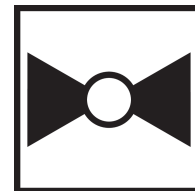




5-year warranty



## Type overview

|         |    |
|---------|----|
| Type    | DN |
| G240B-N | 40 |

## Technical data

|                    |                                   |                                               |
|--------------------|-----------------------------------|-----------------------------------------------|
| Functional data    | Valve Size                        | 1.5" [40]                                     |
|                    | Fluid                             | chilled or hot water, up to 60% glycol, steam |
|                    | 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                     |
|                    | Servicing                         | repack kits available                         |
|                    | Rangeability Sv                   | 100:1                                         |
|                    | Max Differential Pressure (Steam) | 20 psi [103 kPa]                              |
|                    | Flow Pattern                      | 2-way                                         |
|                    | Leakage rate                      | ANSI Class VI                                 |
|                    | Controllable flow range           | stem up - open A – AB                         |
|                    | Cv                                | 28                                            |
|                    | Maximum Inlet Pressure (Steam)    | 35 psi [241 kPa]                              |
|                    | ANSI Class                        | 250                                           |
|                    | Body pressure rating note         | up to 400 psi below 150°F                     |
| Materials          | Valve body                        | Bronze                                        |
|                    | Valve plug                        | brass                                         |
|                    | Stem                              | stainless steel                               |
|                    | Stem seal                         | EPDM O-ring                                   |
|                    | Seat                              | Bronze                                        |
|                    | Pipe connection                   | NPT female ends                               |
| Suitable actuators | Non-Spring                        | LVB(X)                                        |
|                    | Electronic fail-safe              | LVKB(X)                                       |

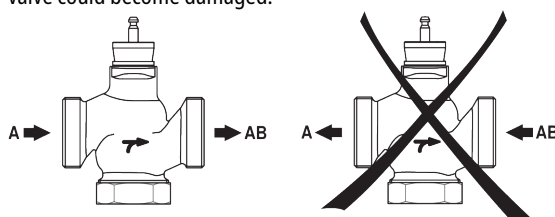
## Safety notes



- **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.

