# INSTALLATION INSTRUCTIONS

## Flanged Globe Valves 2½” to 6”

### Pressure Compensated

**G6…C Series**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G6…C</td>
<td>Two-way Pressure Compensated</td>
</tr>
<tr>
<td>G6…CS</td>
<td>Two-way Pressure Compensated Stainless Steel Trim</td>
</tr>
<tr>
<td>G6…LCS</td>
<td>Two-way Pressure Compensated Stainless Steel Trim Linear Characteristic</td>
</tr>
</tbody>
</table>

### Features

- Balanced Plug Design
- Spring Return Solutions for up to 6” Valves
- Bronze or Stainless Trim

### Benefits

- Perfect for high close-off requirements
- Fail-safe on larger valves
- Covers wide range of operating temperatures
- Equal percent (G6C) (G6CS) or linear characteristic (G6LCS) for steam applications

### Technical Specifications

- **Service:** Chilled/hot water, 60% glycol, steam
- **Cv Range:** 65 – 344
- **Material:** Stainless steel stem, Bronze plug or Stainless plug
- **Control:** On/Off, Floating Point Multi-Function Technology® Electronic Fail-Safe or Non-Spring Return
**Flanged Globe Valves 2½” to 6”**

**Installation Instructions**

**Electronic G6…C(S), G7…(S) Series**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G6…C(S)-250</td>
<td>Two-way Flanged ANSI 250 Bronze or Stainless Trim</td>
</tr>
<tr>
<td>G7…(S)</td>
<td>Three-way Flanged Bronze or Stainless Trim</td>
</tr>
<tr>
<td>G7…(S)-250</td>
<td>Three-way Flanged ANSI 250 Bronze or Stainless Trim</td>
</tr>
</tbody>
</table>

Three-way Valves available in Mixing or Diverting

<table>
<thead>
<tr>
<th>Service</th>
<th>Chilled/hot water, 60% glycol, steam (G6C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&lt;br&gt;Range</td>
<td>65-344 (Two-way)</td>
</tr>
<tr>
<td></td>
<td>68-340 (Three-way Mixing)</td>
</tr>
<tr>
<td></td>
<td>68-248 (Three-way Diverting)</td>
</tr>
<tr>
<td>Material</td>
<td>Stainless steel stem, Bronze plug or Stainless plug</td>
</tr>
<tr>
<td>Control</td>
<td>On/Off, Floating Point, 2-10 VDC</td>
</tr>
<tr>
<td></td>
<td>Multi-Function Technology®</td>
</tr>
<tr>
<td></td>
<td>Electronic Fail-Safe or Non-Spring Return</td>
</tr>
</tbody>
</table>

**FEATURES**

- Complete flanged product range
- Mixing or diverting options
- Multi-Function Technology®
- ANSI 125/ANSI 250

**BENEFITS**

- Fits wide range of applications
- Capable of any control signal
- Suitable for piping systems
Warning!

Valve should not be used for combustible gas applications. Gas leaks and explosions may result. Do not install in systems which exceed the ratings of the valve.

- Avoid installations where valve may be exposed to excessive moisture, corrosive fumes, vibration, high ambient temperatures, elements, or high traffic areas with potential for mechanical damage.
- Valve assembly location must be within ambient ratings of actuator. If the temperature is below -22°F, a heater is required.
- The valve assembly will require heat shielding, thermal isolation, or cooling at the actuator if combined effect of medium and ambient temperatures (conduction, convection, and radiation) is above 122°F for prolonged time periods.
- Strainers should be installed before coil and valve.
- Visual access must be provided. Assembly must be accessible for routine service. Contractor should provide unions for removal from line and isolation valves.
- Avoid excessive stresses. Mechanical support must be provided where reducers have been used and the piping systems may have less structural integrity than full pipe sizes.
- Vertical pipes with valves and dual actuators may require support for linkage.
- Sufficient upstream and downstream piping runs must be provided to ensure proper valve capacity and flow response. Five diameters in each direction are recommended.
- Life span of the valve stems and packing is dependent on maintaining non-damaging conditions. Poor water treatment or filtration, corrosion, scale or other particulate can result in damage to trim components. A water treatment specialist should be consulted.

