

# CONTROL VALVES

## UNIVERSAL RETROFIT LINKAGE/ACTUATOR KITS UGVL, SGVL, WGVL, FGVL RETROFIT SERIES



**BELIMO**



UGVL-SVK

UGVL-LV



3

CONTROL VALVES

### DESCRIPTION

The Belimo UGVL, SGVL, WGVL, AND FGVL Series New Generation Linear Globe Valve Actuators and Retrofit Linkages offer greater power and flexibility. Engineered to suit a broad range of HVAC applications, both the New Generation Actuators and Retrofit Linkages are highly adaptable making selection, installation, and long-term service worry-free. New force ranges is from 112 lbf [500N] to 1011 lbf [4500N] and there is a broader travel range from 0.6" (15 mm) to 2" (50 mm). With a universal format, these retrofit linkages and actuators will fit most globe valves on the market today.

### FEATURES

- Increased force ranges for higher close-off pressures
- Field selectable fail-safe actuator positions
- Lower power consumption during operation
- Cast Aluminum linkage
- Locking coupler feature to prevent slipping
- Centering device on linkage to assure proper alignment
- Manual override capability

### SPECIFICATIONS

<b>Connections</b>	3' (0.9 m) 18GA plenum rated cable	<b>Force (Actuator Type)</b>	
<b>Life Expectancy</b>	100,000+ cycles	<b>LV Series</b>	112 foot lbs (lbf)
<b>Materials of Construction</b>	Plastic, aluminum, steel	<b>SV Series</b>	337 foot lbs (lbf)
<b>Color</b>	Orange actuator	<b>AVK Series</b>	450 foot lbs (lbf)
<b>Fail Safe</b>	35 seconds (not on all models), 35 sec	<b>EVB Series</b>	562 foot lbs (lbf)
<b>Supply Voltage</b>	24 VAC/VDC, 120 VAC, 230 VAC	<b>RVB Series</b>	1011 foot lbs (lbf)
<b>Control Signal</b>	On-Off, floating or proportional (MFT functionality optional)	<b>Compatible Actuators</b>	Actuator included in part number
<b>Noise (Actuator Type)</b>		<b>Actuator Mounting</b>	Included in part number
<b>SV Series</b>	55 dB	<b>Drive Time</b>	90 sec (variable on MFT)
<b>LV Series</b>	45 dB	<b>Operating Temperature</b>	-22° to 122°F (-30° to 50°C)
<b>EV/RV Series</b>	65 dB	<b>Operating Humidity</b>	5-95% non-condensating
<b>Conduit Connection</b>	1/2" conduit fitting appliance cable	<b>Enclosure Rating</b>	NEMA 2 / IP54, UL enclosure type 2
<b>Feedback</b>	Dependent on model	<b>Approvals</b>	cULus, UL 60730-1A/-2, -14, CAN/CSA E60730-1:02, CE 2004/108/EC, 2006/95/EC
<b>Auxiliary Switch</b>	Add-on, @ SPDT, 3A @ 250V,	<b>Warranty</b>	5 years

### RETROFIT LINKAGE REPLACEMENT PRODUCT RANGE

Original Valve Manufacturer	Valve Body Model Numbers	Belimo Linkage Type	
Honeywell	V5011 Series	UGVL	
	V5011N Series		
	V5013 Series		
	V5013N Series		
Johnson Controls	V(B)-3754 Series, Bronze Trim		
	V(B)-3974 Series, Bronze Trim		
	V(B)-4324 Series, Bronze Trim		
	V(B)-5844 Series		
	V-4332		
	VG7000 Series		
	VB9000 Series (1.5" to 2" only)		
Schneider/ Barber Coleman	591 Series		FGVL
Siemens, Landis, Powers	599 Series		
	656 Series		
	Robertshaw	V6600	SGVL
	V6700		
	V6800		
Johnson Controls	V3, V4, V5, VG2, VG82 Series	WGVL	
	Honeywell		
Siemens	591, 599 Series		
Siebe (Belimo), Barber Coleman, Invensys, Schneider	VB9, VB304, VB804 Series		
	Belimo USA G2 Series		
	Belimo USA G2...Series		
	Belimo USA G3 Series		
	VB7000 Series		
Siebe (Belimo), Barber Coleman, Invensys, Schneider	VB9000 Series (1/2" to 1 1/4" only)		
	Warren Controls		Type 20
			Type 22
			Type 30
	Type 32		



# CONTROL VALVES

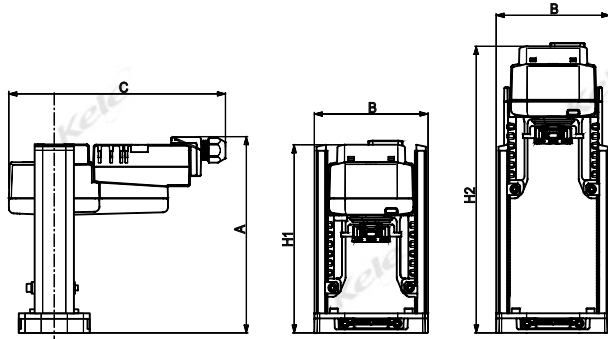
## UNIVERSAL RETROFIT LINKAGE/ACTUATOR KITS

