



5-year warranty



## Technical data

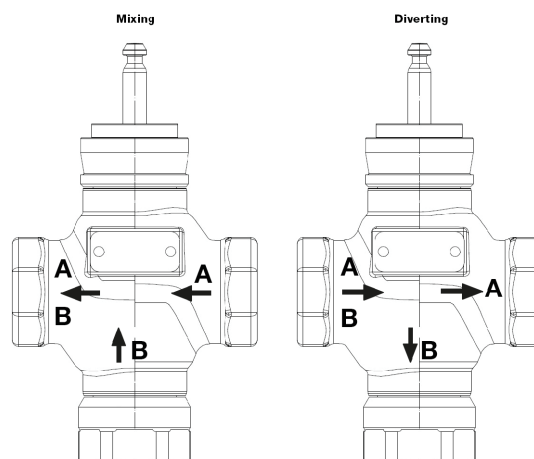
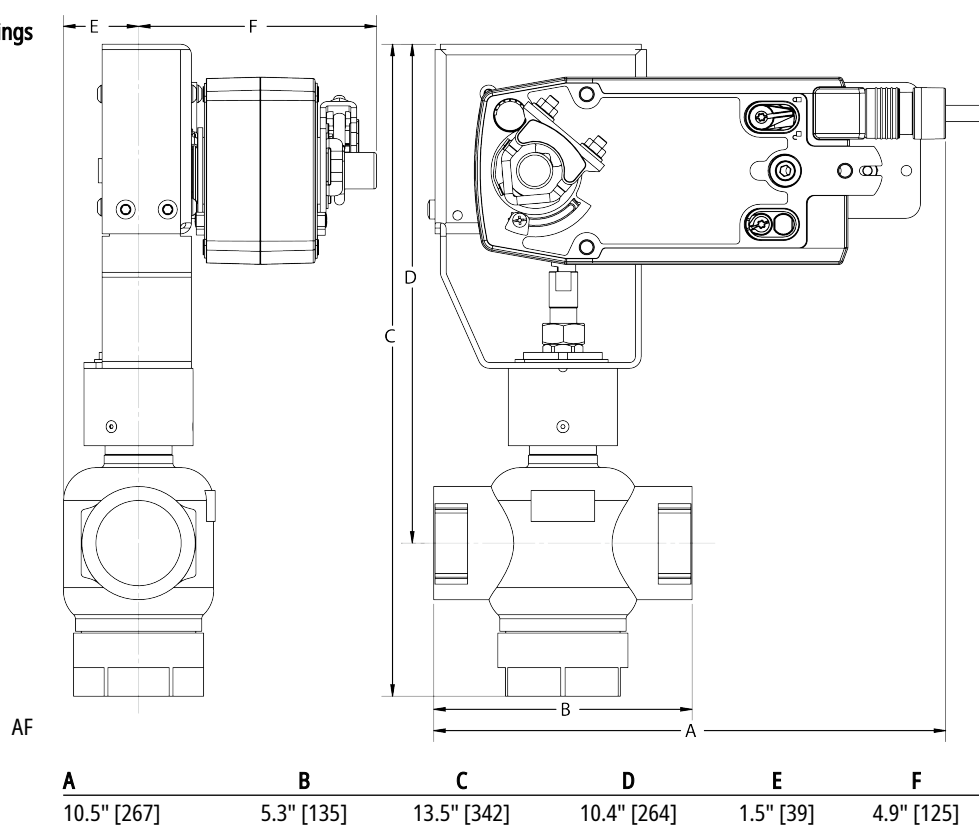
|                    |                           |                                           |
|--------------------|---------------------------|-------------------------------------------|
| Functional data    | Valve Size                | 1.5" [40]                                 |
|                    | Fluid                     | chilled or hot water, up to 60% glycol    |
|                    | Fluid Temp Range (water)  | 20...280°F [-7...138°C]                   |
|                    | Body Pressure Rating      | ANSI Class 250, up to 400 psi below 150°F |
|                    | Flow characteristic       | modified equal percentage, linear B – AB  |
|                    | Servicing                 | repack kits available                     |
|                    | Rangeability Sv           | A-port 100:1, B-port 50:1                 |
|                    | Flow Pattern              | 3-way Mixing/Diverting                    |
|                    | Leakage rate              | ANSI Class VI                             |
|                    | Controllable flow range   | stem up - open B – AB                     |
|                    | Cv                        | 28                                        |
|                    | ANSI Class                | 250                                       |
|                    | Body pressure rating note | up to 400 psi below 150°F                 |
| Materials          | Valve body                | Bronze                                    |
|                    | Valve plug                | brass                                     |
|                    | Stem seal                 | EPDM O-ring                               |
|                    | Seat                      | Bronze                                    |
|                    | Pipe connection           | NPT female ends                           |
| Suitable actuators | Non-Spring                | SVB(X)                                    |
|                    | Electronic fail-safe      | SVKB(X)                                   |

