

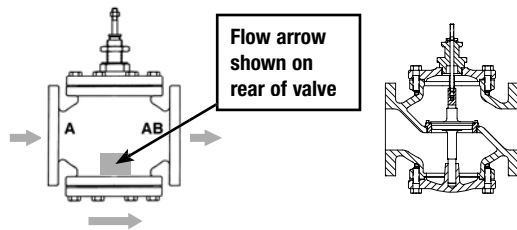
G6...(S) 2-way Flanged Globe Valve, Bronze or Stainless Steel Trim



| Technical Data | | |
|---------------------|------------------------------------------------------|----------------------------------------------------------------------------------|
| | G6... | G6...S |
| Service | chilled or hot water, 60% glycol, steam | chilled or hot water, 60% glycol, steam |
| Flow characteristic | modified equal percentage | |
| Action | stem up - open A to AB | |
| Sizes | 2½" to 3" | |
| End fitting | 125 lb. flanged | |
| Materials | | |
| Body | iron | iron |
| Seat | bronze | stainless steel |
| Stem | stainless steel | stainless steel |
| Plug | bronze | stainless steel |
| Packing | NLP (no lip packing) | TFE V-ring |
| ANSI class | ANSI 125 | |
| Leakage | Class III | |
| Max inlet | | |
| Steam | 35 psi (241kPa) | 50 psi (345kPa)- NV 100 psi (680kPa)- Rotary |
| Water | 150 psi (1034kPa) @ 250°F | 150 psi (1034kPa) @ 250°F |
| Media temperature | | |
| Water | 32°F to 350°F (0°C to 176°C) | 32°F to 350°F (0°C to 176°C) |
| Steam | 32°F to 280°F (0°C to 138°C) | 32°F to 298°F - NV (0°C to 148°C) 32°F to 338°F - Rotary (0°C to 170°C) |
| Maximum ΔP* | | |
| Water | 25 psi (172kPa) | 50 psi (345kPa) |
| Steam | 15 psi (103kPa) | 50 psi (345kPa) |
| Rangeability | 50:1 | |
| Valve weights | G665(S) 55 lbs G680(S) 72 lbs G6100(S) 119 lbs | |

* (50% or more open)

G6...(S) 2-way Flow Patterns



Flow Pattern is marked on valve.

Stem Up - Open A to AB

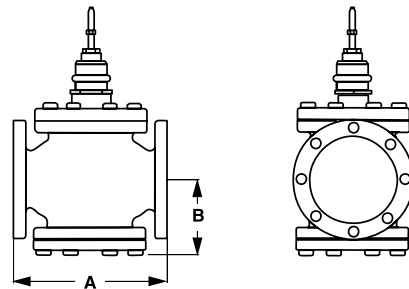
Application

This valve is typically used in Large Air Handling Units on heating or cooling coils. This valve is suitable for use in a hydronic system with variable flow.

Bronze or stainless steel trim valves can be used for steam applications, depending on actuator and close-off combination.

| Cv | Valve | | Suitable Actuators | | | |
|-----|--------------|----------|--------------------|--------|----------------------|----|
| | Nominal Size | Type | Non-Spring | Spring | Electronic Fail-Safe | |
| 65 | 2½ | G665(S) | NVG | GM | AF AFX | GK |
| 90 | 3 | G680(S) | | | | |
| 170 | 4 | G6100(S) | | | | |

Dimensions



D166-2WF

| Valve Body | Valve Nominal Size | | Dimensions (Inches [mm]) | |
|------------|--------------------|---------|--------------------------|-------------|
| | Inches | DN [mm] | A | B |
| G665(S) | 2½" | [65] | 9" [229] | 4.75" [120] |
| G680(S) | 3" | [80] | 10" [254] | 5.37" [137] |
| G6100(S) | 4" | [100] | 13" [330] | 6.37" [162] |

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. For the NV Series, allow 6" for cover removal and 12" for complete actuator removal. The G6/G7 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 valve stem vertical above the valve or up to 45 degrees in relation to the horizontal pipe. The actuators should never be mounted underneath the valve, as condensation can build up and result in a failure of the actuators. Do not reverse flow direction.

