

# UGVL Universal Globe Valve Linkage

For use with LV and SV series actuators



## Technical Data

|                          |  |
|--------------------------|--|
| Service                  | chilled or hot water and steam                                   |
| Applicable Valve Size    | 1/2" [13], 3/4" [19], 1" [25], 1-1/4" [32], 1-1/2" [38], 2" [50] |
| Stem                     | slotted, threaded  |
| Frame, plate, base       | aluminum, steel  |
| Collar                   | aluminum, steel, (fits bonnets up to 1.7" dia.)                  |
| Stem Adaptor             | aluminum   |
| Stroke                   | 0.75" [20mm]   |
| Mounting Position        | 360°   |
| Media Temp Range (water) | 20°F to 250°F [-7°C to +120°C]                                   |
| Media Temp Range (steam) | 32°F to 388°F [0°C to 170°C]                                     |
| Weight                   | 1.9 lbs  |

## Application

The UGVL retrofit kit is designed to easily attach LV and SV series actuators to select globe valves. Its unique adjustable design allows the UGVL to be mounted on 1/2" to 2" two-way or three-way valves in both normally open and normally closed configurations.

## Default/Configuration

The default set up for a UGVL linkage will be factory installed along with a LV or SV series actuator. Included in the kit will be all the necessary hardware to facilitate mounting to the valve.

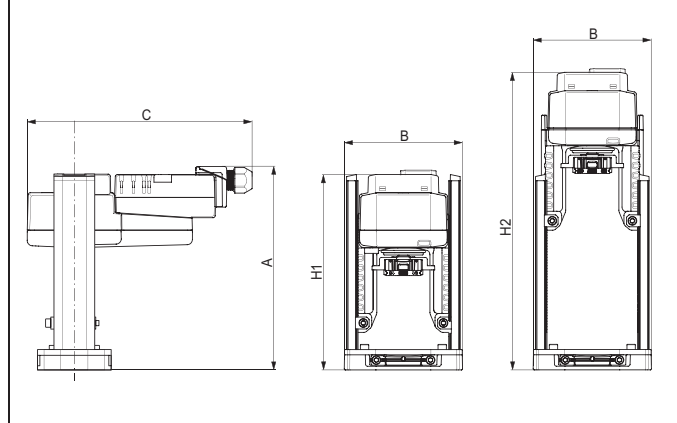
## Operation

The UGVL linkage with actuator will provide 20 mm of linear travel to accommodate a wide range of valves.

## Suitable Actuators

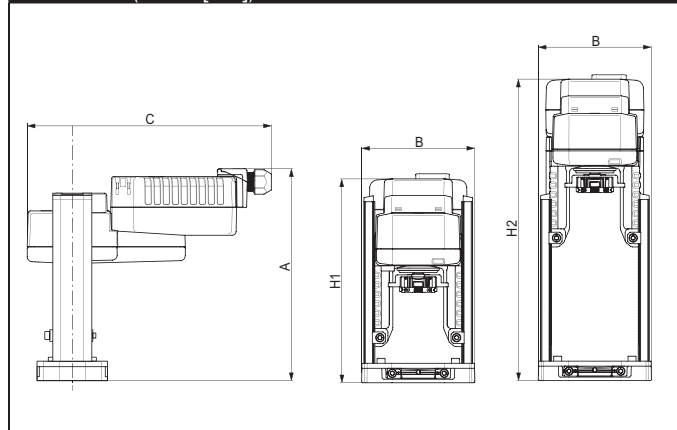
|      | Non-Spring | Electronic Fail-Safe |
|------|------------|----------------------|
| UGVL | LV,SV      | LVK,SVK              |

## Dimensions (Inches [mm]) with LV and SV series actuators



| A          | B          | C           | H1         | H2          |
|------------|------------|-------------|------------|-------------|
| 8" [203.2] | 4.4" [113] | 8.60" [218] | 7.5" [190] | 11.4" [290] |

## Dimensions (Inches [mm]) with LVK and SVK series actuators



| A          | B          | C          | H1         | H2          |
|------------|------------|------------|------------|-------------|
| 8.5" [217] | 4.4" [113] | 9.6" [244] | 8.4" [207] | 12.1" [307] |

## Application Notes

For close-off pressure reference Select Pro or Retrofit Technical Documentation.

