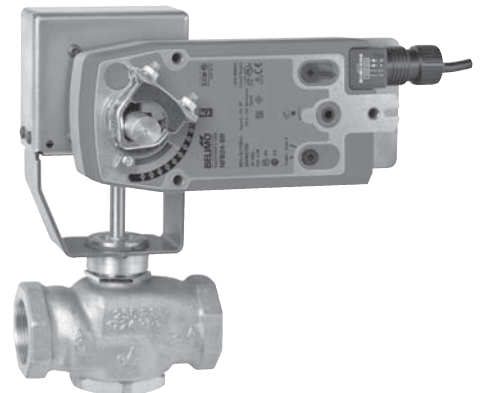
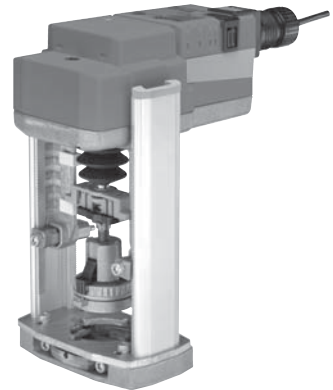


Globe Valve Retrofit Solutions

- Adaptive stroke of actuators utilizes full control signal for maximum resolution.
- Visual stroke indicators allow quick installation.
- Linkages can be mounted in any orientation except upside down.
- Travel ranges of up to 2" (50mm) of stroke.
- Steam rated for inlets up to 100 psi.

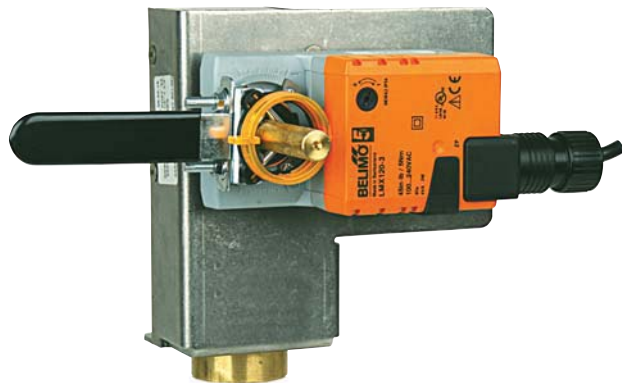
Applications

UGVL, UGLK, UGSL, and UGSP globe valve retrofit solutions are designed to easily attach to the valve bonnet and stem of competitor valves utilizing Belimo actuators. This kit will help to restore service without removal of the valve, saving down time and money.



UGLK.../UGSP... Retrofit Linkage for Globe Valves

For LM and LF Series Actuators



Technical Data	UGLK... / UGSP...
Materials:	
Frame, plate, base	stainless steel
Collar	brass
Drive shaft	½" brass
Gears, rack	sintered steel
Bearing	bronze
Stem adaptor	brass
Stroke max (gear teeth)	½" (12 teeth)
Mounting position	360° mountable
Ambient temperature	-22°F to +122°F [-30°C to +50°C]
Storage temperature	-40°F to +176°F [-40°C to +80°C]
Servicing	chilled or hot water max steam inlet 50 psi
Weight	2.8 lbs [1.3 kg]

Application

The UGLK/UGSP retrofit kit is designed to easily attach to the valve bonnet on select competitor valves utilizing Belimo LM and LF series actuators. The kit is used to restore service to the valve without removal of the valve, saving down time.

The unique collar design allows the UGLK to be mounted on various two-way or three-way valves. The rack and pinion construction allow the linkage to be used with normally open and normally closed valves.

Default/Configuration

The actuator is sold separately from the linkage. This allows users to select the actuator with the desired control signal. The linkage utilizes standard air-side actuators that can be purchased at any time and mounted in the field. With the free spring design of the linkage, clearance is not an issue. The linkage can be oriented at any angle on the bonnet.

Operation

The UGLK/UGSP linkage provides approximately ½" of downward stroke with 95° rotation on the actuator. The linkage travel is based on the size of gear inside. The gear size is stamped on the frame. This allows the valve to extend fully open or closed based on signal. When directional needs vary, the actuator can be flipped or the directional switch turned to a new rotation. The compact design allows for installation in tight spaces.

Suitable Actuators	Close-Off Ranges
LM Series	2-250 psi
LF Series	22-250 psi

Competitor Valves**

Honeywell

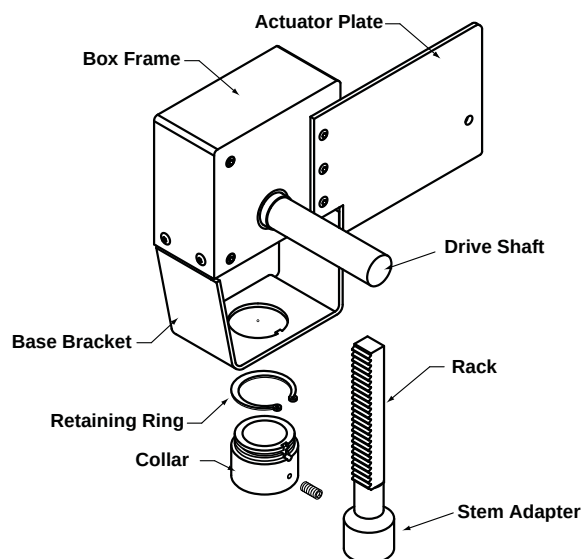
JCI

Siemens / Powers

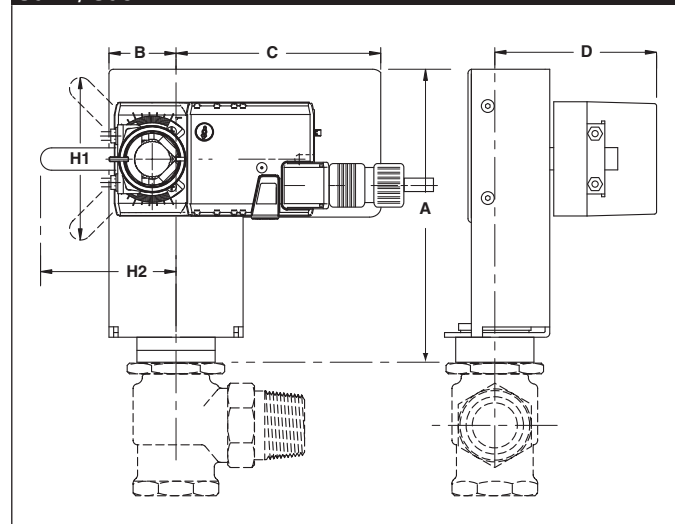
Siebe / Invensys / TAC / Schneider

**Consult pages 93-119 of the Retrofit Technical Documentation and/or SelectPro for close-off pressures and a cross reference of each valve.

UGLK / UGSP Parts Breakdown



UGLK / UGSP



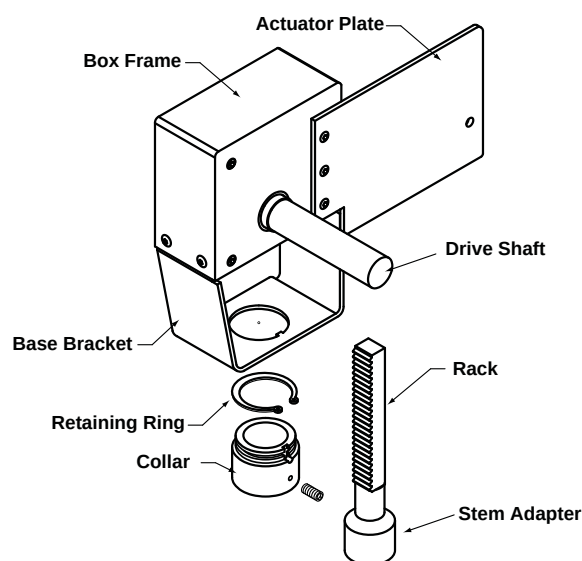
Dimensions (Inches [mm])			
A	6.5" [165]	D	4.0" [102]
B	1.5" [33]	H1	4.0" [102]
C	5.0" [127]	H2	3.5" [89]

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Technical Data	UGLK... / UGSP...
Materials:	
Frame, plate, base	stainless steel
Collar	brass
Drive shaft	3/4" brass
Gears, rack	sintered steel
Bearing	bronze
Stem adaptor	brass
Stroke max (gear teeth)	1/2" (12 teeth) 3/4" (17 teeth) 1-1/8" (25 teeth) 1-1/2" (33 teeth)
Mounting position	360° mountable
Ambient temperature	-22°F to +122°F [-30°C to +50°C]
Storage temperature	-40°F to +176°F [-40°C to +80°C]
Servicing	chilled or hot water, and steam
Weight	5.7 lbs [2.6 kg]

UGLK / UGSP Parts Breakdown



Application

The UGLK/UGSP retrofit kit is designed to easily attach to the valve bonnet on select competitor valves utilizing Belimo GK, AF, NF, GM, AM and NM series actuators. The kit is used to restore service to the valve without removal of the valve, saving down time.

The unique collar design allows the UGLK to be mounted on various two-way or three-way valves. The rack and pinion construction allow the linkage to be used with normally open and normally closed valves.

Default/Configuration

The actuator is sold separately from the linkage. This allows users to select the actuator with the desired control signal. The linkage utilizes standard air-side actuators that can be purchased at any time and mounted in the field. Due to the free spring design of the linkage, clearance is not an issue. The linkage can be oriented at any angle on the bonnet.

Operation

The UGLK/UGSP linkage provides approximately 1/2" to 1-1/2" of downward stroke with 95° rotation on the actuator. The linkage travel is based on the size of gear inside. The gear size is stamped on the frame. This allows the valve to extend fully open or closed based on signal. When directional needs vary, the actuator can be flipped or directional switch turned to a new rotation.

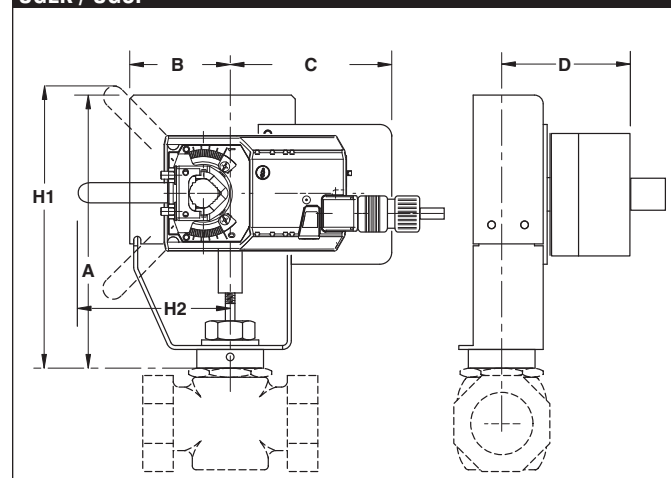
Suitable Actuators	Close-Off Ranges
GK Series	10-250 psi
AF Series	4-250 psi
NF Series	10-250 psi
GM Series	10-250 psi
AM Series	4-250 psi
NM Series	10-250 psi

Competitor Valves**

Honeywell
JCI
Siemens / Powers
Siebe / Invensys / TAC / Schneider
Warren Controls

**Consult pages 93-119 of the Retrofit Technical Documentation and/or SelectPro for close-off pressures and a cross reference of each valve.

UGLK / UGSP



Dimensions (Inches [mm])			
A	9"-11" [178-356]	D	4.0" [102]
B	1.5" [33]	H1	4.0" [102]
C	5.0" [127]	H2	3.5" [89]

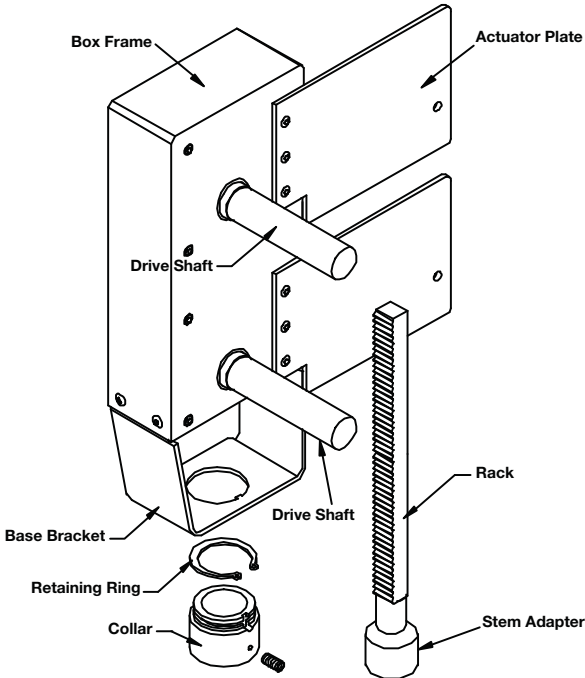
UGLK.../UGSP... Retrofit Linkage for Globe Valves

For Dual Mounted AF, GM, and GK Series Actuators



Technical Data	UGLK... / UGSP...
Materials:	
Frame, plate, base	stainless steel
Collar	brass
Drive shaft	¾" brass
Gears, rack	sintered steel
Bearing	bronze
Stem adaptor	brass
Stroke max (gear teeth)	½" (12 teeth) ¾" (17 teeth) 1-1/8" (25 teeth) 1-½" (33 teeth)
Mounting position	360° mountable
Ambient temperature	-22°F to +122°F [-30°C to +50°C]
Storage temperature	-40°F to +176°F [-40°C to +80°C]
Servicing	chilled or hot water, and steam max steam inlet 50 psi
Weight	10 lbs [4.5 kg]

UGLK / UGSP Parts Breakdown



Application

The UGLK/UGSP retrofit kit is designed to easily attach to the valve bonnet on select competitor valves utilizing tandem Belimo AF, GM, and GK series actuators when higher close-off is required. The kit is used to restore service to the valve without removal of the valve, saving down time.

The unique collar design allows the UGLK to be mounted on various two-way or three-way valves. The rack and pinion construction allow the linkage to be used with normally open and normally closed valves.

Default/Configuration

The actuator is sold separately from the linkage. This allows users to select any actuator with the desired control signal. The linkage utilizes standard air-side actuators that can be purchased at any time and mounted in the field. With the free spring design of the linkage, clearance is not an issue. The linkage can be oriented at any angle on the bonnet.

Operation

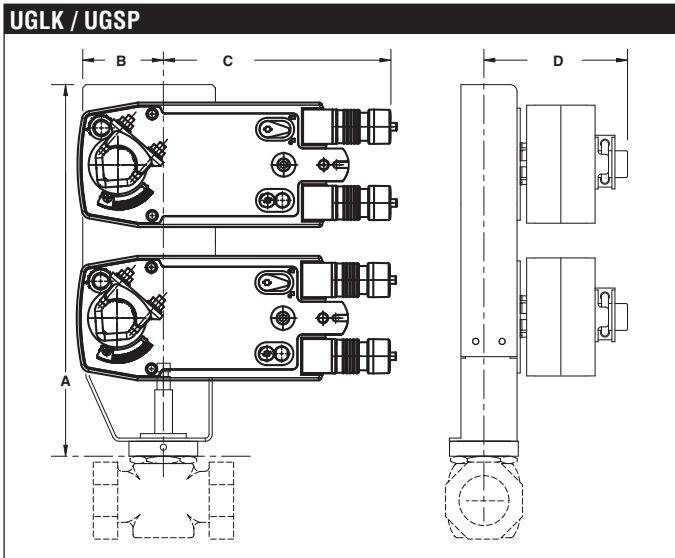
The UGLK/UGSP linkage provides approximately ½" to 1-½" of downward stroke with 95° rotation on the actuator. The linkage travel is based on the size of gear inside. The gear size is stamped on the frame. This allows the valve to extend fully open or closed based on signal. When directional needs vary, the actuators can be flipped or directional switch turned to a new rotation. Refer to Master Slave wiring for dual mounted actuators.

Suitable Actuators	Close-Off Ranges
2*AF Series	10-250 psi
2*GM Series	25-250 psi
2*GK Series	25-250 psi

Competitor Valves**

Honeywell
JCI
Siemens / Powers
Siebe / Invensys / TAC / Schneider
Warren Controls

**Consult pages 92-134 of the Retrofit Technical Documentation and/or SelectPro for close-off pressures and a cross reference of each valve.



Dimensions (Inches [mm])			
A	13"-17" [483]	C	9" [229]
B	3" [76]	D	5" [127]

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Technical Data	
Service	chilled or hot water and steam
Applicable valve size	½" [13], ¾" [19], 1" [25], 1-¼" [32], 1-½" [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 ½" 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.

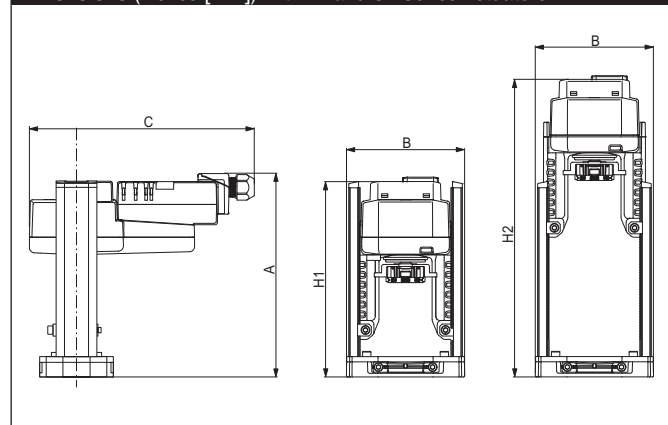
Operation

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

Suitable Actuators

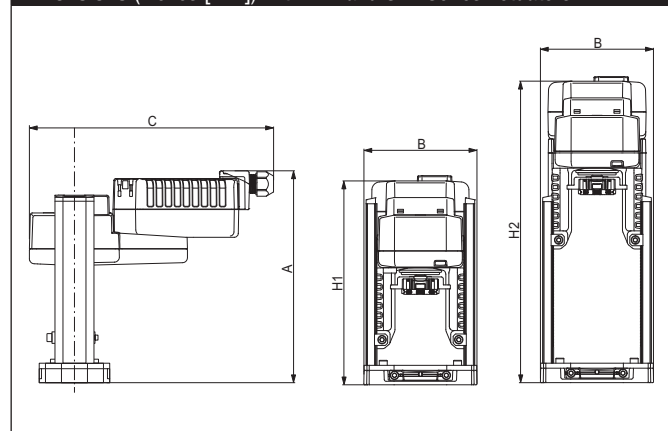
Linkage	Non-Spring Return	Electronic Fail-Safe
UGVL	LV, SV	LVK, SVK

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

**Consult pages 93-119 of the Retrofit Technical Documentation and/or SelectPro for close-off pressures and a cross reference of each valve.

SGVL Schneider Globe Valve Linkage

For use with LV and SV Series Actuators



Technical Data	
Service	chilled or hot water and steam
Applicable valve size	½" [13], ¾" [19], 1" [25], 1-¼" [32], 1-½" [38], 2" [50]
Frame, plate, base	aluminum
Collar*	aluminum (fits VB7 ½" to 2"/VB9 ½" to 1-¼" valves)
Coupling	aluminum
Stem adaptor	steel
Stroke	0.75" [20 mm]
Mounting position	360°
Media temp range (water)	20°F to 250°F [-7°C to +120°C]
Media temp range (steam)	20°F to 250°F [-7°C to +120°C]
Housing material	aluminum die cast and plastic casing
Weight	0.5 lbs

*Will also fit post 1994 VB9 1-½" to 2" valves.

Application

The SGVL retrofit kit is designed to easily attach LV and SV series actuators to select Schneider® globe valves. The cast base and free spinning collar allow the SGVL to be mounted on ½" to 2" two-way or three-way valves in both normally open and normally closed configurations.

Default/Configuration

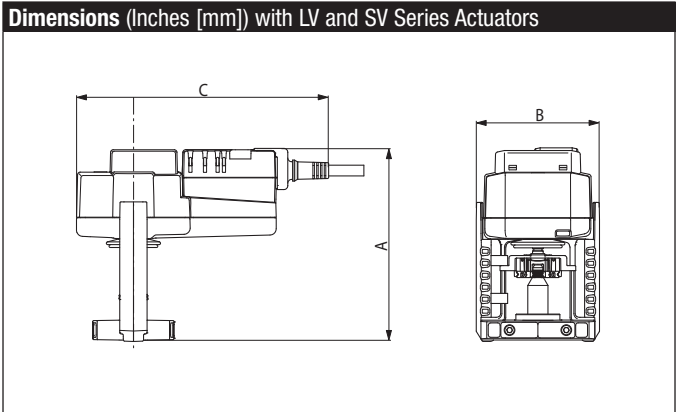
The default set up for a SGVL linkage will be factory installed along with a LV or SV series actuator. Included in the kit is all the necessary hardware to facilitate mounting to the Schneider valve.

Operation

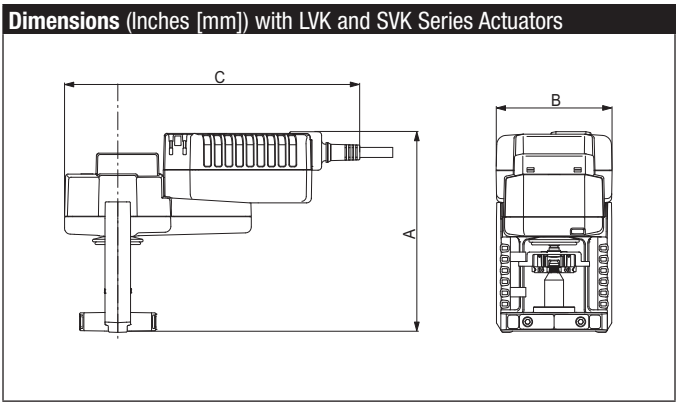
The SGVL linkage with actuator will provide 20 mm of linear travel to accommodate a wide range of valve sizes.

Suitable Actuators

Linkage	Non-Spring Return	Electronic Fail-Safe
SGVL	LV, SV	LVK, SVK



A	B	C
6" [152]	3.9" [98]	7.8" [199]



A	B	C
6.7" [169]	3.9" [98]	8.2" [209]

Application Notes

**Consult pages 93-119 of the Retrofit Technical Documentation and/or SelectPro for close-off pressures and a cross reference of each valve.

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Technical Data	
Service	chilled or hot water and steam
Applicable valve size	2½" [64], 3" [80], 4" [101], 5" [127], 6" [152]
Stem	316 stainless steel
Frame, plate, base	aluminum, steel (fits competitor bonnets up to 2.3" dia.)
Collar	aluminum
Coupling	GF nylon, supplied
Housing material	aluminum die cast and plastic casing
Stem adaptor	steel/aluminum
Stroke	1.25" [32 mm] AVK, 2" [50 mm] EV/RV
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	5 lbs

Application

The FGVL retrofit kit is designed to easily attach AVK, EV, and RV series actuators to select flanged globe valves requiring larger stem travels and higher forces. Its casted base and lower locking clamp allow the FGVL to be mounted on 2½" to 6" two-way or three-way valves in both normally open and normally closed configurations.

Default/Configuration

The default set up for a FGVL linkage will be factory installed along with an AVK, EV, or RV series actuator. Included in the kit will be all the necessary hardware to facilitate mounting to the valve.

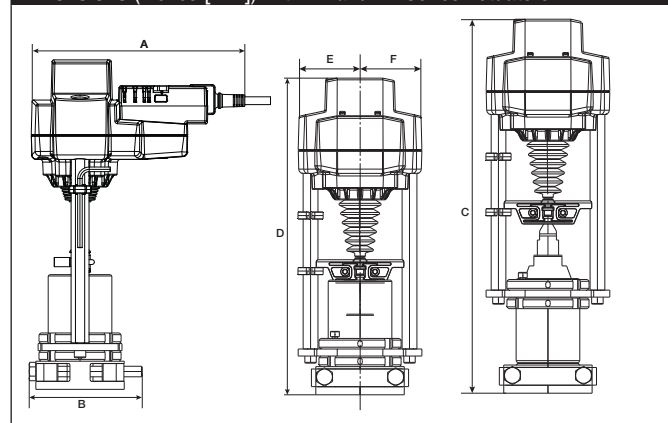
Operation

The FGVL linkage with actuator will provide up to 2" [50 mm] of linear travel to accommodate a wide range of valves.

Suitable Actuators

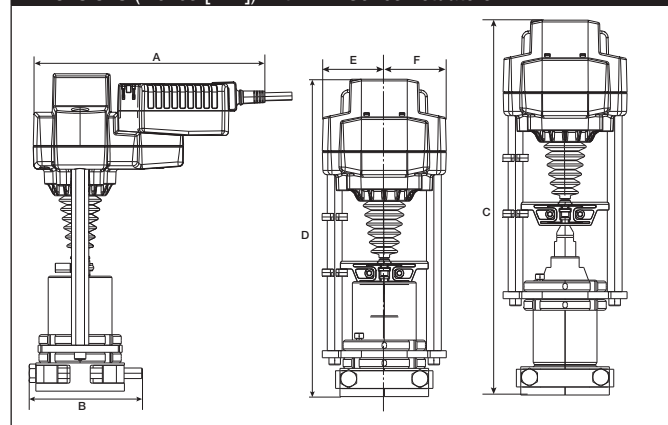
Linkage	Non-Spring Return	Electronic Fail-Safe
FGVL	EVB(X), RVB(X)	AVKB(X)

Dimensions (Inches [mm]) with EV and RV Series Actuators



A	B	C	D	E	F
9.2" [234]	5.00" [127]	16.33" [425]	14.00" [356]	2.78" [71]	

Dimensions (Inches [mm]) with AVK Series Actuators



A	B	C	D	E	F
10.25" [260]	5.00" [127]	16.73" [425]	14.00" [356]	2.78" [71]	

Application Notes

**Consult pages 93-119 of the Retrofit Technical Documentation and/or SelectPro for close-off pressures and a cross reference of each valve.

WGVL Warren Globe Valve Linkage

For use with EV, RV and AVK Series Actuators



Technical Data	
Service	chilled or hot water and steam
Applicable valve size	2" [50], 2-½" [65], 3" [80], 4" [100], 5" [125], 6" [150]
Stem	316 stainless steel
Frame, plate, base	aluminum, steel (fits Warren Type 20,22,23,30, and 32) (Belimo G6 & G7 series)
Collar	steel
Stem adaptor	steel
Stroke	2" [50 mm]
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]
Housing material	aluminum die cast and plastic casing
Weight	2.59 lbs

Application

The WGVL retrofit kit is designed to easily attach AVK, EV and RV series actuators to select Warren® globe valves. The cast base and lower lock nut allow the WGVL to be mounted on 2-½" to 6" two-way or three-way valves in both normally open and normally closed configurations.

Default/Configuration

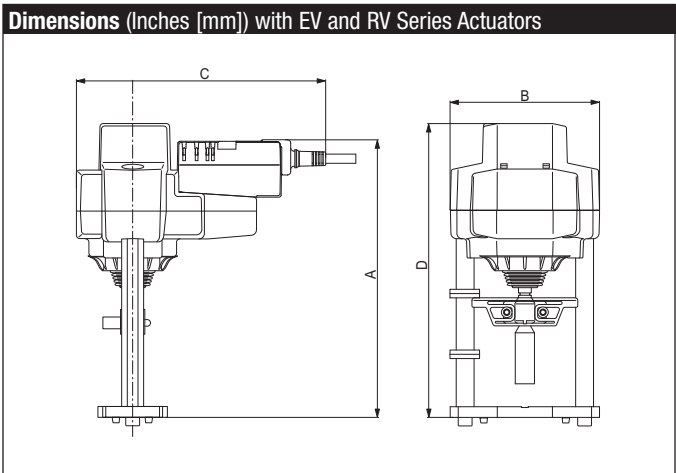
The default set up for a WGVL linkage will be factory installed along with an AVK or EV, RV series actuator. Included in the kit is all the necessary hardware to facilitate mounting to the Warren valve.

Operation

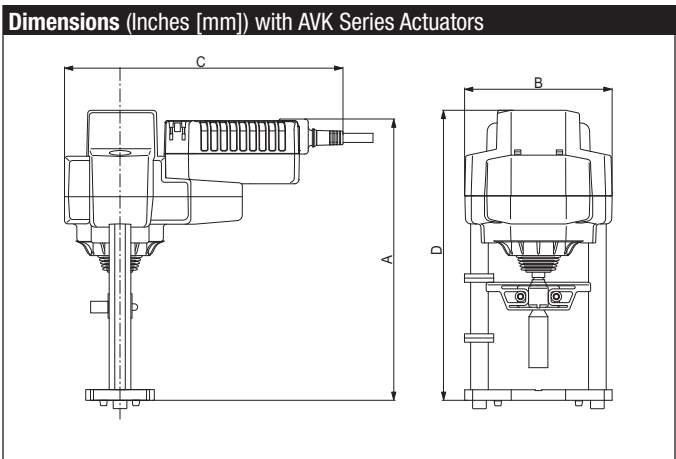
The WGVL linkage with actuator will provide 50 mm of linear travel to accommodate a wide range of valve sizes.

Suitable Actuators

Linkage	Non-Spring Return	Electronic Fail-Safe
WGVL	EV, RV	AVK



A	B	C	D
10.2" [259]	5.5" [140]	9.2" [233]	10.9" [276]



A	B	C	D
10.4" [264]	5.5" [140]	10.3" [262]	10.9" [276]

Application Notes

**Consult pages 93-113 of the Retrofit Technical Documentation and/or SelectPro for close-off pressures and a cross reference of each valve.

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Technical Data	
Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 10%
Power consumption running	2 W
Power consumption holding	0.5 W
Transformer sizing	5 VA (class 2 power source)
Electrical connection	3 ft, 18 GA plenum rated cable with ½" conduit connector protected NEMA 2 (IP54)
Overload protection	electronic throughout full stroke
Electrical protection	actuators are double insulated
Control	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	no feedback
Stroke	0.6" [15 mm]
Linear force	112 lbf [500 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	<55dB(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 on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 24 volt signal being applied from an electronic controller or positioner.

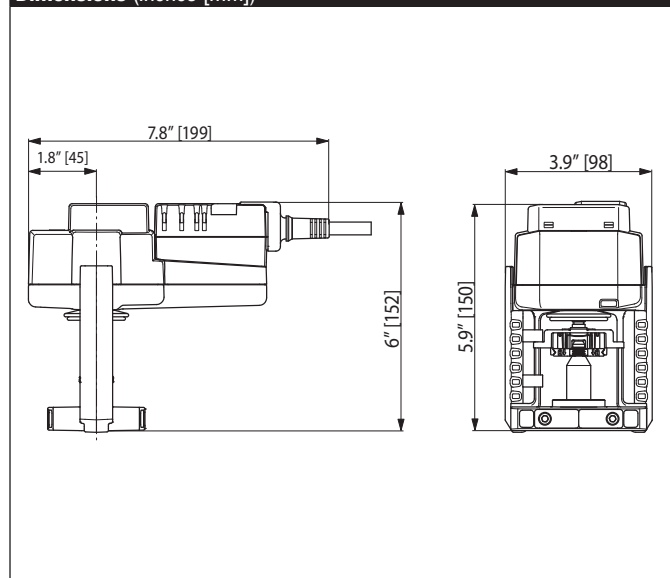
Operation

The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The LV series provides 15 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 LV... 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.

Dimensions (Inches [mm])



Typical Specification

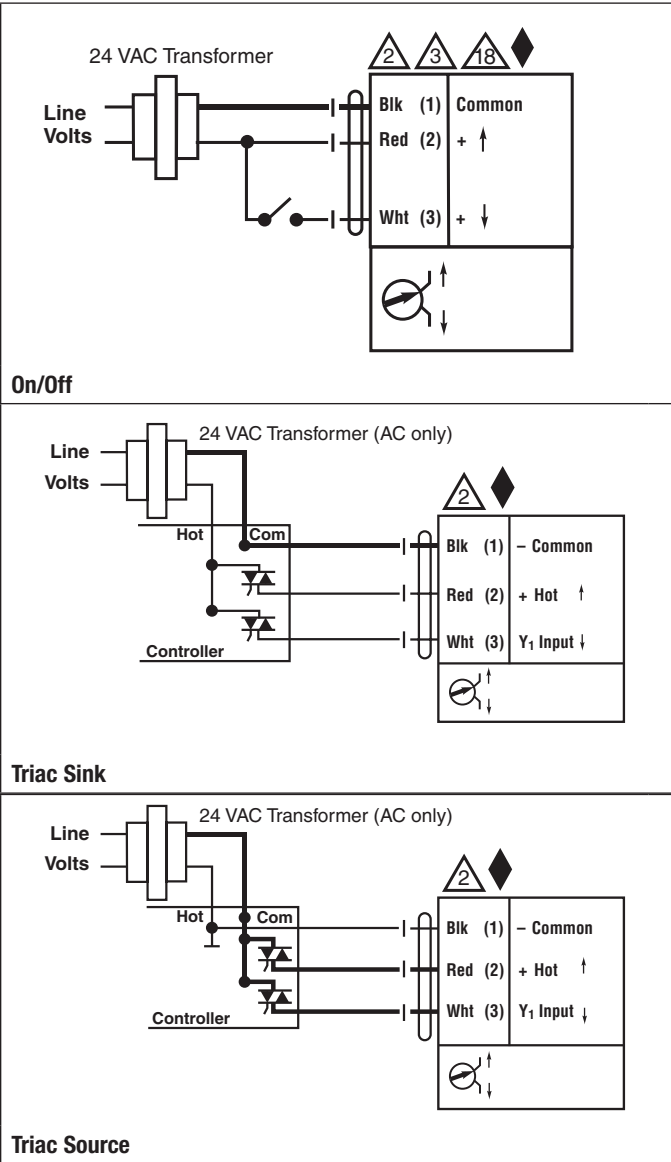
On/off, floating point control globe valve actuators shall be electronic and direct coupled to the globe valve bonnet via an integrated linkage, which requires no secondary linkage and be capable of mounting to valves ½" to 2" in size. Actuators must provide control in response to a control input from 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!**
Actuators may be connected in parallel. Power consumption and input impedance must be observed.
-  Actuators may also be powered by 24 VDC.
-  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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Technical Data	
Power supply	100-240 VAC $\pm$ 20%, 50/60 Hz
Power consumption running	5.5 W
Power consumption holding	1 W
Transformer sizing	6 VA (class 2 power source)
Electrical connection	3 ft, 18 GA appliance rated cable with ½" conduit connector protected NEMA 2 (IP54)
Overload protection	electronic throughout full stroke
Electrical protection	actuators are double insulated
Control	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	no feedback
Stroke	0.6" [15 mm]
Linear force	112 lbf [500 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	<65dB(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 2.5 KV. Type of action 1. Control Pollution Degree 3.

