



2-year warranty

## Type overview

| Type       | DN |
|------------|----|
| B2050VS-01 | 15 |

## Technical data

|                    |                                   |                                               |
|--------------------|-----------------------------------|-----------------------------------------------|
| Functional data    | Valve size [mm]                   | 0.5" [15]                                     |
|                    | Fluid                             | chilled or hot water, up to 60% glycol, steam |
|                    | Fluid Temp Range (water)          | -22...280°F [-30...138°C]                     |
|                    | Body Pressure Rating              | 600 psig WOG                                  |
|                    | Close-off pressure Δps            | 600 psi                                       |
|                    | Flow characteristic               | modified equal percentage                     |
|                    | Max Differential Pressure (Steam) | 35 psi                                        |
|                    | Flow Pattern                      | 2-way                                         |
|                    | Leakage rate                      | ANSI Class VI                                 |
|                    | Controllable flow range           | 90° rotation                                  |
|                    | Cv                                | 1                                             |
|                    | Maximum Inlet Pressure (Steam)    | 35 psi [241 kPa]                              |
|                    | Maximum Velocity                  | 15 FPS                                        |
| Materials          | Valve body                        | Bronze B584-C84400                            |
|                    | Housing seal                      | PTFE                                          |
|                    | Stem                              | 316 stainless steel                           |
|                    | Stem seal                         | RPTFE                                         |
|                    | Seat                              | RPTFE                                         |
|                    | Lock nut                          | stainless steel                               |
|                    | Pipe connection                   | NPT                                           |
|                    | Retainer                          | B16 Brass                                     |
| Suitable actuators | Non-Spring                        | LMB(X)                                        |
|                    |                                   | GRCB(X)                                       |
|                    |                                   | GRB(X)                                        |
|                    | Spring                            | LF                                            |

## Safety notes

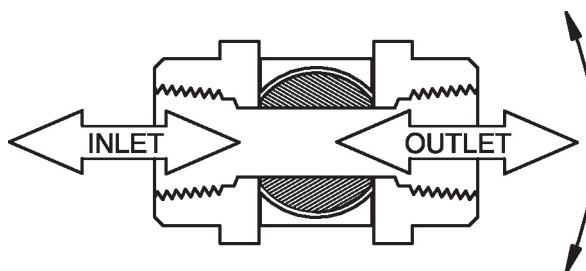


- WARNING: This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

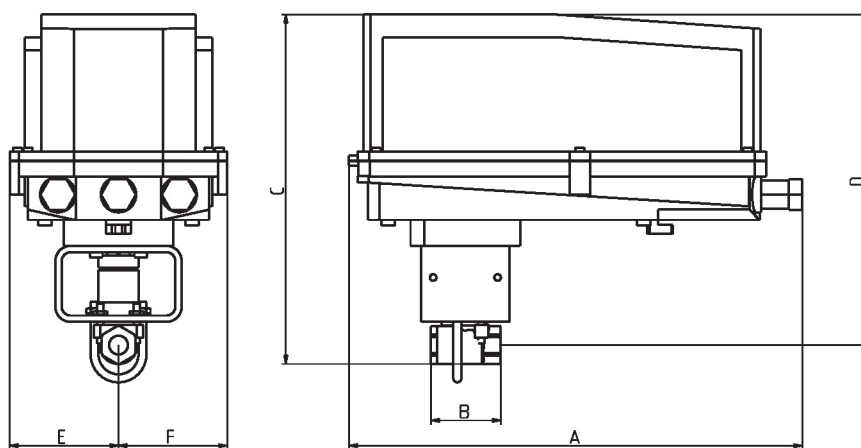
**Product features**

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

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

**Flow/Mounting details**

**Dimensions**

| Type       | DN | Weight            |
|------------|----|-------------------|
| B2050VS-01 | 15 | 0.44 lb [0.20 kg] |



B2050VS..+GRC..N4

| A           | B         | C           | D            | E         | F         |
|-------------|-----------|-------------|--------------|-----------|-----------|
| 14.1" [358] | 2.2" [56] | 10.9" [277] | 10.28" [261] | 3.4" [86] | 3.4" [86] |



5-year warranty



## Technical data

|                        |                                     |                                                                                             |
|------------------------|-------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Electrical data</b> | Nominal voltage                     | AC 120 V                                                                                    |
|                        | Nominal voltage frequency           | 50/60 Hz                                                                                    |
|                        | Nominal voltage range               | AC 96...132 V                                                                               |
|                        | Power consumption in operation      | 5.5 W                                                                                       |
|                        | Power consumption in rest position  | 3.5 W                                                                                       |
|                        | Transformer sizing                  | 7.5 VA                                                                                      |
|                        | Auxiliary switch                    | 1 x SPDT, 3 A resistive (0.5 A inductive) @ AC 250 V, adjustable 0...95°                    |
|                        | Switching capacity auxiliary switch | 3 A resistive (0.5 A inductive) @ AC 250 V                                                  |
|                        | Electrical Connection               | (2) 18 GA appliance cables, 1 m, with 1/2" conduit connectors                               |
| <b>Functional data</b> | Overload Protection                 | electronic throughout 0...95° rotation                                                      |
|                        | Direction of motion motor           | selectable with switch 0/1                                                                  |
|                        | Direction of motion fail-safe       | reversible with cw/ccw mounting                                                             |
|                        | Angle of rotation                   | 90°                                                                                         |
|                        | Running Time (Motor)                | 75 s / 90°                                                                                  |
|                        | Running time fail-safe              | <25 s @ -4...122°F [-20...50°C], <60 s @ -22°F [-30°C]                                      |
|                        | Noise level, motor                  | 50 dB(A)                                                                                    |
|                        | Noise level, fail-safe              | 62 dB(A)                                                                                    |
|                        | Position indication                 | Mechanical                                                                                  |
| <b>Safety data</b>     | Degree of protection IEC/EN         | IP54                                                                                        |
|                        | Degree of protection NEMA/UL        | NEMA 2                                                                                      |
|                        | Enclosure                           | UL Enclosure Type 2                                                                         |
|                        | Agency Listing                      | cULus acc. To UL 873 and CAN/CSA C22.2 No. 24-93                                            |
|                        | 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]                                                                    |
| <b>Weight</b>          | Servicing                           | maintenance-free                                                                            |
|                        | Weight                              | 3.8 lb [1.7 kg]                                                                             |
| <b>Materials</b>       | Housing material                    | galvanized steel                                                                            |

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

**Electrical installation**
**✂ INSTALLATION NOTES**

- Ⓐ Actuators with appliance cables are numbered.
- ⚠ Provide overload protection and disconnect as required.
- ⚠⚠ Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.
- ⚠⚠⚠ 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

