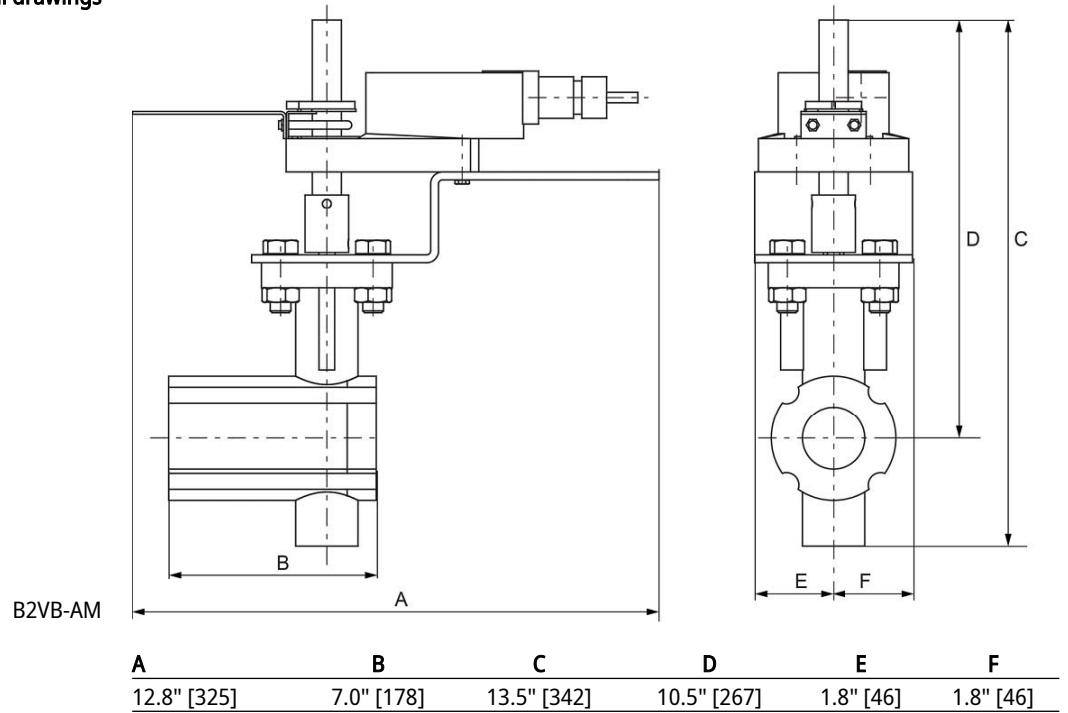
- Product features** Fast quarter turn open or closed operation, stainless-steel ball and stem, positive isolation, two-piece body construction
- Application** Water-side control of air handling apparatus in ventilation and air-conditioning system.  
Water/Steam control in heating system.  
300:1 rangeability.  
The dimensions and drilling of end flanges conform to the American cast iron flange standard, Class 150 (ANSI B16.1).