Application

For on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 120 volt signal being applied from an electronic controller or positioner.

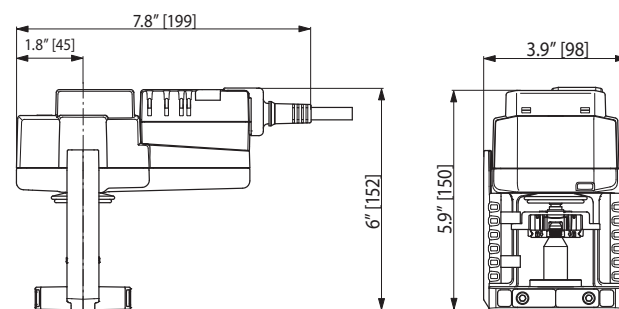
Operation

The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The LV series provides 15 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 LV... 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.

Dimensions (Inches [mm])



LVX120-3

On/Off, Floating Point, Non-Spring Return Actuator, Linear, 100 to 240 VAC



Typical Specification

On/off, floating point 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 ½" to 2" 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

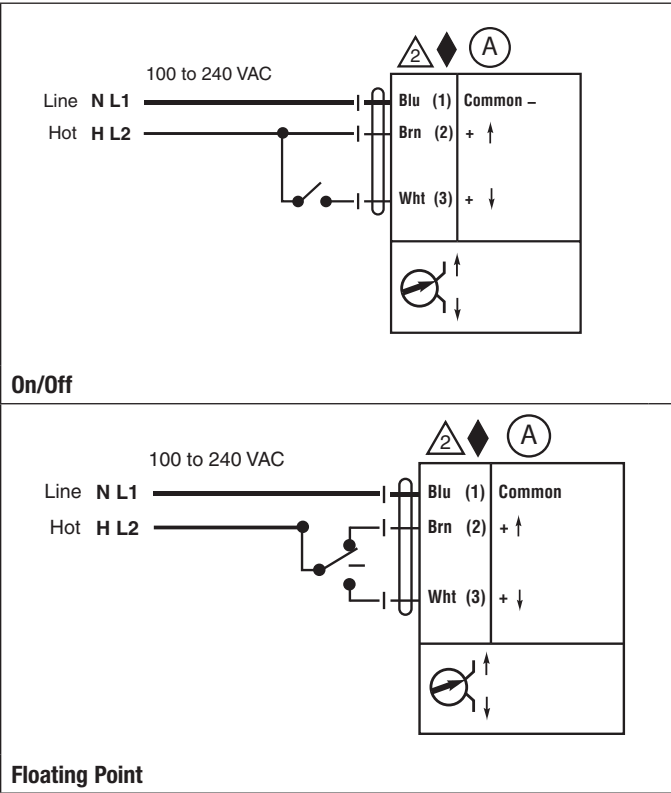
✂ INSTALLATION NOTES

(A) Actuators with appliance cables are numbered.

⚠ CAUTION Equipment Damage!
Actuators may be connected in parallel. Power consumption and input impedance must be observed.

◆ 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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Technical Data	
Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 10%
Power consumption running	2 W
Power consumption holding	0.5 W
Transformer sizing	5 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	2-10 VDC
Operating range Y	2 to 10 VDC, 4 to 20 mA (default)
Input impedance	100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA
Feedback output U	2 to 10 VDC
Stroke	0.6" [15 mm]
Linear force	112 lbf [500 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	<55dB(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 proportional modulation of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 2 to 10 VDC, or with the addition of a 500 resistor, a 4 to 20 mA control input from an electronic controller or positioner. A 2 to 10 VDC feedback signal is provided for position indication.

Operation

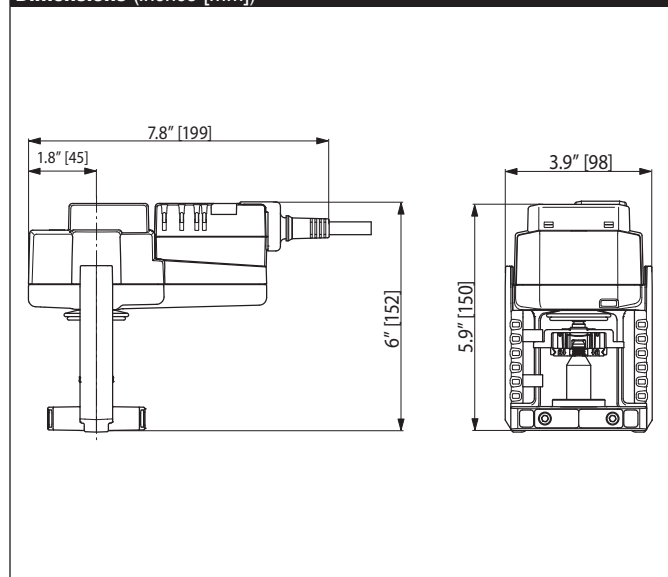
The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The LV series provides 15 mm of downward travel and a visual indicator indicates position of the actuator. When reaching the valve end position, the actuator automatically stops. The gears can be manually disengaged with a button on the actuator cover.

The LV... 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.

Dimensions (Inches [mm])



LVB24-SR

Proportional, Non-Spring Return Actuator, Linear, 24 V, for 2 to 10 VDC or 4 to 20 mA



Typical Specification

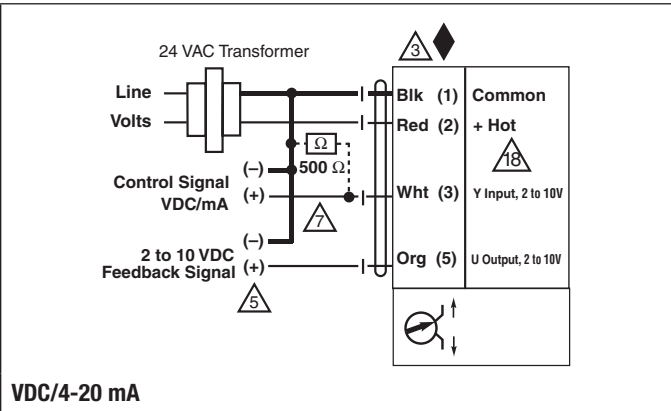
Proportional control globe valve actuators shall be electronic and direct coupled to the globe valve bonnet via an integrated linkage, which requires no secondary linkage and be capable of mounting to valves ½” to 2” in size. Actuators must provide control in response to a control input from an electronic 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

- 3 Actuators may also be powered by 24 VDC.
- 5 Only connect common to neg. (-) leg of control circuits.
- 7 A 500 Ω resistor converts the 4-20 mA control signal to 2-10 VDC.
- 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.





MFT



Technical Data	
Power supply	24 VAC ± 20% 50/60 Hz, 24 VDC ± 10%
Power consumption running	3 W
Power consumption holding	1.5 W
Transformer sizing	6 VA (class 2 power source)
Electrical connection	3 ft, 18 GA plenum rated cable with ½" 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 kΩ 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	0.6" [15 mm]
Linear force	112 lbf [500 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 and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the 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

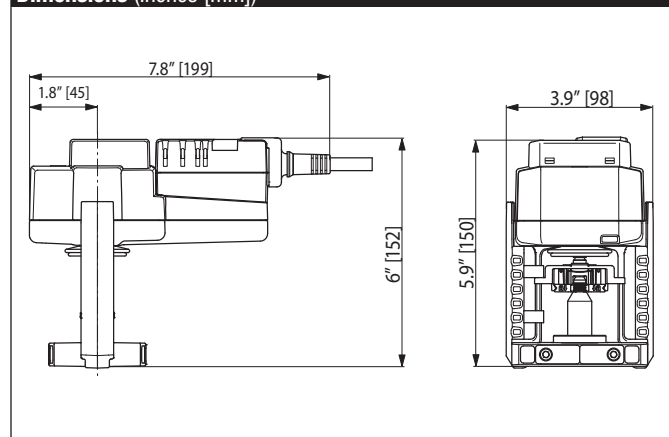
The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The LV series provides 15 mm of downward travel and a visual indicator indicates position of the actuator. When reaching the valve end position, the actuator automatically stops. The gears can be manually disengaged with a button on the actuator cover.

The LV... 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])



LVX24-MFT

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



Typical Specification

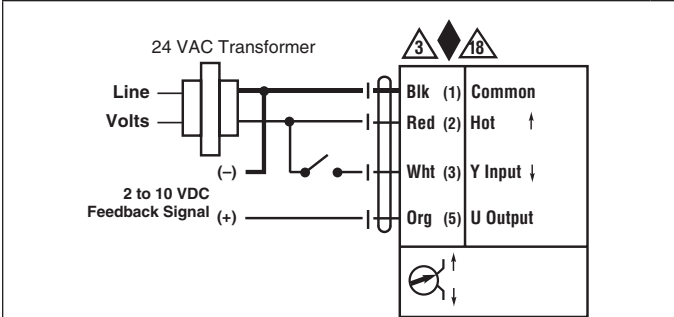
Proportional control globe valve actuators shall be electronic and direct coupled to the globe valve bonnet via an integrated linkage, which requires no secondary linkage and be capable of mounting to valves ½” to 2” in size. Actuators must provide control in response to a control input from an electronic 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

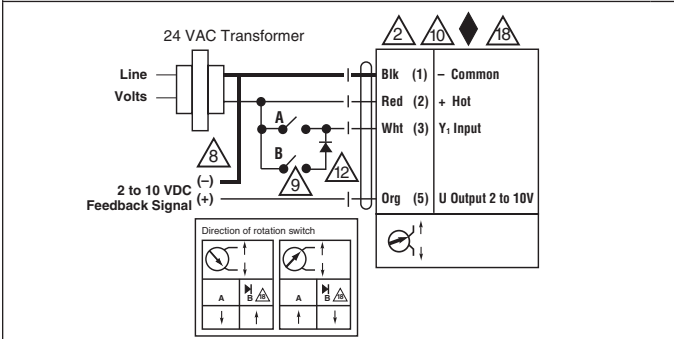
INSTALLATION NOTES

- 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.

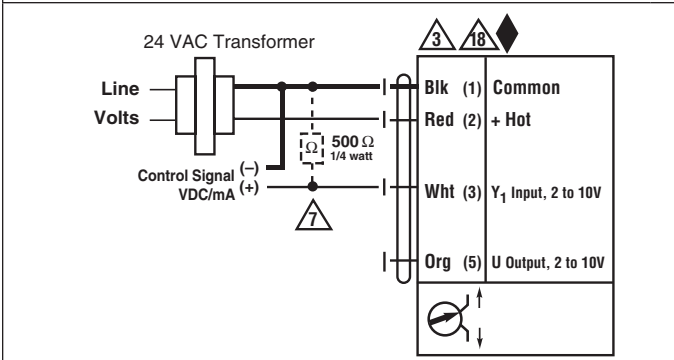
WARNING Live Electrical Components!
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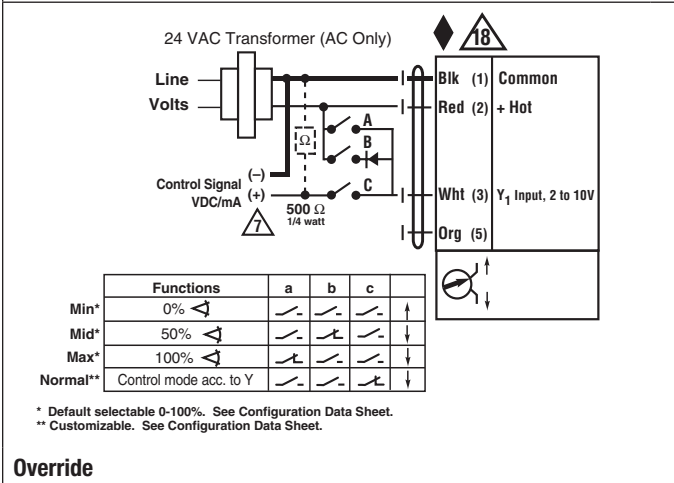
On/Off



Floating Point



VDC/4-20 mA



Override

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Technical Data

Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 10%
Power consumption running	2.5 W
Power consumption holding	0.5 W
Transformer sizing	5 VA (class 2 power source)
Electrical connection	3 ft, 18 GA plenum rated cable with ½" conduit connector protected NEMA 2 (IP54)
Overload protection	electronic throughout full stroke
Electrical protection	actuators are double insulated
Control	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	no feedback
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 on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

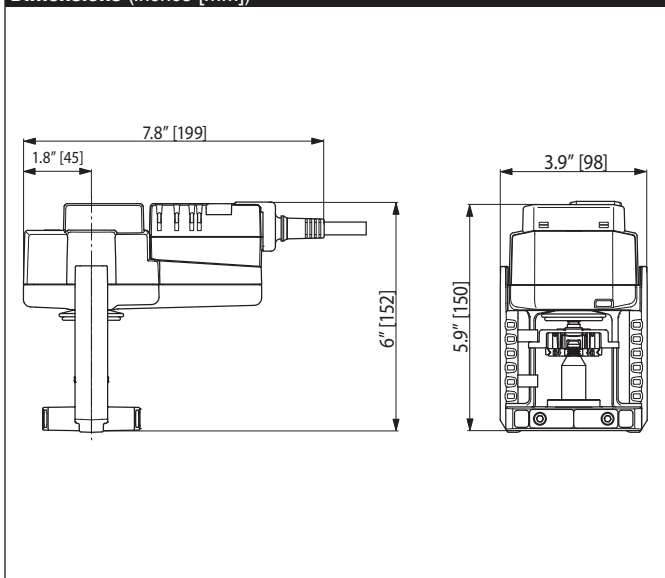
The actuator operates in response to a 24 volt signal being applied from an electronic controller or positioner.

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.

Dimensions (Inches [mm])


Typical Specification

On/off, floating point 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 ½" to 2" 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**
- 

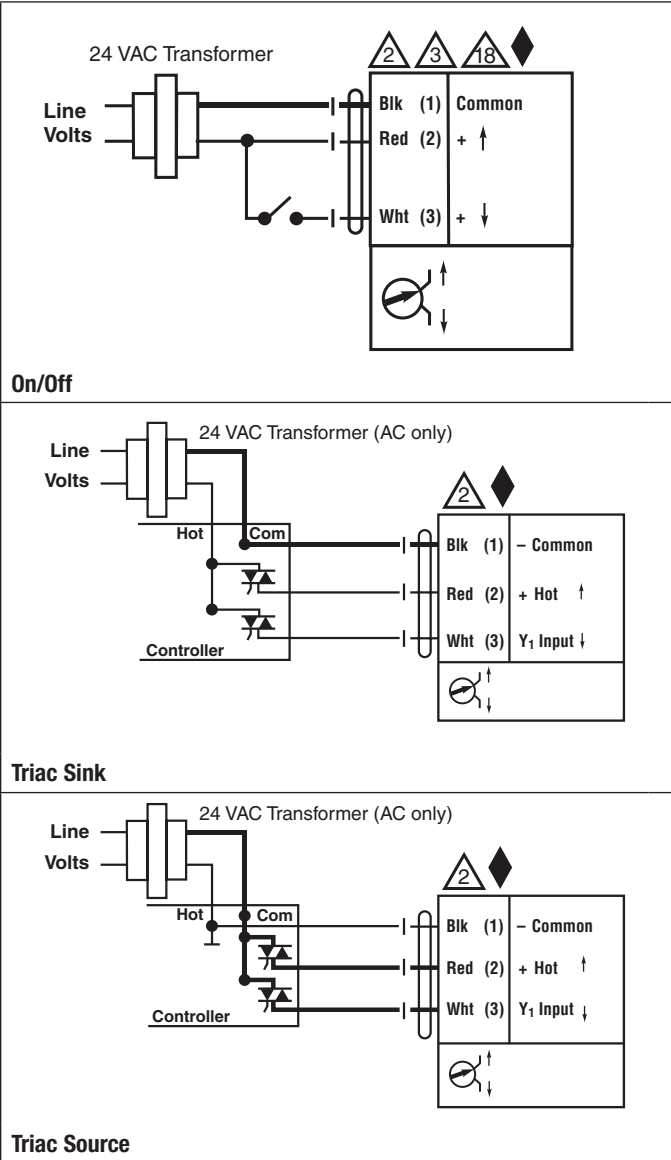
CAUTION Equipment Damage!
Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- 

Actuators may also be powered by 24 VDC.
- 

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!
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Technical Data	
Power supply	100-240 VAC $\pm$ 20%, 50/60 Hz
Power consumption running	5.5 W
Power consumption holding	1 W
Transformer sizing	6 VA (class 2 power source)
Electrical connection	3 ft, 18 GA appliance rated cable with ½" conduit connector protected NEMA 2 (IP54)
Overload protection	electronic throughout full stroke
Electrical protection	actuators are double insulated
Control	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	no feedback
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 2.5 KV. Type of action 1. Control Pollution Degree 3.

Application

For on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 120 volt signal being applied from an electronic controller or positioner.

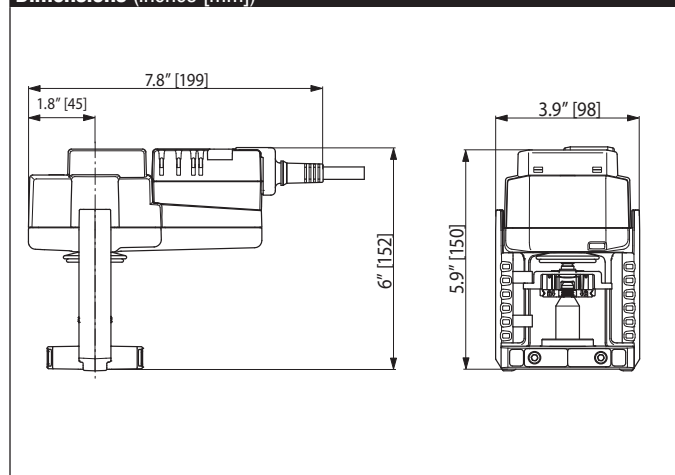
Operation

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.

Dimensions (Inches [mm])



SVX120-3

On/Off, Floating Point, Non-Spring Return Actuator, Linear, 100 to 240 VAC



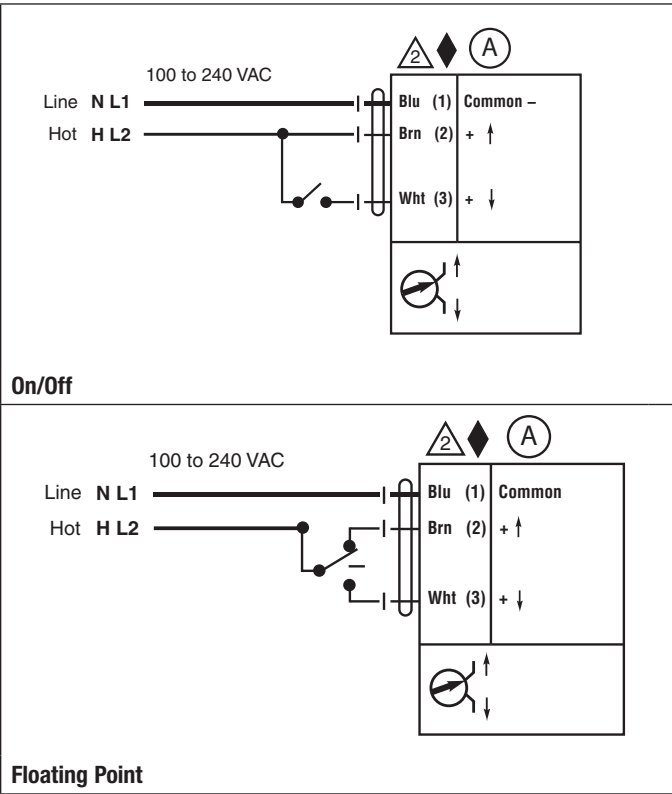
Typical Specification

On/off, floating point 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 ½” to 2” 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

- (A) Actuators with appliance cables are numbered.
- ⚠ **CAUTION Equipment Damage!**
Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- ◆ 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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Technical Data	
Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 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	2-10 VDC
Operating range Y	2 to 10 VDC, 4 to 20 mA (default)
Input impedance	100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA
Feedback output U	2 to 10 VDC
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 proportional modulation of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 2 to 10 VDC, or with the addition of a 500 Ω resistor, a 4 to 20 mA control input from an electronic controller or positioner. A 2 to 10 VDC feedback signal is provided for position indication.

Operation

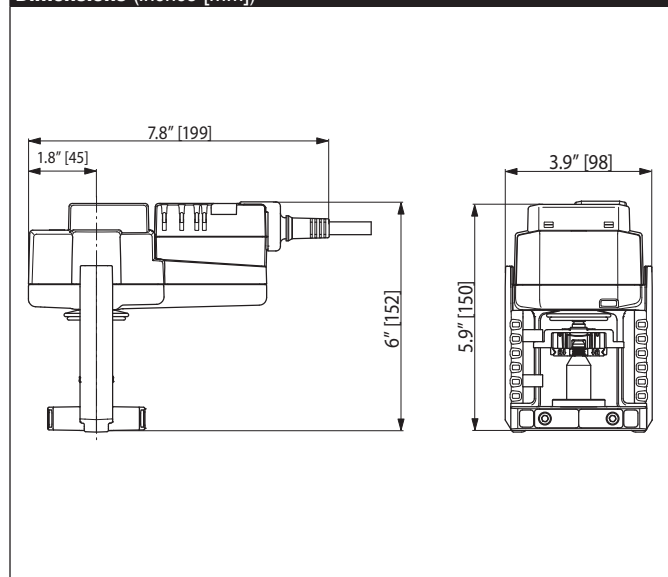
The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The SV series provides 20 mm of downward travel and a visual indicator indicates position of the actuator. When reaching the valve end position, the actuator automatically stops.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

Dimensions (Inches [mm])



Typical Specification

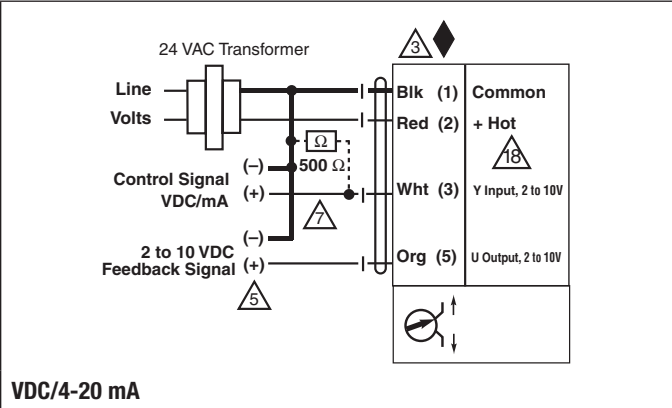
Proportional control globe valve actuators shall be electronic and direct coupled to the globe valve bonnet via an integrated linkage, which requires no secondary linkage and be capable of mounting to valves ½” to 2” in size. Actuators must provide control in response to a control input from an electronic 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

-  Actuators may also be powered by 24 VDC.
-  Only connect common to neg. (-) leg of control circuits.
-  A 500 Ω resistor converts the 4-20 mA control signal to 2-10 VDC.
-  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.





MFT



Technical Data

Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 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 and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the 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

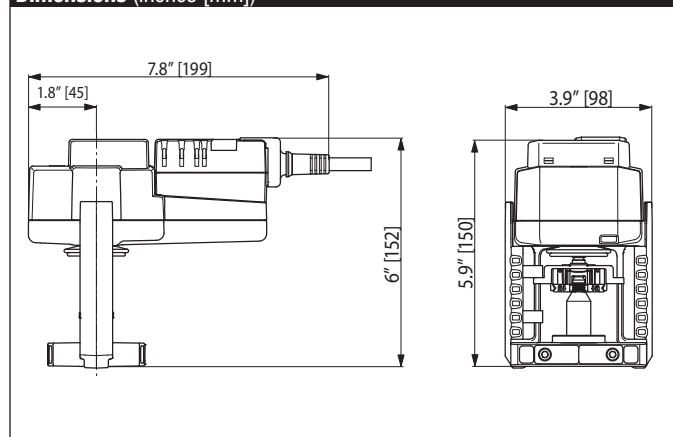
The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The SV series provides 20 mm of downward travel and a visual indicator indicates position of the actuator. When reaching the valve end position, the actuator automatically stops. 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])



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 ½” to 2” 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!

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24 VAC Transformer

Line Volts

2 to 10 VDC Feedback Signal (-) (+)

Blk (1) Common

Red (2) Hot

Wht (3) Y Input

Org (5) U Output

On/Off

24 VAC Transformer

Line Volts

2 to 10 VDC Feedback Signal (-) (+)

Blk (1) - Common

Red (2) + Hot

Wht (3) Y₁ Input

Org (5) U Output 2 to 10V

Direction of rotation switch

A	B
↓	↑

24 VAC Transformer

Line Volts

Control Signal VDC/mA (-) (+)

500 Ω 1/4 watt

Blk (1) Common

Red (2) + Hot

Wht (3) Y₁ Input, 2 to 10V

Org (5) U Output, 2 to 10V

VDC/4-20 mA

24 VAC Transformer (AC Only)

Line Volts

Control Signal VDC/mA (-) (+)

500 Ω 1/4 watt

Blk (1) Common

Red (2) + Hot

Wht (3) Y₁ Input, 2 to 10V

Org (5)

Functions	a	b	c
Min*			
Mid*			
Max*			
Normal**	Control mode acc. to Y		

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

Override

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Technical Data

Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 10%
Power consumption running	6 W
Power consumption holding	3.5 W
Transformer sizing	7 VA (class 2 power source)
Electrical connection	3 ft, 18 GA plenum rated cable with ½" conduit connector protected NEMA 2 (IP54)
Overload protection	electronic throughout full stroke
Electrical protection	actuators are double insulated
Control	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	no feedback
Stroke	2" [50 mm]
Linear force	562 lbf [2500 N]
Direction of rotation	reversible with switch
Position indication	stroke indicator on bracket
Manual override	5 mm hex crank (3/16" Allen), supplied
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	<65dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	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 on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

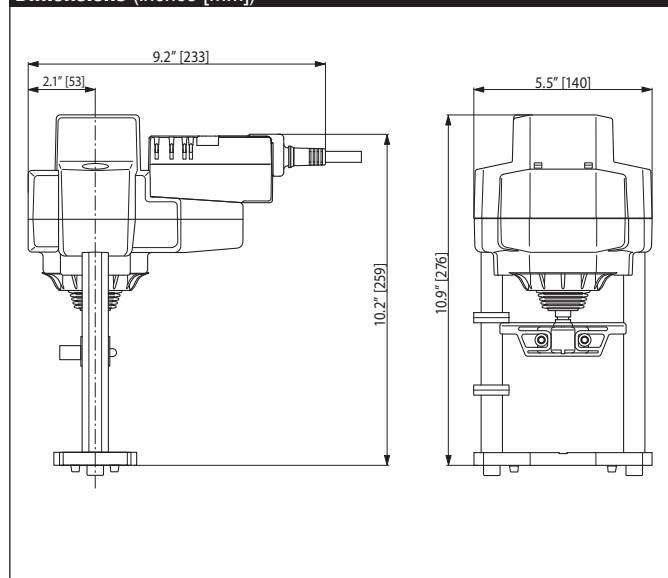
The actuator operates in response to a 24 volt signal being applied from an electronic controller or positioner.

Operation

The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The EV series provides 50 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 EV... 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.

Dimensions (Inches [mm])


Typical Specification

On/off, floating point 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.

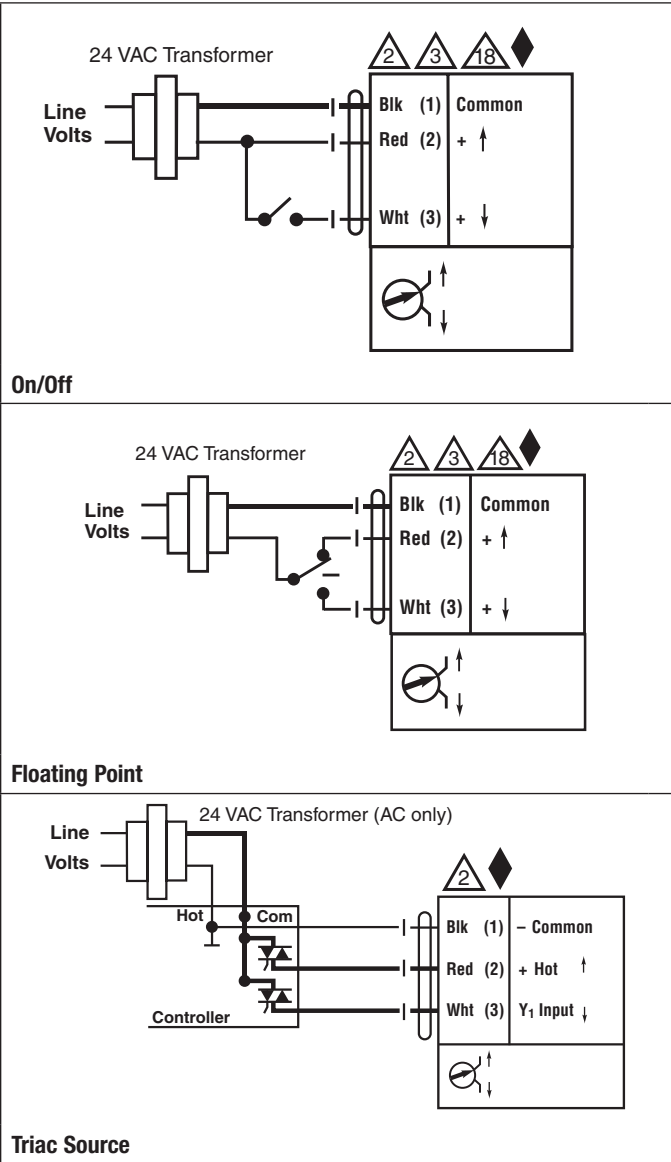
Wiring Diagrams

✂ INSTALLATION NOTES

- CAUTION Equipment Damage!**
- 2 Actuators may be connected in parallel. Power consumption and input impedance must be observed.
 - 3 Actuators may also be powered by 24 VDC.
 - 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!

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Technical Data

Power supply	100-240 VAC $\pm$ 20%, 50/60 Hz
Power consumption running	5 W
Power consumption holding	1 W
Transformer sizing	10 VA (class 2 power source)
Electrical connection	3 ft, 18 GA appliance rated cable with ½" conduit connector protected NEMA 2 (IP54)
Overload protection	electronic throughout full stroke
Electrical protection	actuators are double insulated
Control	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	no feedback
Stroke	2" [50 mm]
Linear force	562 lbf [2500 N]
Direction of rotation	reversible with switch
Position indication	stroke indicator on bracket
Manual override	5 mm hex crank (3/16" Allen), supplied
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	<65dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	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 2.5 KV. Type of action 1. Control Pollution Degree 3.

Application

For on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

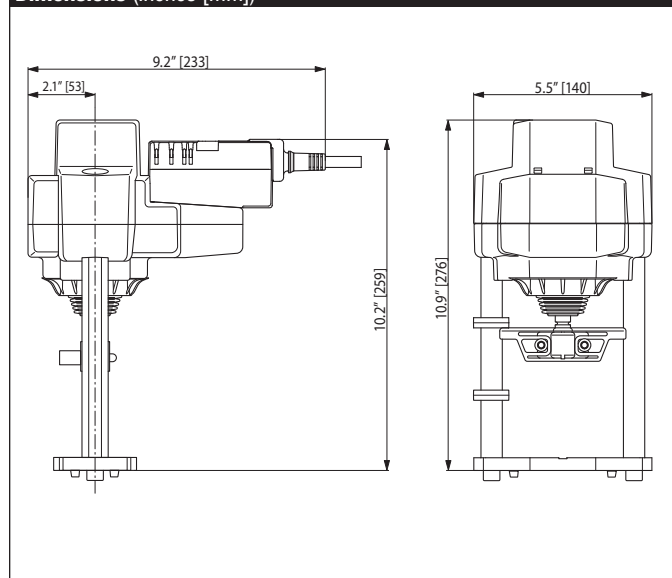
The actuator operates in response to a 120 volt signal being applied from an electronic controller or positioner.

Operation

The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The EV series provides 50 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 EV... 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.