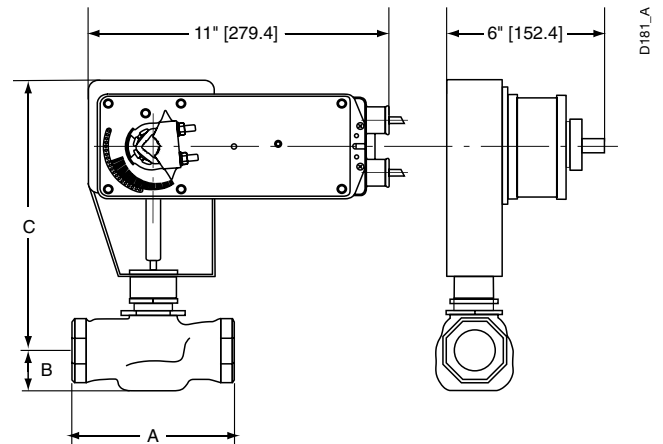


Models

AF120 US
AF120-S US w/built-in Aux. Switches

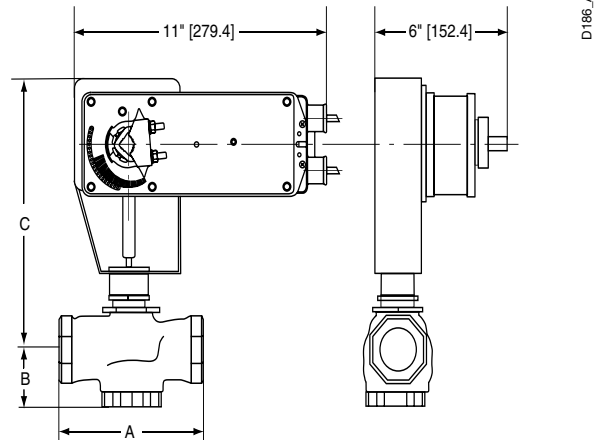
| Technical Data | |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------|
| Control | on/off |
| Power consumption | running 6 W holding 2.3 W |
| Transformer sizing | 10 VA (Class 2 power) |
| Electrical connection | 3 ft, 18 GA appliance cables (-S model has 2 cables) ½" conduit connector |
| Electrical protection | 120 V actuators double insulated |
| Overload protection | electronic throughout 0° to 95° rotation |
| Angle of rotation | 95° |
| Position indication | visual indicator |
| Manual override | hex crank |
| Running time | control 150 seconds independent of load spring < 20 seconds |
| Ambient temperature | -22° F to 122° F [-30° C to 50° C] |
| Housing | NEMA 2 / IP54 |
| Agency listings | UL 873, CSA C22.2 No. 24 certified, CE |
| Noise level | max. 45 dB(A) |
| AF120-S US | |
| Auxiliary switches | 2 x SPDT, 7A (2.5A) @ 250 VAC, UL listed, one switch is fixed at +5°, one is adjustable 25° to 85° (double insulated) |

Dimensions with G2...(S) Series 2-Way Valve



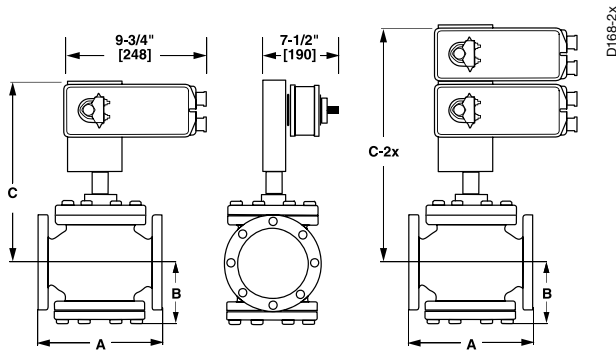
| Valve Body | Valve Nominal Size | | Dimensions (Inches [mm]) | | |
|------------|--------------------|---------|--------------------------|------------|-------------|
| | Inches | DN [mm] | A | B | C |
| G2(S) | 1½" | 40 | 5.37" [137] | 1.50" [38] | 8.50" [216] |
| G2(S) | 2" | 50 | 6.12" [156] | 1.56" [40] | 8.56" [217] |

Dimensions with G3...(D) Series 3-Way Valve



| Valve Body | Valve Nominal Size | | Dimensions (Inches [mm]) | | |
|------------|--------------------|---------|--------------------------|------------|-------------|
| | Inches | DN [mm] | A | B | C |
| G3(D) | 1½" | 40 | 5.37" [137] | 1.62" [41] | 8.62" [219] |
| G3(D) | 2" | 50 | 6.12" [156] | 1.87" [48] | 8.87" [225] |