### UGVL, SGVL, WGVL, FGVL RETROFIT SERIES

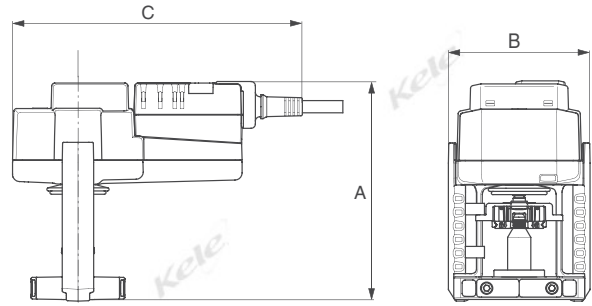
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CONTROL VALVES

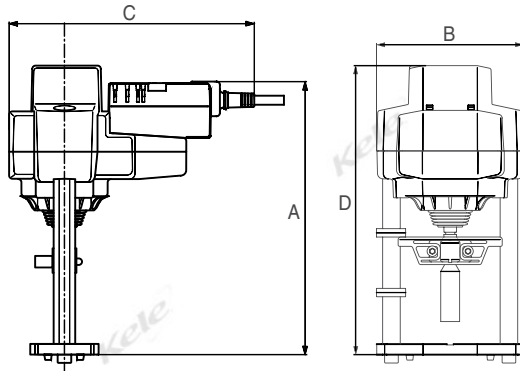
#### DIMENSIONS / COMPARISON



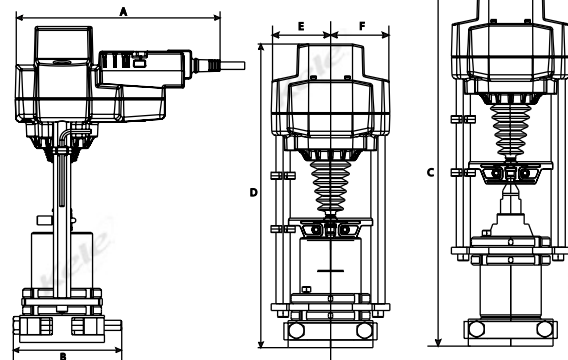
New UGVL with LV, SV



New SGVL with LV, SV



New WGVL with AV, EV and RV



New FGVL with AV, EV and RV

#### Dimensions - in (cm)

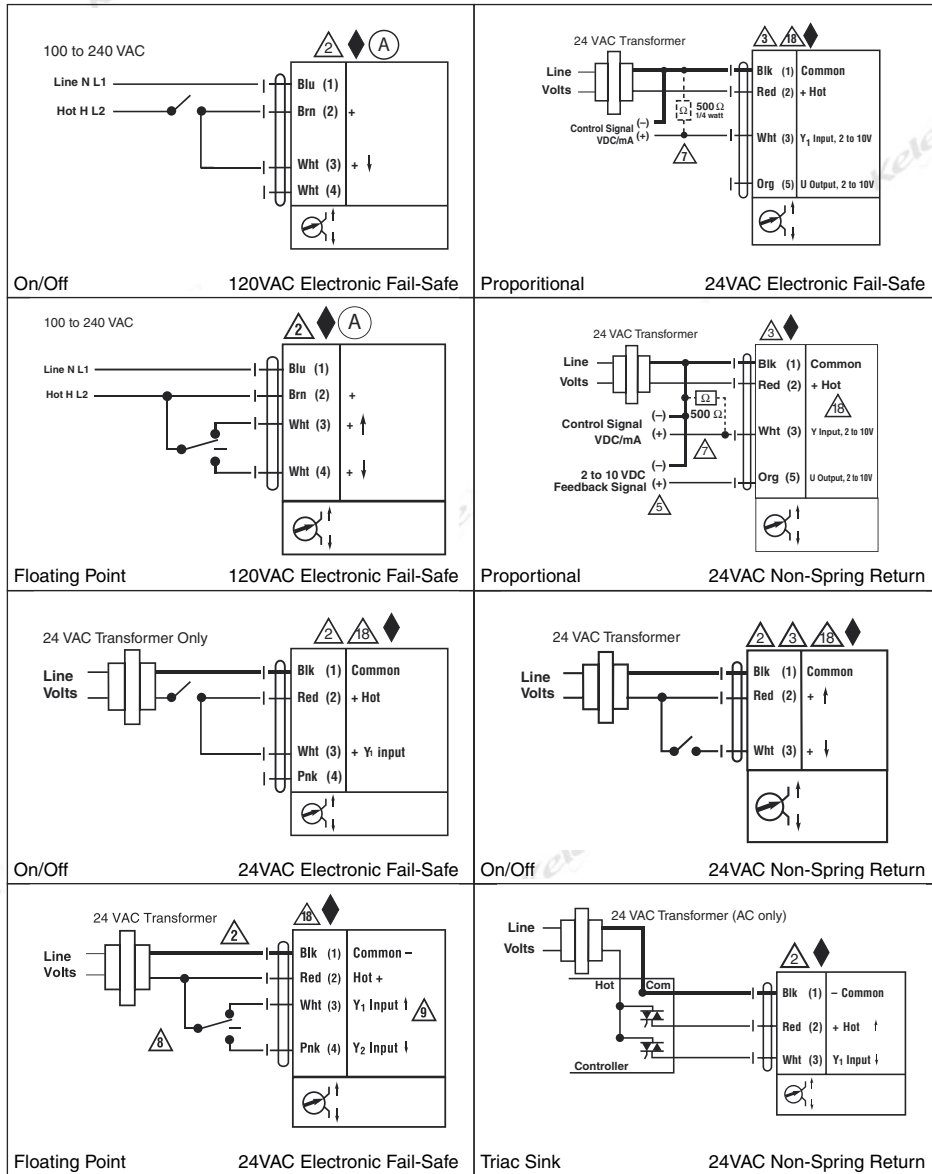
	A	B	C	D	H1 (E)	H2 (F)
<b>UGVL</b>	8 (20.3)	4.4 (11.2)	9.6 (24.4)	—	8.4 (21.3)	12.1 (30.7)
<b>SGVL</b>	6.7 (17)	3.9 (9.9)	8.2 (20.8)	—	—	—
<b>WGVL</b>	10.4 (26.4)	5.5 (14)	10.3 (26.2)	10.9 (27.7)	—	—
<b>FGVL</b>	9.2 (23.4)	5.0 (12.7)	16.7 (42.5)	14.0 (35.6)	2.8 (7.1)	2.8 (7.1)