Dimensions (Inches [mm])


EVX120-3

On/Off, Floating Point, Non-Spring Return Actuator, Linear, 100 to 240 VAC



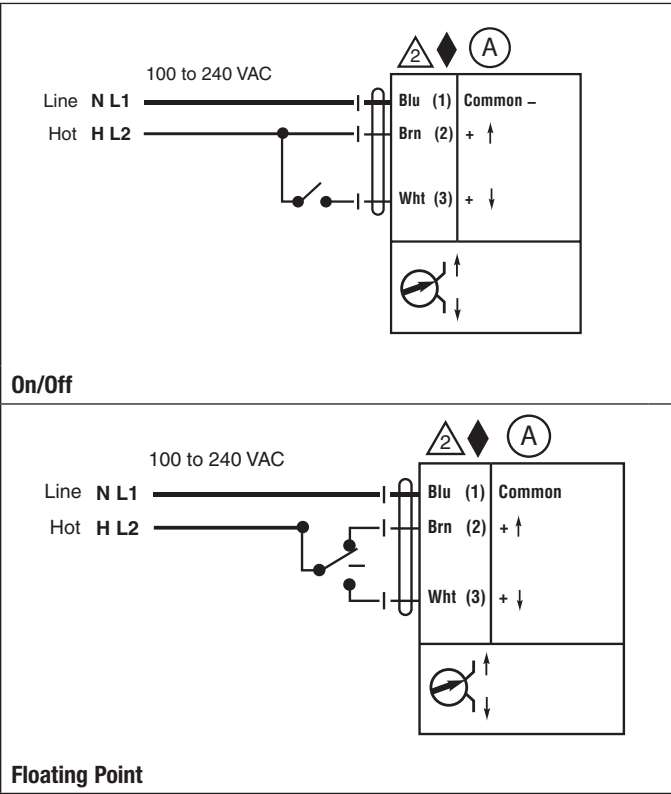
Typical Specification

On/off, floating point 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

- (A) Actuators with appliance cables are numbered.
- CAUTION Equipment Damage!**
Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- 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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MFT



Technical Data

Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 10%
Power consumption running	6 W
Power consumption holding	3.5 W
Transformer sizing	7 VA (class 2 power source)
Electrical connection	3 ft, 18 GA plenum rated cable with ½" 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	2" [50 mm]
Linear force	562 lbf [2500 N]
Direction of rotation	reversible with switch
Position indication	stroke indicator on bracket
Manual override	5 mm hex crank (3/16" Allen), supplied
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	<65dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	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 and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the 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

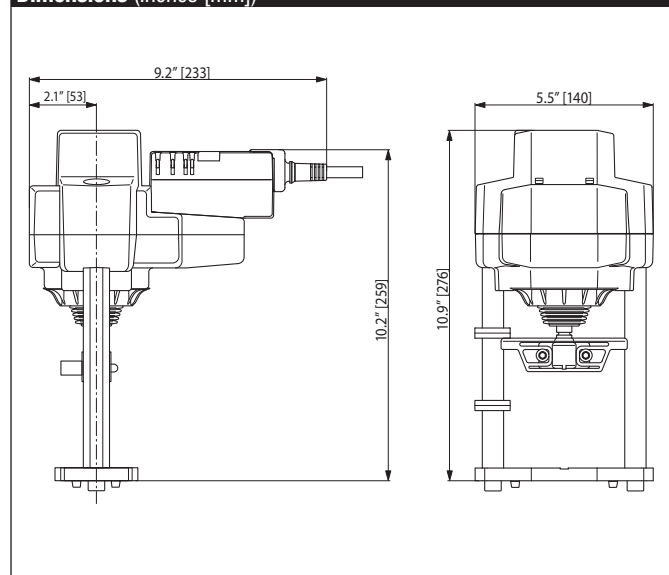
The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The EV series provides 50 mm of downward travel and a visual indicator indicates position of the actuator. When reaching the valve end position, the actuator automatically stops. The gears can be manually disengaged with a button on the actuator cover.

The EV... 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])



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

- 2 **CAUTION Equipment Damage!**
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!
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24 VAC Transformer

Line Volts

2 to 10 VDC Feedback Signal (-) (+)

Blk (1) Common

Red (2) Hot

Wht (3) Y Input

Org (5) U Output

On/Off

24 VAC Transformer

Line Volts

2 to 10 VDC Feedback Signal (-) (+)

Blk (1) Common

Red (2) Hot

Wht (3) Y Input

Org (5) U Output 2 to 10V

Direction of rotation switch

Floating Point

24 VAC Transformer

Line Volts

Control Signal VDC/mA (-) (+)

500 Ω 1/4 watt

Blk (1) Common

Red (2) Hot

Wht (3) Y Input, 2 to 10V

Org (5) U Output, 2 to 10V

VDC/4-20 mA

24 VAC Transformer (AC Only)

Line Volts

Control Signal VDC/mA (-) (+)

500 Ω 1/4 watt

Blk (1) Common

Red (2) Hot

Wht (3) Y Input, 2 to 10V

Org (5) U Output

Functions	a	b	c
Min*	0%	—	—
Mid*	50%	—	—
Max*	100%	—	—
Normal**	Control mode acc. to Y	—	—

Override

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Technical Data

Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 10%
Power consumption running	6 W
Power consumption holding	3.5 W
Transformer sizing	10 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	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	2 to 10 VDC, 0.5 mA max
Stroke	2" [50 mm]
Linear force	1011 lbf [4500 N]
Direction of rotation	reversible with switch
Position indication	stroke indicator on bracket
Manual override	5 mm hex crank (3/16" Allen), supplied
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	<65dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	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 on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

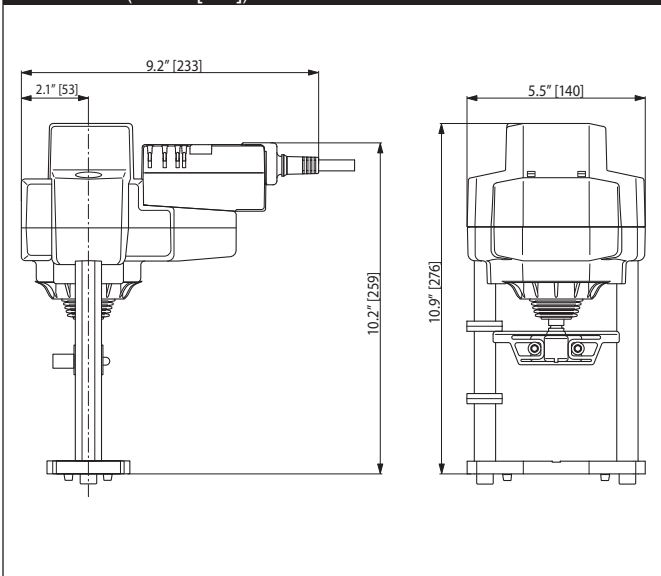
The actuator operates in response to a 24 volt signal being applied from an electronic controller or positioner.

Operation

The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The RV series provides 50 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 RV... 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.

Dimensions (Inches [mm])


RVB24-3

On/Off, Floating Point, Non-Spring Return Actuator, Linear, 24 V



Typical Specification

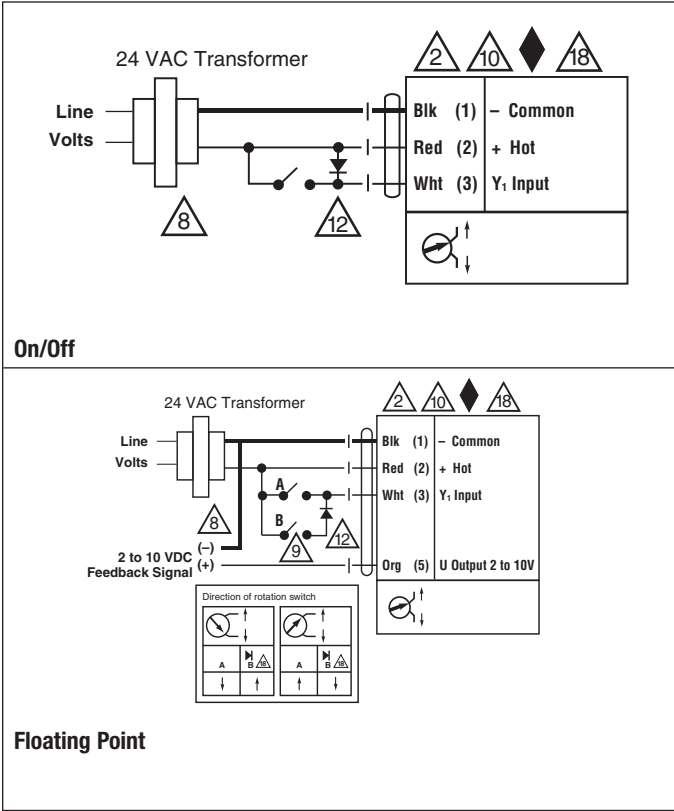
On/off, floating point control globe valve actuators shall be electronic and direct coupled to the globe valve bonnet via an integrated linkage, which requires no secondary linkage and be capable of mounting to valves 2.5" to 6" in size. Actuators must provide control in response to a control input from 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.
 - 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.

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MFT



Technical Data

Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 10%
Power consumption running	6 W
Power consumption holding	3.5 W
Transformer sizing	10 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, floating point, on/off)
Input impedance	100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA, floating point and on/off
Feedback output U	2 to 10 VDC, 0.5 mA max, VDC variable
Stroke	2" [50 mm]
Linear force	1011 lbf [4500 N]
Direction of rotation	reversible with switch
Position indication	stroke indicator on bracket
Manual override	5 mm hex crank (3/16" Allen), supplied
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	<65dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	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 and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the 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

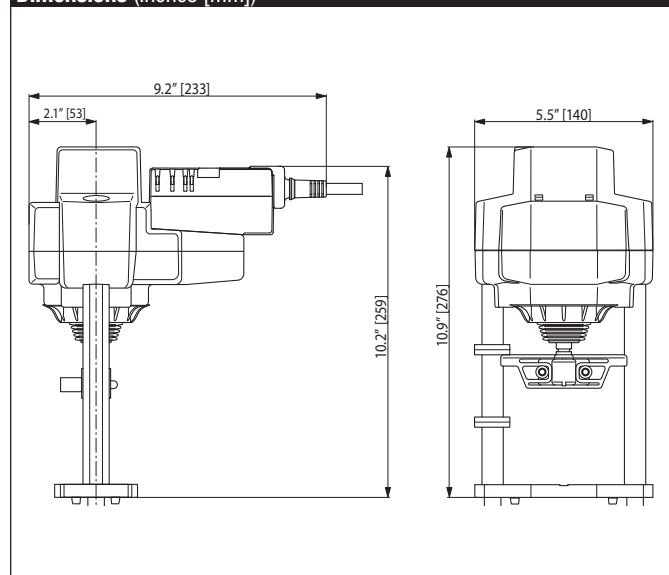
The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The RV series provides 50 mm of downward travel and a visual indicator indicates position of the actuator. When reaching the valve end position, the actuator automatically stops. The gears can be manually disengaged with a button on the actuator cover.

The RV... 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])



RVB24-MFT

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



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

- 2 CAUTION Equipment Damage!**
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.

24 VAC Transformer

On/Off

Floating Point

VDC/4-20 mA

Functions	a	b	c
Min*	0%	—	—
Mid*	50%	—	—
Max*	100%	—	—
Normal**	Control mode acc. to Y	—	—

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

Override

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Technical Data	
Power supply	24 VAC $\pm$ 20% 50/60 Hz
Power consumption running	8.5 W
Power consumption holding	2.5 W
Transformer sizing	21 VA (class 2 power source)
Electrical connection	3 ft, 18 GA plenum rated cable with ½" conduit connector protected NEMA 2 (IP54)
Overload protection	electronic throughout full stroke
Electrical protection	actuators are double insulated
Control	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	no feedback
Stroke	0.6" [15 mm]
Linear force	112 lbf [500 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)
Running time fail-safe	35 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
Bridge time	2 second delay before fail-safe activates
Initial charge	5 to 20 seconds
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	<55dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	3.6 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

Fail-safe for on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 24 volt signal being applied from an electronic controller or positioner.

Operation

The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The LV series provides 15 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.

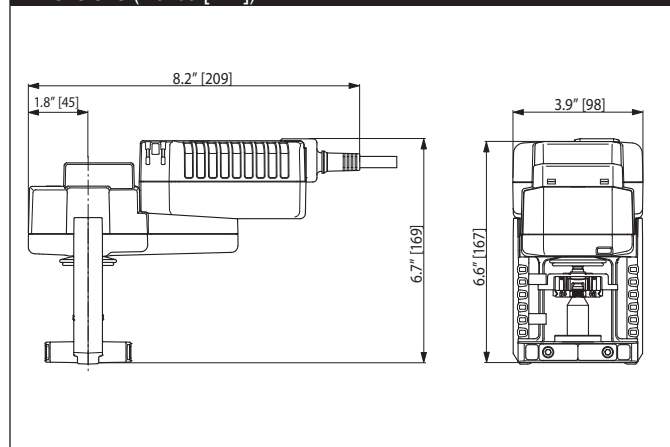
The LVK... series actuators use a sensorless brushless DC motor. The ASIC inside monitors and controls the actuator's rotation and provides a digital rotation sensing (DRS) function to prevent damage to the actuator in a stall condition. Power consumption is reduced in holding mode.

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

Fail-Safe Green LED Status Indicator Light Sequence:

- On: operation ok, no faults
- Blinking: fail-safe mechanism is active
- Off: fault is detected or not in operation / capacitors charging

Dimensions (Inches [mm])



Typical Specification

On/off, floating point 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 ½" to 2" 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.

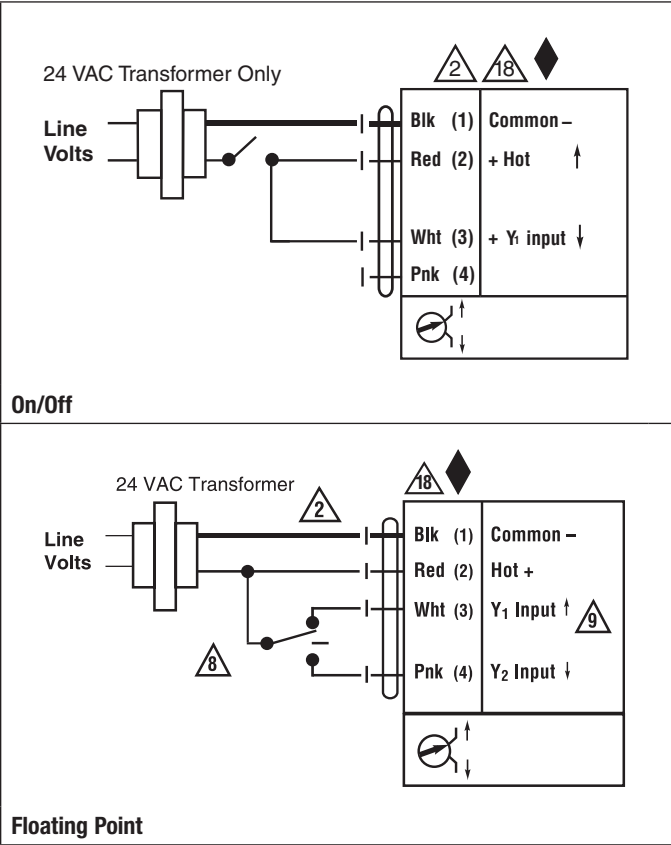
Wiring Diagrams

INSTALLATION NOTES

- CAUTION Equipment Damage!**
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
 - Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
 - 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.
 - 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!

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Technical Data	
Power supply	100-240 VAC $\pm$ 20%, 50/60 Hz
Power consumption running	8.5 W
Power consumption holding	2.5 W
Transformer sizing	21 VA (class 2 power source)
Electrical connection	3 ft, 18 GA appliance rated cable with ½" conduit connector protected NEMA 2 (IP54)
Overload protection	electronic throughout full stroke
Electrical protection	actuators are double insulated
Control	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	no feedback
Stroke	0.6" [15 mm]
Linear force	112 lbf [500 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)
Running time fail-safe	35 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
Bridge time	2 second delay before fail-safe activates
Initial charge	5 to 20 seconds
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	<55dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	3.6 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 2.5 KV. Type of action 1. Control Pollution Degree 3.

Application

Fail-safe for on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 120 volt signal being applied from an electronic controller or positioner.

Operation

The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The LV series provides 15 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.

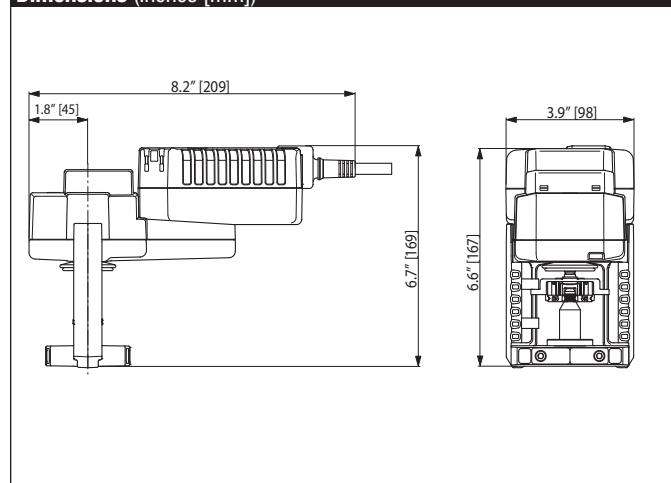
The LVK... series actuators use a sensorless brushless DC motor. The ASIC inside monitors and controls the actuator's rotation and provides a digital rotation sensing (DRS) function to prevent damage to the actuator in a stall condition. Power consumption is reduced in holding mode.

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

Fail-Safe Green LED Status Indicator Light Sequence:

- On: operation ok, no faults
- Blinking: fail-safe mechanism is active
- Off: fault is detected or not in operation / capacitors charging

Dimensions (Inches [mm])



Typical Specification

On/off, floating point 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 ½" to 2" 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

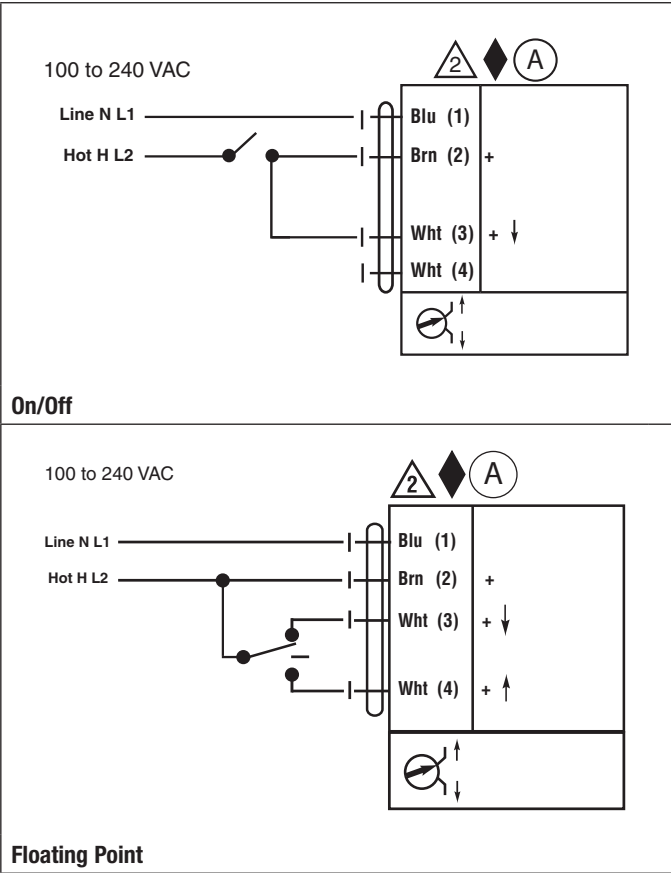
- 

Actuators with appliance cables are numbered.
- 

CAUTION Equipment Damage!
Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- 

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

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Technical Data	
Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 10%
Power consumption running	8.5 W
Power consumption holding	2.5 W
Transformer sizing	21 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	2-10 VDC
Operating range Y	2 to 10 VDC, 4 to 20 mA (default)
Input impedance	100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA
Feedback output U	2 to 10 VDC
Stroke	0.6" [15 mm]
Linear force	112 lbf [500 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)
Running time fail-safe	35 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
Bridge time	2 second delay before fail-safe activates
Initial charge	5 to 20 seconds
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	<55dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	3.6 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 fail-safe, proportional modulation of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 2 to 10 VDC, or with the addition of a 500 Ω resistor, a 4 to 20 mA 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 LV series provides 15 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 LVK... 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.

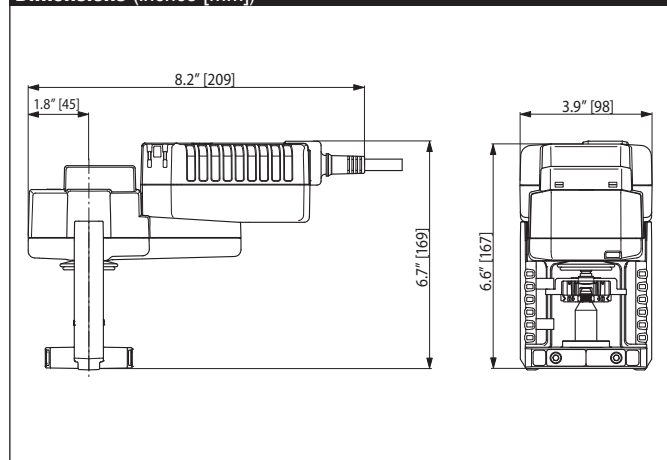
Add-on auxiliary switches are easily fastened directly onto the actuator body for signaling and switching functions.

-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.

Fail-Safe Green LED Status Indicator Light Sequence:

- On: operation ok, no faults
- Blinking: fail-safe mechanism is active
- Off: fault is detected or not in operation / capacitors charging

Dimensions (Inches [mm])



Typical Specification

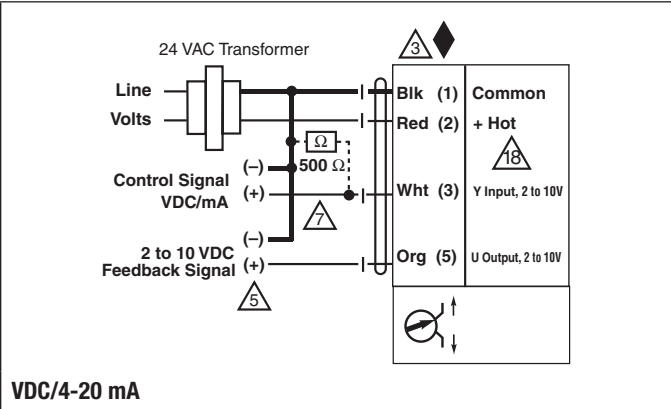
Proportional control globe valve actuators shall be electronic and direct coupled to the globe valve bonnet via an integrated linkage, which requires no secondary linkage and be capable of mounting to valves ½” to 2” in size. Actuators must provide control in response to a control input from an electronic 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

- 3 Actuators may also be powered by 24 VDC.
- 5 Only connect common to neg. (-) leg of control circuits.
- 7 A 500 Ω resistor converts the 4-20 mA control signal to 2-10 VDC.
- 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!
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MFT



Technical Data	
Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 10%
Power consumption running	8.5 W
Power consumption holding	2.5 W
Transformer sizing	21 VA (class 2 power source)
Electrical connection	3 ft, 18 GA plenum rated cable with ½" 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	0.6" [15 mm]
Linear force	112 lbf [500 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)
Running time fail-safe	35 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
Bridge time	2 second delay before fail-safe activates
Initial charge	5 to 20 seconds
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	<55dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	3.6 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

Fail-safe for multiple control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the 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 LV series provides 15 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 LVK... 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.

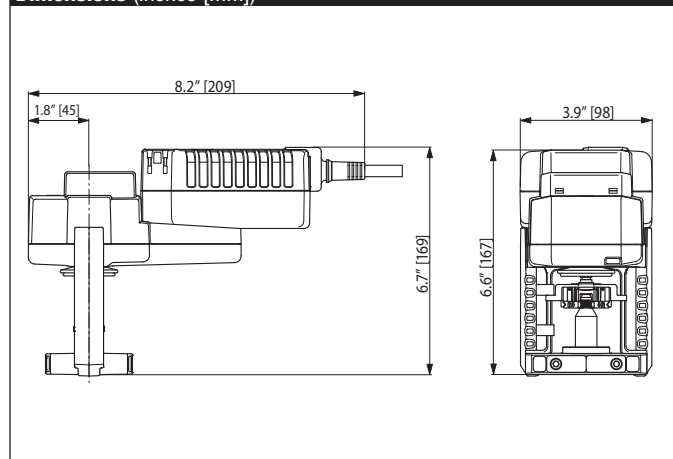
Add-on auxiliary switches are easily fastened directly onto the actuator body for signaling and switching functions.

-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.

Fail-Safe LED Status Indicator Light Sequence:

- Yellow off / Green on: operation ok, no faults
- Yellow off / Green blinking: fail-safe mechanism is active
- Yellow on / Green off: fault is detected
- Yellow off / Green off: not in operation / capacitors charging
- Yellow on / Green on: adaption running
- Yellow blinking / Green on: communication with programming tool

Dimensions (Inches [mm])



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 ½” to 2” 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

- 2 CAUTION Equipment Damage!**
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.

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24 VAC Transformer

Line Volts

2 to 10 VDC Feedback Signal (-) (+)

Blk (1) Common
Red (2) Hot
Wht (3) Y Input
Org (5) U Output

On/Off

24 VAC Transformer

Line Volts

2 to 10 VDC Feedback Signal (-) (+)

Blk (1) - Common
Red (2) + Hot
Wht (3) Y₁ Input
Org (5) U Output 2 to 10V

Direction of rotation switch

Floating Point

24 VAC Transformer

Line Volts

Control Signal VDC/mA (-) (+)

500 Ω 1/4 watt

Blk (1) Common
Red (2) + Hot
Wht (3) Y₁ Input, 2 to 10V
Org (5) U Output, 2 to 10V

VDC/4-20 mA

24 VAC Transformer (AC Only)

Line Volts

Control Signal VDC/mA (-) (+)

500 Ω 1/4 watt

Blk (1) Common
Red (2) + Hot
Wht (3) Y₁ Input, 2 to 10V
Org (5)

Functions	a	b	c
Min*	0% ↶	↶	↶
Mid*	50% ↶	↶	↶
Max*	100% ↶	↶	↶
Normal**	Control mode acc. to Y	↶	↶

Override



Technical Data	
Power supply	24 VAC $\pm$ 20% 50/60 Hz
Power consumption running	8.5 W
Power consumption holding	2.5 W
Transformer sizing	21 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	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	no feedback
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)
Running time fail-safe	35 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
Bridge time	2 second delay before fail-safe activates
Initial charge	5 to 20 seconds
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	3.6 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

Fail-safe for on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 24 volt signal being applied from an electronic controller or positioner.

Operation

The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The SVK 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.

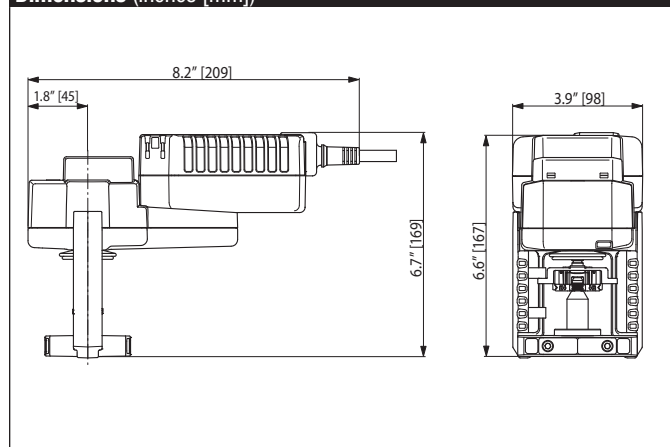
The SVK... series actuators use a sensorless brushless DC motor. The ASIC inside monitors and controls the actuator's rotation and provides a digital rotation sensing (DRS) function to prevent damage to the actuator in a stall condition. Power consumption is reduced in holding mode.

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

Fail-Safe Green LED Status Indicator Light Sequence:

- On: operation ok, no faults
- Blinking: fail-safe mechanism is active
- Off: fault is detected or not in operation / capacitors charging

Dimensions (Inches [mm])



Typical Specification

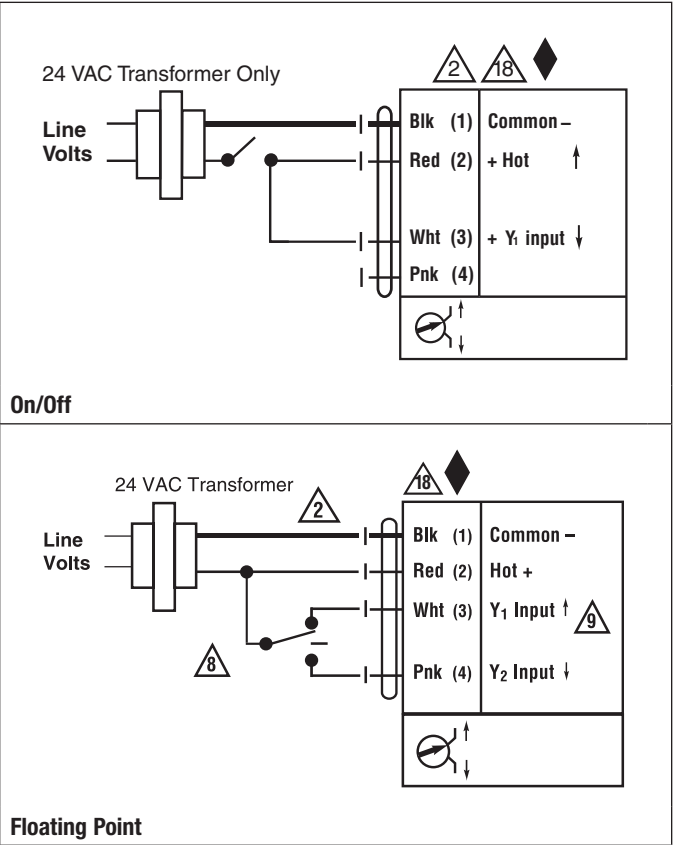
On/off, floating point control globe valve actuators shall be electronic and direct coupled to the globe valve bonnet via an integrated linkage, which requires no secondary linkage and be capable of mounting to valves ½" to 2" in size. Actuators must provide control in response to a control input from 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. Power consumption and input impedance must be observed.
 - 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.
 - 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.





Technical Data	
Power supply	100-240 VAC $\pm$ 20%, 50/60 Hz
Power consumption running	8.5 W
Power consumption holding	2.5 W
Transformer sizing	21 VA (class 2 power source)
Electrical connection	3 ft, 18 GA appliance rated cable with ½" conduit connector protected NEMA 2 (IP54)
Overload protection	electronic throughout full stroke
Electrical protection	actuators are double insulated
Control	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	no feedback
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)
Running time fail-safe	35 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
Bridge time	2 second delay before fail-safe activates
Initial charge	5 to 20 seconds
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	3.6 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 2.5 KV. Type of action 1. Control Pollution Degree 3.

Application

Fail-safe for on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 120 volt signal being applied from an electronic controller or positioner.

Operation

The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The SVK 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.

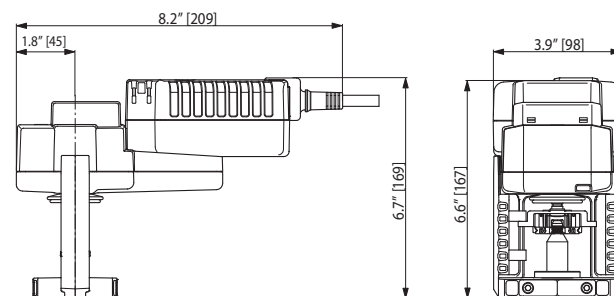
The SVK... series actuators use a sensorless brushless DC motor. The ASIC inside monitors and controls the actuator's rotation and provides a digital rotation sensing (DRS) function to prevent damage to the actuator in a stall condition. Power consumption is reduced in holding mode.

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

Fail-Safe Green LED Status Indicator Light Sequence:

- On: operation ok, no faults
- Blinking: fail-safe mechanism is active
- Off: fault is detected or not in operation / capacitors charging

Dimensions (Inches [mm])



SVKX120-3

On/Off, Floating Point, Electronic Fail-Safe Actuator, Linear, 120 V



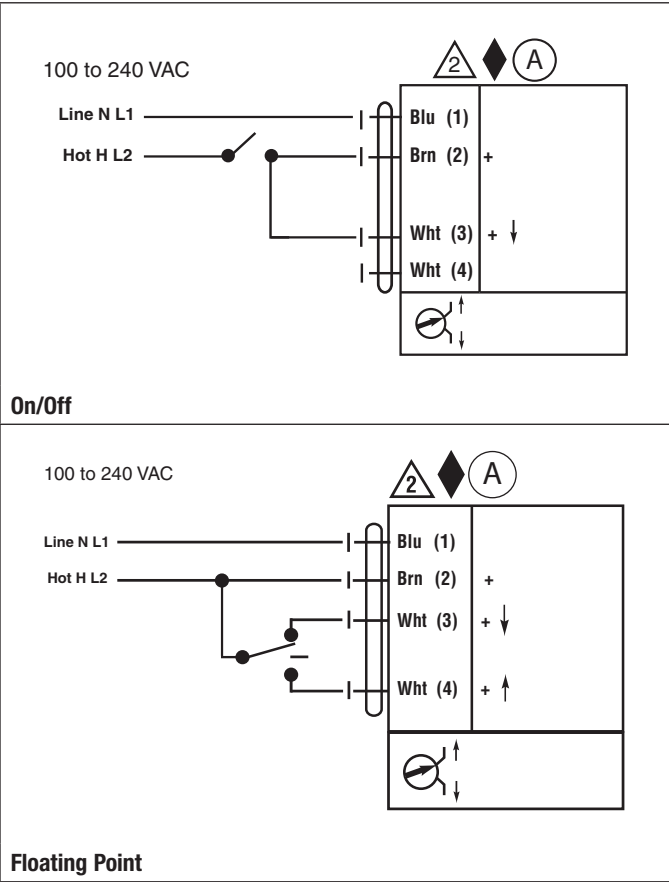
Typical Specification

On/off, floating point 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 ½" to 2" 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

- (A) Actuators with appliance cables are numbered.
- 2 **CAUTION Equipment Damage!**
Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- ◆ 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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Technical Data	
Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 10%
Power consumption running	8.5 W
Power consumption holding	2.5 W
Transformer sizing	21 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	2-10 VDC
Operating range Y	2 to 10 VDC, 4 to 20 mA (default)
Input impedance	100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA
Feedback output U	2 to 10 VDC
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)
Running time fail-safe	35 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
Bridge time	2 second delay before fail-safe activates
Initial charge	5 to 20 seconds
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	3.6 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 fail-safe, proportional modulation of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 2 to 10 VDC, or with the addition of a 500 Ω resistor, a 4 to 20 mA 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 SVK 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 SVK... 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.

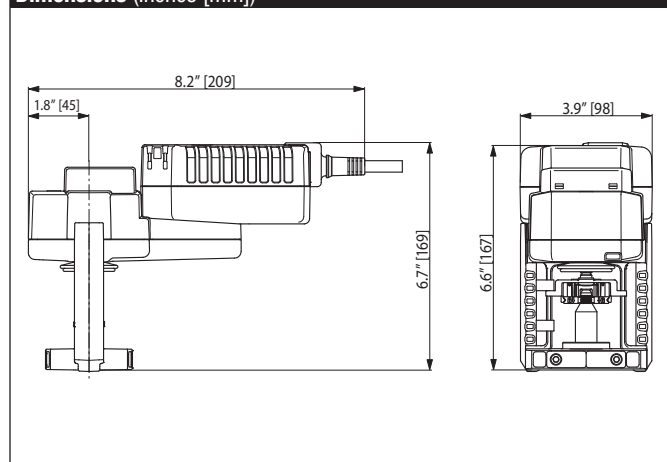
Add-on auxiliary switches are easily fastened directly onto the actuator body for signaling and switching functions.