1. Inspect shipping package, valve, linkage, and actuator for physical damage. If shipping damage has occurred, notify appropriate carrier. Do not install.
2. If this is a replacement, remove the existing valve, linkage, and actuator from the piping system.
3. If actuator and linkage are removed, they must be reinstalled correctly. The actuator must be rotated so that the valve seats properly for close-off.
4. Install valve with the proper ports as inlets and outlets. See piping charts on next page. Check that inlet and outlet of 2-way valves are correct; check that the “A”, “B”, and “AB” ports of 3-way valves are piped correctly. Flow direction arrows must be correct.
5. Blow out all piping and thoroughly clean below valve installation.
6. Clean male pipe threads with wire brush and rag. If threads have been damaged or exposed to weather, running a tap or die over the threads may straighten them. Clean pipes, threads, and valve threads before installation. Check for any foreign material that can become lodged in trim components. Strainers should be cleaned after initial startup.

7. Pipe sealing compound may not be applied to either flange or gasket.
8. Flanged bodies must be used with flanges which are rated for the service. 125 lb. flanges have flat faces and may not be bolted to raised face flanges. Gaskets rated for the medium and temperature-pressure must be used.
9. Valve must be installed with the stem towards the vertical, not below the horizontal.
10. Tighten bolts alternatively and evenly around the flange.
11. 2-way valve Normally Open (NO) or Normally Closed (NC) configurations must be verified by examining both the mechanical drawings and the valve and actuator.
12. 3-way valve Normally Open (NO) or Normally Closed (NC) configurations for the control port and the bypass port must be verified by examining both the mechanical drawings and the valve and actuator.

Check specifications for every application to be sure of ports and designations.

U, L, and C designations

U is for Upper, the control port.
L is for Lower, the bypass port.
C is for Common.

Viewed with the bonnet upwards ad the U port on the left, the L port is the bottom port, and the C is the right port. With the stem up, L is open to Common. With the stem down, U is open to Common.

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
## Flanged Globe Valves 2½” to 6”

### Installation Instructions

**FLOW PATTERN – Flow Pattern is Marked on Valve**

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### VALVE ASSEMBLY SET-UP - Specify Upon Ordering

#### 2-WAY VALVE

<table>
<thead>
<tr>
<th>Valve Type</th>
<th>NC</th>
<th>NO Countershaft Action</th>
<th>Fail Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>EV, RV Series</td>
<td>NC</td>
<td>Closed</td>
<td>Fail A to AB</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>Open</td>
<td>Fail AB to B</td>
</tr>
</tbody>
</table>

- **EV, RV Series**: Normally closed A to AB, will open upon increase in signal/power. Note: To change valve to A to AB open, reverse the directional switch in actuator.
- **NC**: Normally closed A to AB, will open upon increase in signal/power. Note: To change valve to A to AB open, reverse the directional switch in actuator.
- **NO**: Normally open A to AB, will close upon increase in signal/power. Note: To change valve to A to AB closed, reverse the directional switch in actuator.

#### 3-WAY MIXING VALVE

<table>
<thead>
<tr>
<th>Valve Type</th>
<th>NC</th>
<th>NO Countershaft Action</th>
<th>Fail Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFB, AFX Series</td>
<td>NC</td>
<td>Closed</td>
<td>Fail A to AB</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>Open</td>
<td>Fail AB to B</td>
</tr>
</tbody>
</table>

- **AFB, AFX Series**: Normally closed A to AB, will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Spring Action: Will fail open A to AB upon power loss.
- **NC**: Normally closed A to AB, will open upon increase in signal. Note: To change valve to A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.
- **NO**: Normally open A to AB, will close upon increase in signal. Note: To change valve to A to AB closed, reverse the directional switch in actuator.

#### 3-WAY DIVERTING VALVE

<table>
<thead>
<tr>
<th>Valve Type</th>
<th>NC</th>
<th>NO Countershaft Action</th>
<th>Fail Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFB, AFX Series</td>
<td>NC</td>
<td>Closed</td>
<td>Fail A to AB</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>Open</td>
<td>Fail AB to B</td>
</tr>
</tbody>
</table>

- **AFB, AFX Series**: Normally closed A to AB, will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Spring Action: Will fail open A to AB upon power loss.
- **NC**: Normally closed A to AB, will open upon increase in signal. Note: To change valve to A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.
- **NO**: Normally open A to AB, will close upon increase in signal. Note: To change valve to A to AB closed, reverse the directional switch in actuator.

