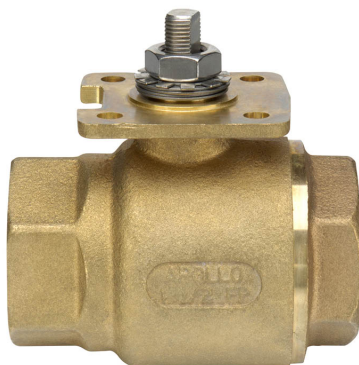


Ball Valve (VS), 2", 2-way, Cv 108



2-year warranty

## Type overview

| Type   | DN |
|--------|----|
| B249VS | 50 |

## Technical data

|                    |                                   |   |
|--------------------|-----------------------------------|---|
| Functional data    | Valve size [mm]                   | 2" [50]                                       |
|                    | 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 psi                              |
|                    | Close-off pressure Δps            | 600 psi                                       |
|                    | Flow characteristic               | modified equal percentage                     |
|                    | Leakage rate                      | ANSI Class VI                                 |
|                    | Pipe connection                   | Internal thread<br>NPT (female)               |
|                    | Max Differential Pressure (Steam) | 35 psi  |
|                    | Flow Pattern                      | 2-way   |
|                    | Controllable flow range           | 90° rotation                                  |
|                    | Cv                                | 108   |
|                    | 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                               |
|                    | Retainer                          | B584-C84400 bronze                            |
| Suitable actuators | Ball                              | 316 stainless steel                           |
|                    | Non Fail-Safe                     | GMB(X)<br>PRB(X)<br>SY1                       |
|                    | Spring                            | AF  |
|                    | Electrical fail-safe              | GMB(X)<br>PKRB(X)                             |

## 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 functionality which facilitates the use of various control input.

Up to 35 psi steam

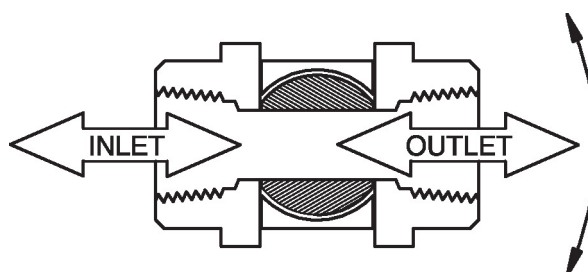
1/2" - 2" 600 PSIG WOG, Cold Non-Shock

Federal Specification: WW-V-35C, Type II

Composition: BZ

Style: 3

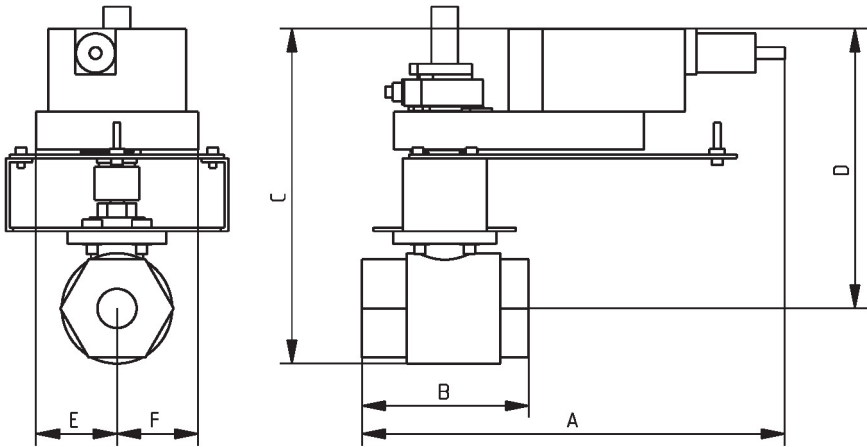
### Flow/Mounting details



## Dimensions

| Type   | DN | Weight          |
|--------|----|-----------------|
| B249VS | 50 | 6.2 lb [2.8 kg] |