-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.

Fail-Safe Green LED Status Indicator Light Sequence:

- On: operation ok, no faults
- Blinking: fail-safe mechanism is active
- Off: fault is detected or not in operation / capacitors charging

Dimensions (Inches [mm])



Typical Specification

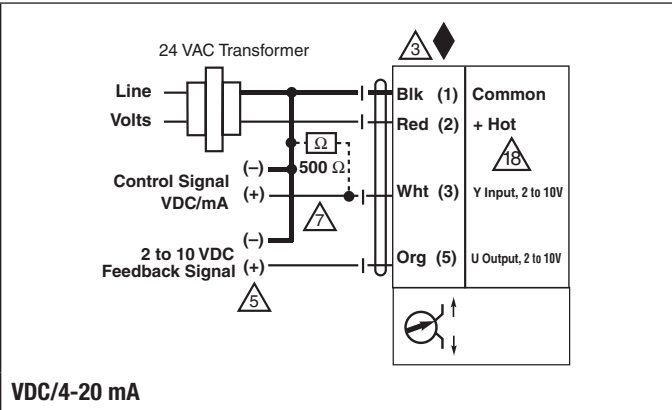
Proportional control globe valve actuators shall be electronic and direct coupled to the globe valve bonnet via an integrated linkage, which requires no secondary linkage and be capable of mounting to valves ½” to 2” in size. Actuators must provide control in response to a control input from an electronic 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

-  Actuators may also be powered by 24 VDC.
-  Only connect common to neg. (-) leg of control circuits.
-  A 500 Ω resistor converts the 4-20 mA control signal to 2-10 VDC.
-  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!**
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MFT



Technical Data	
Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 10%
Power consumption running	8.5 W
Power consumption holding	2.5 W
Transformer sizing	21 VA (class 2 power source)
Electrical connection	3 ft, 18 GA plenum rated cable with ½" 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)
Running time fail-safe	35 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
Bridge time	2 second delay before fail-safe activates
Initial charge	5 to 20 seconds
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	3.6 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

Fail-safe for multiple control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the 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 SVK 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 SVK... 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.

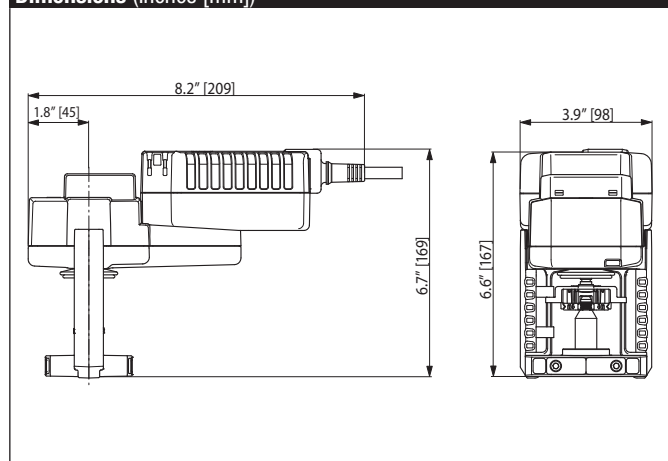
Add-on auxiliary switches are easily fastened directly onto the actuator body for signaling and switching functions.

-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.

Fail-Safe LED Status Indicator Light Sequence:

- Yellow off / Green on: operation ok, no faults
- Yellow off / Green blinking: fail-safe mechanism is active
- Yellow on / Green off: fault is detected
- Yellow off / Green off: not in operation / capacitors charging
- Yellow on / Green on: adaption running
- Yellow blinking / Green on: communication with programming tool

Dimensions (Inches [mm])



Typical Specification

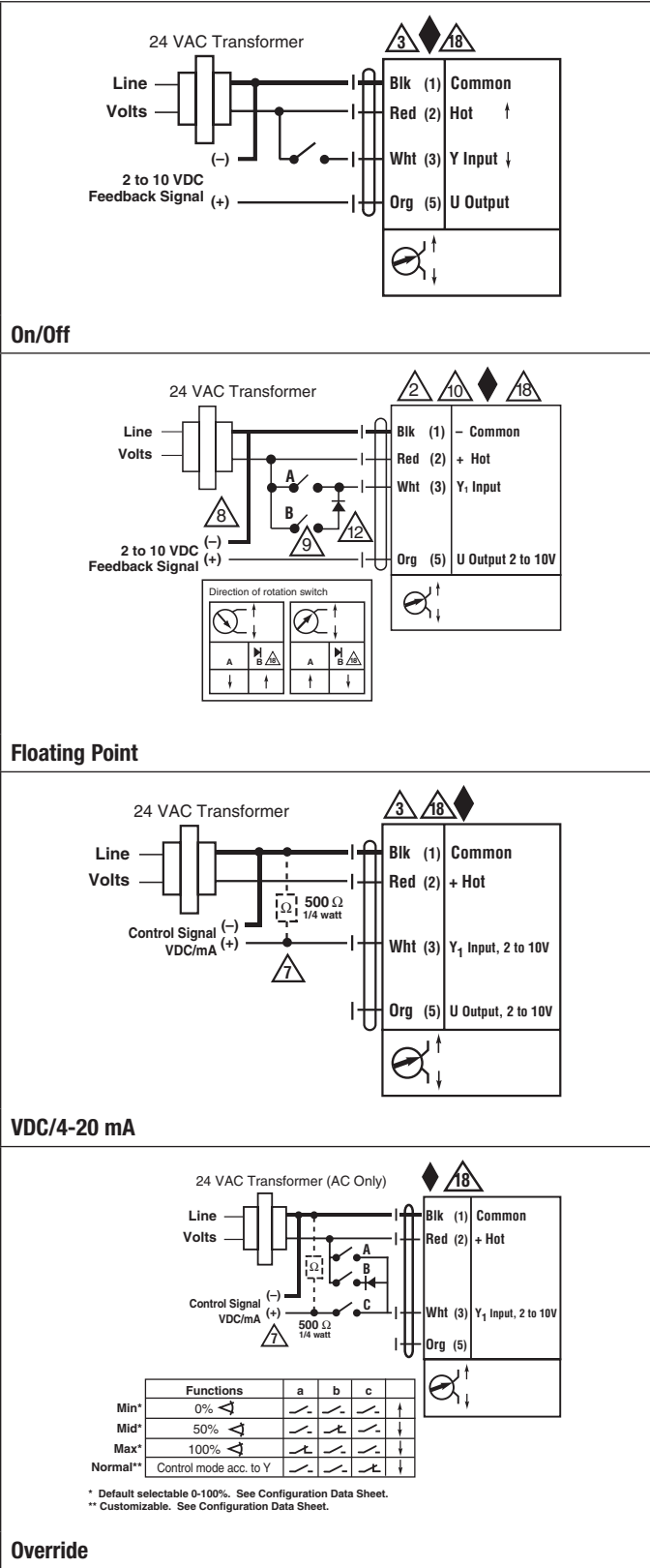
Proportional control globe valve actuators shall be electronic and direct coupled to the globe valve bonnet via an integrated linkage, which requires no secondary linkage and be capable of mounting to valves ½” to 2” in size. Actuators must provide control in response to a control input from an electronic 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

- 2 CAUTION Equipment Damage!
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.





Technical Data	
Power supply	24 VAC $\pm$ 20% 50/60 Hz
Power consumption running	12 W
Power consumption holding	3 W
Transformer sizing	21 VA (class 2 power source)
Electrical connection	3 ft, 18 GA plenum rated cable with ½" conduit connector protected NEMA 2 (IP54)
Overload protection	electronic throughout full stroke
Electrical protection	actuators are double insulated
Control	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	no feedback
Stroke	1.25" [32 mm]
Linear force	450 lbf [2000 N]
Direction of rotation	reversible with switch
Position indication	stroke indicator on bracket
Manual override	5 mm hex crank (3/16" Allen), supplied
Running time motor	90 seconds (default), variable (90 to 150 seconds)
Running time fail-safe	35 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
Bridge time	2 second delay before fail-safe activates
Initial charge	5 to 20 seconds
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	<60dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	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

Fail-safe for on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 24 volt signal being applied from an electronic controller or positioner.

Operation

The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The AVK series provides 32 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.

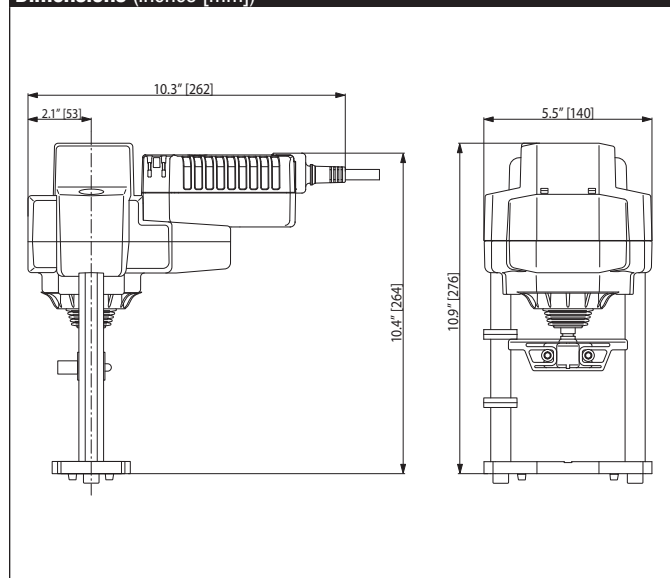
The AVK... series actuators use a sensorless brushless DC motor. The ASIC inside monitors and controls the actuator's rotation and provides a digital rotation sensing (DRS) function to prevent damage to the actuator in a stall condition. Power consumption is reduced in holding mode.

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

Fail-Safe Green LED Status Indicator Light Sequence:

- On: operation ok, no faults
- Blinking: fail-safe mechanism is active
- Off: fault is detected or not in operation / capacitors charging

Dimensions (Inches [mm])



Typical Specification

On/off, floating point 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

- ⚠2

CAUTION Equipment Damage!
Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- ⚠8

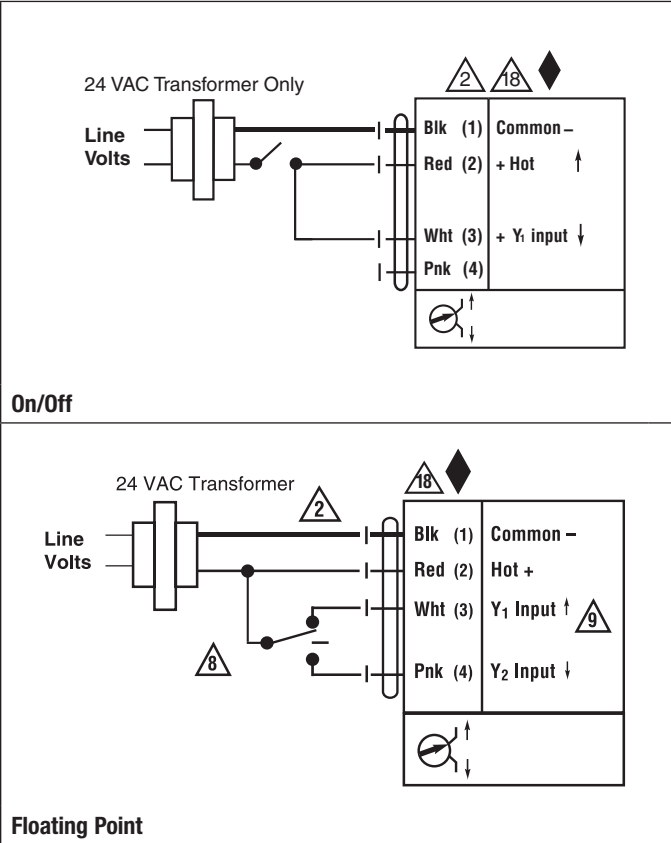
Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- ⚠9

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.
- ⚠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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Technical Data	
Power supply	100-240 VAC $\pm$ 20%, 50/60 Hz
Power consumption running	8.5 W
Power consumption holding	2.5 W
Transformer sizing	21 VA (class 2 power source)
Electrical connection	3 ft, 18 GA appliance rated cable with ½" conduit connector protected NEMA 2 (IP54)
Overload protection	electronic throughout full stroke
Electrical protection	actuators are double insulated
Control	on/off, floating point
Operating range Y	on/off, floating point
Input impedance	100 k Ω (0.1 mA), 500 Ω , 1000 Ω (on/off)
Feedback output U	no feedback
Stroke	1.25" [32 mm]
Linear force	450 lbf [2000 N]
Direction of rotation	reversible with switch
Position indication	stroke indicator on bracket
Manual override	5 mm hex crank (3/16" Allen), supplied
Running time motor	90 seconds (default), variable (90 to 150 seconds)
Running time fail-safe	35 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
Bridge time	2 second delay before fail-safe activates
Initial charge	5 to 20 seconds
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	<60dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	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 2.5 KV. Type of action 1. Control Pollution Degree 3.

Application

Fail-safe for on/off and floating point control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the universal clamp and collar.

The actuator operates in response to a 120 volt signal being applied from an electronic controller or positioner.

Operation

The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The AVK series provides 32 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.

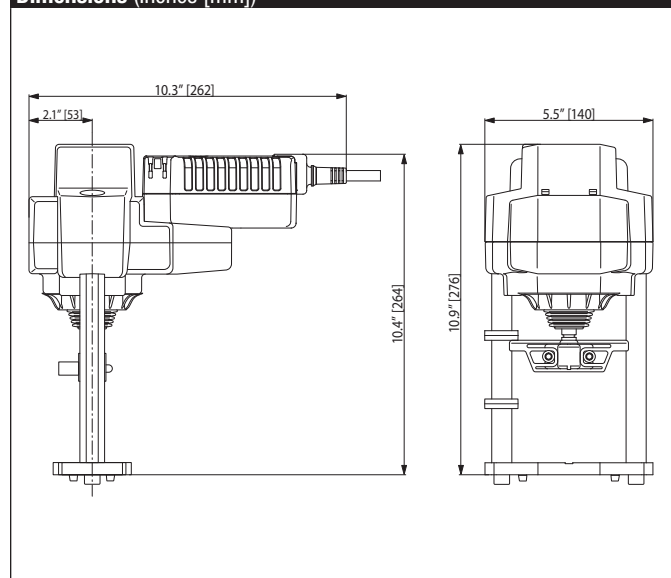
The AVK... series actuators use a sensorless brushless DC motor. The ASIC inside monitors and controls the actuator's rotation and provides a digital rotation sensing (DRS) function to prevent damage to the actuator in a stall condition. Power consumption is reduced in holding mode.

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

Fail-Safe Green LED Status Indicator Light Sequence:

- On: operation ok, no faults
- Blinking: fail-safe mechanism is active
- Off: fault is detected or not in operation / capacitors charging

Dimensions (Inches [mm])



AVKX120-3

On/Off, Floating Point, Electronic Fail-Safe Actuator, Linear, 120 V



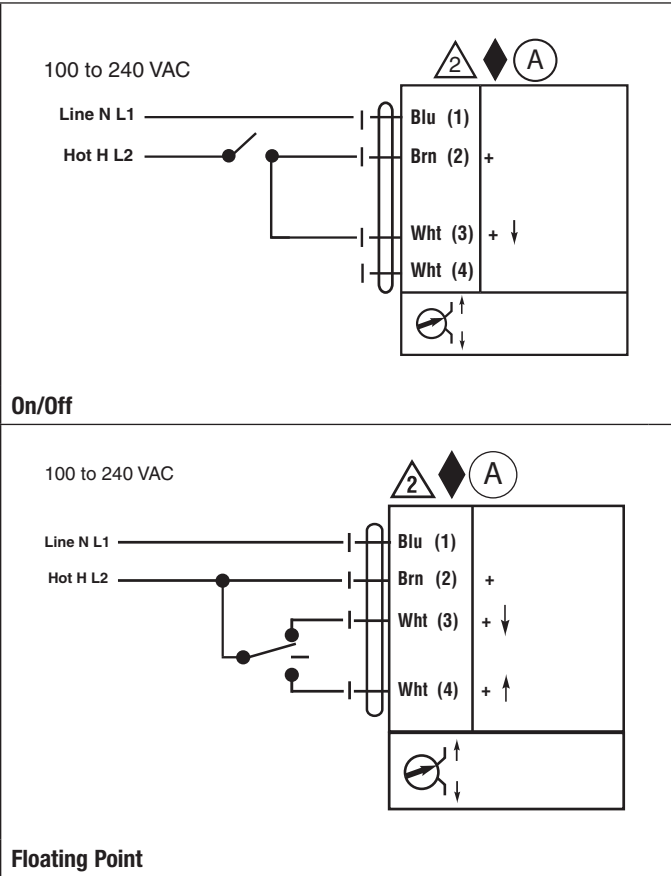
Typical Specification

On/off, floating point 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

- (A) Actuators with appliance cables are numbered.
- 2 **CAUTION Equipment Damage!**
Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- 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.



Tech.Doc - 07/14 - Subject to change. © Belimo Aircontrols (USA), Inc.



MFT



Technical Data

Power supply	24 VAC $\pm$ 20% 50/60 Hz, 24 VDC $\pm$ 10%
Power consumption running	12 W
Power consumption holding	3 W
Transformer sizing	21 VA (class 2 power source)
Electrical connection	3 ft, 18 GA plenum rated cable with ½" 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	1.25" [32 mm]
Linear force	450 lbf [2000 N]
Direction of rotation	reversible with switch
Position indication	stroke indicator on bracket
Manual override	5 mm hex crank (3/16" Allen), supplied
Running time motor	90 seconds (default), variable (90 to 150 seconds)
Running time fail-safe	35 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
Bridge time	2 second delay before fail-safe activates
Initial charge	5 to 20 seconds
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	<60dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	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

Fail-safe for multiple control types of globe valves in HVAC steam and hydronic systems.

Actuator sizing will be dictated by the valve size and in accordance with the flow parameters and system specifications. The actuator is mounted directly onto the globe valve bonnet with the 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 AVK series provides 32 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 AVK... 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.

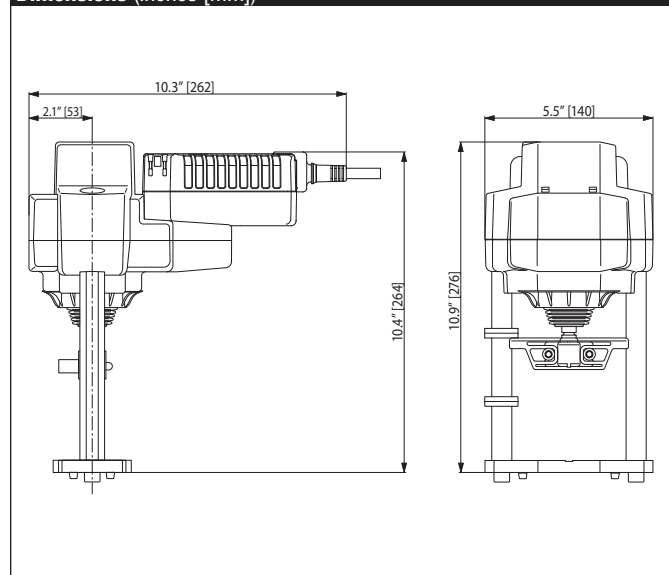
Add-on auxiliary switches are easily fastened directly onto the actuator body for signaling and switching functions.

-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.

Fail-Safe LED Status Indicator Light Sequence:

- Yellow off / Green on: operation ok, no faults
- Yellow off / Green blinking: fail-safe mechanism is active
- Yellow on / Green off: fault is detected
- Yellow off / Green off: not in operation / capacitors charging
- Yellow on / Green on: adaption running
- Yellow blinking / Green on: communication with programming tool

Dimensions (Inches [mm])



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

- 2

CAUTION Equipment Damage!
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

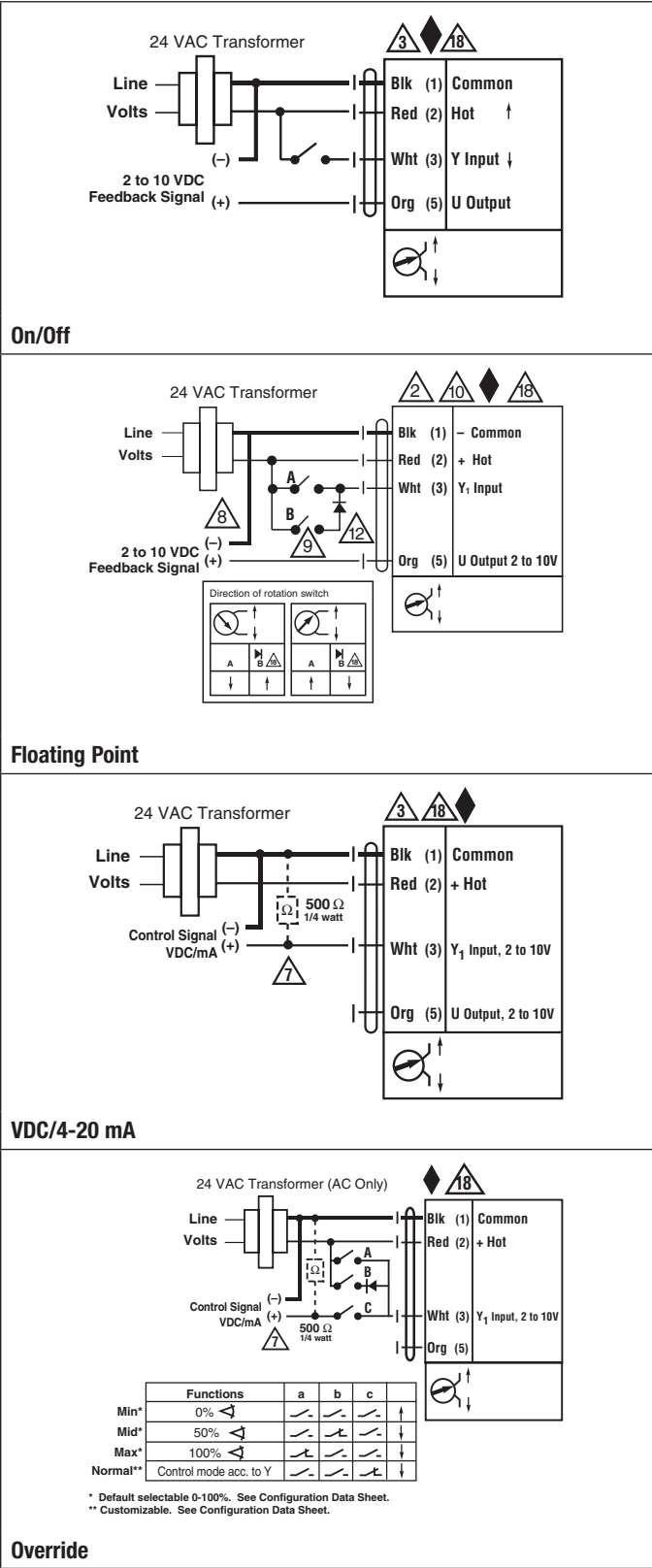
For triac sink the common connection from the actuator must be connected to the hot connection of the controller. Position feedback cannot be used with a triac sink controller. The actuator internal common reference is not compatible.
- 12

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.



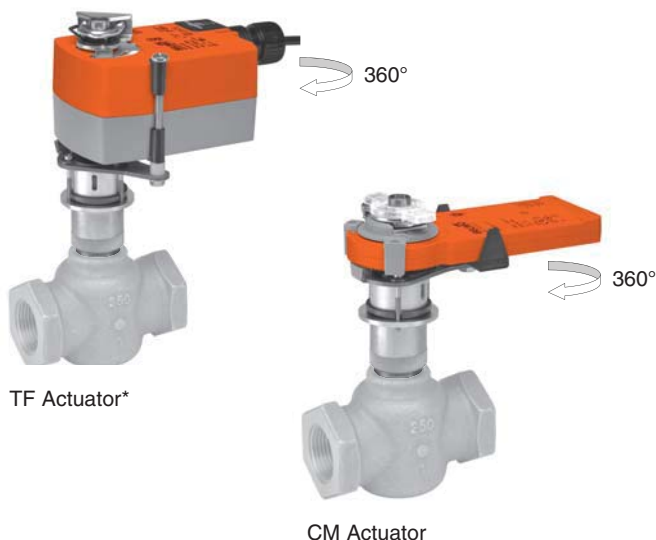
WARNING Live Electrical Components!
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.





Technical Data	UGSL1200
Housing	aluminum
Materials:	
Coupling nut	brass
Shafts	stainless steel
Base plate	aluminum
Upper plate	stainless steel
Cams	nylon 6/6 with MDS
Stroke	6 mm in CW direction
Max out force	67 lbf [300 N]
Mounting position	360° mountable as shown
Ambient temperature	-22°F to +122°F [-30°C to +50°C]
Storage temperature	-40°F to +176°F [-40°C to +80°C]
Servicing	chilled or hot water max steam inlet 15 psi
Weight	1.25 lbs [0.57 kg]

Mounting Configurations



Application

The UGSL1200 retrofit kit is designed to easily attach to the valve bonnet on select Siemens 599 MT/MZ short-stroke valves utilizing Belimo CM and TF* series actuators.

The unique coupler design allows the UGSL1200 to be mounted on any ½" to 1¼" two-way or three-way valves. In addition, the linkage is suitable for both normally open and normally closed valves.

Default/Configuration

The default set up for this linkage is for usage with the CM actuator. Included in the kit is an extension piece for TF actuators. Hardware is supplied to attach the shaft extension and anti-rotation screws to both a CM or TF actuator.

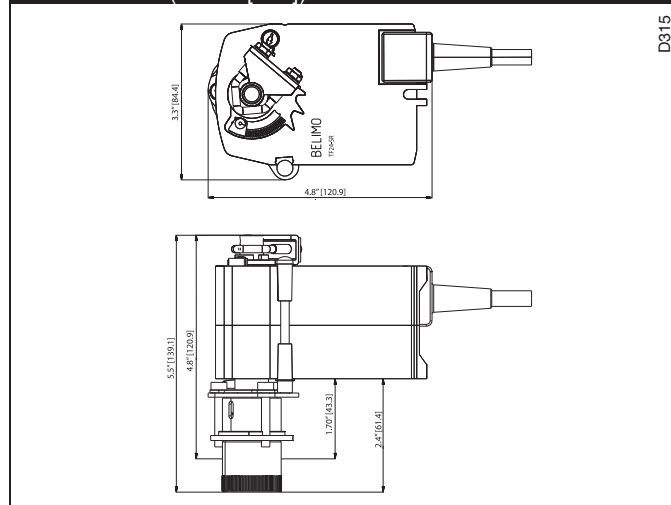
Operation

The UGSL1200 linkage provides 6 mm of downward stroke with 95° CW rotation on the actuator. This allows the valve to extend fully open or closed based on signal. The slot located on the housing provides indication when the maximum stroke has been reached. For troubleshooting when using a CM actuator, the operator may use the manual override feature to rotate the linkage up or down. When using the TF, refer to electronic override instructions according to actuator model.

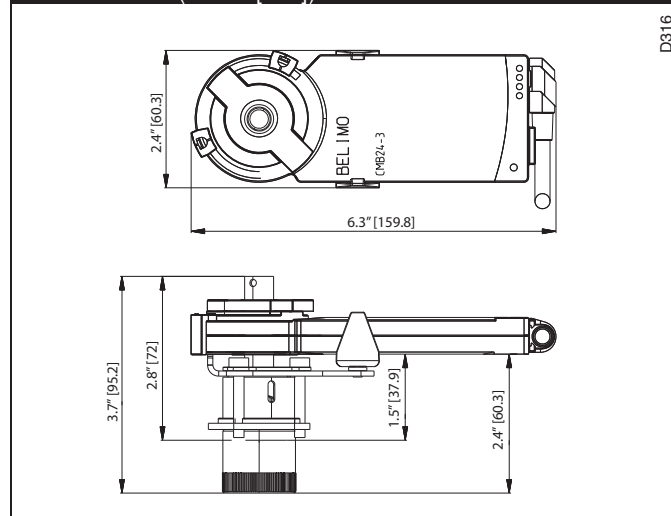
Note: Linkage cannot be used on 1-½" normally closed valves.

*TFL series actuators required for on/off applications

TF Dimensions (Inches [mm])



CM Dimensions (Inches [mm])



How to Select a Globe Valve Retrofit Solution

Follow the four steps listed below when ordering a globe valve retrofit kit for either UGLK or GVL series linkages.

Example: Siemens 658 series, 1¼" valve, needing **200 psi** close-off pressure and **Fail-Safe** actuation.

- Based on the **Valve Number, Configuration and Size**, select the proper linkage or linkages for your valve.
Some valves will have more than one linkage offered, use the actuator or combination pages to determine the appropriate linkage for a given application. In this example there is a **UGLK1214**, **UGLK1350** and a **UGVL** series linkage available.
- Use the selection guide and your close-off pressure requirement to select the correct actuator series for your application. Looking at the **UGLK1350** there are no fail-safe actuators that will achieve 200 psi close-off for 1¼" valve. Looking at the **UGLK1214** or **UGVL**, the **AF** or **SVK** Series actuator will provide over **200 psi close-off** for the 1¼" valve.
- Use the actuator listings to make your final actuator selection.
- HOW TO ORDER: **Option One:**
Item 1 1pc UGLK1214
Item 2 1pc AFB24-MFT
Option Two:
Item 1 1pc UGVL + SVKX24-MFT



1

Select linkage solution based on the **Valve Number, Configuration, and Size**; select the proper **Linkage Solution** for your valve.

Siemens/Landis/Powers 658 Series Valves Linkage/Actuator Selection Guide

Valve Body Model	Valve Configuration	Size	Fail-safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
658 Series	2-way	1¼"	No	78	LM	UGLK1350
				156	NM	UGLK1350
				236	SV	UGVL
				250	AM	UGLK1214
			Yes	61	LF	UGLK1350
				156	NF	UGLK1214
				236	SVK	UGVL
				250	AF	UGLK1214

Example: **Siemens Series #658**, **2-Way**, 1¼" valve to be retrofitted.

Choose correct kit **UGLK1214** or **UGVL**.

2

Verify close-off is suitable for application. Looking at the **UGLK** or **UGVL**, the **AF** and **SVK** Series actuator will provide **200 psi close-off** for the 1¼" valve.

BASIC PRODUCTS

Model	Control Input	Feedback	Power Supply	Running Time(s)		VA Rating	Auxiliary Switch
				M	⊙		
AFB24	On/Off	-	24 VAC/DC	<75 seconds	20 secs	7.5	-
AFB24-S	On/Off	-	24 VAC/DC	<75 seconds	20 secs	7.5	Built-In
AFBUP	On/Off	-	24-240 VAC	<75 seconds	20 secs	8.5	-
AFBUP-S	On/Off	-	24-240 VAC	<75 seconds	20 secs	8.5	Built-In
AFB24-SR	2-10 VDC (4-20mA)	2-10 VDC	24 VAC/DC	95 seconds	<20 secs	8.5	-
AFB24-SR-S	2-10 VDC (4-20mA)	2-10 VDC	24 VAC/DC	95 seconds	<20 secs	8.5	Built-In
AFB24-PC	0-10 V Phasecut	2-10 VDC	24 VAC/DC	150 seconds	<20 secs	10	-
AFB24-MFT	2-10 VDC (4-20mA)	2-10 VDC	24 VAC/DC	150 seconds	<20 secs	10	-
AFB24-MFT-S	2-10 VDC (4-20mA)	2-10 VDC	24 VAC/DC	150 seconds	<20 secs	10	Built-In
AFB24-MFT95	0 to 135	2-10 VDC	24 VAC/DC	150 seconds	<20 secs	10	-

3

Select actuator based on needed control type. Decide between **AFB24**, **AFB24-MFT**

or **SVKX24-3**, **SVKX24-MFT**.

4

Complete Ordering Example
Option One:
Item 1: **UGLK1214**
Item 2: **AFB24-MFT**

4

Complete Ordering Example
Option Two:
Item 1: **UGVL + SVKX24-MFT**

ACTUATOR PART #	LVKX24-3	LVKB24-SR	LVKX24-MFT	SVKX24-3	SVKB24-SR	SVKX24-MFT
Control type	On/Off, Floating Point	Proportional	Proportional/MFT	On/Off, Floating Point	Proportional	Proportional/MFT
Input signal / Feedback	-	2-10 VDC	Variable	-	2-10 VDC	Variable
Running time	150 seconds	150 seconds	Variable	150 seconds	150 seconds	Variable
Fail-Safe	35 seconds	35 seconds	35 seconds	35 seconds	35 seconds	35 seconds
Actuator travel	24mm	24mm	24mm	24mm	24mm	24mm
Actuator noise level	<45 dB(A)	<45 dB(A)	<45 dB(A)	<45 dB(A)	<45 dB(A)	<45 dB(A)
GVL LINKAGES						
UGVL	Universal Adjustable for 1/2" to 2"	\$	\$	\$	\$	\$
SGVL	Schnieder VB7... VB9...	\$	\$	\$	\$	\$

ROTARY ACTUATORS

SERIES	MODEL	Spring Return	Electronic Fail-Safe	Tandem Mounting Available	Control Input	Feedback Position	Power Supply	Standard Running Time
LF Series*	LF24 US	•			On/Off	-	24 VAC/DC	Consult Specifications
	LF24-MFT US	•			Variable with MFT	Variable VDC	24 VAC/DC	
NF Series*	NFBUP-X1	•			On/Off	-	24-240 VAC	
	NFX24-MFT	•			(24 VAC/DC) Variable with MFT	Variable VDC	24 VAC/DC	
AF Series*	AFBUP-X1	•		•	On/Off	-	24-240 VAC	
	AFX24-MFT-X1	•		•	Variable with MFT	Variable VDC	24 VAC/DC	
LM Series*	LMB24-3-X1				Floating Point, On/Off	-	24 VAC/DC	
	LMX24-MFT-X1				Variable with MFT	Variable VDC	24 VAC/DC	
NM Series*	NMB24-3-X1				Floating Point, On/Off	-	24 VAC/DC	
	NMX24-MFT-X1				Variable with MFT	Variable VDC	24 VAC/DC	
AM Series*	AMB24-3-X1				Floating Point, On/Off	-	24 VAC/DC	
	AMX24-MFT-X1				Variable with MFT	Variable VDC	24 VAC/DC	
GM Series*	GMB24-3-X1			•	Floating Point, On/Off	-	24 VAC/DC	
	GMX24-MFT-X1			•	Variable with MFT	Variable VDC	24 VAC/DC	
GK Series*	GKB24-3-X1		•		Floating Point, On/Off	-	24 VAC/DC	
	GKX24-MFT-X1		•	•	Variable with MFT	Variable VDC	24 VAC/DC	

*Please consult the Damper section of the Product Guide and Price List for a full list of product offerings. Standard run times should be considered in the selection. All air side products are applicable for retrofit kits. Select "X1" actuators come with a handle.