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**Notes**

- **Fail Safe**
- **Non-Spring Return**
- **Electronic Fail Safe**
- **Spring Return**

**AVK, GK Series**

- **Open/Close**
- **On/Off**

**G6 2-way Valve**

- **Stem Up = Open A to AB**

**G7 3-way Mixing Valve**

- **Stem Up = Open B to AB**

**G7...D 3-way Diverting Valve**

- **Stem Up = Open AB to B**

---

*Valve: Can be open or closed, will drive closed or open A to AB (can be chosen with CW/CCW switch). Spring Action: Will fail open A to AB upon power loss.*

*Note: To change valve to A to AB closed, reverse the directional switch in actuator.*

*Spring Return Fail Position: Will default fail A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.*

---

*Normally closed A to AB, valve will drive closed. Spring Action: Will fail open A to AB upon power loss.*

*Note: To change valve to A to AB closed, reverse the directional switch in actuator.*

*Normally open A to AB, valve will drive closed. Spring Action: Will fail open A to AB upon power loss.*

*Note: To change valve to A to AB closed, reverse the directional switch in actuator.*
2-WAY

2-way Valve Piping Diagram
(1 Input, 1 Output)

3-WAY MIXING

3-way Mixing Valve Piping Diagram
(2 Inputs, 1 Output)

Mixing with Coil Pump

3-WAY DIVERTING

3-way Diverting Valve Piping Diagram
(1 Input, 2 Outputs)

安装

阀必须安装在这些方向

线性执行器

UGLK 连接
# ANSI 125

## Flange Detail for American Standard 125 lb. Cast Iron Pipe Flanges

<table>
<thead>
<tr>
<th>Nominal Pipe Size</th>
<th>Flange Diameter</th>
<th>Flange Thickness</th>
<th>Diameter of Bolt Circle</th>
<th>Diameter of Bolt Holes</th>
<th>Number of Bolts</th>
<th>Diameter of Bolts</th>
<th>Length of Machine Bolts</th>
</tr>
</thead>
<tbody>
<tr>
<td>2½”</td>
<td>7”</td>
<td>½”</td>
<td>5¼”</td>
<td>¾”</td>
<td>4</td>
<td>¾”</td>
<td>2½”</td>
</tr>
<tr>
<td>3”</td>
<td>7½”</td>
<td>¾”</td>
<td>6”</td>
<td>¾”</td>
<td>4</td>
<td>¾”</td>
<td>2½”</td>
</tr>
<tr>
<td>4”</td>
<td>9”</td>
<td>9⁄16”</td>
<td>7½”</td>
<td>¾”</td>
<td>8</td>
<td>¾”</td>
<td>3”</td>
</tr>
<tr>
<td>5”</td>
<td>10”</td>
<td>9⁄16”</td>
<td>8½”</td>
<td>¾”</td>
<td>8</td>
<td>¾”</td>
<td>3”</td>
</tr>
<tr>
<td>6”</td>
<td>11”</td>
<td>1”</td>
<td>9½”</td>
<td>¾”</td>
<td>8</td>
<td>¾”</td>
<td>3¾”</td>
</tr>
</tbody>
</table>

# ANSI 250

## Flange Detail for American Standard 250 lb. Cast Iron Pipe Flanges

<table>
<thead>
<tr>
<th>Nominal Pipe Size</th>
<th>Flange Diameter</th>
<th>Flange Thickness</th>
<th>Diameter of Raised Face</th>
<th>Diameter of Bolt Circle</th>
<th>Diameter of Bolt Holes</th>
<th>Number of Bolts</th>
<th>Diameter of Bolts</th>
<th>Length of Machine Bolts</th>
</tr>
</thead>
<tbody>
<tr>
<td>2½”</td>
<td>7½”</td>
<td>1”</td>
<td>4¾”</td>
<td>¾”</td>
<td>8</td>
<td>¾”</td>
<td>3¼”</td>
<td></td>
</tr>
<tr>
<td>3”</td>
<td>8”</td>
<td>1¼”</td>
<td>6¼”</td>
<td>¾”</td>
<td>8</td>
<td>¾”</td>
<td>3¼”</td>
<td></td>
</tr>
<tr>
<td>4”</td>
<td>10”</td>
<td>1¼”</td>
<td>6¾”</td>
<td>¾”</td>
<td>8</td>
<td>¾”</td>
<td>3¼”</td>
<td></td>
</tr>
<tr>
<td>5”</td>
<td>11”</td>
<td>1½”</td>
<td>9¾”</td>
<td>¾”</td>
<td>8</td>
<td>¾”</td>
<td>4”</td>
<td></td>
</tr>
<tr>
<td>6”</td>
<td>12½”</td>
<td>1½”</td>
<td>9¾”</td>
<td>¾”</td>
<td>12</td>
<td>¾”</td>
<td>4”</td>
<td></td>
</tr>
</tbody>
</table>
WGVL/G6/G7 Linkage with EV Series Actuators
Wiring Diagrams

