

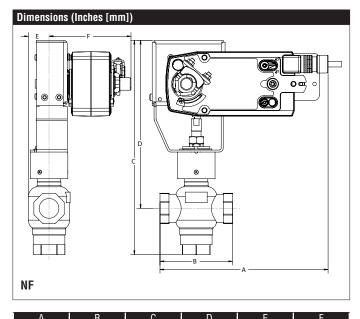
# G325B-L, 3-Way, Globe Valve, Bronze Trim, Mixing/Diverting



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 hydronic system with constant or variable flow. These 3-way valves can be used for both Mixing and Diverting depending on the piping configuration.

| Suitable Actuators |            |        |                      |  |
|--------------------|------------|--------|----------------------|--|
|                    | Non-Spring | Spring | Electronic Fail-Safe |  |
| G325B-L            | SVB(X)     | NFB(X) | SVKB(X)              |  |

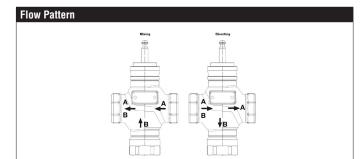


4.39" [112] 12.8" [325] 10.2" [259] 10.2" [259] 4 94" [125] 1 2" [31]

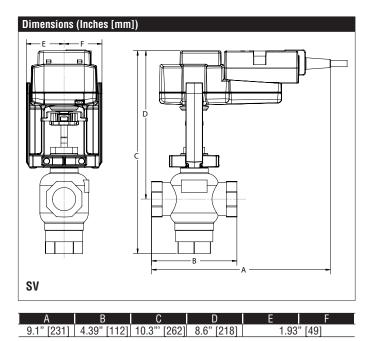
#### Piping

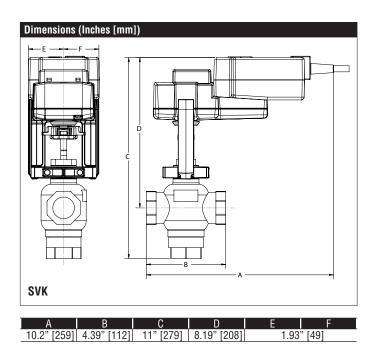
The valves should be mounted in a weather-protected area in a location that is within the ambient limits of the actuator. Allow sufficient room for valve with actuator and for service. The G2 and G3 preferred mounting position of the valve is with the valve stem vertical above the valve body, for maximum life. However, the assemblies can be mounted with the valve stem vertical or horizontal in relation to the pipe. The actuators should never be mounted underneath the valve, as condensation can build up and result in a failure of the actuators.

