



2-year warranty

Type overview

| | |
|---------|----|
| Type | DN |
| B224VSS | 25 |

Technical data

| | | |
|---------------------------|-----------------------------------|---|
| Functional data | Valve size [mm] | 1" [25] |
| | Fluid | chilled or hot water, up to 60% glycol, steam |
| | Fluid Temp Range (water) | -22...298°F [-30...148°C] |
| | Body Pressure Rating | 1500 psig WOG |
| | Close-off pressure Δ ps | 1000 psi |
| | Flow characteristic | modified equal percentage |
| | Max Differential Pressure (Steam) | 50 psi |
| | Flow Pattern | 2-way |
| | Leakage rate | ANSI Class VI |
| | Controllable flow range | 90° rotation |
| | Cv | 43 |
| | Maximum Inlet Pressure (Steam) | 50 psi |
| | Maximum Velocity | 15 FPS |
| Materials | Valve body | Stainless steel A351-CF8M 316 |
| | Housing seal | PTFE |
| | Spindle | 316 stainless steel |
| | Spindle seal | RPTFE |
| | Seat | RPTFE |
| | Lock nut | stainless steel |
| | Pipe connection | SAE NPT (female connections) |
| | Ball | 316 stainless steel |
| Suitable actuators | Non-Spring | AMB(X) GRCB(X) GRB(X) |
| | Spring | AF |

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

Product features

Application These threaded valves are designed to provide modulating or two position control of hot or chilled water and saturated steam systems under 50 psi.
 Typical applications include reheat coils, VAV terminal control, unit ventilators, and air handlers, especially in areas which have minimum profile requirements.
 Up to 50 psi steam
 1/2" - 2000 PSIG WOG, Cold Non-Shock
 Federal Specification: WW-V-35C, Type II
 Composition: SS
 Style: 3