Non-Spring Return Actuator with -3

24 VAC Transformer

On/Off

Floating Point

VDC / 4 to 20 mA

Non-Spring Return Actuator with -SR

24 VAC Transformer

On/Off

Floating Point

VDC / 4 to 20 mA

Non-Spring Return Actuator with MFT

24 VAC Transformer

On/Off

Floating Point

Override Control Min, Mid, Max Positions

Notes:

- Meets cULus requirements without the need of an electrical ground connection.
- Actuators with appliance cables are numbered.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Actuators may also be powered by 24 VDC.
- Only connect common to neg. (-) leg of control circuits.
- A 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC.
- Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.
- For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller. The actuator internal common reference is not compatible.
- IN4004 or IN4007 diode. (IN4007 supplied, Belimo Part number 40155).
- Actuators with plenum rated cable do not have numbers on wires; use color codes instead.
Non-Spring Return Actuator with -3

24 VAC Transformer

On/Off

Floating Point

Selector Switches

Notes:
- Meets cULus requirements without the need of an electrical ground connection.
- Actuators with appliance cables are numbered.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Actuators may also be powered by 24 VDC.
- Only connect common to neg. (-) leg of control circuits.
- A 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC.
- Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.
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- Actuators with plenum rated cable do not have numbers on wires; use color codes instead.

Non-Spring Return Actuator with MFT

24 VAC Transformer

On/Off

Floating Point

Override Control Min, Mid, Max Positions

Notes:
- Actuators with appliance cables are numbered.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Actuators may also be powered by 24 VDC.
- Only connect common to neg. (-) leg of control circuits.
- A 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC.
- Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.
- For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller. The actuator internal common reference is not compatible.
- IN4004 or IN4007 diode. (IN4007 supplied, Belimo Part number 40155).
- Actuators with plenum rated cable do not have numbers on wires; use color codes instead.
WGVL/G6/G7 Linkage with AVK Series Actuators
Installation Instructions

1. Connect the linkage to the AVK actuator.

2. Adjust the signal direction as needed.

3. Securely tighten the linkage to the actuator.

4. Ensure proper alignment of the linkage and actuator.

5. Verify the connection strength to avoid disconnection.

6. Use the provided tools to achieve the desired output signal.

7. Standardize the tightening torque to ensure proper performance.

8. Check for any malfunctions or issues with the linkage setup.
**Electronic Fail-Safe Actuator with -3**

**24 VAC Transformer**

**On/Off**

- Black (1) - Common
- Red (2) - Hot
- White (3) - Y1 Input
- Pink (4) - Y2 Input

**Floating Point**

- Black (1) - Common
- Red (2) - Hot
- White (3) - Y1 Input
- Pink (4) - Y2 Input

**Triac Sink**

- Black (1) - Common
- Red (2) - Hot
- White (3) - Y1 Input
- Pink (4) - Y2 Input

**Electronic Fail-Safe Actuator with MFT**

**24 VAC Transformer**

**On/Off**

- Black (1) - Common
- Red (2) - Hot
- White (3) - Y1 Input
- Pink (4) - Y2 Input

**Override Control Min, Mid, Max Positions**

- VDC / 4 to 20 mA

**Notes:**

- Meets cULus requirements without the need of an electrical ground connection.
- Actuators with appliance cables are numbered.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Actuators may also be powered by 24 VDC.
- Only connect common to neg. (-) leg of control circuits.
- A 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC.
- Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.
- For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller. The actuator internal common reference is not compatible.
- IN4004 or IN4007 diode. (IN4007 supplied, Belimo Part number 40155).
- Actuators with plenum rated cable do not have numbers on wires; use color codes instead.
Electronic Fail-Safe Actuator with -3 and -SR