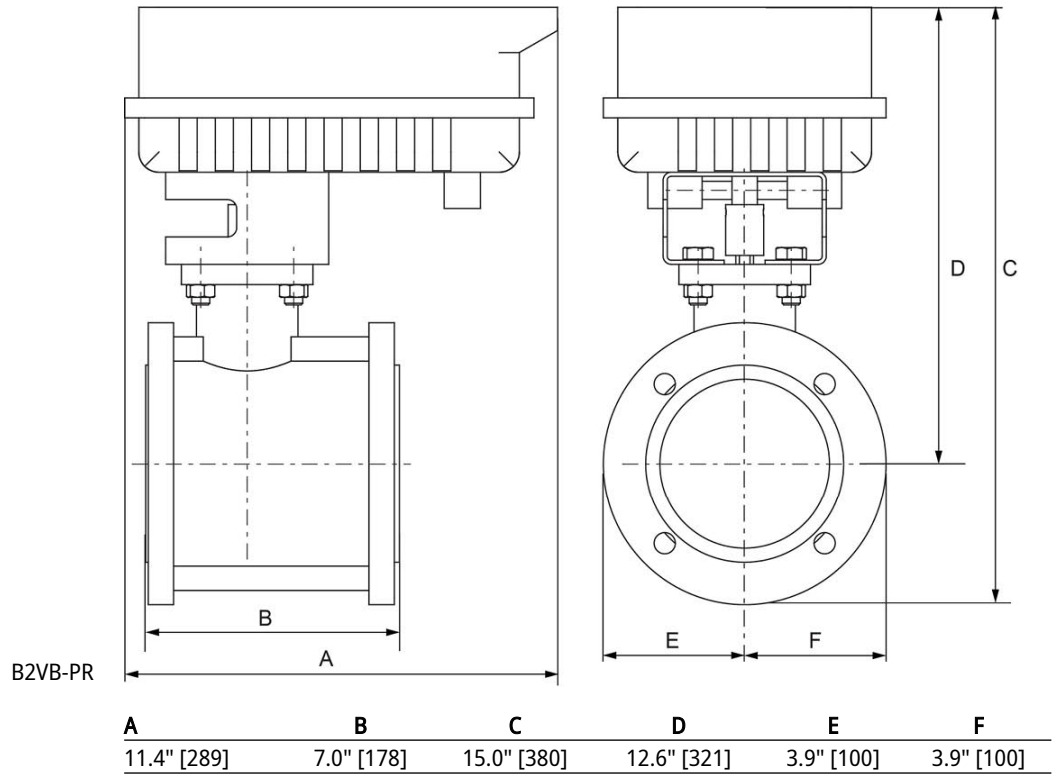
Flow/Mounting details



Dimensions

Dimensional drawings







5-year warranty



Technical data

|                        |                                     |   |
|------------------------|-------------------------------------|---|
| <b>Electrical data</b> | Nominal voltage                     | AC 24...240 V / DC 24...125 V   |
|                        | Nominal voltage frequency           | 50/60 Hz  |
|                        | Power consumption in operation      | 20 W  |
|                        | Power consumption in rest position  | 6 W   |
|                        | Transformer sizing                  | 20 VA @ AC/DC 24 V (class 2 power source), 23 VA @ AC/DC 120 V, 52 VA @ AC 230 V                  |
|                        | Auxiliary switch                    | 2 x SPDT, 3 A resistive (0.5 A inductive) @ AC 250 V, 1 x 10° / 1 x 0...90° (default setting 85°) |
|                        | Switching capacity auxiliary switch | 3 A resistive (0.5 A inductive) @ AC 250 V  |
|                        | Electrical Connection               | Terminal blocks, (PE) Ground-Screw  |
|                        | Overload Protection                 | electronic throughout 0...90° rotation  |
| <b>Functional data</b> | Communicative control               | BACnet MS/TP<br>Modbus RTU<br>MP-Bus  |
|                        | Operating range Y                   | 2...10 V  |
|                        | Operating range Y note              | 4...20 mA   |
|                        | Input Impedance                     | 100 kΩ for 2...10 V (0.1 mA), 500 Ω for 4...20 mA, 1500 Ω for On/Off                              |
|                        | Operating range Y variable          | Start point 0.5...30 V<br>End point 2.5...32 V  |
|                        | Options positioning signal          | variable (VDC, on/off, floating point)  |
|                        | Position feedback U                 | 2...10 V  |
|                        | Position feedback U note            | Max. 0.5 mA   |
|                        | Position feedback U variable        | VDC variable  |
|                        | Direction of motion motor           | reversible with app   |
|                        | Manual override                     | 7 mm hex crank, supplied  |
|                        | Angle of rotation                   | 90°   |
|                        | Running Time (Motor)                | default 35 s, variable 30...120 s   |
|                        | Running time motor variable         | 30...120 s  |
|                        | Noise level, motor                  | 68 dB(A)  |
|                        | Position indication                 | integral pointer  |
|                        | Passive sensor inputs               | 2x (Pt1000, Ni1000, NTC10k2)  |
| <b>Safety data</b>     | Degree of protection IEC/EN         | IP66/67   |
|                        | Degree of protection NEMA/UL        | NEMA 4X   |
|                        | Enclosure                           | UL Enclosure Type 4X  |
|                        | Agency Listing                      | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU and 2014/35/EU         |
|                        | Quality Standard                    | ISO 9001  |
|                        | Ambient temperature                 | -22...122°F [-30...50°C]  |

|                    |                     |                                       |
|--------------------|---------------------|---------------------------------------|
| <b>Safety data</b> | Storage temperature | -40...176°F [-40...80°C]              |
|                    | Ambient humidity    | Max. 100% RH                          |
|                    | Servicing           | maintenance-free                      |
| <b>Weight</b>      | Weight              | 13 lb [5.9 kg]                        |
| <b>Materials</b>   | Housing material    | Die cast aluminium and plastic casing |