LINEAR ACTUATORS**

SERIES	MODEL	Fail-Safe	Control Input	Feedback Position	Power Supply	Standard Running Time*	Force
LV Series	LVB24-3	No	Floating Pt., On/Off	N/A	24 VAC/DC	90 seconds	112 lbf
	L VX120-3	No	Floating Pt., On/Off	N/A	120-240 VAC	90 seconds	112 lbf
	LVBSR-SR	No	2-10 VDC	2-10 VDC	24 VAC/DC	90 seconds	112 lbf
	L VX24-MFT	No	Variable with MFT	Variable VDC	24 VAC/DC	90 seconds	112 lbf
LVK Series	LVKX24-3	Yes	Floating Pt., On/Off	N/A	24 VAC	90 seconds	112 lbf
	LVKX120-3	Yes	Floating Pt., On/Off	N/A	120-240 VAC	90 seconds	112 lbf
	LVKBSR-SR	Yes	2-10 VDC	2-10 VDC	24 VAC/DC	90 seconds	112 lbf
	LVKX24-MFT	Yes	Variable with MFT	Variable VDC	24 VAC/DC	90 seconds	112 lbf
SV Series	SVX24-3	No	Floating Pt., On/Off	N/A	24 VAC/DC	90 seconds	337 lbf
	SVX120-3	No	Floating Pt., On/Off	N/A	120-240 VAC	90 seconds	337 lbf
	SVBSR-SR	No	2-10 VDC	2-10 VDC	24 VAC/DC	90 seconds	337 lbf
	SVX24-MFT	No	Variable with MFT	Variable VDC	24 VAC/DC	90 seconds	337 lbf
SVK Series	SVKX24-3	Yes	Floating Pt., On/Off	N/A	24 VAC	90 seconds	337 lbf
	SVKX120-3	Yes	Floating Pt., On/Off	N/A	120-240 VAC	90 seconds	337 lbf
	SVKBSR-SR	Yes	2-10 VDC	2-10 VDC	24 VAC/DC	90 seconds	337 lbf
	SVKX24-MFT	Yes	Variable with MFT	Variable VDC	24 VAC/DC	90 seconds	337 lbf
AV Series	AVKB24-3	Yes	Floating Pt., On/Off	N/A	24 VAC	90 seconds	450 lbf
	AVKB120-3	Yes	Floating Pt., On/Off	N/A	120-240 VAC	90 seconds	450 lbf
	AVKB24-MFT	Yes	Variable with MFT	Variable VDC	24 VAC/DC	90 seconds	450 lbf
EV Series	EV B24-3	No	Floating Pt., On/Off	N/A	24 VAC/DC	90 seconds	562 lbf
	EV B120-3	No	Floating Pt., On/Off	N/A	120-240 VAC	90 seconds	562 lbf
	EV B24-MFT	No	Variable with MFT	Variable VDC	24 VAC/DC	90 seconds	562 lbf
RV Series	RV B24-3	No	Floating Pt., On/Off	N/A	24 VAC/DC	90 seconds	562 lbf
	RV B24-MFT	No	Variable with MFT	Variable VDC	24 VAC/DC	90 seconds	562 lbf

* Other speeds available on request. ** Sold as an assembly with linkage.

MULTI-FUNCTION TECHNOLOGY

PROGRAMMING CODE			Control Input	Running Time	Built-in Feedback
ROTARY ACTUATOR	P-10001	A01	2-10 VDC	150 seconds	2-10 VDC
	P-10002	A02	0.5-10 VDC	150 seconds	0.5-10 VDC
	P-10028	A28	0.5-10 VDC	150 seconds	0.5-10 VDC
	P-10063	A63	0.5-4.5 VDC	150 seconds	0.5-4.5 VDC
	P-10064	A64	5.5-10 VDC	150 seconds	5.5-10 VDC
	P-20002	W02	0.02-5.00 seconds PWM	150 seconds	2-10 VDC
	P-20003	W03	0.10-25.5 seconds PWM	150 seconds	2-10 VDC
	P-30001	F01	Floating Point	150 seconds	2-10 VDC
LINEAR ACTUATOR	P-40002	J02	On/Off	150 seconds	2-10 VDC
	G43		2-10 VDC	90 seconds	2-10 VDC
	G53		0.5-10 VDC	90 seconds	0.5-10 VDC
	W3M		0.02-5.00 seconds PWM	90 seconds	2-10 VDC
	G13		Floating Point	90 seconds	2-10 VDC
	G03		On/Off	90 seconds	2-10 VDC

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN

Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V5011 Series	½"	Yes	236	LVK	UGVL
		No		LV	UGVL
	¾"	Yes	211	LVK	UGVL
		No		LV	UGVL
	1"	Yes	93	LVK	UGVL
		No		LV	UGVL
		No	236	SV	UGVL
		Yes		SVK	UGVL
	1¼"	No	236	SV	UGVL
		Yes		SVK	UGVL
	1½"	No	160	SV	UGVL
		Yes		SVK	UGVL
	2"	No	85	SV	UGVL
		Yes		SVK	UGVL
	2½"	No	52	SV	UGVL
		Yes		SVK	UGVL
	3"	No	40	SV	UGVL
		Yes		SVK	UGVL
V5011N Series	½"	Yes	236	LVK	UGVL
		Yes		LF	UGLK1806
		No		LV	UGVL
		Yes		LF	UGLK1806
	¾"	Yes	211	LVK	UGVL
		Yes		LV	UGVL
		No		LF	UGLK1806
		Yes		LF	UGLK1806
	1"	Yes	65	LVK	UGVL
		Yes		LV	UGVL
		No	93	AF	UGLK1800
		Yes		SV	UGVL
		No		SVK	UGVL
		Yes		SVK	UGVL
	1¼"	Yes	40	LF	UGLK1806
		Yes		AF	UGLK1800
		No		SV	UGVL
		Yes		SVK	UGVL
	1½"	Yes	26	LF	UGLK1806
		Yes		AF	UGLK1800
		No	160	SV	UGVL
		Yes		SVK	UGVL
	2"	Yes	14	LF	UGLK1806
		No		SV	UGVL
		Yes	85	SVK	UGVL
		Yes		AF	UGLK1800
		Yes	173	GK	UGLK1800
		Yes		GK	UGLK1800
V5013 Series	½"	Yes	236	LVK	UGVL
		No		LV	UGVL
	¾"	Yes	211	LVK	UGVL
		No		LV	UGVL
	1"	Yes	93	LVK	UGVL
		No		LV	UGVL
		No	236	SV	UGVL
		Yes		SVK	UGVL
	1¼"	No	236	SV	UGVL
		Yes		SVK	UGVL
	1½"	No	160	SV	UGVL
		Yes		SVK	UGVL
	2"	No	85	SV	UGVL
		Yes		SVK	UGVL
	2½"	No	52	SV	UGVL
		Yes		SVK	UGVL
	3"	No	40	SV	UGVL
		Yes		SVK	UGVL
V5013N Series	½"	Yes	236	LVK	UGVL
		Yes		LF	UGLK1806
		No		LV	UGVL
		Yes		LF	UGLK1806
	¾"	Yes	110	LVK	UGVL
		Yes		LVK	UGVL

All close-off pressures listed are approximate and based on valve condition and application.



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V5013N Series	¾"	No	211	LV	UGVL
	1"	Yes	65	LF	UGLK1806
		Yes	93	LVK	UGVL
		No		LV	UGVL
		Yes	236	AF	UGLK1800
		No		SV	UGVL
		Yes		SVK	UGVL
	1¼"	Yes	40	LF	UGLK1806
		Yes	221	AF	UGLK1800
		No	236	SV	UGVL
		Yes		SVK	UGVL
	1½"	Yes	26	LF	UGLK1806
		Yes	153	AF	UGLK1800
		No	160	SV	UGVL
		Yes		SVK	UGVL
	2"	Yes	14	LF	UGLK1806
		No	85	SV	UGVL
		Yes		SVK	UGVL
		Yes	86	AF	UGLK1800
		Yes	173	GK	UGLK1800
V5011 (F1063, F1154, H1028, G1194)	1"	Yes	65	LF	UGLK1806
		Yes	236	AF	UGLK1800
V5011 (F1089, F1178, G1228)	1½"	Yes	26	LF	UGLK1806
		Yes	153	AF	UGLK1800
V5011 (F1097, F1188, G1103)	2"	Yes	14	LF	UGLK1800
		Yes	40	NF	UGLK1806
		Yes	86	AF	UGLK1800
		Yes	173	GK	UGLK1800
V5011 (H1028, G1194, J1023)	¾"	Yes	110	LF	UGLK1806
		Yes	236	NF	UGLK1800
V5011 (H1044, G1210, J1049)	1¼"	Yes	40	LF	UGLK1806
		Yes	221	AF	UGLK1800
V5011F (1014, 1022, 1030, 1048, 1121, 1139)	½"	Yes	236	LF	UGLK1806
		Yes		NF	UGLK1800
V5011F (1055, 1147)	¾"	Yes	110	LF	UGLK1806
		Yes	236	NF	UGLK1800
V5011F (1071, 1162)	1¼"	Yes	40	LF	UGLK1806
		Yes	221	AF	UGLK1800
V5011G (1137, 1145, 1152, 1160, 1178, 1186)	½"	Yes	236	LF	UGLK1806
		Yes		NF	UGLK1800
V5011H (1002, 1010)	½"	Yes	236	LF	UGLK1806
		Yes		NF	UGLK1800
V5011J (1012, 1079)	½"	Yes	236	LF	UGLK1806
		Yes		NF	UGLK1800
V5013F (1004, 1012, 1079)	½"	Yes	236	LF	UGLK1806
		Yes		NF	UGLK1800
V5013F (1020, 1087)	¾"	Yes	110	LF	UGLK1806
		Yes	236	NF	UGLK1800
V5013F (1038, 1095)	1"	Yes	65	LF	UGLK1806
		Yes	236	AF	UGLK1800
V5013F (1046, 1103)	1¼"	Yes	40	LF	UGLK1806
		Yes	221	AF	UGLK1800
V5013F (1053, 1111)	1½"	Yes	26	LF	UGLK1806
		Yes	153	AF	UGLK1800
V5013F (1061, 1129)	2"	Yes	14	LF	UGLK1800
		Yes	40	NF	UGLK1806
		Yes	86	AF	UGLK1800
		Yes	173	GK	UGLK1800
V5045	½"	No	236	AM	UGLK1804
		Yes		NF	UGLK1804
	¾"	Yes	236	NF	UGLK1804
		No	236	AM	UGLK1804
	1"	Yes		NF	UGLK1804
		No	236	AM	UGLK1804
	1¼"	Yes	160	NF	UGLK1804
		Yes	211	AF	UGLK1804

All close-off pressures listed are approximate and based on valve condition and application.

Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V5045	1½"	No	211	AM	UGLK1804
	2"	Yes	120	AF	UGLK1804
		No		AM	UGLK1804
V3350 (A2009, A2017, B2007, C2013, D2003)	2½"	No	55	SV	UGVL
		Yes		SVK	UGVL
		Yes	110	2*AF	UGLK1870
		Yes	211	2*GK	UGLK1870
		Yes	77	2*AF	UGLK1870
V3350 (A3007, A3015, B3005, C3011, D3001)	3"	Yes	38	AF	UGLK1800
		Yes	136	2*GK	UGLK1870
		No	38	SV	UGVL
		Yes		SVK	UGVL
		Yes	10	AF	FGVL
V3350 (A4005, A4013, B4003, C4019, D4009)	4"	Yes	22	2*AF	UGLK1872
		Yes		AVK	FGVL
		No		EV	UGLK1802
		Yes	40	2*GK	UGLK1872
		No		RV	FGVL
		Yes		AF	UGLK1802
V3350 (A5002, A5010, B5000, C5016, D5006)	5"	Yes	14	2*AF	UGLK1872
		No		EV	FGVL
		Yes		GK	UGLK1802
		Yes	22	2*GK	UGLK1872
		No		RV	FGVL
		Yes		AF	UGLK1802
V3350 (A6000, A6008, A6018, C6014, D6004)	6"	Yes	10	2*AF	UGLK1872
		Yes		GK	UGLK1802
		Yes	22	2*GK	UGLK1872
		No		RV	FGVL
		Yes		AF	UGLK1802
V3351 (A4004, C4000, C4001)	4"	Yes	22	2*AF	UGLK1872
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	40	2*GK	UGLK1872
		No		RV	FGVL
		Yes		AF	UGLK1802
V3351 (A2008, C2005, D2002)	2½"	No	55	SV	UGVL
		Yes		SVK	UGVL
		Yes	110	2*AF	UGLK1870
		Yes	211	2*GK	UGLK1870
V3351 (A3006, C3002, C3003)	3"	Yes	77	2*AF	UGLK1870
		Yes	38	AF	UGLK1800
		Yes	136	2*GK	UGLK1870
		No	38	SV	UGVL
		Yes		SVK	UGVL
V3351 (A5001, C5008, D5005)	5"	Yes	10	AF	UGLK1802
		Yes	14	2*AF	UGLK1872
		No		EV	FGVL
		Yes		GK	UGLK1802
		Yes	22	2*GK	UGLK1872
		No		RV	FGVL
V3351 (A6009, C6005, C6006)	6"	Yes	10	2*AF	UGLK1872
		Yes		GK	UGLK1802
		Yes	22	2*GK	UGLK1872
		No		RV	FGVL
V3360E2008, V3361E2007	2½"	No	55	SV	UGVL
		Yes		SVK	UGVL
		Yes	52	AF	UGLK1800
		Yes	110	2*AF	UGLK1870
		Yes	211	2*GK	UGLK1870
V3360E3006, V3361E3005	3"	Yes	77	2*AF	UGLK1870
		Yes	38	AF	UGLK1800
		Yes	136	2*GK	UGLK1870
		No	38	SV	UGVL
		Yes		SVK	UGVL
V3360E4004, V3361E4003	4"	Yes	10	AF	UGLK1802
		Yes	22	2*AF	UGLK1872
		Yes		AVK	FGVL

All close-off pressures listed are approximate and based on valve condition and application.



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V3360E4004, V3361E4003	4"	No	22	EV	FGVL
		Yes	40	2*GK	UGLK1872
V3360E5001, V3361E5000	5"	No	10	RV	FGVL
		Yes	10	AF	UGLK1802
		Yes	14	2*AF	UGLK1872
		No	14	EV	FGVL
		Yes	14	GK	UGLK1802
		Yes	22	2*GK	UGLK1872
V3360E6009, V3361E6008	6"	No	22	RV	FGVL
		Yes	10	2*AF	UGLK1872
		Yes	10	GK	UGLK1802
		Yes	22	2*GK	UGLK1872
V3450 (A2008, A2016, B2006, C2012, D2002)	2½"	No	22	RV	FGVL
		Yes	55	SV	UGVL
		Yes	55	SVK	UGVL
		Yes	52	AF	UGLK1800
		Yes	110	2*AF	UGLK1870
		Yes	211	2*GK	UGLK1870
V3450 (A3006, A3014, B3004, C3010, D3000)	3"	Yes	77	2*AF	UGLK1870
		Yes	38	AF	UGLK1800
		Yes	136	2*GK	UGLK1870
		No	38	SV	UGVL
		Yes	38	SVK	UGVL
		Yes	10	AF	UGLK1802
V3450 (A4004, A4012, B4002, C4018, D4008)	4"	Yes	22	2*AF	UGLK1872
		Yes	22	AVK	FGVL
		No	22	EV	FGVL
		Yes	40	2*GK	UGLK1872
		No	40	RV	FGVL
		Yes	10	AF	UGLK1802
V3450 (A5001, A5019, B5009, C5015, D5005)	5"	Yes	10	AF	UGLK1802
		Yes	14	2*AF	UGLK1872
		No	14	EV	FGVL
		Yes	14	GK	UGLK1802
		Yes	22	2*GK	UGLK1872
		No	22	RV	FGVL
V3450 (A6009, A6007, A6017, C6013, D6003)	6"	Yes	10	2*AF	UGLK1872
		Yes	10	GK	UGLK1802
		Yes	22	2*GK	UGLK1872
		No	22	RV	FGVL
V3451 (A2007, C2003, C2004)	2½"	Yes	52	AF	UGLK1800
		Yes	110	2*AF	UGLK1870
		Yes	211	2*GK	UGLK1870
		No	77	SV	UGVL
		Yes	77	SVK	UGVL
V3451 (A3005, C3001, C3002)	3"	Yes	77	2*AF	UGLK1870
		Yes	38	AF	UGLK1800
		Yes	136	2*GK	UGLK1870
		No	38	SV	UGVL
		Yes	38	SVK	UGVL
V3451 (A4003, C4000, C4009)	4"	Yes	10	AF	UGLK1802
		Yes	22	2*AF	UGLK1872
		Yes	22	AVK	FGVL
		No	22	EV	FGVL
		Yes	40	2*GK	UGLK1872
		No	40	RV	FGVL
V3451 (A5000, C5006, C5007)	5"	Yes	10	AF	UGLK1802
		Yes	14	2*AF	UGLK1872
		No	14	EV	FGVL
		Yes	14	GK	UGLK1802
		Yes	22	2*GK	UGLK1872
		No	22	RV	FGVL
V3451 (A6008, C6004, C6005)	6"	Yes	10	2*AF	UGLK1872
		Yes	10	GK	UGLK1802
		Yes	22	2*GK	UGLK1872
		No	22	RV	FGVL
V3460E2007, V3461E2006	2½"	No	55	SV	UGVL

All close-off pressures listed are approximate and based on valve condition and application.

Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V3460E2007, V3461E2006	2½"	Yes	55	SVK	UGVL
		Yes	52	AF	UGLK1800
		Yes	110	2*AF	UGLK1870
		Yes	211	2*GK	UGLK1870
V3460E3005, V3461E3004	3"	Yes	77	2*AF	UGLK1870
		Yes	38	AF	UGLK1800
		Yes	136	2*GK	UGLK1870
		No	38	SV	UGVL
V3460E4003, V3461E4002	4"	Yes	10	AF	UGLK1802
		Yes	22	2*AF	UGLK1872
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	40	2*GK	UGLK1872
		No		RV	FGVL
V3460E5000, V3461E5009	5"	Yes	10	AF	UGLK1802
		Yes	14	2*AF	UGLK1872
		No		EV	FGVL
		Yes	22	GK	UGLK1802
		Yes		2*GK	UGLK1872
		No		RV	FGVL
V3460E6008, V3461E6007	6"	Yes	10	2*AF	UGLK1872
		Yes	22	GK	UGLK1802
		Yes		2*GK	UGLK1872
		No		RV	FGVL
V5011 (A1734, F1105, F1196, G1111)	2½"	Yes	211	2*GK	UGLK1870
V5011 (A1767, F1113, F1204, G1129)	3"	Yes	38	AF	UGLK1800
		Yes	136	2*GK	UGLK1870
V5011 (A1858, B1013)	4"	Yes	10	AF	UGLK1802
		Yes	22	AVK	FGVL
		No		EV	FGVL
		Yes	40	2*GK	UGLK1872
		No		RV	FGVL
		Yes	10	AF	UGLK1802
V5011 (A1882, B1047)	5"	Yes	14	2*AF	UGLK1872
		Yes		GK	UGLK1802
		Yes	22	2*GK	UGLK1872
		No		RV	FGVL
		Yes	10	2*AF	UGLK1872
		Yes		GK	UGLK1802
V5011 (A1916, B1078)	6"	Yes	22	2*GK	UGLK1872
		No		RV	FGVL
		Yes	10	2*AF	UGLK1872
		Yes		GK	UGLK1802
V5013 (B1003, C1001)	2½"	Yes	52	AF	UGLK1800
V5013 (B1011, C1019)	3"	Yes	211	2*GK	UGLK1870
		Yes	77	GK	UGLK1800
V5013 (B1029, C1027)	4"	Yes	136	2*GK	UGLK1870
		Yes	22	AVK	FGVL
		No		EV	FGVL
		Yes	40	GK	UGLK1802
		Yes		2*GK	UGLK1872
		No		RV	FGVL
V5013 (B1037, C1035)	5"	Yes	10	AF	UGLK1802
		Yes	14	2*AF	UGLK1872
		No		EV	FGVL
		Yes	22	GK	UGLK1802
		Yes		2*GK	UGLK1872
		No		RV	FGVL
V5013 (B1045, C1043)	6"	Yes	10	2*AF	UGLK1872
		Yes	22	GK	UGLK1802
		Yes		2*GK	UGLK1872
		No		RV	FGVL
VP525 Series	½"	No	110	CM	UGLK1808
		Yes		TF	UGLK1808
	¾"	No	55	CM	UGLK1808
		Yes		TF	UGLK1808
VP526 Series	½"	No	50	CM	UGLK1808

All close-off pressures listed are approximate and based on valve condition and application.



Honeywell

VP52..., VP531, VGF Series Valves

Linkage/Actuator Selection Guide

Johnson Controls

V52... Series Valves

Linkage/Actuator Selection Guide

Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage	
VP526 Series	½”	Yes	50	TF	UGLK1808	
	5/8”	No	58	CM	UGLK1808	
		Yes		TF	UGLK1808	
VP527 Series	½”	No	45	CM	UGLK1808	
		Yes		TF	UGLK1808	
VP531 Series	½”	No	70	CM	UGLK1808	
		Yes		TF	UGLK1808	
	¾”	No	70	CM	UGLK1808	
		Yes		TF	UGLK1808	
	5/8”	No	70	CM	UGLK1808	
		Yes		TF	UGLK1808	
	7/8”	No	70	CM	UGLK1808	
		Yes		TF	UGLK1808	
VGF2.. Series	2½”	Yes	52	AVK	FGVL	
		No		EV	FGVL	
	3”	Yes	40	AVK	FGVL	
		No		EV	FGVL	
	4”	Yes	22	AVK	FGVL	
		No		EV	FGVL	
	5”	Yes	14	AVK	FGVL	
		No		RV	FGVL	
	6”	Yes	10	AVK	FGVL	
		No		RV	FGVL	
	VGF3.. Series	2½”	Yes	52	AVK	FGVL
			No		EV	FGVL
3”		Yes	40	AVK	FGVL	
		No		EV	FGVL	
4”		Yes	22	AVK	FGVL	
		No		EV	FGVL	
5”		Yes	14	AVK	FGVL	
		No		RV	FGVL	
6”		Yes	10	AVK	FGVL	
		No		RV	FGVL	
JOHNSON CONTROLS						
V-5252-(12, 13, 35)	3”	Yes	52	2*AF	UGLK1476	
		Yes		AVK	FGVL	
		No		EV	FGVL	
		Yes	26	AF	UGLK1410	
		Yes		2*GK	UGLK1476	
		No		RV	FGVL	
V-5252-(14, 36)	4”	Yes	14	AF	UGLK1410	
		Yes		2*GK	UGLK1476	
		No		RV	FGVL	
		Yes	26	2*AF	UGLK1476	
		Yes		AVK	FGVL	
		No		EV	FGVL	
V-5252-17	5”	Yes	10	AF	UGLK1414	
		Yes		2*AF	UGLK1480	
		No		EV	FGVL	
		Yes	14	GK	UGLK1414	
		Yes		2*GK	UGLK1480	
		No		RV	FGVL	
V-5252-18	5”	Yes	10	AF	UGLK1414	
		Yes		2*AF	UGLK1480	
		No		EV	FGVL	
		Yes	14	GK	UGLK1414	
		Yes		2*GK	UGLK1480	
		No		RV	FGVL	
V-5252-19	6”	Yes	10	2*AF	UGLK1480	
		No		EV	FGVL	
		Yes		GK	UGLK1414	
		Yes	22	2*GK	UGLK1480	
		No		RV	FGVL	
		No		RV	FGVL	

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All close-off pressures listed are approximate and based on valve condition and application.

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN

Johnson Controls

V-52..., V-54... Series Valves

Linkage/Actuator Selection Guide



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V-5252-38	5"	Yes	10	AF	UGLK1414
		Yes	14	2*AF	UGLK1480
		No		EV	FGVL
		Yes	22	GK	UGLK1414
		Yes		2*GK	UGLK1480
V-5252-39	6"	No	10	RV	FGVL
		Yes		2*AF	UGLK1480
		No		EV	FGVL
		Yes	22	GK	UGLK1414
		Yes		2*GK	UGLK1480
V-5462-11	4"	No	14	RV	FGVL
		Yes		AF	UGLK1410
		Yes		2*GK	UGLK1476
		No	52	RV	FGVL
		Yes		2*AF	UGLK1476
V-5462-12	4"	Yes	26	AVK	FGVL
		No		EV	FGVL
		Yes		AF	UGLK1410
		Yes	52	2*GK	UGLK1476
		No		RV	FGVL
V-5462-15	5"	Yes	10	2*AF	UGLK1476
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	14	AF	UGLK1414
		Yes		2*AF	UGLK1480
V-5462-16	5"	No	22	EV	FGVL
		Yes		GK	UGLK1414
		Yes		2*GK	UGLK1480
		No	10	RV	FGVL
		Yes		2*AF	UGLK1480
V-5462-17	6"	Yes	22	EV	FGVL
		No		GK	UGLK1414
		Yes		2*GK	UGLK1480
		No	10	RV	FGVL
		Yes		2*AF	UGLK1480
V-5462-18	6"	No	22	EV	FGVL
		Yes		GK	UGLK1414
		Yes		2*GK	UGLK1480
		No	10	RV	FGVL
		Yes		2*AF	UGLK1480
V-5462-35	3"	Yes	52	RV	FGVL
		Yes		2*AF	UGLK1476
		No		AVK	FGVL
		Yes	26	EV	FGVL
		Yes		AF	UGLK1410
V-5462-37	4"	No	93	2*GK	UGLK1476
		Yes		RV	FGVL
		Yes		AF	UGLK1410
		No	52	2*GK	UGLK1476
		Yes		RV	FGVL
V-5462-39	5"	Yes	26	2*AF	UGLK1476
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	10	GK	UGLK1414
		Yes		2*GK	UGLK1480
V-5462-39	5"	No	14	RV	FGVL
		Yes		AF	UGLK1414
		Yes		2*AF	UGLK1480
		No	22	EV	FGVL
		Yes		GK	UGLK1414

All close-off pressures listed are approximate and based on valve condition and application.

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V-5462-40	6"	Yes	10	2*AF	UGLK1480
		No		EV	FGVL
		Yes	22	GK	UGLK1414
		Yes		2*GK	UGLK1480
		No		RV	FGVL
V-5462-8	3"	Yes	52	2*AF	UGLK1476
		Yes		AVK	FGVL
		No	26	EV	FGVL
		Yes		AF	UGLK1410
		Yes		2*GK	UGLK1476
		No		RV	FGVL
V-5462-9	3"	Yes	52	2*AF	UGLK1476
		Yes		AVK	FGVL
		No	26	EV	FGVL
		Yes		AF	UGLK1410
		Yes		2*GK	UGLK1476
		No		RV	FGVL
V-5842-10	3"	Yes	52	2*AF	UGLK1476
		Yes		AVK	FGVL
		No	26	EV	FGVL
		Yes		AF	UGLK1410
		Yes		2*GK	UGLK1476
		No		RV	FGVL
V-5842-13	5"	Yes	10	AF	UGLK1414
		Yes	14	2*AF	UGLK1480
		No		EV	FGVL
V-5842-13	5"	Yes	14	GK	UGLK1414
		Yes	22	2*GK	UGLK1480
		No		RV	FGVL
V-5842-14	5"	Yes	10	AF	UGLK1414
		Yes	14	2*AF	UGLK1480
		No		EV	FGVL
		Yes	22	GK	UGLK1414
		Yes		2*GK	UGLK1480
		No		RV	FGVL
V-5842-15	6"	Yes	10	2*AF	UGLK1480
		No		EV	FGVL
		Yes	22	GK	UGLK1414
		Yes		2*GK	UGLK1480
		No		RV	FGVL
V-5842-16	6"	Yes	10	2*AF	UGLK1480
		No		EV	FGVL
		Yes	22	GK	UGLK1414
		Yes		2*GK	UGLK1480
		No		RV	FGVL
V-5842-32	3"	Yes	52	2*AF	UGLK1476
		Yes		AVK	FGVL
		No	26	EV	FGVL
		Yes		AF	UGLK1410
		Yes		2*GK	UGLK1476
		No		RV	FGVL
V-5842-35	5"	Yes	10	AF	UGLK1414
		Yes	14	2*AF	UGLK1480
		No		EV	FGVL
		Yes	22	GK	UGLK1414
		Yes		2*GK	UGLK1480
		No		RV	FGVL
V-5842-36	6"	Yes	10	2*AF	UGLK1480
		No		EV	FGVL
		Yes	22	GK	UGLK1414
		Yes		2*GK	UGLK1480
		No		RV	FGVL

Johnson Controls

V-58..., VB-37..., VB-39..., VB-43... Series Valves

Linkage/Actuator Selection Guide



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V-5842-9	3"	Yes	52	2*AF	UGLK1476
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	26	AF	UGLK1410
		Yes	93	2*GK	UGLK1476
		No		RV	FGVL
VB-3752-22	3"	Yes	60	AVK	FGVL
		No	70	EV	FGVL
		Yes	52	2*AF	UGLK1476
		Yes	26	AF	UGLK1410
		Yes	93	2*GK	UGLK1476
		No		RV	FGVL
VB-3752-25	4"	Yes	14	AF	UGLK1410
		Yes	30	AVK	FGVL
		No	40	EV	FGVL
		Yes	52	2*GK	UGLK1476
		No		RV	FGVL
		Yes	26	2*AF	UGLK1476
VB-3752-28	5"	Yes	10	AF	UGLK1414
		Yes	14	2*AF	UGLK1480
		No		EV	FGVL
		Yes		GK	UGLK1414
		Yes	22	2*GK	UGLK1480
		No		RV	FGVL
VB-3752-31	6"	Yes	10	2*AF	UGLK1480
		No		EV	FGVL
		Yes		GK	UGLK1414
		Yes	22	2*GK	UGLK1480
		No		RV	FGVL
		Yes		2*AF	UGLK1476
VB-3970-14	3"	Yes	52	AVK	FGVL
		No		EV	FGVL
		Yes		AF	UGLK1410
		Yes	26	2*GK	UGLK1476
		No	93	RV	FGVL
		Yes		2*AF	UGLK1476
VB-3970-17	4"	Yes	14	AF	UGLK1410
		Yes	52	2*GK	UGLK1476
		No		RV	FGVL
		Yes	26	2*AF	UGLK1476
		Yes		AVK	FGVL
		No		EV	FGVL
VB-3970-20	5"	Yes	10	AF	UGLK1414
		Yes	14	2*AF	UGLK1480
		No		EV	FGVL
		Yes		GK	UGLK1414
		Yes	22	2*GK	UGLK1480
		No		RV	FGVL
VB-3970-23	6"	Yes	10	2*AF	UGLK1480
		No		EV	FGVL
		Yes		GK	UGLK1414
		Yes	22	2*GK	UGLK1480
		No		RV	FGVL
		Yes		2*AF	UGLK1476
VB-4322-11	3"	Yes	52	AVK	FGVL
		No		EV	FGVL
		Yes		AF	UGLK1410
		Yes	93	2*GK	UGLK1476
		No		RV	FGVL
		Yes		2*AF	UGLK1476
VB-4322-13	4"	Yes	14	AF	UGLK1410
		Yes	52	2*GK	UGLK1476
		No		RV	FGVL
		Yes	26	2*AF	UGLK1476
		Yes		AVK	FGVL
		No		EV	FGVL

All close-off pressures listed are approximate and based on valve condition and application.

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
VB-4322-18	6"	Yes	10	2*AF	UGLK1480
		No		EV	FGVL
		Yes	22	GK	UGLK1414
		Yes		2*GK	UGLK1480
		No		RV	FGVL
VB-4322-19	5"	Yes	10	AF	UGLK1414
		Yes	14	2*AF	UGLK1480
		No		EV	FGVL
		Yes	22	GK	UGLK1414
		Yes		2*GK	UGLK1480
VG2231 UM	3"	No	52	RV	FGVL
		Yes		AVK	FGVL
		No	93	EV	FGVL
VG2231 VM	4"	No	52	RV	FGVL
		Yes		AVK	FGVL
		No	26	EV	FGVL
VG2231 WN	5"	No	14	EV	FGVL
		No	22	RV	FGVL
VG2231 YN	6"	No	10	EV	FGVL
		No	22	RV	FGVL
VG2431 UM	3"	Yes	52	AVK	FGVL
		No		EV	FGVL
		No	93	RV	FGVL
VG2431 VM	4"	No	52	RV	FGVL
		Yes		AVK	FGVL
		No	26	EV	FGVL
VG2431 WN	5"	No	14	EV	FGVL
		No	22	RV	FGVL
VG2431 YN	6"	No	10	EV	FGVL
		No	22	RV	FGVL
VG2831 UM	3"	Yes	52	AVK	FGVL
		No		EV	FGVL
		No	93	RV	FGVL
VG2831 VM	4"	No	52	RV	FGVL
		Yes		AVK	FGVL
		No	26	EV	FGVL
VG2831 WN	5"	No	14	EV	FGVL
		No	22	RV	FGVL
VG2831 YN	6"	No	10	EV	FGVL
		No	22	RV	FGVL
VG2231 UM	3"	Yes	52	2*AF	UGLK1476
		Yes	26	AF	UGLK1410
		Yes	93	2*GK	UGLK1476
VG2431 UM	3"	Yes	52	2*AF	UGLK1476
		Yes	26	AF	UGLK1410
		Yes	93	2*GK	UGLK1476
VG2831 UM	3"	Yes	52	2*AF	UGLK1476
		Yes	26	AF	UGLK1410
		Yes	93	2*GK	UGLK1476
VG2231 VM	4"	Yes	14	AF	UGLK1410
		Yes	52	2*GK	UGLK1476
		Yes	26	2*AF	UGLK1476
VG2431 VM	4"	Yes	14	AF	UGLK1410
		Yes	52	2*GK	UGLK1476
		Yes	26	2*AF	UGLK1476
VG2831 VM	4"	Yes	14	AF	UGLK1410
		Yes	52	2*GK	UGLK1476
		Yes	26	2*AF	UGLK1476
VG2231 WN	5"	Yes	10	AF	UGLK1414
		Yes	14	2*AF	UGLK1480
		Yes		GK	UGLK1414
		Yes	22	2*GK	UGLK1480

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All close-off pressures listed are approximate and based on valve condition and application.