On/Off

Floating Point

VDC / 4 to 20 mA

Triac Sink

Triac Source

Triac Sink with Separate Transformer

Electronic Fail-Safe Actuator with MFT

On/Off

Floating Point

VDC / 4 to 20 mA

Override Control Min, Mid, Max Positions
G6/G7 Globe Valves with Dual Mount GK-X1 Actuators
Wiring Diagrams

Power-Off Position

<table>
<thead>
<tr>
<th>FC</th>
<th>FO</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – AB = 0%</td>
<td>A – AB = 100%</td>
</tr>
</tbody>
</table>

On/Off

24V AC/DC

- SR/-MFT

24V AC/DC

Floating Point

24V AC/DC
G6/G7 Globe Valves with Single Mount AFX Actuators
Installation Instructions
**G6/G7 Globe Valves with Single Mount AFX Actuators**

**Wiring Diagrams**

### Spring Return Actuator with On/Off, Floating Point and -SR

#### On/Off

24 VAC up to 240 VAC

#### Floating Point

VDC / 4 to 20 mA

### Triac Sink

24 VAC Transformer

#### On/Off

24 VAC up to 240 VAC

### Triac Source

24 VAC Transformer

### Triac Sink with Separate Transformer

24 VAC Transformer (AC Only)

### Override Control Min, Mid, Max Positions

**Notes:**

- Meets cULus requirements without the need of an electrical ground connection.
- Actuators with appliance cables are numbered.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Actuators may also be powered by 24 VDC.
- Only connect common to reg. (1) leg of control circuits.
- A 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC.
- Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- Contact closures A & B also can be triacs. A & B should both be closed for triac sink controller.
- Access to triac sink controller. Position feedback cannot be used with triac sink controller. The actuator internal common reference is incompatible.
- Actuators may be connected in parallel if not mechanically mounted to the same shaft. Power consumption and input impedance must be observed.
- Actuators may be powered by 24 VDC.
- Actuators with plenum rated cable do not have numbers on wires; use color codes instead.
- All 120 VAC, 230 VAC, and UP actuators use appliance cables numbered.
- Actuators may also be powered by 24 VDC.
- UP models use "L" instead of "H" on #2 wire.

### Auxiliary Switches

**Auxiliary Switches**

<table>
<thead>
<tr>
<th>Switch</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>NC</td>
</tr>
<tr>
<td>S2</td>
<td>NO</td>
</tr>
<tr>
<td>S3</td>
<td>NC</td>
</tr>
<tr>
<td>S4</td>
<td>NC</td>
</tr>
<tr>
<td>S5</td>
<td>NC</td>
</tr>
<tr>
<td>S6</td>
<td>NC</td>
</tr>
</tbody>
</table>

* Default selectable 0-100%. See Configuration Data Sheet.

**Function: 100%**

- Black (1) Common
- Red (2) + Hot
- Wht (3) Y1 Input, 2 to 10 VDC
- Pnk (4) Y2 Input
- Org (5) U Output 2 to 10 V

**Function: 50%**

- Black (1) Common
- Red (2) + Hot
- Wht (3) Y1 Input, 2 to 10 VDC
- Pnk (4) Y2 Input
- Org (5) U Output 2 to 10 V

**Function: 0%**

- Black (1) Common
- Red (2) + Hot
- Wht (3) Y1 Input, 2 to 10 VDC
- Pnk (4) Y2 Input
- Org (5) U Output 2 to 10 V

**Functions**

- Min: 0% a b c
- Mid: 50% a b c
- Max: 100% a b c

**Normal: a b c**

- Min: 0% a b c
- Mid: 50% a b c
- Max: 100% a b c

**Control mode acc. to Y**

- Controller (+) to Y
- Controller (-) to Y

**Notes:**

- Controller (+) to Y
- Controller (-) to Y

<table>
<thead>
<tr>
<th>Function: 100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black (1) Common</td>
</tr>
<tr>
<td>Red (2) + Hot</td>
</tr>
<tr>
<td>Wht (3) Y1 Input, 2 to 10 VDC</td>
</tr>
<tr>
<td>Pnk (4) Y2 Input</td>
</tr>
<tr>
<td>Org (5) U Output 2 to 10 V</td>
</tr>
</tbody>
</table>