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### WIRING



- 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.
- Only connect common to neg. (-) leg of control circuits.
- A 500Ω resistor converts the 4-20 mA control signal to 2-10 VDC.
- 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.

- 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.
- IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155)
- 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.
- Actuators with appliance cables are numbered.
- 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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### ORDERING INFORMATION

MODEL	DESCRIPTION
<b>U</b>	Universal Retrofit (1/2" thru 2" valves)
<b>F</b>	Flanged Valves-Universal* (2-1/2" thru 6" valves)
<b>S</b>	Schneider Valve Retrofit** (1/2" thru 2" valves)
<b>W</b>	Warren Valve Retrofit* (2-1/2" thru 6" valves)
<b>GLOBE VALVE LINKAGE</b>	
<b>GVL+</b>	Retrofit Globe Valve Linkage
<b>ACTUATOR</b>	
<b>LVB</b>	Non-spring return for 1/2" thru 3/4" valve
<b>LVX</b>	Non-spring return for 1/2" thru 3/4" valve (used with 120 VAC or MFT options only)
<b>SVX</b>	Non-spring return for 1" thru 2" valve
<b>SVB</b>	Non-spring return for 1" thru 2" valve (used with SR option only)
<b>EVB</b>	Non-spring return for 2-1/2" thru 4" valve
<b>RVB</b>	Non-spring return for 4" thru 6" valve
<b>LVKX</b>	Electronic fail-safe for 1/2" thru 3/4" valve
<b>LVKB</b>	Electronic fail-safe for 1/2" thru 3/4" valve (used with SR option only)
<b>SVKX</b>	Electronic fail-safe for 1" thru 2" valve
<b>SVKB</b>	Electronic fail-safe for 1" thru 2" valve (used with SR option only)
<b>AVKB</b>	Electronic fail-safe for 2-1/2" thru 4" valve
<b>ACTUATOR POWER</b>	
<b>24</b>	24 VAC/VDC
<b>120</b>	120 VAC-230 VAC
<b>CONTROL TYPE</b>	
<b>-3</b>	Floating/On-off
<b>-MFT</b>	Multifunction technology, proportional, default 2-10 VDC
<b>-SR</b>	Proportional (2-10 VDC)

**U**

**GVL+**

**LVB**

**24**

**-3**

**Example: UGVL+LVB24-3**

Universal retrofit globe valve linkage, floating, on-off signal, 24V, NSR

\* Can only be combined with AVKB, EVB, or RVB options

NOTE: All functions and options are not available with all versions.

NOTE: Close-off information is available, call Kele.

\*\* For the Barber Coleman VB9000 Series 1 1/2" and 2" only. Use UVGL for 1/2" to 1 1/4".

**S2A-GV**

### RELATED PRODUCTS

Aux-Switch with 2-SPDT switches (fits all retrofit actuators)