| Technical DataServicechilled, hot water, up to 60% glycolFlow Characteristicmodified equal percentage, linear B to ABControllable Flow Rangestem up - open B to ABSize [mm]1" [25]End FittingNPT female endsBodybronzeStemstainless steelStem PackingEPDM O-ringSeatbronzePlugbrassBody Pressure Rating [psi]ANSI 250ANSI ClassANSI 250 (up to 400 psi below 150°F)Media Temperature Range20°F to 280°F [-7°C to 138°C](Water)35 psi (241 kPa)RangeabilityA-port 100:1, B-port 50:1Cv14LeakageANSI Class VI | Tested at Date                    |   |
|---|-----------------------------------|---|
| Flow Characteristicmodified equal percentage, linear B to ABControllable Flow Rangestem up - open B to ABSize [mm]1" [25]End FittingNPT female endsBodybronzeStemstainless steelStem PackingEPDM O-ringSeatbronzePlugbrassBody Pressure Rating [psi]ANSI 250ANSI ClassANSI 250 (up to 400 psi below 150°F)Media Temperature Range<br>(Water)20°F to 280°F [-7°C to 138°C]Max Differential Pressure (Water)35 psi (241 kPa)RangeabilityA-port 100:1, B-port 50:1Cv14   | Technical Data                    |   |
| Controllable Flow Rangestem up - open B to ABSize [mm]1" [25]End FittingNPT female endsBodybronzeStemstainless steelStem PackingEPDM O-ringSeatbronzePlugbrassBody Pressure Rating [psi]ANSI 250ANSI ClassANSI 250 (up to 400 psi below 150°F)Media Temperature Range<br>(Water)20°F to 280°F [-7°C to 138°C]Max Differential Pressure (Water)35 psi (241 kPa)RangeabilityA-port 100:1, B-port 50:1Cv14   | Service                           | chilled, hot water, up to 60% glycol      |
| Size [mm]1" [25]End FittingNPT female endsBodybronzeStemstainless steelStem PackingEPDM O-ringSeatbronzePlugbrassBody Pressure Rating [psi]ANSI 250ANSI ClassANSI 250 (up to 400 psi below 150°F)Media Temperature Range20°F to 280°F [-7°C to 138°C](Water)35 psi (241 kPa)RangeabilityA-port 100:1, B-port 50:1Cv14   | Flow Characteristic               | modified equal percentage, linear B to AB |
| End FittingNPT female endsBodybronzeStemstainless steelStem PackingEPDM O-ringSeatbronzePlugbrassBody Pressure Rating [psi]ANSI 250ANSI ClassANSI 250 (up to 400 psi below 150°F)Media Temperature Range<br>(Water)20°F to 280°F [-7°C to 138°C]Max Differential Pressure (Water)35 psi (241 kPa)RangeabilityA-port 100:1, B-port 50:1Cv14  | Controllable Flow Range           | stem up - open B to AB                    |
| BodybronzeStemstainless steelStem PackingEPDM O-ringSeatbronzePlugbrassBody Pressure Rating [psi]ANSI 250ANSI ClassANSI 250 (up to 400 psi below 150°F)Media Temperature Range<br>(Water)20°F to 280°F [-7°C to 138°C]Max Differential Pressure (Water)35 psi (241 kPa)RangeabilityA-port 100:1, B-port 50:1Cv14  | Size [mm]                         | 1" [25]                                   |
| Stemstainless steelStem PackingEPDM 0-ringSeatbronzePlugbrassBody Pressure Rating [psi]ANSI 250ANSI ClassANSI 250 (up to 400 psi below 150°F)Media Temperature Range<br>(Water)20°F to 280°F [-7°C to 138°C]Max Differential Pressure (Water)35 psi (241 kPa)RangeabilityA-port 100:1, B-port 50:1Cv14  | End Fitting                       | NPT female ends                           |
| Stem PackingEPDM 0-ringSeatbronzePlugbrassBody Pressure Rating [psi]ANSI 250ANSI ClassANSI 250 (up to 400 psi below 150°F)Media Temperature Range<br>(Water)20°F to 280°F [-7°C to 138°C]Max Differential Pressure (Water)35 psi (241 kPa)RangeabilityA-port 100:1, B-port 50:1Cv14   | Body                              | bronze                                    |
| Seat bronze   Plug brass   Body Pressure Rating [psi] ANSI 250   ANSI Class ANSI 250 (up to 400 psi below 150°F)   Media Temperature Range<br>(Water) 20°F to 280°F [-7°C to 138°C]   Max Differential Pressure (Water) 35 psi (241 kPa)   Rangeability A-port 100:1, B-port 50:1   Cv 14   | Stem                              | stainless steel                           |
| Plug brass   Body Pressure Rating [psi] ANSI 250   ANSI Class ANSI 250 (up to 400 psi below 150°F)   Media Temperature Range<br>(Water) 20°F to 280°F [-7°C to 138°C]   Max Differential Pressure (Water) 35 psi (241 kPa)   Rangeability A-port 100:1, B-port 50:1   Cv 14   | Stem Packing                      | EPDM O-ring                               |
| Body Pressure Rating [psi]ANSI 250ANSI ClassANSI 250 (up to 400 psi below 150°F)Media Temperature Range<br>(Water)20°F to 280°F [-7°C to 138°C]Max Differential Pressure (Water)35 psi (241 kPa)RangeabilityA-port 100:1, B-port 50:1Cv14   | Seat                              | bronze                                    |
| ANSI ClassANSI 250 (up to 400 psi below 150°F)Media Temperature Range<br>(Water)20°F to 280°F [-7°C to 138°C]Max Differential Pressure (Water)35 psi (241 kPa)RangeabilityA-port 100:1, B-port 50:1Cv14   | Plug                              | brass                                     |
| Media Temperature Range<br>(Water)20°F to 280°F [-7°C to 138°C]Max Differential Pressure (Water)35 psi (241 kPa)RangeabilityA-port 100:1, B-port 50:1Cv14   | Body Pressure Rating [psi]        | ANSI 250                                  |
| (Water) 35 psi (241 kPa)   Rangeability A-port 100:1, B-port 50:1   Cv 14   | ANSI Class                        | ANSI 250 (up to 400 psi below 150°F)      |
| Max Differential Pressure (Water)35 psi (241 kPa)RangeabilityA-port 100:1, B-port 50:1Cv14  | Media Temperature Range           | 20°F to 280°F [-7°C to 138°C]             |
| RangeabilityA-port 100:1, B-port 50:1Cv14   | (Water)                           |   |
| Cv 14   | Max Differential Pressure (Water) | 35 psi (241 kPa)                          |
|   | Rangeability                      | A-port 100:1, B-port 50:1                 |
| Leakage ANSI Class VI   | Cv                                | 14  |
|   | Leakage                           | ANSI Class VI                             |
| Servicing repack kits available   | Servicing                         | repack kits available                     |