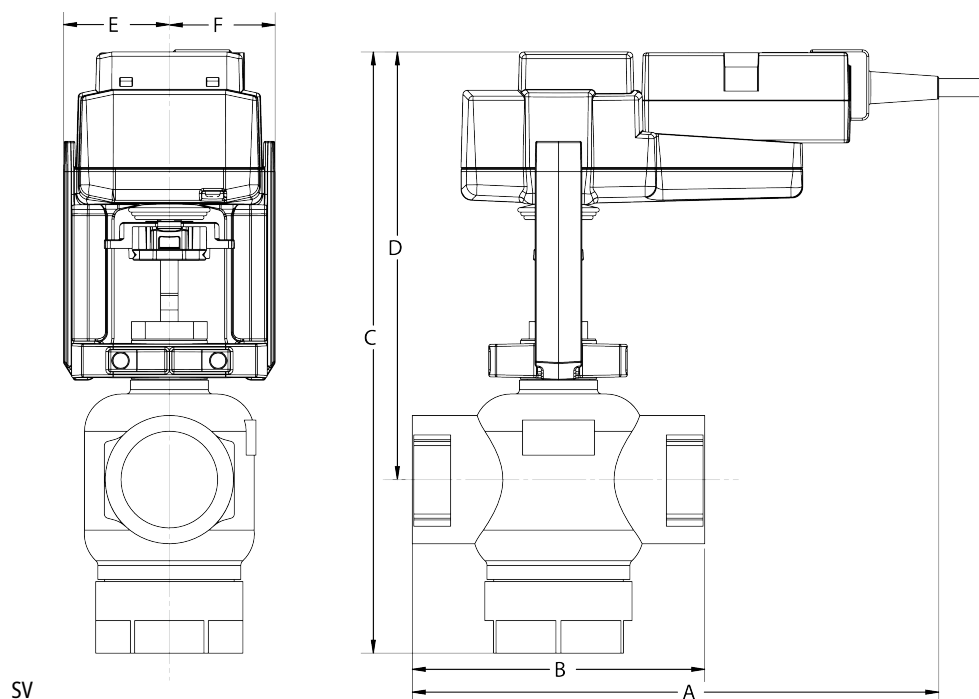
## Safety notes



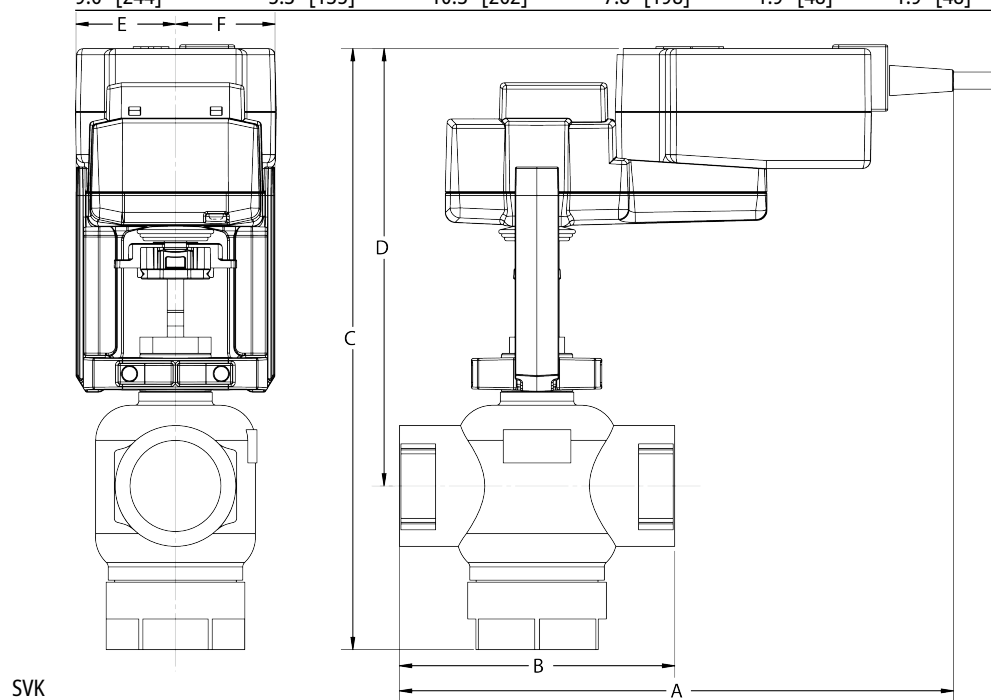
- WARNING: This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)
- The valve has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- The valve does not contain any parts that can be replaced or repaired by the user.
- When determining the flow rate characteristic of controlled devices, the recognised directives must be observed.