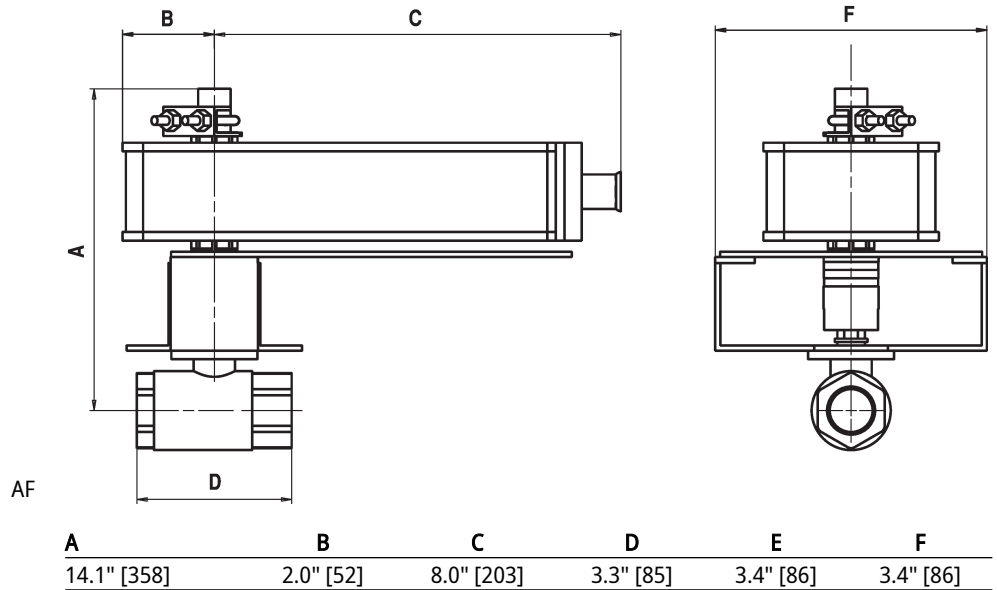
Flow/Mounting details

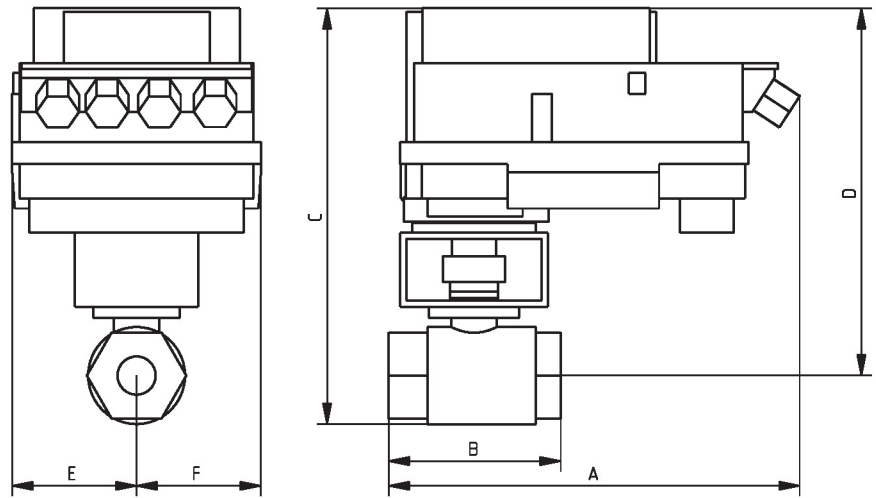


Dimensions

Type
B224VSS

DN
25





B249VSS+PKR..

| A | B | C | D | E | F |
|-------------|-----------|-------------|-------------|-----------|-----------|
| 14.1" [358] | 3.4" [86] | 12.1" [307] | 11.1" [283] | 3.4" [86] | 3.4" [86] |



5-year warranty



Technical data

| | | |
|------------------------|------------------------------------|---|
| Electrical data | Nominal voltage | AC/DC 24 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Power consumption in operation | 7.5 W |
| | Power consumption in rest position | 3 W |
| | Transformer sizing | 10 VA (class 2 power source) |
| | Electrical Connection | 18 GA appliance cable, 3ft [1m] 10ft [3m] and 16ft [5m], with 1/2" conduit connector, degree of protection NEMA 2 / IP54 |
| | Overload Protection | electronic throughout 0...95° rotation |
| Functional data | Operating range Y | 0...135 Ω |
| | Operating range Y note | Honeywell Electronic Series 90, input 0...135 Ω |
| | Position feedback U | 2...10 V |
| | Position feedback U note | Max. 0.5 mA |
| | Position feedback U variable | VDC variable |
| | Direction of motion motor | selectable with switch 0/1 |
| | Manual override | 5 mm hex crank (3/16" Allen), supplied |
| | Angle of rotation | 95° |
| | Angle of rotation note | adjustable with mechanical end stop, 35...95° |
| | Running Time (Motor) | 150 s / 90° |
| | Running time motor variable | 70...220 s |
| | Running time fail-safe | <20 s |
| | Override control | MIN (minimum position) = 0% MID (intermediate position) = 50% MAX (maximum position) = 100% |
| | Noise level, motor | 40 dB(A) |
| | Noise level, fail-safe | 62 dB(A) |
| Position indication | Mechanical | |
| Safety data | 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, CE acc. to 2014/30/EU Listed to UL 2043 - suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC |
| | Quality Standard | ISO 9001 |
| | Ambient temperature | -22...122°F [-30...50°C] |
| | Storage temperature | -40...176°F [-40...80°C] |
| | Ambient humidity | Max. 95% RH, non-condensing |
| | Servicing | maintenance-free |

Materials Housing material Galvanized steel and plastic housing

Footnotes *Variable when configured with MFT options.