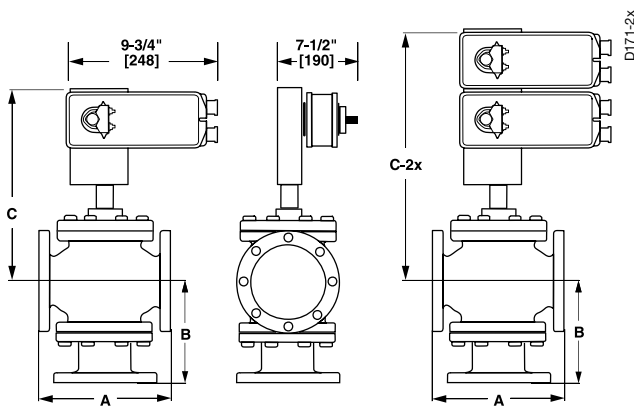
Dimensions with G6/G6C ANSI 125 and G6 ANSI 250 Series 2-Way Valve



| Valve Body | Valve Nominal Size | | Dimensions (Inches [mm]) | | |
|--------------|--------------------|---------|--------------------------|-------------|--------------|
| | Inches | DN [mm] | A | B | C |
| G6 ANSI 125 | 2½" | 65 | 9.00" [229] | 4.75" [121] | 13.50" [343] |
| G6 ANSI 125 | 3" | 80 | 10.00" [254] | 5.37" [136] | 13.94" [354] |
| G6 ANSI 250 | 2½" | 65 | 9.62" [244] | 4.75" [121] | 14.00" [356] |
| G6 ANSI 250 | 3" | 80 | 10.75" [273] | 5.37" [136] | 14.12" [359] |
| G6C ANSI 125 | 2½" | 65 | 9.00" [229] | 4.75" [121] | 13.50" [343] |
| G6C ANSI 125 | 3" | 80 | 10.00" [254] | 5.37" [136] | 13.94" [354] |

| Valve Body | Valve Nominal Size | | Dimensions (Inches [mm]) | | |
|--------------|--------------------|---------|--------------------------|-------------|--------------|
| | Inches | DN [mm] | A | B | C-2x |
| G6C ANSI 125 | 4" | 100 | 13.00" [330.2] | 6.87" [175] | 20.25" [514] |
| G6C ANSI 125 | 5" | 125 | 15.75" [400] | 7.87" [200] | 20.87" [530] |
| G6C ANSI 125 | 6" | 150 | 17.75" [451] | 8.50" [216] | 21.50" [546] |
| G6 ANSI 125 | 2½" | 65 | 9.00" [229] | 4.75" [121] | 18.25" [464] |
| G6 ANSI 125 | 3" | 80 | 10.00" [254] | 5.37" [136] | 19.18" [487] |
| G6 ANSI 250 | 2½" | 65 | 9.62" [244] | 4.75" [121] | 18.75" [476] |
| G6 ANSI 250 | 3" | 80 | 10.75" [273] | 5.37" [136] | 19.75" [502] |

Dimensions with G7/G7D ANSI 125/250 Series 3-Way Valve



| Valve Body | Valve Nominal Size | | Dimensions (Inches [mm]) | | |
|-------------------|--------------------|---------|--------------------------|--------------|--------------|
| | Inches | DN [mm] | A | B | C |
| G7 & G7D ANSI 125 | 2½" | 65 | 9.00" [229] | 7.12" [181] | 13.87" [352] |
| G7 & G7D ANSI 125 | 3" | 80 | 10.00" [254] | 8.00" [203] | 14.44" [367] |
| G7D ANSI 125 | 4" | 100 | 13.00" [330] | 9.87" [251] | 15.25" [387] |
| G7 & G7D ANSI 250 | 2½" | 65 | 9.62" [244] | 7.37" [187] | 14.00" [356] |
| G7 & G7D ANSI 250 | 3" | 80 | 10.75" [273] | 8.37" [213] | 14.62" [371] |
| G7D ANSI 250 | 4" | 100 | 13.62" [346] | 10.25" [260] | 15.25" [387] |