Johnson Controls

VG24, VG22, VG28, V52, V54 Series Valves

Linkage/Actuator Selection Guide



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
VG2431 WN	5"	Yes	10	AF	UGLK1414
		Yes	14	2*AF	UGLK1480
		Yes		GK	UGLK1414
		Yes	22	2*GK	UGLK1480
VG2831 WN	5"	Yes	10	AF	UGLK1414
		Yes	14	2*AF	UGLK1480
		Yes		GK	UGLK1414
		Yes	22	2*GK	UGLK1480
VG2231 YN	6"	Yes	10	2*AF	UGLK1480
		Yes		GK	UGLK1414
		Yes	22	2*GK	UGLK1480
		Yes		2*AF	UGLK1480
VG2431 YN	6"	Yes	10	2*AF	UGLK1480
		Yes		GK	UGLK1414
		Yes	22	2*GK	UGLK1480
		Yes		2*AF	UGLK1480
VG2831 YN	6"	Yes	10	2*AF	UGLK1480
		Yes		GK	UGLK1414
		Yes	22	2*GK	UGLK1480
		Yes		2*AF	UGLK1480
V-5210-4595	2½"	Yes	38	AF	UGLK1412
		Yes	136	2*GK	UGLK1478
		No		RV	FGVL
		Yes	75	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		RV	FGVL
V-5210-4596	3"	Yes	52	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	26	AF	UGLK1412
		Yes	93	2*GK	UGLK1478
		No		RV	FGVL
V-5210-4597	4"	Yes	14	AF	UGLK1412
		Yes	52	2*GK	UGLK1478
		No		RV	FGVL
		Yes	26	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		EV	FGVL
V-5252-(15, 16, 37)	4"	Yes	14	AF	UGLK1412
		Yes	52	2*GK	UGLK1478
		No		RV	FGVL
		Yes	26	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		EV	FGVL
V-5252-(2, 4, 5, 6, 7, 8, 32, 33)	2½"	Yes	52	AF	UGLK1404
		No		EV	FGVL
		Yes	110	AVK	FGVL
		No		RV	FGVL
V-5252-(4, 5, 6, 7, 8, 32, 33)	2½"	Yes	110	2*AF	UGLK1472
		Yes	211	2*GK	UGLK1472
V-5252-(9, 10, 11, 34)	3"	Yes	52	AVK	FGVL
		No		EV	FGVL
		Yes	77	2*AF	UGLK1472
		Yes	38	AF	UGLK1404
		Yes	136	2*GK	UGLK1472
		No	93	RV	FGVL
V-5410-4595	2½"	Yes	38	AF	UGLK1412
		Yes	136	2*GK	UGLK1478
		No		RV	FGVL
		Yes	75	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		RV	FGVL
V-5410-4596	3"	Yes	52	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	26	AF	UGLK1412
		Yes		2*GK	UGLK1478
		No		RV	FGVL

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800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V-5410-4597	4"	Yes	14	AF	UGLK1412
		Yes	52	2*GK	UGLK1478
		No		RV	FGVL
		Yes	26	2*AF	UGLK1478
		Yes		AVK	FGVL
V-5462-(6, 7, 34)	2½"	No		EV	FGVL
		Yes	52	AF	UGLK1404
		No		EV	FGVL
		Yes	110	2*AF	UGLK1472
		Yes		AVK	FGVL
		No		RV	FGVL
		Yes	211	2*GK	UGLK1472
V-5462-10	3"	No		RV	FGVL
		Yes	52	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	26	AF	UGLK1412
V-5462-13	4"	Yes	93	2*GK	UGLK1478
		Yes		RV	FGVL
		No		EV	FGVL
		Yes	14	AF	UGLK1412
		Yes	52	2*GK	UGLK1478
V-5462-14	4"	No		RV	FGVL
		Yes	26	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	52	2*GK	UGLK1478
V-5462-36	3"	No		RV	FGVL
		Yes	26	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		EV	FGVL
V-5462-36	3"	Yes	52	2*GK	UGLK1478
		Yes		RV	FGVL
		No		EV	FGVL
		Yes	26	AF	UGLK1412
V-5462-38	4"	Yes	93	2*GK	UGLK1478
		Yes		RV	FGVL
		No		EV	FGVL
		Yes	14	AF	UGLK1412
		Yes	52	2*GK	UGLK1478
V-5842-(7, 8, 31)	2½"	No		RV	FGVL
		Yes	26	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	52	2*AF	UGLK1472
		Yes		AVK	FGVL
		No		RV	FGVL
V-5842-11	4"	Yes	211	2*GK	UGLK1472
		Yes		RV	FGVL
		No		EV	FGVL
		Yes	14	2*AF	UGLK1478
		Yes		AVK	FGVL
V-5842-12	4"	No		EV	FGVL
		Yes	52	2*GK	UGLK1478
		No		RV	FGVL
		Yes	26	2*AF	UGLK1478
		Yes		AVK	FGVL
V-5842-12	4"	No		EV	FGVL
		Yes	14	AF	UGLK1412
		Yes	52	2*GK	UGLK1478
		No		RV	FGVL
		Yes	26	2*AF	UGLK1478

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All close-off pressures listed are approximate and based on valve condition and application.

Johnson Controls

V-58, VB-39, VB-43, VG22, VG24, VG28 Series Valves

Linkage/Actuator Selection Guide



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V-5842-17	3"	Yes	52	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	26	AF	UGLK1412
		Yes	93	2*GK	UGLK1478
		No		RV	FGVL
V-5842-18	3"	Yes	52	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	26	AF	UGLK1412
		Yes	93	2*GK	UGLK1478
		No		RV	FGVL
V-5842-33	3"	Yes	52	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	26	AF	UGLK1412
		Yes	93	2*GK	UGLK1478
		No		RV	FGVL
V-5842-34	4"	Yes	14	AF	UGLK1412
		Yes	52	2*GK	UGLK1478
		No		RV	FGVL
		Yes	26	2*AF	UGLK1478
		Yes		AVK	FGVL
		No		EV	FGVL
VB-3752-19	2½"	Yes	52	AF	UGLK1404
		Yes	120	AVK	FGVL
		Yes	110	2*AF	UGLK1472
		Yes	211	2*GK	UGLK1472
		No	75	EV	FGVL
		No	200	RV	FGVL
VB-3970-11	2½"	Yes	52	AF	UGLK1404
		No		EV	FGVL
		Yes	110	2*AF	UGLK1472
		Yes		AVK	FGVL
		No		RV	FGVL
		Yes	211	2*GK	UGLK1472
VB-4322-9	2½"	Yes	52	AF	UGLK1404
		No		EV	FGVL
		Yes	110	2*AF	UGLK1472
VB-4322-9	2½"	Yes	110	AVK	FGVL
		No		RV	FGVL
		Yes	211	2*GK	UGLK1472
VG2231 TM	2½"	Yes	110	AVK	FGVL
		No		EV	FGVL
		No	211	RV	FGVL
VG2231 UN	3"	Yes	52	AVK	FGVL
		No		EV	FGVL
		No	93	RV	FGVL
VG2231 VN	4"	No	52	RV	FGVL
		Yes	26	AVK	FGVL
		No		EV	FGVL
VG2431 TM	2½"	Yes	110	AVK	FGVL
		No		EV	FGVL
		No	211	RV	FGVL
VG2431 UN	3"	Yes	52	AVK	FGVL
		No		EV	FGVL
		No	93	RV	FGVL
VG2431 VN	4"	No	52	RV	FGVL
		Yes	26	AVK	FGVL
		No		EV	FGVL
VG2831 TM	2½"	Yes	110	AVK	FGVL
		No		EV	FGVL
		No	211	RV	FGVL
VG2831 UN	3"	Yes	52	AVK	FGVL
		No		EV	FGVL
		No	93	RV	FGVL

All close-off pressures listed are approximate and based on valve condition and application.

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866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
VG2831 VN	4"	No	52	RV	FGVL
		Yes	26	AVK	FGVL
		No		EV	FGVL
VG2231 TM	2½"	Yes	52	AF	UGLK1404
		Yes	110	2*AF	UGLK1472
		Yes	211	2*GK	UGLK1472
VG2431 TM	2½"	Yes	52	AF	UGLK1404
		Yes	110	2*AF	UGLK1472
		Yes	211	2*GK	UGLK1472
VG2831 TM	2½"	Yes	52	AF	UGLK1404
		Yes	110	2*AF	UGLK1472
		Yes	211	2*GK	UGLK1472
VG2231 UN	3"	Yes	52	2*AF	UGLK1478
		Yes	26	AF	UGLK1412
		Yes	93	2*GK	UGLK1478
VG2431 UN	3"	Yes	52	2*AF	UGLK1478
		Yes	26	AF	UGLK1412
		Yes	93	2*GK	UGLK1478
VG2831 UN	3"	Yes	52	2*AF	UGLK1478
		Yes	26	AF	UGLK1412
		Yes	93	2*GK	UGLK1478
VG2231 VN	4"	Yes	14	AF	UGLK1412
		Yes	52	2*GK	UGLK1478
		Yes	26	2*AF	UGLK1478
VG2431 VN	4"	Yes	14	AF	UGLK1412
		Yes	52	2*GK	UGLK1478
		Yes	26	2*AF	UGLK1478
VG2831 VN	4"	Yes	14	AF	UGLK1412
		Yes	52	2*GK	UGLK1478
		Yes	26	2*AF	UGLK1478
V(B)-3754 Series, Bronze Trim	¾"	Yes	211	LVK	UGVL
		No		LV	UGVL
	1"	Yes	93	LVK	UGVL
		No		LV	UGVL
		No	236	SV	UGVL
		Yes		SVK	UGVL
	1¼"	No	236	SV	UGVL
		Yes		SVK	UGVL
	1½"	No	160	SV	UGVL
V(B)-3754 Series, Bronze Trim	1½"	Yes	160	SVK	UGVL
	2"	No	85	SV	UGVL
		Yes		SVK	UGVL
V(B)-3974 Series, Bronze Trim	¾"	Yes	211	LVK	UGVL
		No		LV	UGVL
	1"	Yes	93	LVK	UGVL
		No		LV	UGVL
		No	236	SV	UGVL
		Yes		SVK	UGVL
	1¼"	No	236	SV	UGVL
		Yes		SVK	UGVL
	1½"	No	160	SV	UGVL
		Yes		SVK	UGVL
	2"	No	85	SV	UGVL
		Yes		SVK	UGVL
V(B)-4324 Series, Bronze Trim	¾"	Yes	211	LVK	UGVL
		No		LV	UGVL
	1"	Yes	93	LVK	UGVL
		No		LV	UGVL
		No	236	SV	UGVL
		Yes		SVK	UGVL
	1¼"	No	236	SV	UGVL
		Yes		SVK	UGVL
	1½"	No	160	SV	UGVL
		Yes		SVK	UGVL
	2"	No	85	SV	UGVL
		Yes		SVK	UGVL

All close-off pressures listed are approximate and based on valve condition and application.

Johnson Controls

VB-58..., V-43, VG70, V-37, V-38, V-39 Series Valves

Linkage/Actuator Selection Guide



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V(B)-5844 Series	¾"	Yes	211	LVK	UGVL
		No		LV	UGVL
	1"	Yes	93	LVK	UGVL
		No		LV	UGVL
		Yes	236	SV	UGVL
				SVK	UGVL
	1¼"	No	236	SV	UGVL
		Yes		SVK	UGVL
	1½"	No	160	SV	UGVL
		Yes		SVK	UGVL
	2"	No	85	SV	UGVL
		Yes		SVK	UGVL
V-4332	¾"	Yes	211	LVK	UGVL
		No		LV	UGVL
	1"	Yes	93	LVK	UGVL
		No		LV	UGVL
		Yes	236	SV	UGVL
				SVK	UGVL
	1¼"	No	236	SV	UGVL
		Yes		SVK	UGVL
	1½"	No	160	SV	UGVL
		Yes		SVK	UGVL
	2"	No	85	SV	UGVL
		Yes		SVK	UGVL
VG7000 Series	½"	Yes	236	LVK	UGVL
		No		LV	UGVL
	¾"	Yes	211	LVK	UGVL
		No		LV	UGVL
	1"	Yes	93	LVK	UGVL
		No		LV	UGVL
		Yes	236	SV	UGVL
				SVK	UGVL
	1¼"	No	236	SV	UGVL
		Yes		SVK	UGVL
	1½"	No	160	SV	UGVL
		Yes		SVK	UGVL
	2"	No	85	SV	UGVL
		Yes		SVK	UGVL
V-3754-(4, 1008, 1022, 1026)	¾"	Yes	211	LF	UGLK1550
V-3754-(5, 1010, 1023, 1027)	1"	Yes	236	AF	UGLK1402
		Yes	173	NF	UGLK1402
V-3754-(6, 1028, 1029, 1030)	1½"	Yes	77	NF	UGLK1402
		Yes	153	AF	UGLK1402
		Yes	211	2*AF	UGLK1478
		Yes	236	GK	UGLK1402
		Yes	236	GK	UGLK1402
V-3754-7	2"	Yes	40	NF	UGLK1406
		Yes	236	2*GK	UGLK1474
		No		2*GM	UGLK1474
		Yes	86	AF	UGLK1406
		Yes	173	2*AF	UGLK1474
		Yes		GK	UGLK1406
		No		GM	UGLK1406
V-3754-8	1¼"	Yes	110	NF	UGLK1402
		Yes	221	AF	UGLK1402
V-3766	½"	Yes	236	LF	UGLK1552
		No		LM	UGLK1552
V-3854-5	½"	Yes	236	LF	UGLK1554
		No		LM	UGLK1554
V-3966	½"	Yes	236	LF	UGLK1552
		No		LM	UGLK1552
V-3974-(4, 1004, 1010)	¾"	Yes	211	LF	UGLK1550
V-3974-(5, 1005, 1011)	1"	Yes	236	AF	UGLK1402
		Yes	173	NF	UGLK1402

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203-791-8396 LATIN AMERICA/CARIBBEAN



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V-3974-(6, 1012, 1013)	1½"	Yes	77	NF	UGLK1402
		Yes	153	AF	UGLK1402
		Yes	211	2*AF	UGLK1478
		Yes	236	GK	UGLK1402
V-3974-7	2"	Yes	40	NF	UGLK1406
		Yes	236	2*GK	UGLK1474
		No		2*GM	UGLK1474
		Yes	86	AF	UGLK1406
		Yes	173	2*AF	UGLK1474
		Yes		GK	UGLK1406
		No		GM	UGLK1406
V-4324-(4, 1005, 1006, 1013)	¾"	Yes	211	LF	UGLK1550
V-4324-(5, 1007, 1008, 1014)	1"	Yes	236	AF	UGLK1402
		Yes	173	NF	UGLK1402
V-4324-(6,1015, 1016, 1017)	1½"	Yes	77	NF	UGLK1402
		Yes	153	AF	UGLK1402
V-4324-(6,1015, 1016, 1017)	1½"	Yes	211	2*AF	UGLK1478
		Yes	236	GK	UGLK1402
		Yes	40	NF	UGLK1406
V-4324-7	2"	Yes	236	2*GK	UGLK1474
		No		2*GM	UGLK1474
		Yes	86	AF	UGLK1406
		Yes	173	2*AF	UGLK1474
		Yes		GK	UGLK1406
		No		GM	UGLK1406
V-4324-8	1¼"	Yes	110	NF	UGLK1402
		Yes	221	AF	UGLK1402
V-4332	½"	Yes	236	LVK	UGVL
		No		LV	UGVL
V-5254-(1, 2, 3, 11)	1½"	Yes	77	NF	UGLK1404
		Yes	153	AF	UGLK1404
		No		AM	UGLK1404
		Yes	236	2*AF	UGLK1472
		Yes		GK	UGLK1404
		No		GM	UGLK1404
V-5254-(4, 5, 6, 12)	2"	Yes	40	NF	UGLK1406
		Yes	236	2*GK	UGLK1474
		No		2*GM	UGLK1474
		Yes	86	AF	UGLK1406
		No		AM	UGLK1406
		Yes	173	2*AF	UGLK1474
		Yes		GK	UGLK1406
		No		GM	UGLK1406
V-5464-(1, 2, 11)	1½"	Yes	77	NF	UGLK1404
		Yes	153	AF	UGLK1404
		No		AM	UGLK1404
		Yes	236	2*AF	UGLK1472
		Yes		GK	UGLK1404
		No		GM	UGLK1404
V-5464-(3, 4, 12)	2"	Yes	40	NF	UGLK1406
		Yes	236	2*GK	UGLK1474
		No		2*GM	UGLK1474
		Yes	86	AF	UGLK1406
		No		AM	UGLK1406
		Yes	173	2*AF	UGLK1474
		Yes		GK	UGLK1406
		No		GM	UGLK1406
V-5844-(1, 2, 3, 11)	1½"	Yes	77	NF	UGLK1404
		Yes	153	AF	UGLK1404
		Yes	236	2*AF	UGLK1472
		No		2*GM	UGLK1472
		Yes		GK	UGLK1404

Johnson Controls

V-58, VG-7..., VTM Series Valves
Linkage/Actuator Selection Guide

Robertshaw

V6700, V6800, V6600 Series Valves
Linkage/Actuator Selection Guide

Siebe\Invensys\Barber Colman

VB7000 Series Valves
Linkage/Actuator Selection Guide



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
V-5844-(4, 5, 6, 12)	2"	Yes	40	NF	UGLK1406
		Yes	236	2" GK	UGLK1474
		No		2" GM	UGLK1474
		Yes	86	AF	UGLK1406
		Yes	173	2" AF	UGLK1474
		No		GK	UGLK1406
VG7XXX-(C, E, GT) *Threaded Stem Only	½"	Yes	236	LF	UGLK1416
VG7XXX-LT *Threaded Stem Only	¾"	Yes	169	LF	UGLK1416
VG7XXX-NT *Threaded Stem Only	1"	Yes	93	LF	UGLK1418
VG7XXX-PT *Threaded Stem Only	1¼"	Yes	65	LF	UGLK1418
VG7XXX-RT *Threaded Stem Only	1½"	Yes	26	LF	UGLK1420
		Yes	77	NF	UGLK1422
		Yes	236	GK	UGLK1422
		No		GM	UGLK1422
VG7XXX-ST *Threaded Stem Only	2"	Yes	14	LF	UGLK1420
		Yes	40	NF	UGLK1422
		Yes	153	AF	UGLK1422
		Yes	86	AF	UGLK1422
		Yes	173	GK	UGLK1422
		No		GM	UGLK1422
VTM-TN-(007, 019, 047) *Threaded Stem Only	½"	Yes	236	LF	UGLK1550
		No		LM	UGLK1550
ROBERTSHAW					
V6700	½"	Yes	236	LVK	UGVL
		No		LV	UGVL
	1"	Yes	93	LVK	UGVL
		No	236	LV	UGVL
		No		SV	UGVL
		Yes		SVK	UGVL
	1¼"	No	236	SV	UGVL
		Yes		SVK	UGVL
	1½"	Yes	160	SVK	UGVL
	2"	No	85	SV	UGVL
		Yes		SVK	UGVL
V6700, V6800	¾"	Yes	211	LVK	UGVL
		No		LV	UGVL
V6600	½"	Yes	236	LVK	UGVL
		No		LV	UGVL
	¾"	Yes	211	LVK	UGVL
		No		LV	UGVL
		Yes	93	LVK	UGVL
	1"	No		LV	UGVL
		No	236	SV	UGVL
		Yes		SVK	UGVL
	1¼"	No	236	SV	UGVL
		Yes		SVK	UGVL
	1½"	No	160	SV	UGVL
		Yes		SVK	UGVL
	2"	No	85	SV	UGVL
		Yes		SVK	UGVL
V6700	1½"	No	160	SV	UGVL
SIEBE \ INVENSYS \ BARBER COLMAN					
VB7000 series	½"	Yes	236	LVK	SGVL
		No		LV	SGVL
	¾"	Yes	211	LVK	SGVL
		No		LV	SGVL
		Yes	93	LVK	SGVL
	1"	No		SV	SGVL
		No	236	SV	SGVL
		Yes		SVK	SGVL
	1¼"	No	236	SV	SGVL
		Yes		SVK	SGVL
	1½"	No	160	SV	SGVL
		Yes		SVK	SGVL

All close-off pressures listed are approximate and based on valve condition and application.

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
VB7000 series	2"	No	85	SV	SGVL
		Yes		SVK	SGVL
	½"	Yes	236	LVK	SGVL
		No		LV	SGVL
	¾"	Yes	211	LVK	SGVL
		No		LV	SGVL
	1"	Yes	93	LVK	SGVL
		No		SV	SGVL
		No	236	SV	SGVL
		Yes		SVK	SGVL
	1¼"	No	236	SV	SGVL
		Yes		SVK	SGVL
	1½"	No	160	SV	SGVL
		Yes		SVK	SGVL
VB9000 series	2"	No	85	SV	SGVL
		Yes		SVK	SGVL
	½"	Yes	236	LVK	SGVL
		No		LV	SGVL
	¾"	Yes	211	LVK	SGVL
		No		LV	SGVL
	1"	Yes	93	LVK	SGVL
		No		SV	SGVL
		No	236	SV	SGVL
		Yes		SVK	SGVL
	1¼"	No	236	SV	SGVL
		Yes		SVK	SGVL
VB304X-0-1-10	1½"	Yes	26	LF	UGLK1002
		No	77	NM	UGLK1002
		Yes	153	AF	UGLK1004
		No		AM	UGLK1004
		No	38	LM	UGLK1002
		Yes	236	GK	UGLK1004
		No		GM	UGLK1004
		Yes	14	LF	UGLK1002
VB304X-0-1-11	2"	No	22	LM	UGLK1002
		No	40	NM	UGLK1002
		Yes	86	AF	UGLK1004
		No		AM	UGLK1004
		Yes	173	GK	UGLK1004
		No		GM	UGLK1004
VB304X-0-1-4	½"	Yes	236	AF	UGLK1004
		Yes		LF	UGLK1002
		No		LM	UGLK1002
VB304X-0-1-7	¾"	Yes	110	LF	UGLK1002
		No	153	LM	UGLK1002
		No	236	NM	UGLK1002
VB304X-0-1-8	1"	Yes	65	LF	UGLK1002
		Yes	236	AF	UGLK1004
		No		AM	UGLK1004
		No	86	LM	UGLK1002
		No	173	NM	UGLK1002
		Yes	40	LF	UGLK1002
VB304X-0-1-9	1¼"	No	52	LM	UGLK1002
		No	110	NM	UGLK1002
		Yes	221	AF	UGLK1004
		No		AM	UGLK1004
VB7XXX-0-4-(7, 8)	1"	Yes	236	AF	UGLK1000
VB7XXX-0-4-1	½"	Yes	236	LF	UGLK1150
VB7XXX-0-4-10	1½"	Yes	211	AF	UGLK1000
VB7XXX-0-4-11	2"	Yes	120	AF	UGLK1000
VB7XXX-0-4-2	½"	Yes	236	LF	UGLK1150
VB7XXX-0-4-3	½"	Yes	236	LF	UGLK1150
VB7XXX-0-4-4	½"	Yes	236	LF	UGLK1150
VB7XXX-0-4-5	¾"	Yes	211	LF	UGLK1150
VB7XXX-0-4-6	¾"	Yes	211	LF	UGLK1150
VB7XXX-0-4-7	1"	Yes	93	LF	UGLK1150

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All close-off pressures listed are approximate and based on valve condition and application.

Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
VB7XXX-0-4-8	1"	Yes	93	LF	UGLK1150
VB7XXX-0-4-9	1¼"	Yes	65	LF	UGLK1150
		Yes	236	AF	UGLK1000
	1½"	Yes	65	LF	UGLK1150
		Yes	236	AF	UGLK1000
VB804X-0-1-10	1½"	Yes	26	LF	UGLK1002
		No	77	NM	UGLK1002
		Yes	153	AF	UGLK1004
		No		AM	UGLK1004
		No	38	LM	UGLK1002
		Yes	236	GK	UGLK1004
		No		GM	UGLK1004
VB804X-0-1-11	2"	Yes	14	LF	UGLK1002
		No	22	LM	UGLK1002
		No	40	NM	UGLK1002
		Yes	86	AF	UGLK1004
		No		AM	UGLK1004
		Yes	173	GK	UGLK1004
		No		GM	UGLK1004
VB804X-0-1-4	½"	Yes		AF	UGLK1004
		Yes	236	LF	UGLK1002
		No		LM	UGLK1002
VB804X-0-1-7	¾"	Yes	110	LF	UGLK1002
		No	153	LM	UGLK1002
		No	236	NM	UGLK1002
VB804X-0-1-8	1"	Yes	65	LF	UGLK1002
		Yes	236	AF	UGLK1004
		No		AM	UGLK1004
		No	86	LM	UGLK1002
		No	173	NM	UGLK1002
VB804X-0-1-9	1¼"	Yes	40	LF	UGLK1002
		No	52	LM	UGLK1002
		No	110	NM	UGLK1002
		Yes	221	AF	UGLK1004
		No		AM	UGLK1004
VB9XXX-0-4-(7, 8)	1"	Yes	236	AF	UGLK1000
VB9XXX-0-4-1	½"	Yes	236	LF	UGLK1150
VB9XXX-0-4-10 (Post '94)	1½"	Yes	211	2*AF	UGLK1066
		Yes	236	2*GK	UGLK1066
		No		2*GM	UGLK1066
		Yes	79	AF	UGLK1016
		Yes	160	GK	UGLK1016
		No		GM	UGLK1016
VB9XXX-0-4-10 (Pre '94)	1½"	Yes	110	AF	UGLK1008
		Yes	211	2*AF	UGLK1064
		Yes		GK	UGLK1008
		No		GM	UGLK1008
		Yes	236	2*GK	UGLK1064
		No		2*GM	UGLK1064
VB9XXX-0-4-11 (Post '94)	2"	Yes	40	AF	UGLK1016
		Yes	110	2*AF	UGLK1066
		Yes	211	2*GK	UGLK1066
		No		2*GM	UGLK1066
		Yes	89	GK	UGLK1016
		No		GM	UGLK1016
VB9XXX-0-4-11 (Pre '94)	2"	Yes	52	AF	UGLK1008
		Yes	110	2*AF	UGLK1064
		Yes		GK	UGLK1008
		No		GM	UGLK1008
		Yes	211	2*GK	UGLK1064
		No		2*GM	UGLK1064

All close-off pressures listed are approximate and based on valve condition and application.



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
VB9XXX-0-4-12	2½"	Yes	38	AF	UGLK1010
		No		AM	UGLK1010
		Yes	136	2*GK	UGLK1070
		No		2*GM	UGLK1070
		Yes	75	2*AF	UGLK1070
		Yes		GK	UGLK1010
VB9XXX-0-4-13	3"	No	52	GM	UGLK1010
		Yes		2*AF	UGLK1070
		Yes	26	GK	UGLK1010
		No		AM	UGLK1010
		Yes	93	2*GK	UGLK1070
		No		2*GM	UGLK1070
VB9XXX-0-4-2	½"	Yes	236	LF	UGLK1150
VB9XXX-0-4-3	½"	Yes	236	LF	UGLK1150
VB9XXX-0-4-4	½"	Yes	236	LF	UGLK1150
VB9XXX-0-4-5	¾"	Yes	211	LF	UGLK1150
VB9XXX-0-4-6	¾"	Yes	211	LF	UGLK1150
VB9XXX-0-4-7	1"	Yes	93	LF	UGLK1150
VB9XXX-0-4-8	1"	Yes	93	LF	UGLK1150
VB9XXX-0-4-9	1¼"	Yes	65	LF	UGLK1150
		Yes	236	AF	UGLK1000
VB304X-0-2-12	2½"	Yes	38	AF	UGLK1006
		Yes		2*GK	UGLK1072
		No	136	2*GM	UGLK1072
		Yes		2*AF	UGLK1072
		No	45	EV	FGVL
		Yes	80	AVK	FGVL
VB304X-0-2-13	3"	No	90	RV	FGVL
		No	35	EV	FGVL
		Yes	60	AVK	FGVL
		No	70	RV	FGVL
		Yes	52	2*AF	UGLK1072
		Yes	26	AF	UGLK1006
VB304X-0-2-14	4"	Yes	93	2*GK	UGLK1072
		No		2*GM	UGLK1072
		Yes	14	AF	UGLK1006
		No		EV	FGVL
		Yes	20	AVK	FGVL
		No	30	RV	FGVL
VB304X-0-2-15	5"	No	35	RV	FGVL
		Yes	52	2*GK	UGLK1072
		No		2*GM	UGLK1072
		Yes	26	2*AF	UGLK1072
		Yes	10	AF	UGLK1014
		Yes	14	2*AF	UGLK1076
VB304X-0-2-16	6"	Yes	20	AVK	FGVL
		Yes	22	2*GK	UGLK1076
		No		2*GM	UGLK1076
		No	15	EV	FGVL
		No	24	RV	FGVL
		Yes	10	2*AF	UGLK1076
VB804X-0-2-12	2½"	Yes		AF	UGLK1014
		Yes	22	2*GK	UGLK1076
		No		2*GM	UGLK1076
		No	15	RV	FGVL
		Yes	13	AVK	FGVL
		No		EV	FGVL
VB804X-0-2-12	2½"	No	40	EV	FGVL
		Yes	85	AVK	FGVL
		Yes	38	AF	UGLK1006
		Yes	136	2*GK	UGLK1072
		No		2*GM	UGLK1072
		Yes	75	2*AF	UGLK1072
VB804X-0-2-12	2½"	No	90	RV	FGVL
		No	90	RV	FGVL

Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
VB804X-0-2-13	3"	No	30	EV	FGVL
		Yes	60	AVK	FGVL
		No	65	RV	FGVL
VB804X-0-2-13	3"	Yes	52	2*AF	UGLK1072
		Yes	26	AF	UGLK1006
		Yes	93	2*GK	UGLK1072
		No		2*GM	UGLK1072
		No		2*GM	UGLK1072
VB804X-0-2-14	4"	Yes	14	AF	UGLK1006
		No	20	EV	FGVL
		Yes	30	AVK	FGVL
		Yes	52	2*GK	UGLK1072
		No		2*GM	UGLK1072
		Yes	26	2*AF	UGLK1072
		No	45	RV	FGVL
		No	45	RV	FGVL
VB804X-0-2-15	5"	Yes	10	AF	UGLK1014
		Yes	14	2*AF	UGLK1076
		Yes		GK	UGLK1014
		No	20	RV	FGVL
		Yes	22	2*GK	UGLK1076
		No	15	EV	FGVL
VB804X-0-2-16	6"	Yes	10	2*AF	UGLK1076
		Yes		AF	UGLK1014
		Yes		GK	UGLK1014
		Yes	22	2*GK	UGLK1076
		No	13	EV	FGVL
		No	22	RV	FGVL
VB9XXX-0-5-12	2½"	Yes	38	AF	UGLK1010
		Yes	136	2*GK	UGLK1070
		Yes	75	2*AF	UGLK1070
		Yes	80	AVK	FGVL
		No		EV	FGVL
		No	150	RV	FGVL
VB9XXX-0-5-13	3"	Yes	40	AVK	FGVL
		No		EV	FGVL
		Yes	52	2*AF	UGLK1070
		Yes	26	AF	UGLK1010
		Yes	93	2*GK	UGLK1070
		No	90	RV	FGVL
VB9XXX-0-5-14	4"	Yes	10	AF	UGLK1012
		Yes	22	2*AF	UGLK1074
		No	30	RV	FGVL
		Yes	40	2*GK	UGLK1074
		No		2*GM	UGLK1074
		No	15	EV	FGVL
		Yes	25	AVK	FGVL
		No	20	RV	FGVL
VB9XXX-0-5-15	5"	Yes	15	AVK	FGVL
	5"	No	20	RV	FGVL
VB9XXX-0-5-16	6"	No	15	RV	FGVL
Belimo USA G2 series	1"	Yes	250	AF	UGLK1000
	1¼"	Yes	250	AF	UGLK1000
	1½"	Yes	217	AF	UGLK1000
	2"	Yes	122	AF	UGLK1000
Belimo USA G3 series	1"	Yes	250	AF	UGLK1000
	1¼"	Yes	250	AF	UGLK1000
	1½"	Yes	217	AF	UGLK1000
	2"	Yes	122	AF	UGLK1000
Belimo USA G2 series	½"	Yes	250	LF	UGLK1150
	¾"	Yes	215	LF	UGLK1150
	1"	Yes	95	LF	UGLK1150
	1¼"	Yes	61	LF	UGLK1150
Belimo USA G3 series	½"	Yes	250	LF	UGLK1150
	¾"	Yes	215	LF	UGLK1150
	1"	Yes	95	LF	UGLK1150
	1¼"	Yes	61	LF	UGLK1150

All close-off pressures listed are approximate and based on valve condition and application.