## Product features

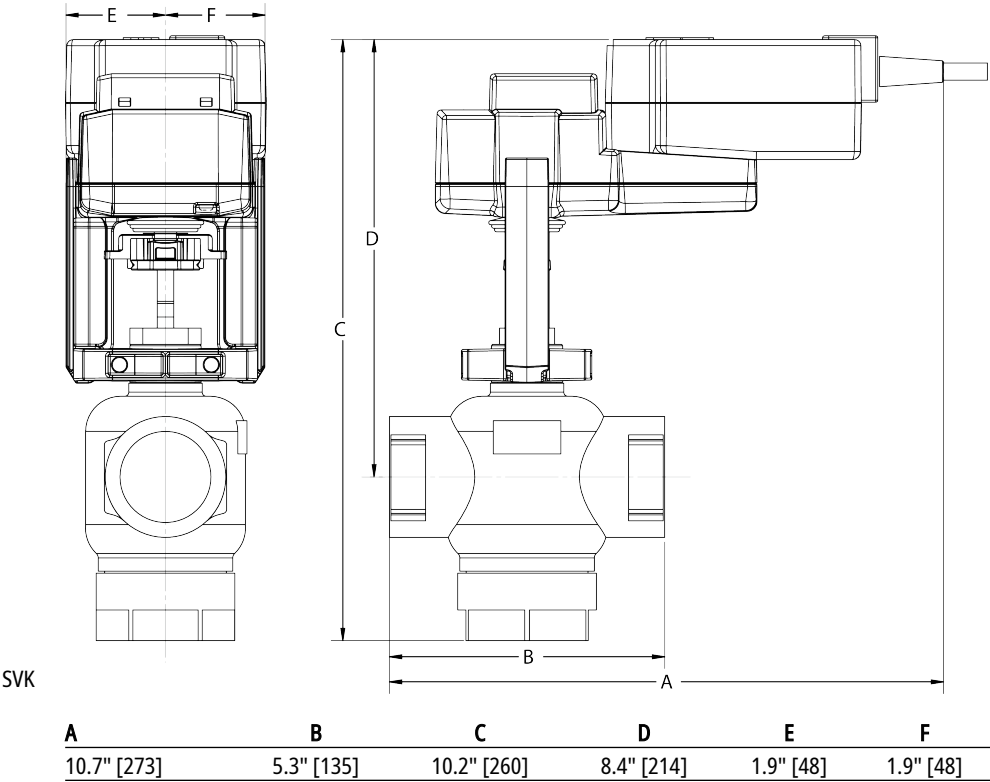
**Flow/Mounting details**

**Dimensions**
**Dimensional drawings**


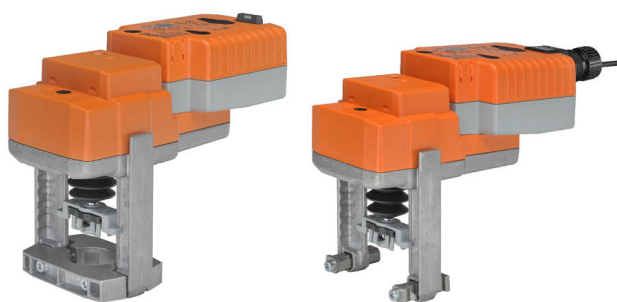


| A          | B          | C           | D          | E         | F         |
|------------|------------|-------------|------------|-----------|-----------|
| 9.6" [244] | 5.3" [135] | 10.3" [262] | 7.8" [198] | 1.9" [48] | 1.9" [48] |



| A           | B          | C           | D          | E         | F         |
|-------------|------------|-------------|------------|-----------|-----------|
| 10.7" [273] | 5.3" [135] | 10.2" [260] | 8.4" [214] | 1.9" [48] | 1.9" [48] |