**Product features**

- Application** PR Series valve actuators are designed with an integrated linkage and visual position indicators. For outdoor applications, the installed valve must be mounted with the actuator at or above horizontal. For indoor applications the actuator can be in any location including directly under the valve.
- Operation** The PR series actuator provides 90° of rotation and a visual indicator shows the position of the valve. The PR Series actuator uses a low power consumption brushless DC motor and is electronically protected against overload. A universal power supply is furnished to connect supply voltage in the range of AC 24...240 V and DC 24...125 V. Included is a smart heater with thermostat to eliminate condensation. Two auxiliary switches are provided; one set at 10° open and the other is field adjustable. Running time is field adjustable from 30...120 seconds by using the Near Field Communication (NFC) app and a smart phone.
- †Use 60°C/75°C copper wire size range 12...28 AWG, stranded or solid. Use flexible metal conduit. Push the listed conduit fitting device over the actuator's cable to butt against the enclosure. Screw in conduit connector. Jacket the actuators input wiring with listed flexible conduit. Properly terminate the conduit in a suitable junction box. Rated impulse Voltage 4000 V. Type of action 1. Control pollution degree 3.

**Accessories**

| Gateways               | Description   | Type      |
|------------------------|---|-----------|
|                        | Gateway MP to BACnet MS/TP  | UK24BAC   |
|                        | Gateway MP to LonWorks  | UK24LON   |
|                        | Gateway MP to Modbus RTU  | UK24MOD   |
| Electrical accessories | Description   | Type      |
|                        | Service Tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices | ZTH US    |
| Mechanical accessories | Description   | Type      |
|                        | Hand crank for PR, PKR, PM  | ZG-HND PR |
| Service tools          | Description   | Type      |
|                        | Connection cable 10 ft [3 m], A: RJ11 6/4 ZTH EU, B: 3-pin Weidmüller and supply connection   | ZK4-GEN   |
|                        | Service Tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices | ZTH US    |

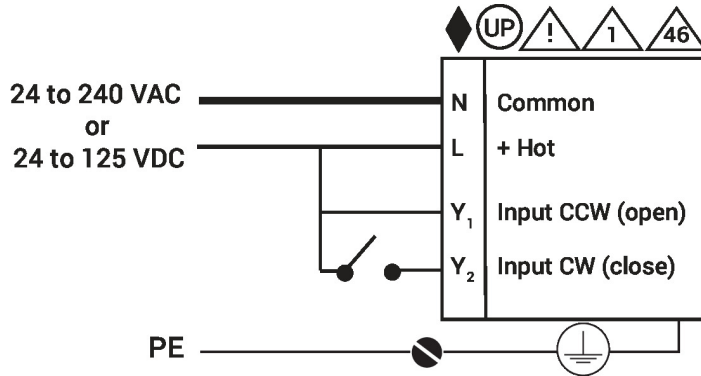
**Electrical installation**

- Meets cULus requirements without the need of an electrical ground connection.
- Universal Power Supply (UP) models can be supplied with 24 V up to 240 V.
- Disconnect power.
- Provide overload protection and disconnect as required.
- Two built-in auxiliary switches (2x SPDT), for end position indication, interlock control, fan startup, etc.
- Only connect common to negative (-) leg of control circuits.
- Actuators may be controlled in parallel. Current draw and input impedance must be observed.
- Warning! Live electrical components!**

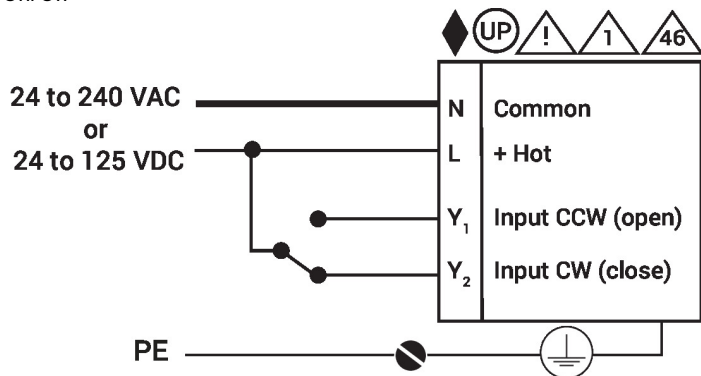
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