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# SVX24-MFT

Proportional, Non-Spring Return, Linear, 24 V, Multi-Function Technology®



| Technical Data            |   |
|---------------------------|---|
| Power supply              | 24 VAC ± 20% 50/60 Hz, 24 VDC ± 10%   |
| Power consumption running | 4 W   |
| Power consumption holding | 2.5 W   |
| Transformer sizing        | 6 VA (class 2 power source)   |
| Electrical connection     | 3 ft, 18 GA plenum rated cable with 1/2" conduit connector protected NEMA 2 (IP54)                |
| Overload protection       | electronic throughout full stroke   |
| Electrical protection     | actuators are double insulated  |
| Control                   | Proportional/MFT  |
| Operating Range Y         | 2 to 10 VDC, 4 to 20 mA (default), variable (VDC, PWM, floating point, on/off)                    |
| Input impedance           | 100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA, 1500 Ω for PWM, floating point and On/Off |
| Feedback Output U         | 2 to 10 VDC, 0.5 mA max, VDC variable   |
| Stroke                    | 0.75" [20 mm]   |
| Linear Force              | 337 lbf [1500 N]  |
| Direction of rotation     | reversible with switch  |
| Position indication       | stroke indicator on bracket   |
| Manual override           | 4 mm hex crank (shipped with actuator)  |
| Running time motor        | 90 seconds (default), variable (90 to 150 seconds)  |
| Humidity                  | 5 to 95% RH non condensing  |
| Ambient temperature       | -22°F to +122°F [-30°C to +50°C]  |
| Storage temperature       | -40°F to +176°F [-40°C to +80°C]  |
| Housing                   | NEMA 2, IP54, UL enclosure type 2   |
| Housing material          | Aluminum die cast and plastic casing  |
| Agency listings†          | cULus acc. to UL 60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC       |
| Noise level               | <45dB(A)  |
| Servicing                 | maintenance free  |
| Quality standard          | ISO 9001  |
| Weight                    | 2.9 lbs   |

† Use flexible metal conduit. Push the Listed conduit fitting device over the actuator's cable to butt against the enclosure. Screw in conduit connector. Jacket the actuators input wiring with Listed flexible conduit. Properly terminate the conduit in a suitable junction box. Rated impulse Voltage 800V. Type of action 1. Control Pollution Degree 3.

## Application

For multiple control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size selection. All valve selections should be done in accordance with the flow parameters and system specifications. The actuator is mounted directly to the globe valve bonnet by means of its universal clamp and collar.

The actuator operates in response to many controls types as desired by the customer and/or design control input from an electronic controller or positioner. A 2 to 10 VDC feedback signal is provided for position indication.

## Operation

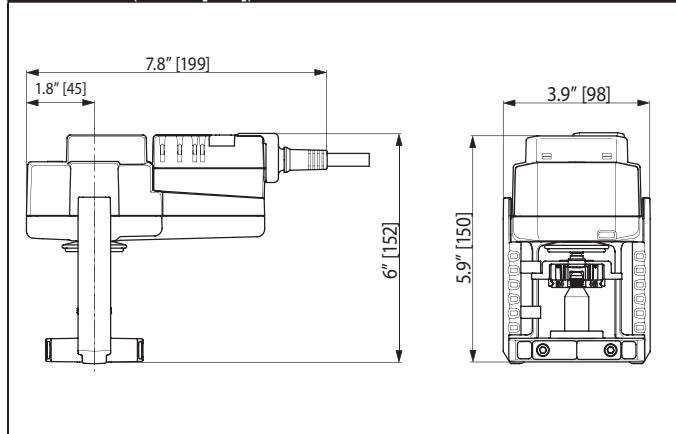
The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The SV series provides 20 mm of downward travel and a visual indicator indicates position of the actuator. When reaching the valve end position, the actuator automatically stops. The gears can be manually disengaged with a button on the actuator cover.

The SV... series actuators use a sensorless brushless DC motor. The ASIC inside monitors and controls the actuator's rotation and provides a digital rotation sensing (DRS) function to prevent damage to the actuator in a stall condition. Power consumption is reduced in holding mode.

Add-on auxiliary switches are easily fastened directly onto the actuator body for signaling and switching functions.

-SR and -MFT models will have an illuminated green Adaption/Power button to reset and relearn the valve stroke as well as indicate the actuator is powered. This feature allows the actuator to rescale itself based on the actual travel. Along with the Adaption button on -MFT models will have a yellow Status light to confirm communication.