| Technical Data                    |  |  |
|-----------------------------------|--|--|
| Power Supply                      | 24 VAC, ±20%, 50/60 Hz, 24 VDC, -10% /   |  |
|                                   | +20%   |  |
| Power Consumption Running         | 3.5 W  |  |
| Power Consumption Holding         | 2.5 W  |  |
| Transformer Sizing                | 6 VA (class 2 power source)  |  |
| Electrical Connection             | 3ft [1m], 18 GA appliance cable with 1/2" conduit connector                        |  |
| Overload Protection               | electronic throughout 0° to 95° rotation   |  |
| Operating Range Y                 | 2 to 10 VDC, 4 to 20 mA w/ ZG-R01 (500 Ω,<br>1/4 W resistor)                       |  |
| Feedback Output U                 | 2 to 10 VDC, 0.5 mA max  |  |
| Angle of Rotation                 | 95°,   |  |
| Torque motor                      | Min. 90 in-lbs [10 Nm]   |  |
| Direction of Rotation (Motor)     | reversible with built-in switch  |  |
| Direction of Rotation (Fail-Safe) | reversible with CW/CCW mounting  |  |
| Position Indication               | visual indicator, 0° to 95° (0° is full spring                                     |  |
|                                   | return position)   |  |
| Manual Override                   | 5 mm hex crank (3/16" Allen), supplied   |  |
| Running Time (Motor)              | 95 sec   |  |
| Running Time (Fail-Safe)          | <20 sec @ -4°F to 122°F [-20°C to 50°C],   |  |
|                                   | <60 sec @ -22°F [-30°C]  |  |
| Ambient Humidity                  | max. 95% RH non-condensing   |  |
| Ambient Temperature Range         | -22°F to 122°F [-30°C to 50°C]   |  |
| Storage Temperature Range         | -40°F to 176°F [-40°C to 80°C]   |  |
| Housing                           | NEMA 2, IP54, UL Enclosure Type 2  |  |
| Housing Material                  | zinc coated metal and plastic casing   |  |
| Agency Listings†                  | cULus acc. to UL60730-1A/-2-14, CAN/CSA<br>E60730-1:02, CE acc. to 2004/108/EC and |  |
|                                   | 2006/95/EC   |  |
| Noise Level (Motor)               | <50 dB (A)   |  |
| Noise Level (Fail-Safe)           | <62 dB (A)   |  |
| Servicing                         | maintenance free   |  |
| Quality Standard                  | ISO 9001   |  |
| Weight                            | 4.2 lb [1.9 kg]  |  |
|                                   | . 01   |  |

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



### Wiring Diagrams

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# 🔀 INSTALLATION NOTES

A Actuators with appliance cables are numbered.

Provide overload protection and disconnect as required.

Actuators may also be powered by 24 VDC.

Only connect common to negative (-) leg of control circuits.

A 500  $\Omega$  resistor (ZG-R01) converts the 4 to 20 mA control signal to 2 to 10 VDC.

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.