Dimensions



B249VS+GK..X1

| A           | B          | C           | D          | E         | F         |
|-------------|------------|-------------|------------|-----------|-----------|
| 11.9" [302] | 4.7" [119] | 10.0" [254] | 7.9" [200] | 2.3" [58] | 2.3" [58] |

On/Off, Floating point, Electrical fail-safe, 24 V



5-year warranty



## Technical data

|                 |                                    |  |
|-----------------|------------------------------------|--|
| Electrical data | Nominal voltage                    | AC 24 V  |
|                 | Nominal voltage frequency          | 50/60 Hz   |
|                 | Nominal voltage range              | AC 19.2...28.8 V   |
|                 | Power consumption in operation     | 11 W   |
|                 | Power consumption in rest position | 3 W  |
|                 | Transformer sizing                 | 21 VA  |
|                 | Electrical Connection              | 18 GA plenum cable, 1 m, with 1/2" NPT conduit connector, degree of protection NEMA 2 / IP54 |
| Functional data | Overload Protection                | electronic throughout 0...95° rotation   |
|                 | Bridging time (PF)                 | 2 s  |
|                 | Pre-charging time                  | 5...20 s   |
|                 | Direction of motion motor          | selectable with switch 0/1   |
|                 | Direction of motion fail-safe      | reversible with switch   |
|                 | Manual override                    | external push button   |
|                 | Angle of rotation                  | Max. 95°   |
|                 | Angle of rotation note             | adjustable with mechanical stop  |
|                 | Running Time (Motor)               | 150 s / 90°  |
|                 | Running time motor note            | constant, independent of load  |
|                 | Running time fail-safe             | <35 s  |
|                 | Noise level, motor                 | 52 dB(A)   |
|                 | Noise level, fail-safe             | 61 dB(A)   |
|                 | Position indication                | Mechanical, 30...65 mm stroke  |
| Safety data     | Power source UL                    | Class 2 Supply   |
|                 | Degree of protection IEC/EN        | IP54   |
|                 | Degree of protection NEMA/UL       | NEMA 2   |
|                 | Enclosure                          | UL Enclosure Type 2  |
|                 | Agency Listing                     | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02<br>CE acc. to 2014/30/EU and 2014/35/EU  |
|                 | 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]   |
|                 |                                    |  |

## Technical data

|             |                     |                                      |
|-------------|---------------------|--------------------------------------|
| Safety data | Storage temperature | -40...176°F [-40...80°C]             |
|             | Servicing           | maintenance-free                     |
| Weight      | Weight              | 4.6 lb [2.1 kg]                      |
| Materials   | Housing material    | Galvanized steel and plastic housing |

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

## Electrical installation

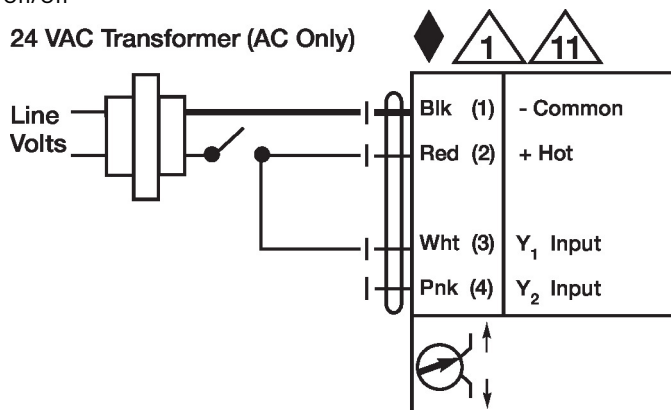
## ✂ INSTALLATION NOTES

- 1 Provide overload protection and disconnect as required.
- 2 Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- 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.

## Wiring diagrams

On/Off

24 VAC Transformer (AC Only)



Floating Point

24 VAC Transformer  
(AC Only)