Accessories

| Electrical accessories | Description | Type |
|------------------------|---|--------|
| | Service Tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices | ZTH US |

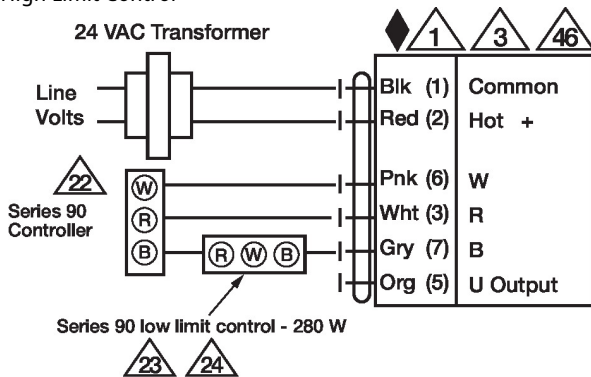
Electrical installation

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.

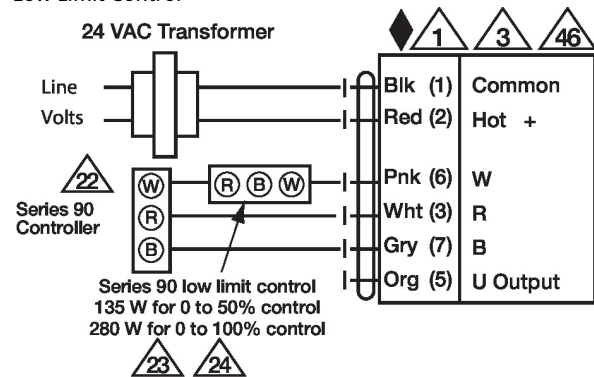
- ◆ Meets cULus requirements without the need of an electrical ground connection.
- ▲1 Provide overload protection and disconnect as required.
- ▲3 Actuators may also be powered by DC 24 V.
- ▲22 Actuators and controller must have separate transformers.
- ▲23 Consult controller instruction data for more detailed information.
- ▲24 Resistor value depends on the type of controller and the number of actuators. No resistor is used for one actuator. Honeywell® resistor kits may also be used.
- ▲25 To reverse control rotation, use the reversing switch.
- ▲46 Actuators may be controlled in parallel. Current draw and input impedance must be observed.

Wiring diagrams

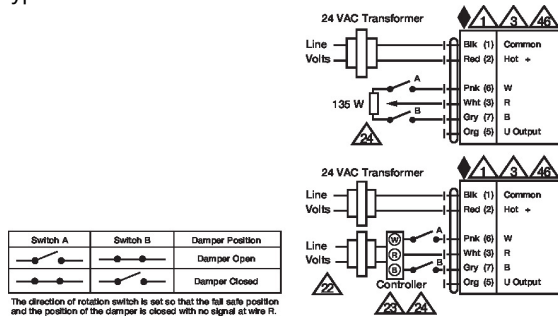
High Limit Control



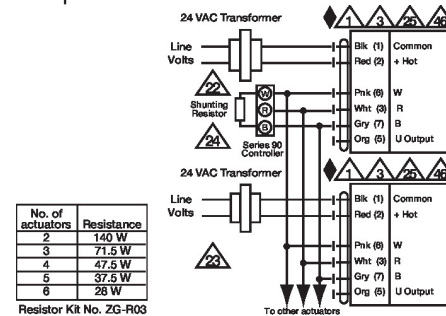
Low Limit Control



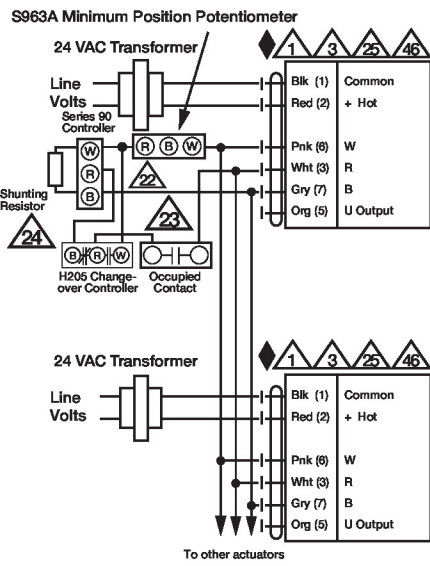
Typical and Override Control



Multiple Actuators



Multiple Actuators with Minimum Position Potentiometer



Multiple Actuators Used with W973, W7100 and T775