5-year warranty



## Technical data

|                        |                                    |                                                                                                 |
|------------------------|------------------------------------|-------------------------------------------------------------------------------------------------|
| <b>Electrical data</b> | Nominal voltage                    | AC/DC 24 V                                                                                      |
|                        | Nominal voltage frequency          | 50/60 Hz                                                                                        |
|                        | Power consumption in operation     | 3 W                                                                                             |
|                        | Power consumption in rest position | 2 W                                                                                             |
|                        | Transformer sizing                 | 7 VA (class 2 power source)                                                                     |
|                        | Electrical Connection              | 18 GA plenum cable, 3 ft [1 m], with 1/2" conduit connector, degree of protection NEMA 2 / IP54 |
|                        | Overload Protection                | electronic throughout full stroke                                                               |
|                        | Electrical Protection              | actuators are double insulated                                                                  |
| <b>Functional data</b> | Actuating force motor              | 340 lbf [1500 N]                                                                                |
|                        | Operating range Y                  | 2...10 V                                                                                        |
|                        | Operating range Y note             | 4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)                                                     |
|                        | Input Impedance                    | 100 kΩ for 2...10 V (0.1 mA), 500 Ω for 4...20 mA                                               |
|                        | Position feedback U                | 2...10 V                                                                                        |
|                        | Bridging time                      | 2 s delay before fail-safe activates                                                            |
|                        | Pre-charging time                  | 5...20 s                                                                                        |
|                        | Direction of motion motor          | selectable with switch                                                                          |
|                        | Direction of motion fail-safe      | reversible with switch                                                                          |
|                        | Manual override                    | 4 mm hex crank (shipped w/actuator)                                                             |
|                        | Stroke                             | 0.75" [19 mm]                                                                                   |
|                        | Running Time (Motor)               | default 90 s, variable 90 or 150 s                                                              |
|                        | Running time motor variable        | 90 or 150 s                                                                                     |
|                        | Running time fail-safe             | <35 s                                                                                           |
|                        | Noise level, motor                 | 45 dB(A)                                                                                        |
|                        | Noise level, fail-safe             | 60 dB(A)                                                                                        |
|                        | Position indication                | Mechanically, with pointer                                                                      |
| <b>Safety data</b>     | Degree of protection IEC/EN        | IP54                                                                                            |
|                        | Degree of protection NEMA/UL       | NEMA 2 UL Enclosure Type 2                                                                      |
|                        | Agency Listing                     | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU and 2014/35/EU       |
|                        | Quality Standard                   | ISO 9001                                                                                        |
|                        | Ambient temperature                | -22...122°F [-30...50°C]                                                                        |
|                        | Storage temperature                | -40...176°F [-40...80°C]                                                                        |
|                        | Ambient humidity                   | max. 95% r.H., non-condensing                                                                   |
|                        | Servicing                          | maintenance-free                                                                                |
| <b>Weight</b>          | Weight                             | 3.53 lb [1.6 kg]                                                                                |
|                        |                                    |                                                                                                 |
| <b>Materials</b>       | Housing material                   | Die cast aluminium and plastic casing                                                           |

## Safety notes



- PVC W'Shld for GV w/UGLK (GM)
- Battery Back Up System for SY(7~10)-110
- 120 to 24 VAC, 40 VA transformer.
- 50% voltage divider kit (resistors with wires).
- PC Tool computer programming interface, serial port.

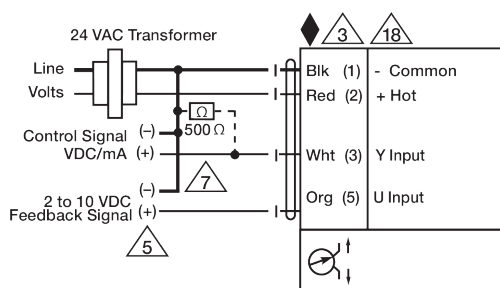
## Electrical installation

### ✂ INSTALLATION NOTES

- △3 Actuators may also be powered by 24 VDC.
- △5 Only connect common to negative (-) leg of control circuits.
- △7 A 500  $\Omega$  resistor (ZG-R01) converts the 4...20 mA control signal to 2...10 V.
- △18 Actuators with plenum cable do not have numbers; use color codes instead.
- ◆ 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.



VDC / 4 to 20 mA