Dimensions with G7/G7D ANSI 125/250 Series 3-Way Valve

| Valve Body | Valve Nominal Size | | Dimensions (Inches [mm]) | | |
|--------------|--------------------|---------|--------------------------|--------------|--------------|
| | Inches | DN [mm] | A | B | C-2x |
| G7 ANSI 125 | 2½" | 65 | 9.00" [229] | 7.12" [181] | 18.37" [467] |
| G7 ANSI 125 | 3" | 80 | 10.00" [254] | 8.00" [203] | 19.18" [487] |
| G7D ANSI 125 | 5" | 125 | 12.00" [305] | 10.50" [267] | 20.56" [522] |
| G7D ANSI 125 | 6" | 150 | 14.12" [359] | 11.12" [282] | 21.25" [540] |
| G7 ANSI 250 | 2½" | 65 | 9.62" [244] | 7.37" [187] | 18.75" [476] |
| G7 ANSI 250 | 3" | 80 | 10.75" [273] | 8.37" [213] | 19.37" [492] |
| G7D ANSI 250 | 5" | 125 | 12.87" [327] | 11.00" [279] | 20.56" [522] |
| G7D ANSI 250 | 6" | 150 | 14.50" [368] | 11.50" [292] | 21.25" [540] |

Wiring Diagrams



INSTALLATION NOTES



CAUTION Equipment damage!

Actuators may be connected in parallel. Power consumption must be observed.



Actuators may also be powered by 24 VDC.



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



APPLICATION NOTES

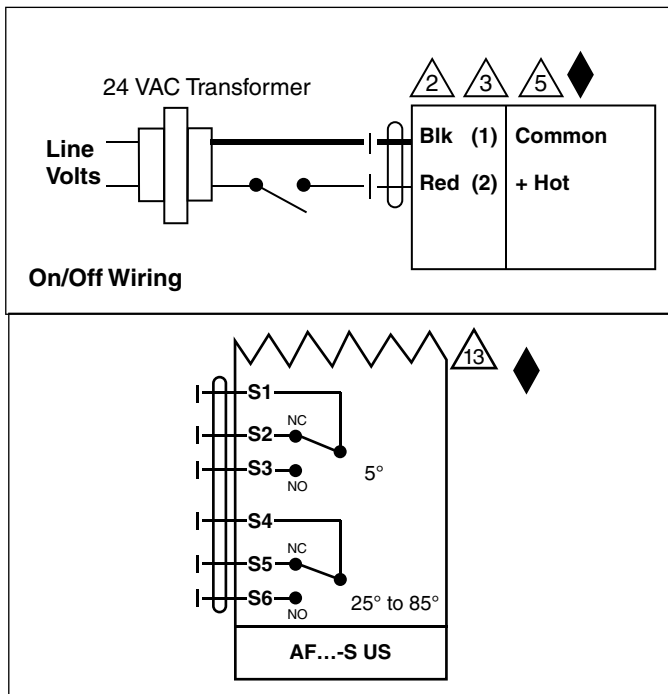


Meets cULus or UL and CSA requirements without the need of an electrical ground connection.



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.



Auxiliary Switch Wiring for AF...-S US

Wiring Diagrams for Multiple On/Off Actuators



Provide overload protection and disconnect as required..



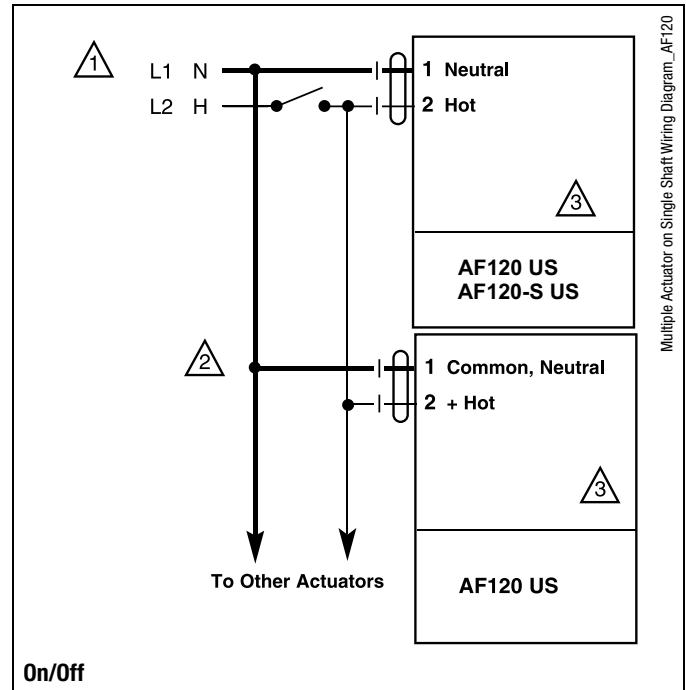
Actuators may be connected in parallel. Power consumption must be observed.