**Wiring diagrams**

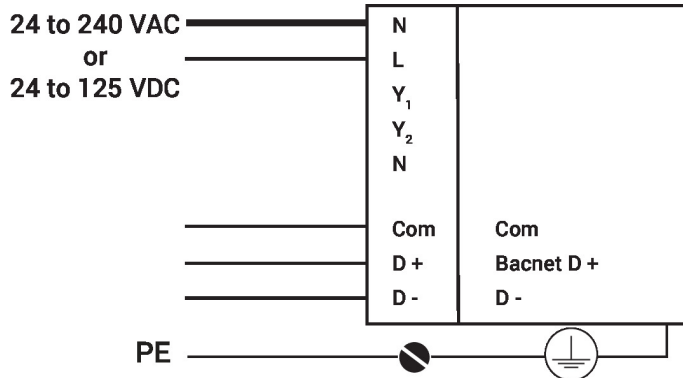
On/Off



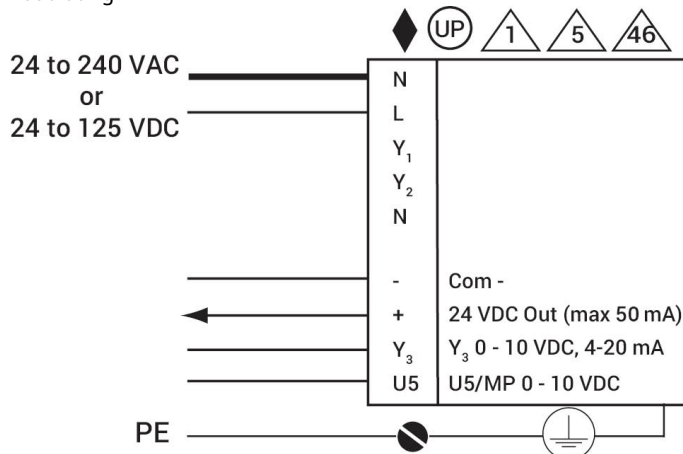
On/Off



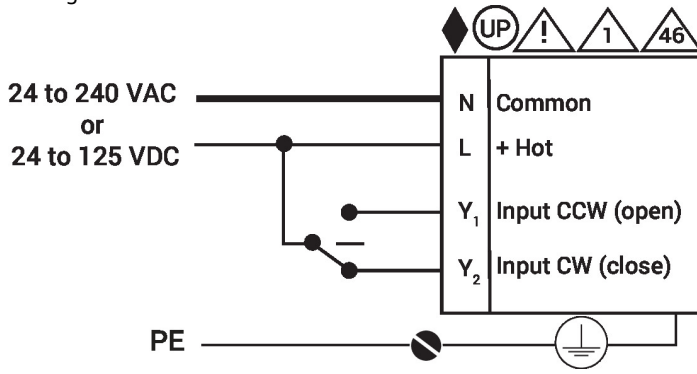
BACnet



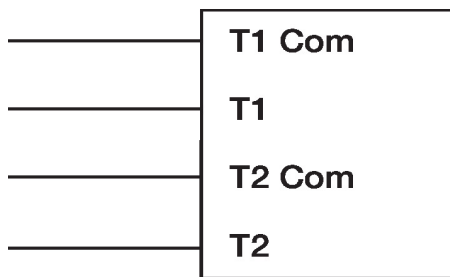
Modulating



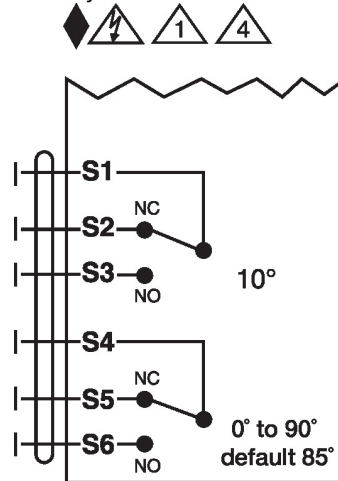
Floating Point



Temperature Sensors



Auxiliary Switches



Dimensions

Dimensional drawings