Siebe\Invensys\Barber Colman

Belimo USA G2, G3 Series Valves
Linkage/Actuator Selection Guide

Siemens\Landis\Powers

591 Series Valves
Linkage/Actuator Selection Guide

Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
Belimo USA G2 series	½"	Yes	250	LVK	SGVL
		No		LV	SGVL
	¾"	Yes	250	LVK	SGVL
		No		LV	SGVL
	1"	Yes	236	SVK	SGVL
		No	250	SV	SGVL
	1¼"	Yes	236	SVK	SGVL
		No	235	SV	SGVL
	1½"	No	160	SV	SGVL
		Yes		SVK	SGVL
	2"	Yes	85	SVK	SGVL
		No	90	SV	SGVL
Belimo USA G2...S series	½"	Yes	250	LVK	SGVL
		No		LV	SGVL
	¾"	Yes	250	LVK	SGVL
		No		LV	SGVL
	1"	Yes	236	SVK	SGVL
		No	250	SV	SGVL
	1¼"	Yes	236	SVK	SGVL
		No	235	SV	SGVL
	1½"	No	160	SV	SGVL
		Yes		SVK	SGVL
	2"	Yes	85	SVK	SGVL
		No	90	SV	SGVL
Belimo USA G3 series	½"	Yes	250	LVK	SGVL
		No		LV	SGVL
	¾"	Yes	250	LVK	SGVL
		No		LV	SGVL
	1"	Yes	236	SVK	SGVL
		No	250	SV	SGVL
	1¼"	Yes	236	SVK	SGVL
		No	235	SV	SGVL
	1½"	No	160	SV	SGVL
		Yes		SVK	SGVL
	2"	Yes	85	SVK	SGVL
		No	90	SV	SGVL
SIEMENS \ LANDIS \ POWERS					
591 Series	2½"	Yes	110	2*AF	UGLK1272
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	211	2*GK	UGLK1270
		No		RV	FGVL
	3"	Yes	77	2*AF	UGLK1270
		Yes		AVK	FGVL
		Yes	136	2*GK	UGLK1270
		No		RV	FGVL
		No	90	EV	FGVL
	4"	Yes	10	AF	UGLK1206
		Yes	22	2*AF	UGLK1274
		Yes		GK	UGLK1206
		No	30	EV	FGVL
		Yes	40	2*GK	UGLK1274
		No		RV	FGVL
	5"	Yes	14	2*AF	UGLK1274
		Yes		GK	UGLK1206
		No	20	EV	UGLK1206
		Yes	22	2*GK	UGLK1274
		No	25	RV	UGLK1274
	6"	Yes	10	2*AF	UGLK1274
		Yes	22	2*GK	UGLK1274
		No		RV	FGVL

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All close-off pressures listed are approximate and based on valve condition and application.

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
599 Flowrite	2½"	Yes	110	2*AF	UGLK1272
		Yes		AVK	FGVL
		No		EV	FGVL
		Yes	211	2*GK	UGLK1272
		No		RV	FGVL
	3"	Yes	77	2*AF	UGLK1272
		Yes		AVK	FGVL
		Yes	136	2*GK	UGLK1272
		No		RV	FGVL
		No	90	EV	FGVL
	4"	Yes	10	AF	UGLK1212
		Yes	22	2*AF	UGLK1276
		Yes		GK	UGLK1212
		No	30	EV	FGVL
		Yes	40	2*GK	UGLK1276
		No		RV	FGVL
	5"	Yes	14	2*AF	UGLK1276
		Yes		GK	UGLK1212
		No	20	EV	FGVL
		Yes	22	2*GK	UGLK1276
		No	25	RV	FGVL
591 Series	½"	Yes	236	LVK	UGVL
		Yes		NF	UGLK1200
		No		LV	UGVL
	¾"	Yes	211	LVK	UGVL
		No		LV	UGVL
		Yes		NF	UGLK1200
	1"	Yes	236	AF	UGLK1200
591 Series	1"	Yes	236	NF	UGLK1200
		No		SV	UGVL
		Yes		SVK	UGVL
	1¼"	Yes	236	AF	UGLK1200
		No		AM	UGLK1200
		No		SV	UGVL
		Yes		SVK	UGVL
		Yes	160	NF	UGLK1200
	1½"	Yes	104	AF	UGLK1202
		No		AM	UGLK1202
		No	211	SV	UGVL
		Yes		SVK	UGVL
		Yes	209	GK	UGLK1202
		No		GM	UGLK1202
	2"	No	52	SV	UGVL
		Yes		SVK	UGVL
		Yes	120	AF	UGLK1200
		No		AM	UGLK1200
		Yes	236	GK	UGLK1200
		No		GM	UGLK1200
599 Flowrite	½"	Yes	236	LVK	UGVL
		Yes		NF	UGLK1208
		No		LV	UGVL
	¾"	Yes	211	LVK	UGVL
		No		LV	UGVL
		No	236	AM	UGLK1208
		Yes		NF	UGLK1208
	1"	Yes	236	AF	UGLK1208
		No		AM	UGLK1208
		No		SV	UGVL
		Yes		SVK	UGVL
		Yes	173	NF	UGLK1208
	1¼"	Yes	110	NF	UGLK1208
		Yes	221	AF	UGLK1208
		No		AM	UGLK1208
		No	236	SV	UGVL
		Yes		SVK	UGVL

All close-off pressures listed are approximate and based on valve condition and application.



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
599 Flowrite	1½"	Yes	77	NF	UGLK1208
		Yes	153	AF	UGLK1208
		No		AM	UGLK1208
		Yes	153	SVK	UGVL
		No		SV	UGVL
		Yes	236	GK	UGLK1208
		No		GM	UGLK1208
	2"	Yes	40	NF	UGLK1208
		No	85	SV	UGVL
		Yes		SVK	UGVL
		Yes	86	AF	UGLK1208
		No		AM	UGLK1208
		Yes	173	GK	UGLK1208
		No		GM	UGLK1208
656-658 series	½"	Yes	236	LVK	UGVL
		Yes		LF	UGLK1350
		No		LV	UGVL
	¾"	Yes	211	LF	UGLK1350
		No		LV	UGVL
	1"	Yes	236	LVK	UGVL
		No		LF	UGLK1350
	1¼"	Yes	65	LF	UGLK1350
658 Series	1"	Yes	93	LVK	UGVL
		No		LV	UGVL
		No	236	SV	UGVL
	1¼"	Yes		SVK	UGVL
		No	236	SV	UGVL
		Yes		SVK	UGVL
599 MZ (Cv 16)	1¼"	No	22	CM	UGSL1200
599 MZ (Cv 16)	1¼"	No	10	CM	UGSL1200
599 MZ (Cv 25)	1½"	No	10	CM	UGSL1200
599-01100 MZ (Cv <.4)	½"	No	70	CM	UGSL1200
599-01102 MZ (Cv <.63)	½"	No	70	CM	UGSL1200
599-01104 MZ (Cv <1)	½"	No	70	CM	UGSL1200
599-01106 MZ (Cv <1.6)	½"	No	70	CM	UGSL1200
599-01108 MZ (Cv <2.5)	½"	No	40	CM	UGSL1200
599-01110 MZ (Cv <4)	½"	No	40	CM	UGSL1200
599-01112 MZ (Cv <6.3)	¾"	No	26	CM	UGSL1200
599-01114 MZ (Cv <10)	1"	No	26	CM	UGSL1200
599-01115 MZ (Cv <.4)	½"	No	65	CM	UGSL1200
599-01117 MZ (Cv <.63)	½"	No	65	CM	UGSL1200
599-01119 MZ (Cv <1)	½"	No	65	CM	UGSL1200
599-01121 MZ (Cv <1.6)	½"	No	65	CM	UGSL1200
599-01123 MZ (Cv <2.5)	½"	No	35	CM	UGSL1200
599-01126 MZ (Cv <4)	½"	No	35	CM	UGSL1200
599-01129 MZ (Cv <6.3)	¾"	No	26	CM	UGSL1200
599-01131 MZ (Cv <10)	1"	No	26	CM	UGSL1200
599-01132 MZ (Cv <.4)	½"	No	70	CM	UGSL1200
599-01133 MZ (Cv <.63)	½"	No	70	CM	UGSL1200
599-01134 MZ (Cv <1)	½"	No	70	CM	UGSL1200
599-01135 MZ (Cv <1.6)	½"	No	70	CM	UGSL1200
599-01136 MZ (Cv <2.5)	½"	No	40	CM	UGSL1200
599-01137 MZ (Cv <4)	½"	No	40	CM	UGSL1200
599-01138 MZ (Cv <6.3)	¾"	No	10	CM	UGSL1200
599-01139 MZ (Cv <10)	1"	No	10	CM	UGSL1200
599-02000 MT (Cv <.4)	½"	No	93	CM	UGSL1200
599-02002 MT (Cv <.63)	½"	No	93	CM	UGSL1200
599-02004 MT (Cv <1)	½"	No	93	CM	UGSL1200
599-02006 MT (Cv <1.6)	½"	No	93	CM	UGSL1200
599-02008 MT (Cv <2.5)	½"	No	50	CM	UGSL1200
599-02010 MT (Cv <4)	½"	No	50	CM	UGSL1200
599-02012 MT (Cv <6.3)	¾"	No	40	CM	UGSL1200
599-02014 MT (Cv <10)	1"	No	40	CM	UGSL1200
599-02030 MT (Cv <.4)	½"	No	120	CM	UGSL1200
599-02032 MT (Cv <.63)	½"	No	120	CM	UGSL1200
599-02034 MT (Cv <1)	½"	No	120	CM	UGSL1200

All close-off pressures listed are approximate and based on valve condition and application.

Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
599-02036 MT (Cv <1.6)	½"	No	120	CM	UGSL1200
599-02038 MT (Cv <2.5)	½"	No	65	CM	UGSL1200
599-02041 MT (Cv <4)	½"	No	65	CM	UGSL1200
599-02044 MT (Cv <6.3)	¾"	No	52	CM	UGSL1200
599-02046 MT (Cv <10)	1"	No	52	CM	UGSL1200
599-02064 MT (Cv <.4)	½"	No	93	CM	UGSL1200
599-02065 MT (Cv <.63)	½"	No	93	CM	UGSL1200
599-02066 MT (Cv <1)	½"	No	93	CM	UGSL1200
599-02067 MT (Cv <1.6)	½"	No	93	CM	UGSL1200
599-02068 MT (Cv <2.5)	½"	No	50	CM	UGSL1200
599-02069 MT (Cv <4)	½"	No	50	CM	UGSL1200
599-02070 MT (Cv <6.3)	¾"	No	40	CM	UGSL1200
599-02071 MT (Cv <10)	1"	No	40	CM	UGSL1200
599-02084 MT (Cv <10)	1¼"	No	22	CM	UGSL1200
599-02085 MT (Cv <10)	1¼"	No	22	CM	UGSL1200
599-02086 MT (Cv <16)	1¼"	No	10	CM	UGSL1200
599 MZ (Cv 16)	1¼"	Yes	22	TF	UGSL1200
	1¼"	Yes	10	TF	UGSL1200
599 MZ (Cv 25)	1½"	Yes	10	TF	UGSL1200
599-01100 MZ (Cv <.4)	½"	Yes	70	TF	UGSL1200
599-01102 MZ (Cv <.63)	½"	Yes	70	TF	UGSL1200
599-01104 MZ (Cv <1)	½"	Yes	70	TF	UGSL1200
599-01106 MZ (Cv <1.6)	½"	Yes	70	TF	UGSL1200
599-01108 MZ (Cv <2.5)	½"	Yes	40	TF	UGSL1200
599-01110 MZ (Cv <4)	½"	Yes	40	TF	UGSL1200
599-01112 MZ (Cv <6.3)	¾"	Yes	26	TF	UGSL1200
599-01114 MZ (Cv <10)	1"	Yes	26	TF	UGSL1200
599-01115 MZ (Cv <.4)	½"	Yes	65	TF	UGSL1200
599-01117 MZ (Cv <.63)	½"	Yes	65	TF	UGSL1200
599-01119 MZ (Cv <1)	½"	Yes	65	TF	UGSL1200
599-01121 MZ (Cv <1.6)	½"	Yes	65	TF	UGSL1200
599-01123 MZ (Cv <2.5)	½"	Yes	35	TF	UGSL1200
599-01126 MZ (Cv <4)	½"	Yes	35	TF	UGSL1200
599-01129 MZ (Cv <6.3)	¾"	Yes	26	TF	UGSL1200
599-01131 MZ (Cv <10)	1"	Yes	26	TF	UGSL1200
599-01132 MZ (Cv <.4)	½"	Yes	70	TF	UGSL1200
599-01133 MZ (Cv <.63)	½"	Yes	70	TF	UGSL1200
599-01134 MZ (Cv <1)	½"	Yes	70	TF	UGSL1200
599-01135 MZ (Cv <1.6)	½"	Yes	70	TF	UGSL1200
599-01136 MZ (Cv <2.5)	½"	Yes	40	TF	UGSL1200
599-01137 MZ (Cv <4)	½"	Yes	40	TF	UGSL1200
599-01138 MZ (Cv <6.3)	¾"	Yes	10	TF	UGSL1200
599-01139 MZ (Cv <10)	1"	Yes	10	TF	UGSL1200
599-02000 MT (Cv <.4)	½"	Yes	93	TF	UGSL1200
599-02002 MT (Cv <.63)	½"	Yes	93	TF	UGSL1200
599-02004 MT (Cv <1)	½"	Yes	93	TF	UGSL1200
599-02006 MT (Cv <1.6)	½"	Yes	93	TF	UGSL1200
599-02008 MT (Cv <2.5)	½"	Yes	50	TF	UGSL1200
599-02010 MT (Cv <4)	½"	Yes	50	TF	UGSL1200
599-02012 MT (Cv <6.3)	¾"	Yes	40	TF	UGSL1200
599-02014 MT (Cv <10)	1"	Yes	40	TF	UGSL1200
599-02030 MT (Cv <.4)	½"	Yes	120	TF	UGSL1200
599-02032 MT (Cv <.63)	½"	Yes	120	TF	UGSL1200
599-02034 MT (Cv <1)	½"	Yes	120	TF	UGSL1200
599-02036 MT (Cv <1.6)	½"	Yes	120	TF	UGSL1200
599-02038 MT (Cv <2.5)	½"	Yes	65	TF	UGSL1200
599-02041 MT (Cv <4)	½"	Yes	65	TF	UGSL1200
599-02044 MT (Cv <6.3)	¾"	Yes	52	TF	UGSL1200
599-02046 MT (Cv <10)	1"	Yes	52	TF	UGSL1200
599-02064 MT (Cv <.4)	½"	Yes	93	TF	UGSL1200
599-02065 MT (Cv <.63)	½"	Yes	93	TF	UGSL1200
599-02066 MT (Cv <1)	½"	Yes	93	TF	UGSL1200
599-02067 MT (Cv <1.6)	½"	Yes	93	TF	UGSL1200
599-02068 MT (Cv <2.5)	½"	Yes	50	TF	UGSL1200
599-02069 MT (Cv <4)	½"	Yes	50	TF	UGSL1200
599-02070 MT (Cv <6.3)	¾"	Yes	40	TF	UGSL1200

All close-off pressures listed are approximate and based on valve condition and application.



Siemens\Landis\Powers

599 Series Valves

Linkage/Actuator Selection Guide

Warren Controls

100, 1800 Series Valves

Linkage/Actuator Selection Guide

Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
599-02071 MT (Cv <10)	1"	Yes	40	TF	UGSL1200
599-02084 MT (Cv <10)	1¼"	Yes	22	TF	UGSL1200
599-02085 MT (Cv <10)	1¼"	Yes	22	TF	UGSL1200
599-02086 MT (Cv <16)	1¼"	Yes	10	TF	UGSL1200
WARREN CONTROLS					
100 SGL SEAT	2½"	Yes	52	AVK	WGV L
		No		RV	WGV L
		No	26	EV	WGV L
		Yes	110	2*GK	UGLK2272
	3"	No	22	EV	WGV L
		Yes	40	AVK	WGV L
		No		RV	WGV L
		Yes	70	2*GK	UGLK2272
	4"	Yes	10	AF	UGLK2202
		No		EV	WGV L
		Yes	22	AVK	WGV L
		No		RV	WGV L
	5"	Yes	40	2*GK	UGLK2272
		Yes	10	AF	UGLK2202
		Yes	14	AVK	WGV L
		No		RV	WGV L
	6"	Yes	22	2*GK	UGLK2272
		Yes		AF	UGLK2202
		Yes	10	AVK	WGV L
		No		RV	WGV L
1800 3W DIV	2½"	Yes	52	2*GK	UGLK2272
		No		AVK	WGV L
		Yes	110	EV	WGV L
		Yes	110	2*GK	UGLK2272
1800 3W DIV	2½"	No	110	2*GM	UGLK2272
		Yes		AVK	WGV L
	3"	No	40	EV	WGV L
		Yes	70	2*GK	UGLK2272
		No		2*GM	UGLK2272
	4"	Yes	22	AVK	WGV L
		No		EV	WGV L
		Yes	40	2*GK	UGLK2272
		No		2*GM	UGLK2272
	5"	Yes	14	AVK	WGV L
		No		EV	WGV L
		Yes	22	2*GK	UGLK2272
		No		2*GM	UGLK2272
	6"	Yes	10	AVK	WGV L
		No		EV	WGV L
		Yes	22	2*GK	UGLK2272
		No		2*GM	UGLK2272
1800 3W MIX	2½"	Yes	52	AVK	WGV L
		No		EV	WGV L
		Yes	110	2*GK	UGLK2272
		No		2*GM	UGLK2272
	3"	Yes	40	AVK	WGV L
		No		EV	WGV L
		Yes	70	2*GK	UGLK2272
		No		2*GM	UGLK2272
	4"	Yes	22	AVK	WGV L
		No		EV	WGV L
		Yes	40	2*GK	UGLK2272
		No		2*GM	UGLK2272
	5"	Yes	14	AVK	WGV L
		No		EV	WGV L
		Yes	22	2*GK	UGLK2272
		No		2*GM	UGLK2272
	6"	Yes	10	AVK	WGV L
		No		EV	WGV L
		Yes	22	2*GK	UGLK2272
		No		2*GM	UGLK2272

All close-off pressures listed are approximate and based on valve condition and application.

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN

Warren Controls

1800, Type 20-22, Type 23, Type 30, Type 32 Series Valves

Linkage/Actuator Selection Guide



Valve Body Model	Size	Fail-Safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
1800 BAL	2½"	Yes	52	AVK	WGVL
		No		EV	WGVL
		Yes	110	2*GK	UGLK2272
		No		2*GM	UGLK2272
	3"	Yes	40	AVK	WGVL
		No		EV	WGVL
		Yes	70	2*GK	UGLK2272
		No		2*GM	UGLK2272
	4"	Yes	22	AVK	WGVL
		No		EV	WGVL
		Yes	40	2*GK	UGLK2272
		No		2*GM	UGLK2272
	5"	Yes	14	AVK	WGVL
		No		EV	WGVL
		Yes	22	2*GK	UGLK2272
		No		2*GM	UGLK2272
	6"	Yes	10	AVK	WGVL
		No		EV	WGVL
		Yes	22	2*GK	UGLK2272
		No		2*GM	UGLK2272
Type 20-22	2½"	Yes	71	AVK	WGVL
		No	93	EV	WGVL
		No	185	RV	WGVL
	3"	Yes	40	AVK	WGVL
		No	65	EV	WGVL
	4"	No	126	RV	WGVL
		No	65	RV	WGVL
	5"	No	40	RV	WGVL
Type 20-22	6"	Yes	10	2*AF	UGLK2272
Type 20-22	6"	Yes	22	2*GK	UGLK2272
Type 23	2½"	Yes	211	AVK	WGVL
		No		EV	WGVL
	3"	Yes	160	AVK	WGVL
		No		EV	WGVL
	4"	Yes	236	AVK	WGVL
		No		EV	WGVL
	5"	Yes		AVK	WGVL
		No		EV	WGVL
Type 30	2½"	Yes	71	AVK	WGVL
		No	93	EV	WGVL
		No	185	RV	WGVL
	3"	Yes	40	AVK	WGVL
		No	65	EV	WGVL
		No	126	RV	WGVL
	4"	No	65	RV	WGVL
	5"	No	40	RV	WGVL
		Yes	10	2*AF	UGLK2272
	6"	Yes	22	2*GK	UGLK2272
		Yes	22	2*GK	UGLK2272
Type 32	2½"	Yes	71	AVK	WGVL
		No	93	EV	WGVL
		No	185	RV	WGVL
	3"	Yes	40	AVK	WGVL
		No	65	EV	WGVL
		No	126	RV	WGVL
	4"	No	65	RV	WGVL
	5"	No	40	RV	WGVL
		Yes	10	2*AF	UGLK2272
	6"	Yes	22	2*GK	UGLK2272
		Yes	22	2*GK	UGLK2272

All close-off pressures listed are approximate and based on valve condition and application.

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN

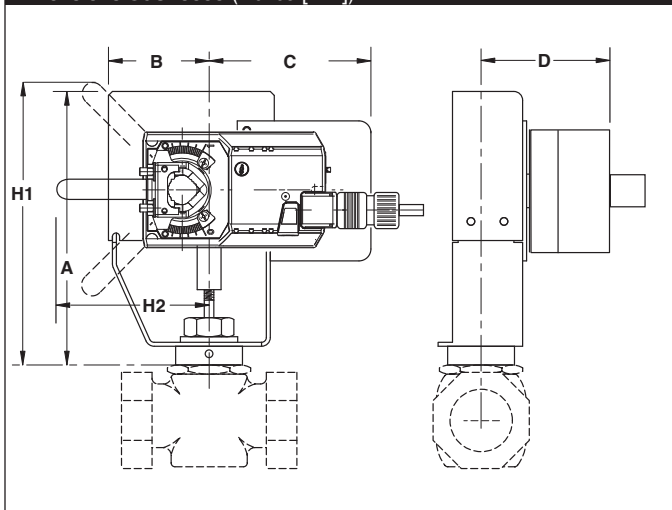
Globe valves which cannot be matched to one of the Belimo UGLK part numbers, for quotation only, use p/n UGSP0000 for valves requiring single actuation, and UGSP0002 for valves requiring dual actuation. These part numbers do not have Bill of Materials (BOM) associated with them, and therefore cannot be produced and shipped. When these two part numbers are quoted, sold and orders processed, the "Globe Valve Retrofit" form must be completed and accompany the order. Our engineering department will then determine the correct UGSP linkage number for production. UGSP0000 and UGSP0002 will **NOT** be stated on final paperwork but will be replaced with the correct UGSP part number.

Custom kits are designed to your unique specification and are not returnable.

The single actuated globe retrofit linkage depicts the MINIMUM and MAXIMUM dimensional data for use in determining the space required to mount the linkage. These dimensions do NOT include VALVE dimensions which will affect combined height requirements.

Dims H1 & H2 are used only when override handles are utilized on the linkage system, and are not required for proper operation of the linkage system.

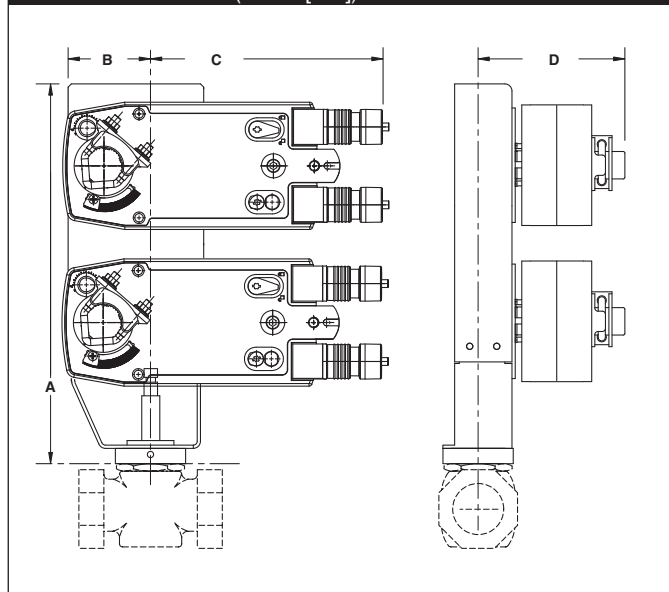
Dimensions UGSP0000 (Inches [mm])



A	B	C	D	H1	H2
7.50 [190] min 14.00 [356] max	3.00 [76]	9.00 [229]	5.00 [127]	9.50 [242]	9.50 [242]

The dual MINIMUM and MAXIMUM actuated globe retrofit linkage depicts the MAXIMUM dimensional data for use in determining the space required to mount the linkage. These dimensions do NOT include VALVE dimensions which will affect combined height requirements.

Dimensions UGSP0002 (Inches [mm])



A	B	C	D
9.50 [241] min 19.00 [483] max	3.00 [76]	9.00 [229]	5.00 [127]

Instructions for Completing this Form

Dimensions A, B, & C relate to the existing valve stem. **Dim A** is the stem diameter where it is NOT threaded (Style A), or grooved (Style B). **Dim B** refers to the length of the threaded region on the valve stem or top region of the grooved stem. **Dim C** is the actual thread specification for the threaded style stem (1/4-28, 5/16-24, 3/8-24, 7/16-20 & 1/2-20 are typical). Dim C for the grooved style is the measurement of the stem groove height. This information is used to design a stem adapter which will connect the valve stem to the new linkage drive rack. It is important to specify the correct thread pattern, as incorrect data will prevent the stem adapter from attaching to your valve. If you cannot determine the correct thread spec, you can send a nut from the valve stem and we will match the correct specification. In some cases where older valves are concerned, some valve stems must be trimmed in the field to allow attachment of the linkage system. In these cases, a stem adapter is designed to “bite” into the smooth surface of the valve stem itself.

Dimensions D1, D2 & D3 are used to determine the height of the linkage assembly required to clear the valves’ full stroke. A minimum of **two** dimensions are required to manufacture the correct linkage system for your valve. These dimensions also provide the information necessary to determine valve stroke. The **maximum stroke** from Belimo globe valve retrofit systems is 1.500”.

Dimension E refers to the valve bonnet diameter (regardless if threads are present or not). Over time, impurities will react to the bonnet threads and corrode them to the point where they no longer meet the original thread specification. Because of this, we manufacture **slip fit** collars designed to **slide over** the bonnet threads, and locking setscrews are provided which “bite” into the original threads. All retrofit systems are designed to work with the raw valve body and do not account for previous actuation components which **must** be removed from the valve body before attaching the new linkage system.

Dimension F refers to the thread specification on threaded bonnets, and refers to the minor diameter on slip on bonnets (Landis type). This information helps us determine the length of the locking devices required to hold the collar onto the bonnet.

Dimensions G & H are used to determine working height of the bonnet region of your globe valve, while **Dim I** is used in calculating the minimum ID of the collar that will fit over the packing nut. Additionally, information about the environment and process in which this linkage system will be utilized should be provided.

All the requested information contained on this form is required to guarantee the complete, perfect fit of your retrofit system. Keep in mind that retrofit kits are designed with close-tolerance components which afford the most efficient linkage systems. Measurements rounded to the nearest 1/8 or 1/16 inch will not perform as well as a kit designed around careful measurements using proper equipment. Our designs are typically +.005” tolerance.

Required Tools - calipers, thread gauge, and retrofit form

DISCLAIMER:

We will do our best to provide a linkage system designed around your specifications and measurements. However, we cannot be held responsible for linkages which do not fit as a result of incorrect data given to Belimo. We will re-work components which do not fit properly for a nominal fee.

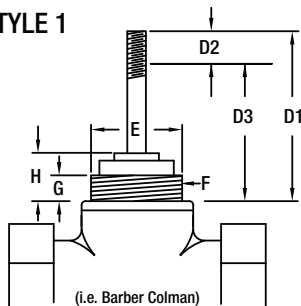
To reduce the possibility of incorrect linkage solutions, we respectfully request that you fill out the retrofit form completely and forward that information with your order. This will serve as a double check between your valve and the actuator/linkage package designed for your application.

Actuation, weather shields and linkages cannot be pre-assembled at the Belimo factory prior to your receipt. The linkages are designed to be attached onto the valve body first, then optional weather shields, and finally actuation products.

Close-off pressures are calculated using actuator torque, valve stroke, and valve area. Other factors may affect the rated close-off pressures, including flow rates, system maintenance schedules, chemicals used in the shot feeder process, vicinity to pumps, condition of valve stem seals, and assembly of linkage material in the field.

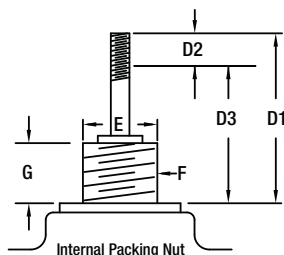
Valves that are being considered for retrofit of actuation should be analyzed for their life expectancy before the retrofit has taken place. Valves that leak through stem seals or casings will continue to leak with the new linkage system in place, maybe even more so. Rebuilding the packing on these valves may be more costly than replacing the valves themselves. In some instances, older valve stem heights will require field modifications to the valve in order to utilize the retrofit kit. Belimo takes no responsibility for the operation of these valves after they have been modified.

VALVE STYLE 1

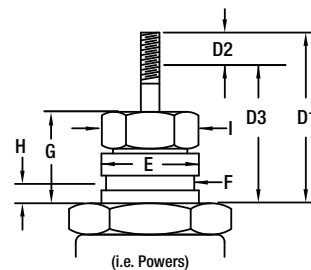


NOTE:
Nut "F" rotates on
valve bonnet!!

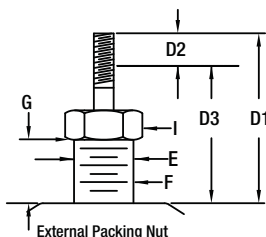
VALVE STYLE 2



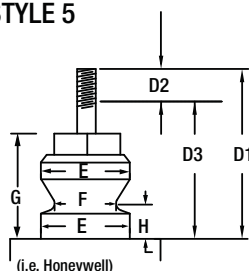
VALVE STYLE 3



VALVE STYLE 4



VALVE STYLE 5



VALVE STYLE DIMENSIONS

VALVE STYLE:

DIM D1*:

Stem up, length to base mount surface

DIM D2:

Stem stroke, stem up vs. stem down (D1-D3)

DIM D3:

Stem down, length to base mount surface

DIM E:

Bonnet major diameter

DIM F:

Thread spec or bonnet minor diameter

DIM G:

Bonnet mount height

DIM H:

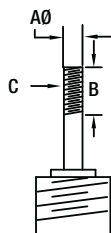
Bonnet minor diameter height

DIM I:

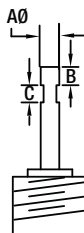
External packaging nut, across points

*MAXIMUM LENGTH LINKAGE FRAME WILL
ACCOMMODATE UP TO 6.500" D1 MEASUREMENT
VALVE STEMS LONGER THAN THIS NEED TO BE CUT.

STEM STYLE A



STEM STYLE B



STEM STYLE

A or B:

STEM DIAMETER

DIM A:

THREAD LENGTH

DIM B:

TO STEM GROOVE

DIM B:

THREADS PER INCH

DIM C:

STEM GROOVE HEIGHT

DIM C:

ACTUATOR

EXISTING ACTUATOR MODEL:

FAIL SAFE:

☐ YES

☐ NO

FAIL POSITION:

☐ NO

☐ NC

CONTROL TYPE:

☐ ON/OFF

☐ FLOATING POINT

☐ VDC

☐ PWM

Range:

Range:

VOLTAGE _____

☐ INDOOR

☐ OUTDOOR

COMPANY:

JOB NAME:

PO#:

PHONE:

EMAIL:

VALVE MANUFACTURE:

VALVE SERIES:

VALVE MODEL:

VALVE TAG/LOCATION:

QUANTITY:

2 WAY/3 WAY:

VALVE SIZE:

MEDIA TEMP:

MEDIA TYPE:

SYSTEM PRESSURE:

NOTE: THIS INFORMATION WILL BE UTILIZED IN THE FABRICATION OF A CUSTOM LINKAGE SYSTEM FOR YOUR VALVE REQUIREMENT; THEREFORE, IT IS ESSENTIAL THAT THE ABOVE DIMENSIONS BE FURNISHED WITH READINGS TAKEN TO THE NEAREST .001". ANY ERRONEOUS DIMENSIONS FURNISHED WHICH RESULT IN IMPROPER FIT OF THIS LINKAGE SYSTEM ARE NOT THE RESPONSIBILITY OF BELIMO AIRCONTROLS. ANY REWORK REQUIRED WILL RESULT IN AN EXTRA CHARGE.

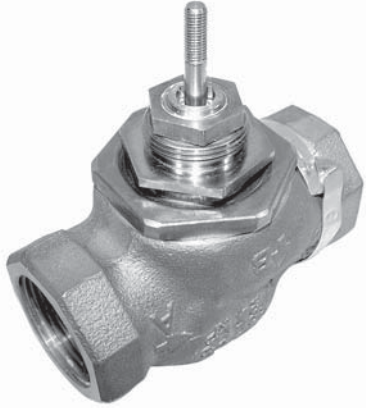
CUSTOM KITS ARE DESIGNED TO YOUR UNIQUE SPECIFICATIONS AND ARE NOT RETURNABLE.

COMPANY CONTACT/DIMENSIONS PROVIDED BY:

DATE:

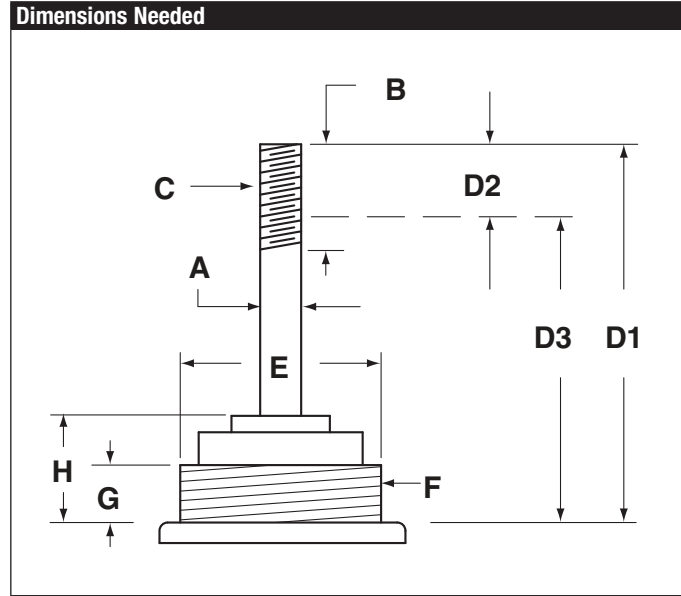
UGSP Series Globe Valve Retrofit Solution

Retrofitting STYLE 1 Globe Valves Typical for Siebe\Invensys\Barber Colman

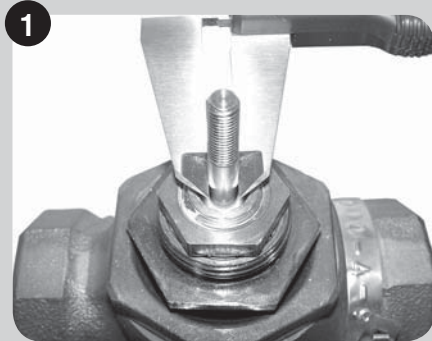


Identification & Measurement of Existing Valves

The valve should be stripped down to its basic form, as shown. Remove all other linkage components in order to obtain correct dimensional data for the retrofit kit. Note that the bonnet nut is permanently attached to the valve body, and that it also spins freely.