## Dimensions (Inches [mm])



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### Typical Specification

Proportional control globe valve actuators shall be electronic and direct coupled to the globe valve bonnet via an integrated linkage, which requires no secondary linkage and be capable of mounting to valves 2.5" to 6" in size. Actuators must provide control in response to a control input from an electronic controller or positioner. Actuators shall have brushless DC motor technology and be protected from overload at all angles of rotation. Actuators shall have reversing switch and manual override on the cover. Run time shall be constant and independent of torque. Actuators shall be cULus listed, have a 5-year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall be as manufactured by Belimo.

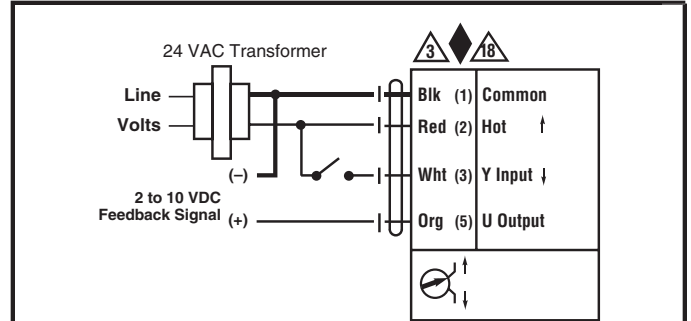
### Wiring Diagrams

#### ✂️ INSTALLATION NOTES

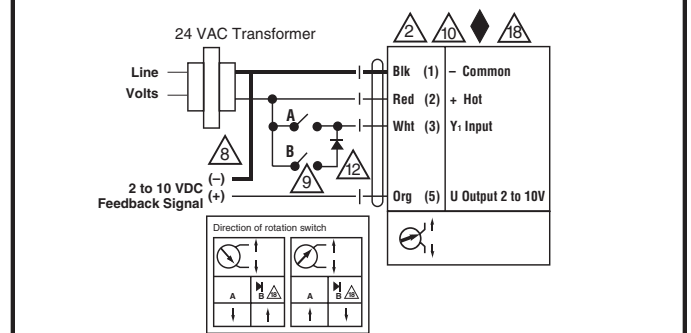
- ⚠️ **CAUTION Equipment Damage!**
- 2 Actuators may be connected in parallel if not mechanically mounted to the same shaft. Power consumption and input impedance must be observed.
- 3 Actuators may also be powered by 24 VDC.
- 7 a 500 Ω resistor converts the 4-20 mA control signal to 2-10 VDC
- 8 Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- 9 For triac sink the common connection from the actuator must be connected to the hot connection of the controller. Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.
- 10 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.
- 12 IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155)
- 18 Actuators with plenum cable do not have numbers; use color codes instead.
- ◆ Meets cULus or UL and CSA Standard 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.

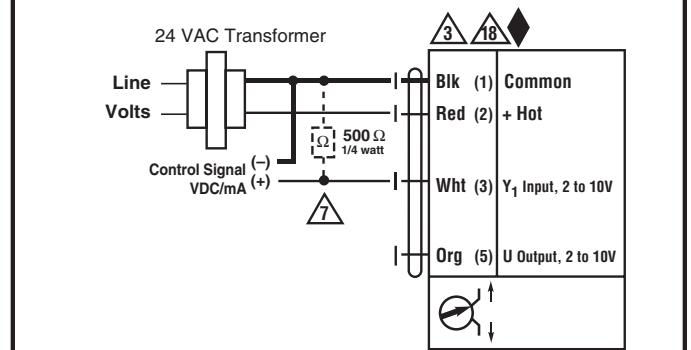
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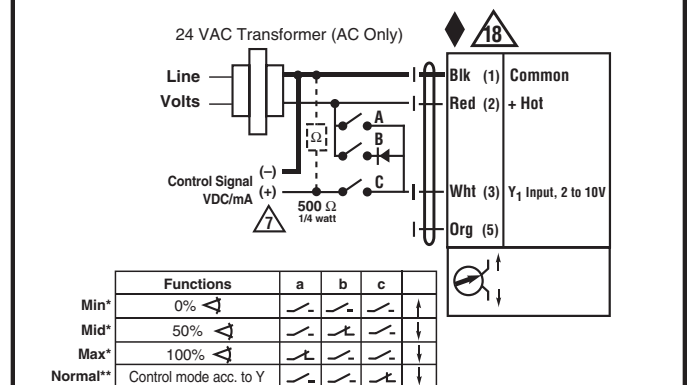
#### On/Off



#### Floating Point



#### VDC/4-20 mA



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

#### Override