**Function: 50%**

- Black (1) Common
- Red (2) + Hot
- Wht (3) Y1 Input, 2 to 10 VDC
- Pnk (4) Y2 Input
- Org (5) U Output 2 to 10 V

**Function: 0%**

- Black (1) Common
- Red (2) + Hot
- Wht (3) Y1 Input, 2 to 10 VDC
- Pnk (4) Y2 Input
- Org (5) U Output 2 to 10 V

**Functions**

- Min: 0% a b c
- Mid: 50% a b c
- Max: 100% a b c

**Normal: a b c**

- Min: 0% a b c
- Mid: 50% a b c
- Max: 100% a b c

**Control mode acc. to Y**

- Controller (+) to Y
- Controller (-) to Y

**Notes:**

- Controller (+) to Y
- Controller (-) to Y

**Auxiliary Switches**

- Switch 1: NC
- Switch 2: NO
- Switch 3: NC
- Switch 4: NC
- Switch 5: NC
- Switch 6: NC

**Override Control Min, Mid, Max Positions**

- Switch S1: NC
- Switch S2: NO
- Switch S3: NC
- Switch S4: NC
- Switch S5: NC
- Switch S6: NC

**Auxiliary Switches**

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</tr>
<tr>
<td>S4</td>
<td>NC</td>
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<td>S5</td>
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**Override Control Min, Mid, Max Positions**

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G6/G7 Globe Valves with Single Mount AFX Actuators

Wiring Diagrams

MFT95

- Switch A
- Switch B
- Damper Position
- Damper Open
- Damper Closed

The direction of rotation switch is set so that the fail safe position and the position of the damper is closed with no signal at wire R.

24 VAC Transformer

Line Volts

135 Ω

24 VAC Transformer

Line Volts

24 VAC Transformer

Line Volts

Override

24 VAC Transformer

Line Volts

Series 90 Controller

Series 90 low limit control 135 Ω for 0 to 50% control 280 Ω for 0 to 100% control

Low Limit Control

24 VAC Transformer

Line Volts

Series 90 Controller

Series 90 high limit control - 280 Ω

High Limit Control

- Notes:
  - Actuors with plenum rated cable do not have numbers on wires; use color codes instead.
  - Provide overload protection and disconnect as required.
  - Actuators and controller must have separate transformers.
  - Consult controller instruction data for more detailed information.
  - Resistor value depend on the type of controller and the number of actuators. No resistor required for one actuator. Honeywell® resistor kits may be used.
  - To reverse control rotation, use the reversing switch.

Wiring Multiple Actuators to a Series 90 Controller

Typical Wiring Diagrams for Multiple Actuators

- Used with the W973 and W7100 controllers

- Used with the W973 and W7100 controllers
G6/G7 Globe Valves with Dual Mount AFX Actuators
Installation Instructions
Floating Point

Actuators with plenum rated cable do not have numbers.

All 120 VAC, 230 VAC, and UP actuators use appliance cables. 

Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.

Control signal may be pulsed from either the Hot (Source) or ComHot (Sink) 24 VAC line.

For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller. Position feedback cannot be used with a triac sink controller. The actuator internal common reference electrical ground connection.

Triac Sink

Two to 10 VDC feedback signal:

- Max: Function 100% (必备)
- Min: Function 0%
- Normal: Function 50%

- Default selectable 0-100%. See Configuration Data Sheet.
- Customizable. See Configuration Data Sheet.

Feedback VDC:

Function (+) Position

Volts (+) Feedback Signal

500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC.

Control signal may be pulsed from either the Hot (Source) or ComHot (Sink) 24 VAC line.

Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.

AF24-MFT US 5 Org

AF24-SR US 6 Wht

AF24-SR-S US 6 Wht

PWM

Notes:

- Meets cULus requirements without the need of an electrical ground connection.
- Actuators with appliance cables are numbered.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Actuators may also be powered by 24 VDC.
- Only connect common to neg. (-) leg of control circuits.
- A 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC.
- Control signal may be pulsed from either the Hot (Source) or ComHot (Sink) 24 VAC line.
- Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.

For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller. The actuator internal common reference is not compatible.

Actuators with plenum rated cable do not have numbers on wires; use color codes instead.

All 120 VAC, 230 VAC, and UP actuators use appliance rated cables.

UP models use ‘L’ instead of ‘H’ on #2 wire.