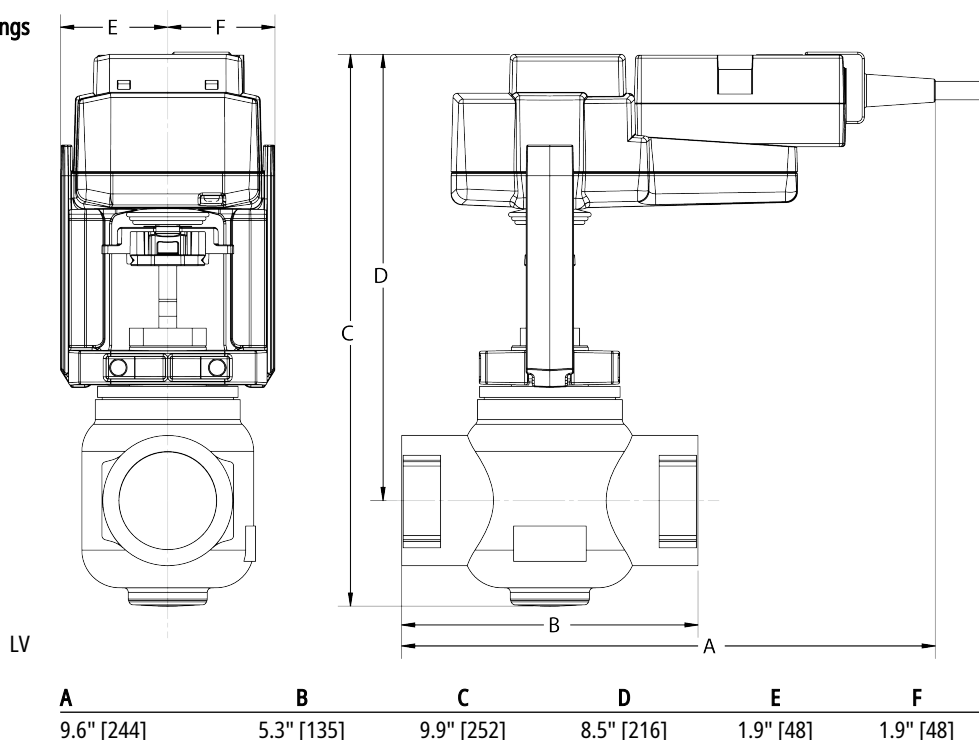
## Installation notes

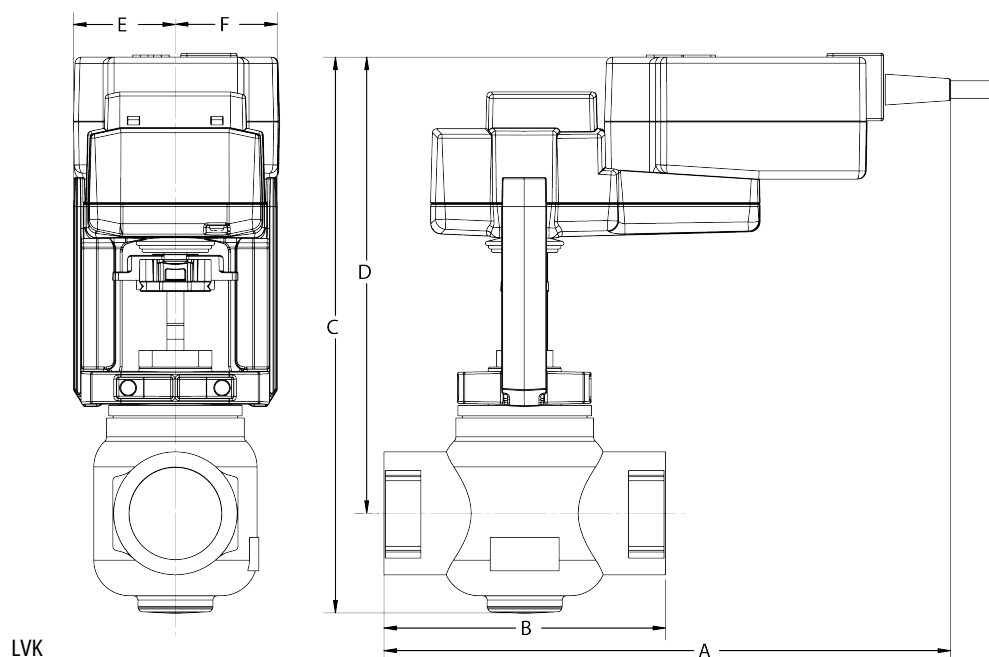
**Flow direction** The direction of flow, specified by an arrow on the housing, is to be complied with, since otherwise the valve could become damaged.