Actuators may also be powered by 24 VDC.



Same model numbers must be used when mounted on one shaft..



| | Non-Spring Return | | | | Spring Return | | | | | Electronic Fail-Safe |
|-------------------------------------|-------------------|-----|-----|--------|---------------|-----|-------|-----|---------|----------------------|
| | NV | NVG | GM | 2 x GM | NVF | AF | 2x AF | AFX | 2 x AFX | GK |
| 2-way ANSI 125 | | | | | | | | | | |
| G665, G665S | | 62 | 113 | 150 | | 36 | 59 | 51 | 82 | 113 |
| G680, G680S | | 42 | 78 | 121 | | 24 | 40 | 34 | 56 | 78 |
| G6100, G6100S | | | 19 | | | | | | | 19 |
| 2-way Pressure Comp ANSI 125 | | | | | | | | | | |
| G665C, G665CS, G665LCS | 150 | | | | 150 | 150 | | 150 | | |
| G680C, G680CS, G680LCS | 150 | | | | 136 | 150 | | 150 | | |
| G6100C, G6100CS, G6100LCS | | | 150 | | | | 132 | | 150 | 150 |
| G6125C, G6125CS, G6125LCS | | | 150 | | | | 87 | | 150 | 150 |
| G6150C, G6150CS, G6150LCS | | | 150 | | | | 50 | | 150 | 150 |
| 2-way Pressure Comp ANSI 250 | | | | | | | | | | |
| G665C-250, G665CS-250 | | | | | | | | 250 | | |
| G680C-250, G680CS-250 | | | | | | | | 250 | | |
| G6100C-250, G6100CS-250 | | | 250 | | | | | | 212 | 250 |
| G6125C-250, G6125CS-250 | | | 239 | | | | | | 152 | 239 |
| G6150C-250, G6150CS-250 | | | 178 | | | | | | 105 | 178 |
| 2-way ANSI 250 | | | | | | | | | | |
| G665-250, G665S-250 | | 62 | 113 | 176 | | 36 | 59 | 51 | 82 | 113 |
| G680-250, G680S-250 | | 42 | 78 | 121 | | 24 | 40 | 34 | 56 | 78 |
| G6100-250, G6100S-250 | | | 19 | | | | | | | 19 |
| 3-way ANSI 125 Mixing | | | | | | | | | | |
| G765, G765S | | 62 | 113 | 150 | | 36 | 59 | 51 | 82 | 114 |
| G780, G780S | | 42 | 78 | 121 | | 24 | 40 | 34 | 56 | 78 |
| G7100, G7100S | | | 19 | 31 | | | | | 13 | 19 |
| G7125, G7125S | | | | 19 | | | | | | |
| G7150, G7150S | | | | 13 | | | | | | |
| 3-way ANSI 250 Mixing | | | | | | | | | | |
| G765-250, G765S-250 | | 62 | 113 | 176 | | 35 | 58 | 40 | 114 | 114 |
| G780-250, G780S-250 | | 42 | 78 | 121 | | 23 | 40 | 25 | 77 | 78 |
| G7100-250, G7100S-250 | | | | 31 | | | | | 24 | 19 |
| G7125-250, G7125S-250 | | | | 19 | | | | | | |
| G7150-250, G7150S-250 | | | | 13 | | | | | | |
| 3-way ANSI 125/250 Diverting | | | | | | | | | | |
| G765D, G765DS, G765DS-250 | | 100 | 100 | | | 100 | | 100 | | 100 |
| G780D, G780DS, G780DS-250 | | 100 | 100 | | | 100 | | 100 | | 100 |
| G7100D, G7100DS, G100DS-250 | | 100 | 100 | | | 100 | | 100 | | 100 |
| G7125D, G7125DS, G7125DS-250 | | | 100 | | | | 100 | | 100 | 100 |
| G7150D, G7150DS, G7150DS-250 | | | 100 | | | | 100 | | 100 | 100 |