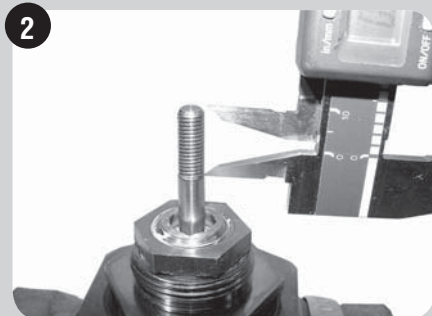
Follow these important steps to properly measure STYLE 1 type globe valves for a retrofit linkage. Reference the photos and line drawing to help guide you through the data collection process.



Dimension A on the retrofit form is measured as shown, with the end of the calipers laying PERPENDICULAR to the center line of the valve stem. Record this reading to three decimal places.



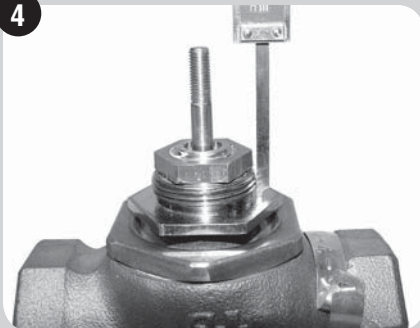
Using the WIDE area of the calipers, measure the MAJOR Diameter of the stem threads. Record this information for Dimension C on the retrofit form. Count how many threads per inch. Typical thread specs are 1/4-28, 3/8-24 & 1/2-20. If available, you should use a thread gage to determine the correct thread spec. Alternatively, you may send a valve stem nut to Belimo and we will determine the correct thread spec. Correct thread identification is important as this is the point of highest mechanical stress after the retrofitting has been completed.



Measure the LENGTH of the threaded area of the valve stem, and record this information for Dimension B on the retrofit form.

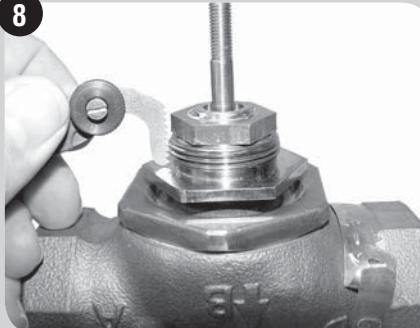


4



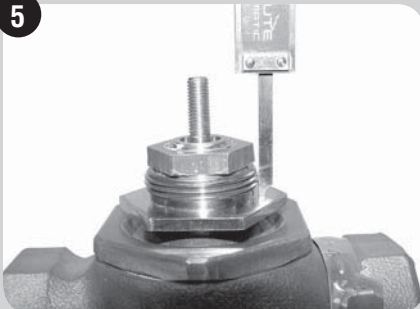
Dimension D1 on the retrofit form is measured as shown, with the depth gage used to measure the STEM UP distance to the bonnet base.

8



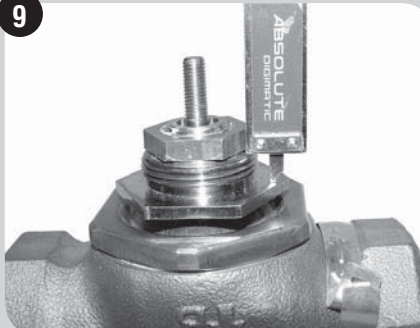
Dimension F is measured using a thread gage or by counting the number of threads per inch.

5



Dimension D3 on the retrofit form is measured as shown, with the depth gage used to measure the STEM DN distance to the bonnet base.

9

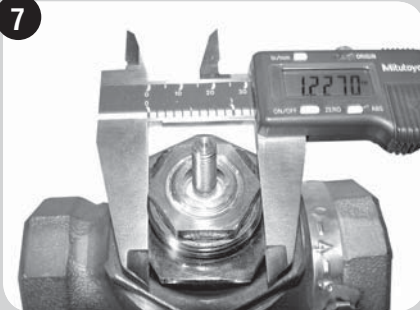


Measure Dimension G using the caliper depth gage, and record on the retrofit form.

6

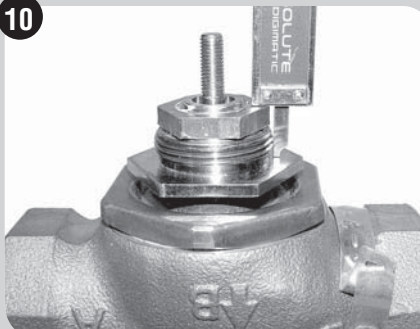
Dimension D2 on the retrofit form is the measured distance between the STEM UP and STEM DN heights, which gives the full travel of the valve. Only TWO of the three dimensions D1, D2 & D3 are needed.

7



Dimension E is measured across the MAJOR diameter of the bonnet threads. Use the calipers as shown to determine the correct dimension and record accordingly on the retrofit form.

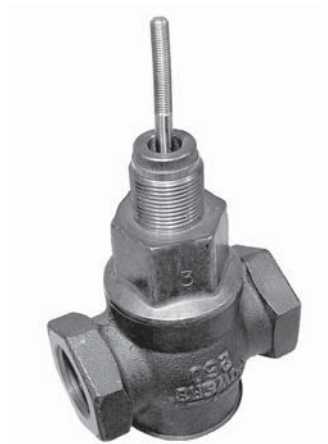
10



Dimension H is measured as the distance between the bonnet mounting base height and the TOP of the stem packing retainer.

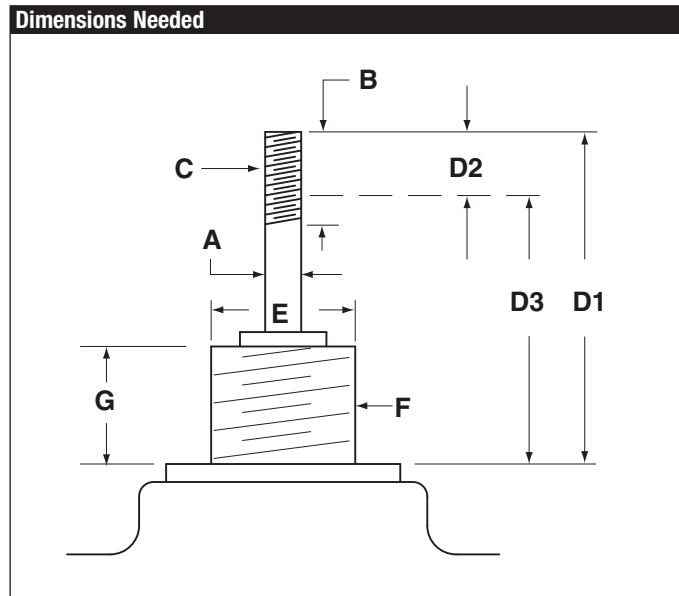
UGSP Series Globe Valve Retrofit Solution

Retrofitting STYLE 2 Globe Valves Typical for Internal Packing Nut Type Valves

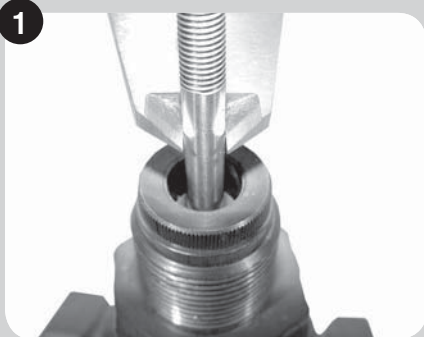


Identification & Measurement of Existing Valves

The valve should be stripped down to its basic form, as shown. Remove all other linkage components in order to obtain correct dimensional data for the retrofit kit. Note that the packing nut is inside the bonnet, and does NOT interfere with the bonnet threads.



Follow these important steps to properly measure STYLE 2 type globe valves for a retrofit linkage. Reference the photos and line drawing to help guide you through the data collection process.



Dimension A on the retrofit form is measured as shown, with the end of the calipers laying PERPENDICULAR to the center line of the valve stem. Record this reading to three decimal places.



Measure the LENGTH of the threaded area of the valve stem, and record this information for Dimension B on the retrofit form.



Using the WIDE area of the calipers, measure the MAJOR Diameter of the stem threads. Record this information for Dimension C on the retrofit form. Count how many threads per inch. Typical thread specs are 1/4-28, 3/8-24 & 1/2-20. If available, you should use a thread gage to determine the correct thread spec. Alternatively, you may send a valve stem nut to Belimo and we will determine the correct thread spec. Correct thread identification is important as this is the point of highest mechanical stress after the retrofitting has been completed.



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4



Dimension D1 on the retrofit form is measured as shown, with the depth gage used to measure the STEM UP distance to the bonnet base.

8



Dimension F is measured using a thread gage or by counting the number of threads per inch.

5



Dimension D3 on the retrofit form is measured as shown, with the depth gage used to measure the STEM DN distance to the bonnet base.

9

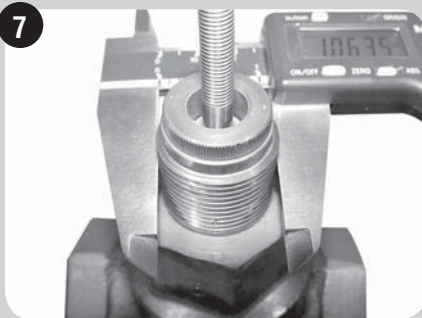


Measure Dimension G using the caliper depth gage, and record on the retrofit form.

6

Dimension D2 on the retrofit form is the measured distance between the STEM UP and STEM DN heights, which gives the full travel of the valve. Only TWO of the three dimensions D1, D2 & D3 are needed.

7



Dimension E is measured across the MAJOR diameter of the bonnet threads. Use the calipers as shown to determine the correct dimension and record accordingly on the retrofit form.

UGSP Series Globe Valve Retrofit Solution

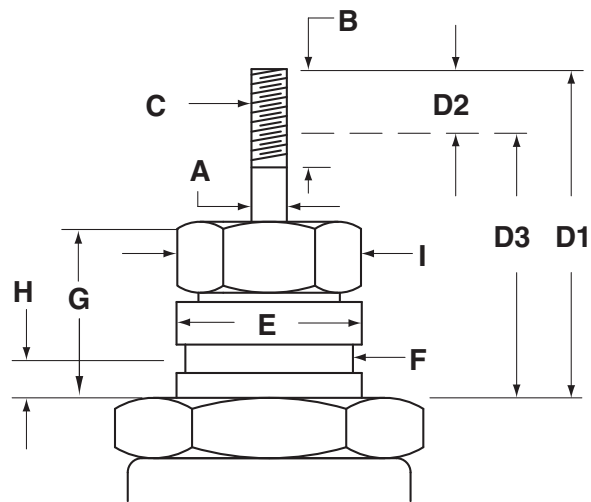
Retrofitting STYLE 3 Globe Valves Typical for Powers 599 Series and Other Non-Threaded, Non-Tapered Bonnet Valves



Identification & Measurement of Existing Valves

The valve should be stripped down to its basic form, as shown. Remove all other linkage components in order to obtain correct dimensional data for the retrofit kit. Note that there are no threads on the bonnet. The packing nut is smaller than the diameter of the bonnet. There is a groove in the bonnet used to secure the retrofit collar to the valve.

Dimensions Needed



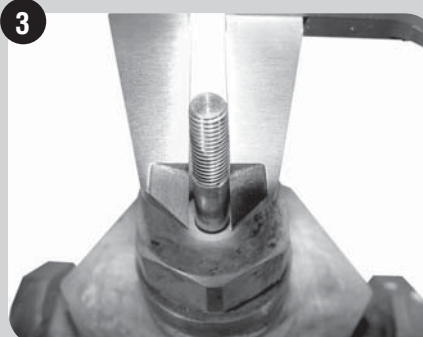
Follow these important steps to properly measure STYLE 3 type globe valves for a retrofit linkage. Reference the photos and line drawing to help guide you through the data collection process.



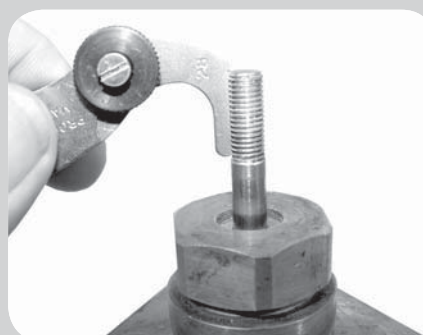
Dimension A on the retrofit form is measured as shown, with the end of the calipers laying PERPENDICULAR to the center line of the valve stem. Record this reading to three decimal places.



Measure the LENGTH of the threaded area of the valve stem, and record this information for Dimension B on the retrofit form.



Using the WIDE area of the calipers, measure the MAJOR Diameter of the stem threads. Record this information for Dimension C on the retrofit form. Count how many threads per inch. Typical thread specs are 1/4-28, 3/8-24 & 1/2-20. If available, you should use a thread gage to determine the correct thread spec. Alternatively, you may send a valve stem nut to Belimo and we will determine the correct thread spec. Correct thread identification is important as this is the point of highest mechanical stress after the retrofitting has been completed.



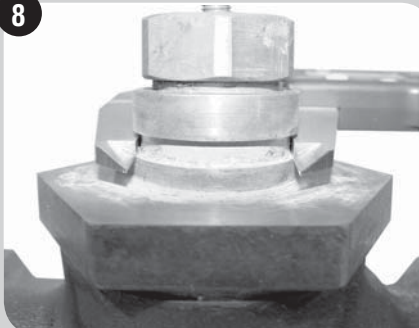
Tech.Doc - 07/14 - Subject to change. © Belimo Aircontrols (USA), Inc.

4



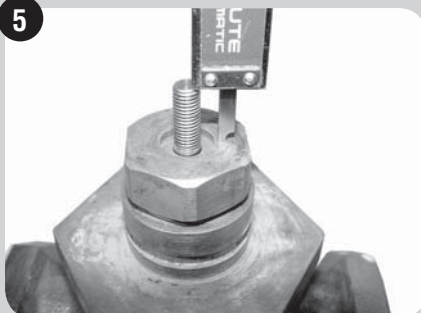
Dimension D1 on the retrofit form is measured as shown, with the depth gage used to measure the STEM UP distance to the bonnet base.

8



Dimension F is measured using calipers across the MINOR diameter of the bonnet. This may be a square or a round groove. Measure the SMALLEST dimension of this groove.

5



Dimension D3 on the retrofit form is measured as shown, with the depth gage used to measure the STEM DN distance to the bonnet base.

9

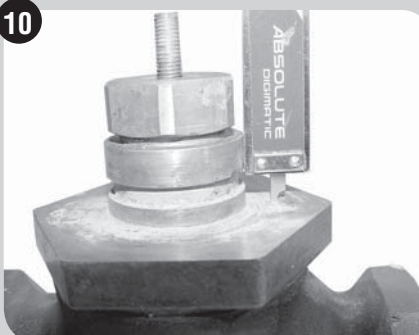


Measure Dimension G using the caliper depth gage, and record on the retrofit form.

6

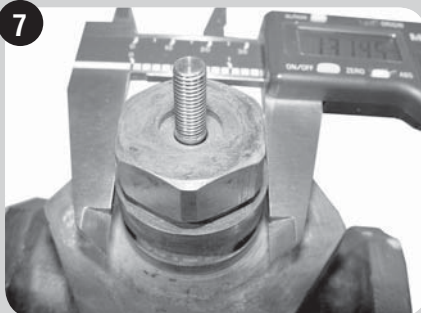
Dimension D2 on the retrofit form is the measured distance between the STEM UP and STEM DN heights, which gives the full travel of the valve. Only TWO of the three dimensions D1, D2 & D3 are needed.

10



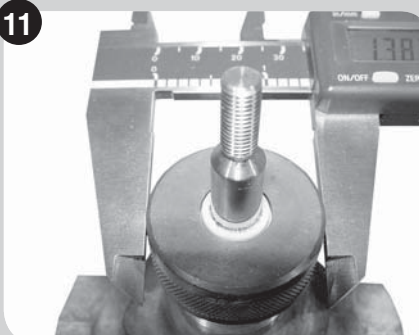
Measure Dimension H using the caliper depth gage, and record on the retrofit form.

7



Dimension E is measured across the MAJOR diameter of the bonnet. Use the calipers as shown to determine the correct dimension and record accordingly on the retrofit form. This dimension should be checked both above and below the locking groove.

11



Dimension I is measured on the outside diameter of the external packing nut.

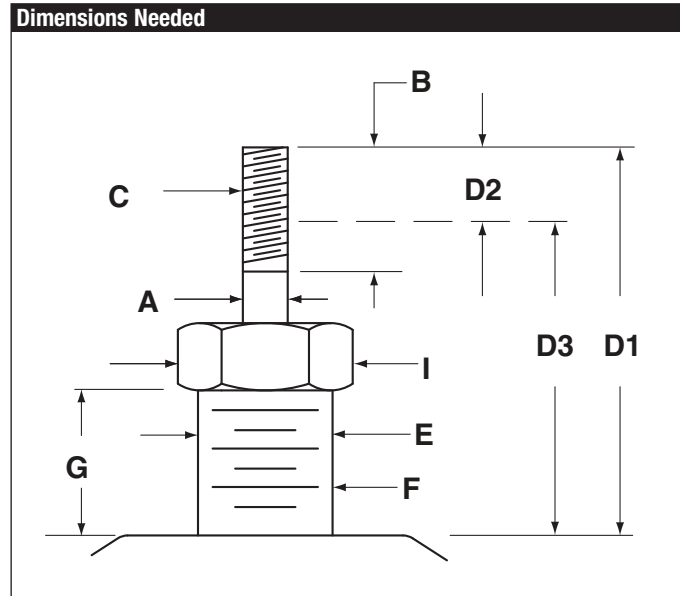
UGSP Series Globe Valve Retrofit Solution

Retrofitting STYLE 4 Globe Valves Typical for Johnson Controls and Other External Packing Nut Type Valves

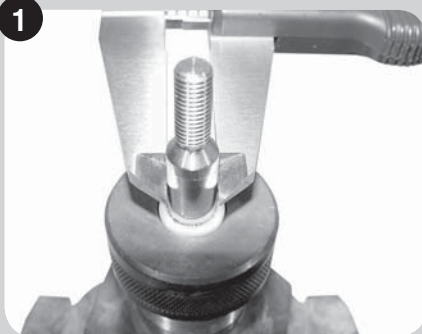


Identification & Measurement of Existing Valves

The valve should be stripped down to its basic form, as shown. Remove all other linkage components in order to obtain correct dimensional data for the retrofit kit. Note that many pneumatically operated valves have hardware that must be removed from the threaded bonnet area before measurements can be taken.



Follow these important steps to properly measure STYLE 4 type globe valves for a retrofit linkage. Reference the photos and line drawing to help guide you through the data collection process.



Dimension A on the retrofit form is measured as shown, with the end of the calipers laying PERPENDICULAR to the center line of the valve stem. Record this reading to three decimal places.



Using the WIDE area of the calipers, measure the MAJOR Diameter of the stem threads. Record this information for Dimension C on the retrofit form. Count how many threads per inch. Typical thread specs are 1/4-28, 3/8-24 & 1/2-20. If available, you should use a thread gage to determine the correct thread spec. Alternatively, you may send a valve stem nut to Belimo and we will determine the correct thread spec. Correct thread identification is important as this is the point of highest mechanical stress after the retrofitting has been completed.



Measure the LENGTH of the threaded area of the valve stem, and record this information for Dimension B on the retrofit form.



4



Dimension D1 on the retrofit form is measured as shown, with the depth gage used to measure the STEM UP distance to the bonnet base.

8

Dimension F is measured using a thread gage or by counting the number of threads per inch. It is easier to use a thread gage with the external packing nut removed.

9



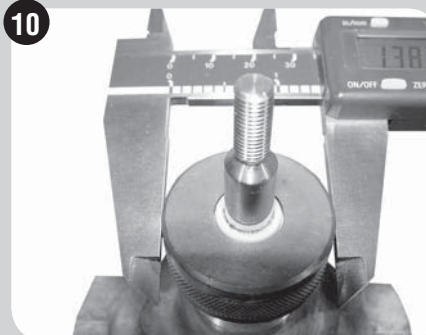
Measure Dimension G using the caliper depth gage to measure the distance between the bottom on the packing nut and the valve collar seating surface.

5



Dimension D3 on the retrofit form is measured as shown, with the depth gage used to measure the STEM DN distance to the bonnet base.

10

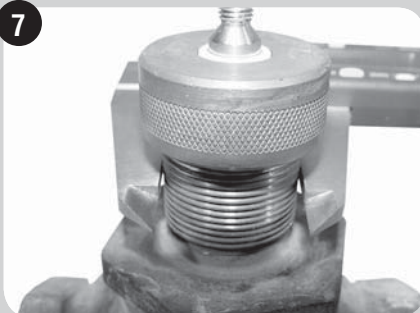


Dimension I is measured on the outside diameter or point of the external packing nut.

6

Dimension D2 on the retrofit form is the measured distance between the STEM UP and STEM DN heights, which gives the full travel of the valve. Only TWO of the three dimensions D1, D2 & D3 are needed.

7



Dimension E is measured across the MAJOR diameter of the bonnet. Use the calipers as shown to determine the correct dimension and record accordingly on the retrofit form. Do NOT measure the diameter of the packing nut for this dimension.

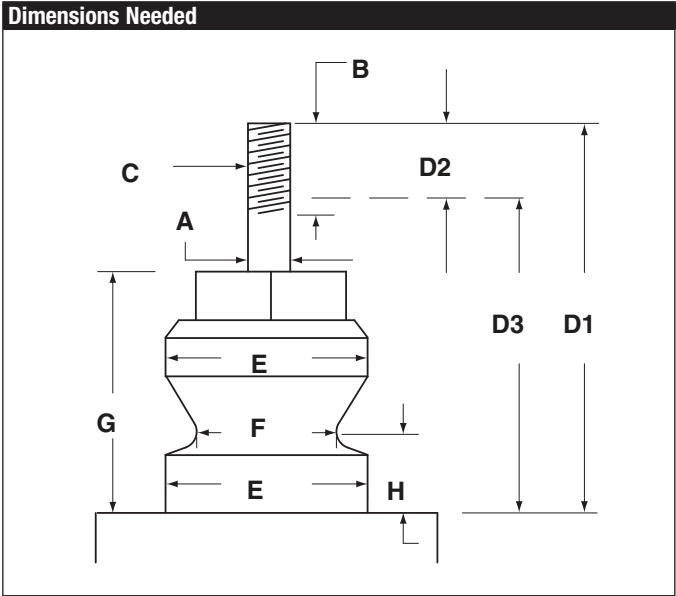
UGSP Series Globe Valve Retrofit Solution

Retrofitting STYLE 5 Globe Valves Typical for Honeywell and Other Non-Threaded, Tapered Bonnet Valves



Identification & Measurement of Existing Valves

The valve should be stripped down to its basic form, as shown. Remove all other linkage components in order to obtain correct dimensional data for the retrofit kit. Note that there are no threads on the bonnet. The packing nut is smaller than the diameter of the bonnet. There is a groove in the bonnet used to secure the retrofit collar to the valve.



Follow these important steps to properly measure STYLE 5 type globe valves for a retrofit linkage. Reference the photos and line drawing to help guide you through the data collection process.



Dimension A on the retrofit form is measured as shown, with the end of the calipers laying PERPENDICULAR to the center line of the valve stem. Record this reading to three decimal places.



Measure the LENGTH of the threaded area of the valve stem, and record this information for Dimension B on the retrofit form.



Using the WIDE area of the calipers, measure the MAJOR Diameter of the stem threads. Record this information for Dimension C on the retrofit form. Count how many threads per inch. Typical thread specs are 1/4-28, 3/8-24 & 1/2-20. If available, you should use a thread gage to determine the correct thread spec. Alternatively, you may send a valve stem nut to Belimo and we will determine the correct thread spec. Correct thread identification is important as this is the point of highest mechanical stress after the retrofitting has been completed.



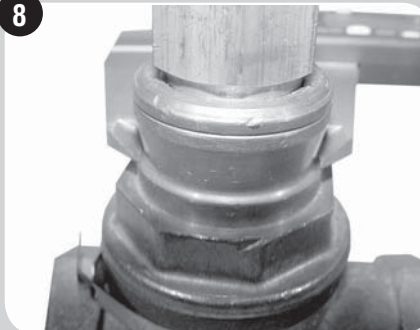
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4



Dimension D1 on the retrofit form is measured as shown, with the depth gage used to measure the STEM UP distance to the bonnet base.

8



Dimension F is measured using calipers across the MINOR diameter of the bonnet. This may be a square or a round groove. Measure the SMALLEST dimension of this groove.

5



Dimension D3 on the retrofit form is measured as shown, with the depth gage used to measure the STEM DN distance to the bonnet base.

9



Measure Dimension G using the caliper depth gage, and record on the retrofit form.

6

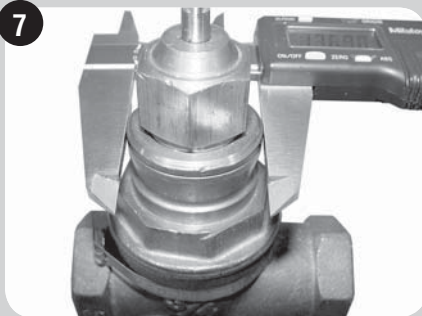
Dimension D2 on the retrofit form is the measured distance between the STEM UP and STEM DN heights, which gives the full travel of the valve. Only TWO of the three dimensions D1, D2 & D3 are needed.

10

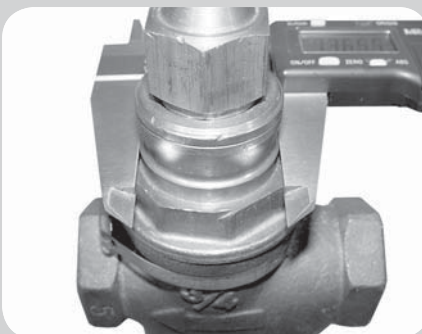


Measure Dimension H using the caliper depth gage, and record on the retrofit form.

7



Dimension E is measured across the MAJOR diameter of the bonnet. Use the calipers as shown to determine the correct dimension and record accordingly on the retrofit form. This dimension should be checked both above and below the locking groove.



UGLK Retrofit Solution

Components



UGLK Collars

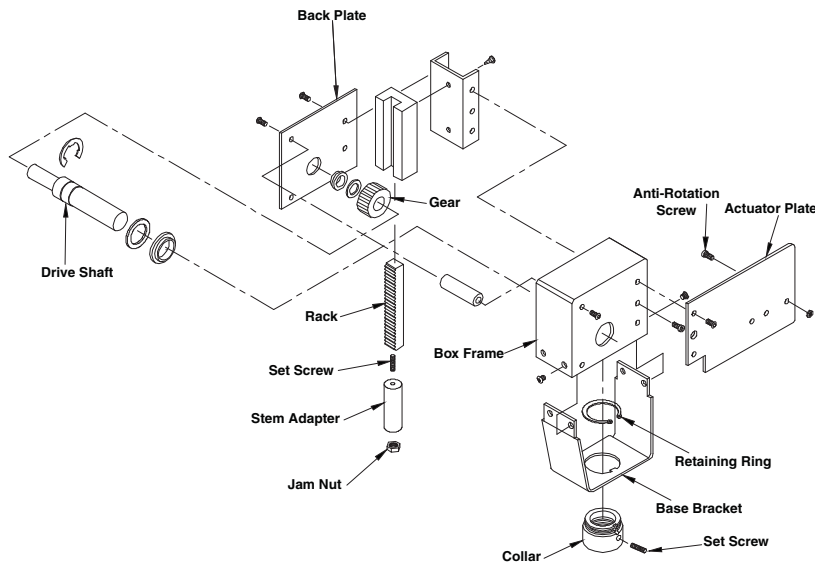
Part Number	Inside Diameter	Description	Most Commonly Used Valve Style				
			Style 1	Style 2	Style 3	Style 4	Style 5
UGLK-COL-1005	1.000"	3 setscrews, for frame type		•			
UGLK-COL-1063	1.063"	3 setscrews, for frame type		•			
UGLK-COL-1100	1.100"	3 setscrews, for frame type, counterbored top				•	
UGLK-COL-1255	1.250"	3 setscrews, for frame type		•			
UGLK-COL-1315	1.315"	3 setscrews, for frame type, can be used with VB7 with shim			•		
UGLK-COL-1375	1.375"	3 setscrews, for frame type		•			
UGLK-COL-BC10	1.250" - 16 Thd.	Fits Siebe VB7/VB9. Use on frame type only	•				
UGLK-COL-HY02	1.370"	1 setscrew, for frame type					•
UGLK-COL-LG02	1.740"	1 setscrew, for frame type			•		
UGLK-COL-LG04	1.740"	1 setscrew, for frame type			•		
UGLK-COL-JC05	1.070"	3 setscrews, for frame type		•			
UGLK-COL-JC06	1.562" - 14 Thd.	Threaded, brass		•			
UGLK-COL-JC08	0.760"	3 setscrews, for frame type, counterbored top				•	
UGLK-COL-JC15	1.070"	Ring, no setscrews		•			
UGLK-COL-0880	0.880"	3 setscrews, for frame type, counterbored top				•	
UGLK-COL-WNUT	1.375" - 20 Thd.	Replacement Warren nut. Will not go over damaged threads		•			
UGLK-COL-AD01	1.250" - 16 Thd.	Fits Siebe VB7/VB9. For VB7 frame only	•				
UGLK-COL-UNIV	Custom	3 setscrews, for frame type. Must be machined		•	•	•	•

* Must reuse clip and set screws.

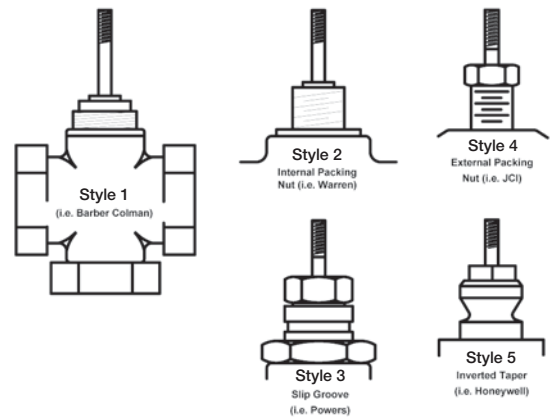
UGLK Stem Adapters

Part Number	Inside Diameter	Description	Most Commonly Used Valve Style				
			Style 1	Style 2	Style 3	Style 4	Style 5
UGLK-STM-1800	¼" - 28 Stem Thd.	Stem adapter for ¼" - 28 valve stems	•	•	•	•	•
UGLK-STM-1801	3/8" - 24 Stem Thd.	Stem adapter for 3/8" - 24 valve stems	•	•	•	•	•
UGLK-STM-1802	½" - 20 Stem Thd.	Stem adapter for ½" - 20 valve stems	•			•	•
UGLK-STM-1803	7/16" - 20 Stem Thd.	Stem adapter for 7/16" - 20 valve stems					•
UGLK-STM-1501	3/8" - 24 Stem Thd.	For Warren FLG valves with UGLK		•			
UGLK-STM-1805	3/8" OD Grooved	Landis 2.5-3" -599 Series			•		
UGLK-STM-2305	½" OD Grooved	Landis 4-6" -599 Series			•		
UGLK-STM-UNIV	Custom	Must be machined	•	•	•	•	•

UGLK Stem Adapters



UGLK Collars



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		NON-SPRING RETURN				SPRING RETURN			ELECTRONIC FAIL-SAFE				2*
WEATHER SHIELDS		LV	SV	EV	RV	LF	NF	AF	GK	LVK	SVK	AVK	GM/GK
	ZS-SPGV-60 LF series on G2/G3 globe valve					•							
	ZS-SPGV-10 Dual AF series on flanged globe valve							•					
	ZS-SPGV-20 Single NF/AF series on G2/G3 (NF/AF) and flanged globe valve (AF)						•	•					
	ZS-SPGV-40 GK series on flanged globe valve								•				
	ZS-SPGV-50 GK series on flanged globe valve												•
	ZS-GV-001 Weather shield for LV/SV (cover only)	•	•							•	•		
	ZS-GV-002 Weather shield for EV/RV/AVK (cover only)			•	•							•	
AUXILIARY SWITCHES & POTENTIOMETERS													
	S1A Auxiliary switch - 1x SPDT, 3A (0.5A inductive) @ 250 VAC								•				•
	S2A Auxiliary switch - 2x SPDT, 3A (0.5A inductive) @ 250 VAC								•				•
	S2A-GV Auxiliary switch - 2x SPDT, 3A (0.5A inductive) @ 250 VAC	•	•	•	•					•	•	•	
	P140A GR Feedback potentiometer 140 Ω								•				•
	P500A GR Feedback potentiometer 500 Ω								•				•
	P1000A GR Feedback potentiometer 1000 Ω								•				•
	P2800A GR Feedback potentiometer 2800 Ω								•				•
	P5000A GR Feedback potentiometer 5000 Ω								•				•
	P10000A GR Feedback potentiometer 10000 Ω								•				•
BATTERY BACKUPS													
	NSV24 US Battery backup module	•	•	•	•								
	NSV-BAT 12VDC 1.2 AH battery (2 required)	•	•	•	•								

Note: Each NSV-24 US requires 2 NSV-BAT.