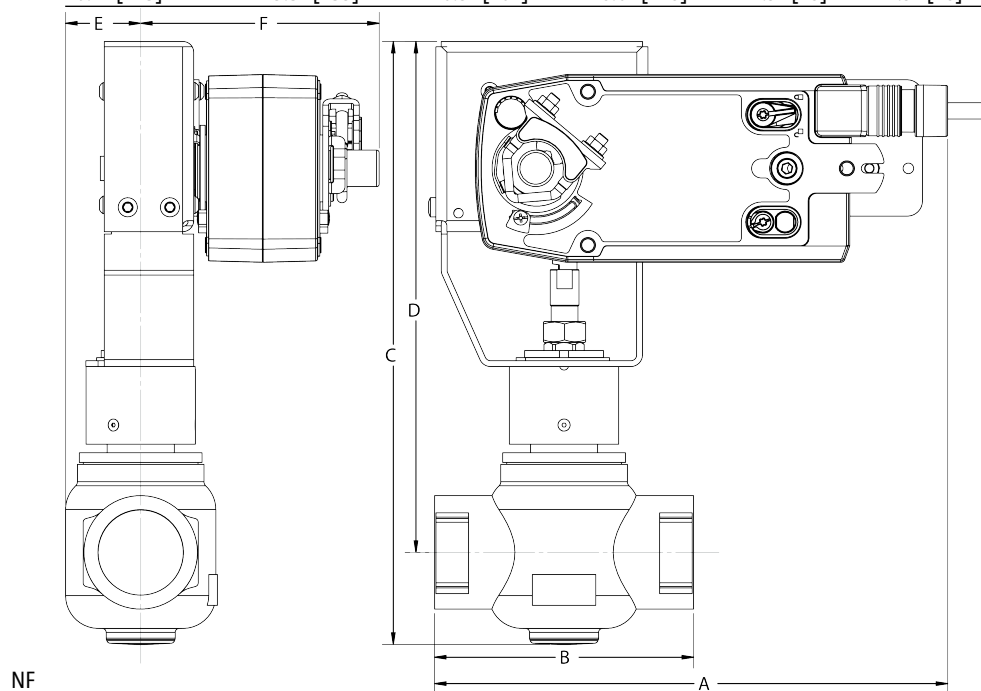
## Dimensions

Dimensional drawings

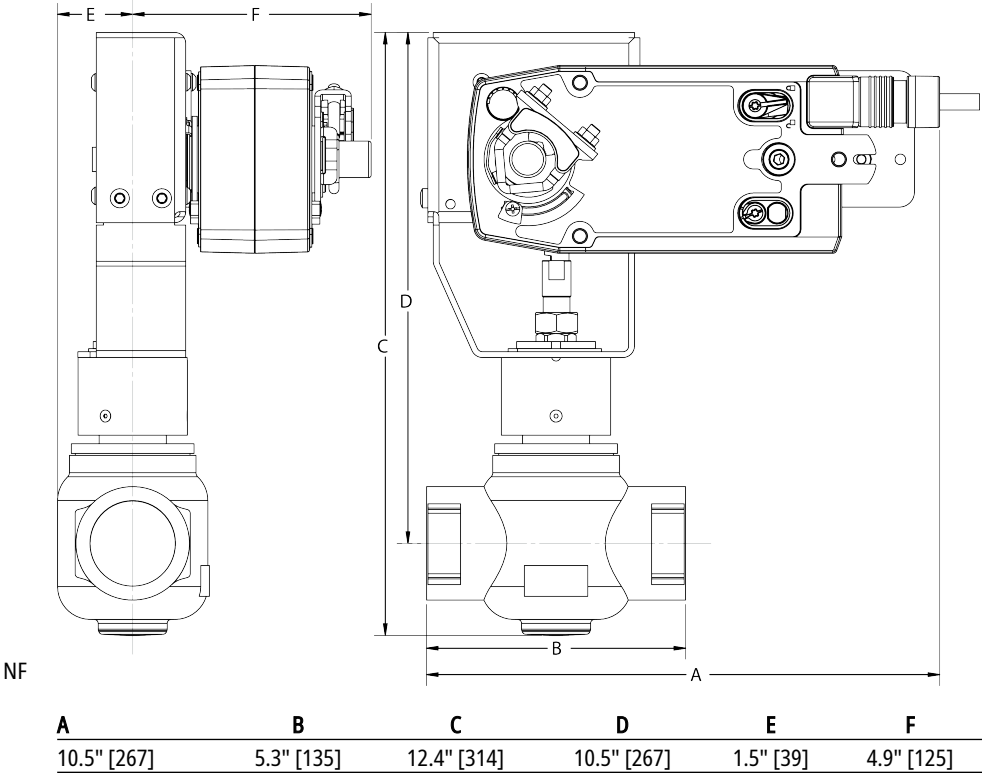




| A           | B          | C           | D          | E         | F         |
|-------------|------------|-------------|------------|-----------|-----------|
| 10.7" [273] | 5.3" [135] | 10.5" [267] | 8.6" [218] | 1.9" [48] | 1.9" [48] |



| A           | B          | C           | D           | E         | F          |
|-------------|------------|-------------|-------------|-----------|------------|
| 10.5" [267] | 5.3" [135] | 12.4" [314] | 10.5" [267] | 1.5" [39] | 4.9" [125] |





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     | 3.5 W                                                                                                                                                                                                        |
|                        | Power consumption in rest position | 2.5 W                                                                                                                                                                                                        |
|                        | Transformer sizing                 | 6 VA (class 2 power source)                                                                                                                                                                                  |
|                        | Electrical Connection              | 18 GA appliance cable, 3 ft [1 m], with 1/2" conduit connector                                                                                                                                               |
|                        | Overload Protection                | electronic throughout 0...95° rotation                                                                                                                                                                       |
| <b>Functional data</b> | Operating range Y                  | 2...10 V                                                                                                                                                                                                     |
|                        | Operating range Y note             | 4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)                                                                                                                                                                  |
|                        | Position feedback U                | 2...10 V                                                                                                                                                                                                     |
|                        | Position feedback U note           | Max. 0.5 mA                                                                                                                                                                                                  |
|                        | Direction of motion motor          | selectable with switch 0/1                                                                                                                                                                                   |
|                        | Direction of motion fail-safe      | reversible with cw/ccw mounting                                                                                                                                                                              |
|                        | Manual override                    | 5 mm hex crank (3/16" Allen), supplied                                                                                                                                                                       |
|                        | Angle of rotation                  | 95°                                                                                                                                                                                                          |
|                        | Running Time (Motor)               | 95 s                                                                                                                                                                                                         |
|                        | Running time fail-safe             | <20 s @ -4...122°F [-20...50°C], <60 s @ -22°F [-30°C]                                                                                                                                                       |
|                        | Noise level, motor                 | 50 dB(A)                                                                                                                                                                                                     |
|                        | Noise level, fail-safe             | 62 dB(A)                                                                                                                                                                                                     |
|                        | Position indication                | Mechanical                                                                                                                                                                                                   |
| <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; Listed to UL 2043 - suitable for use in air plenums per Section 300.22(c) of the NEC and Section 602.2 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% r.H., non-condensing                                                                                                                                                                                |
|                        | Servicing                          | maintenance-free                                                                                                                                                                                             |
|                        |                                    |                                                                                                                                                                                                              |
| <b>Weight</b>          | Weight                             | 4.1 lb [1.9 kg]                                                                                                                                                                                              |
| <b>Materials</b>       | Housing material                   | Galvanized steel and plastic housing                                                                                                                                                                         |

## Safety notes

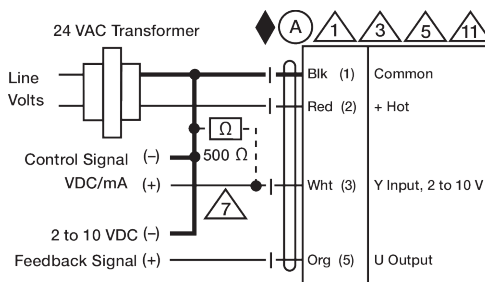


- Base plate for ZS-100.
- PVC W'Shld for GV w/UGLK (LF)
- ZS-300 Mounting Bracket Set
- 120 to 24 VAC, 40 VA transformer.
- Cable for ZTH US to actuators w/o diagnostics socket.
- PC Tool computer programming interface, serial port.

## Electrical installation

### ✂ INSTALLATION NOTES

- (A) Actuators with appliance cables are numbered.
- 1 Provide overload protection and disconnect as required.
- 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.
- 11 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.



2...10 V / 4...20 mA Control