

Updated!

New Generation Globe Valve Actuators and Retrofit Linkages



Agenda

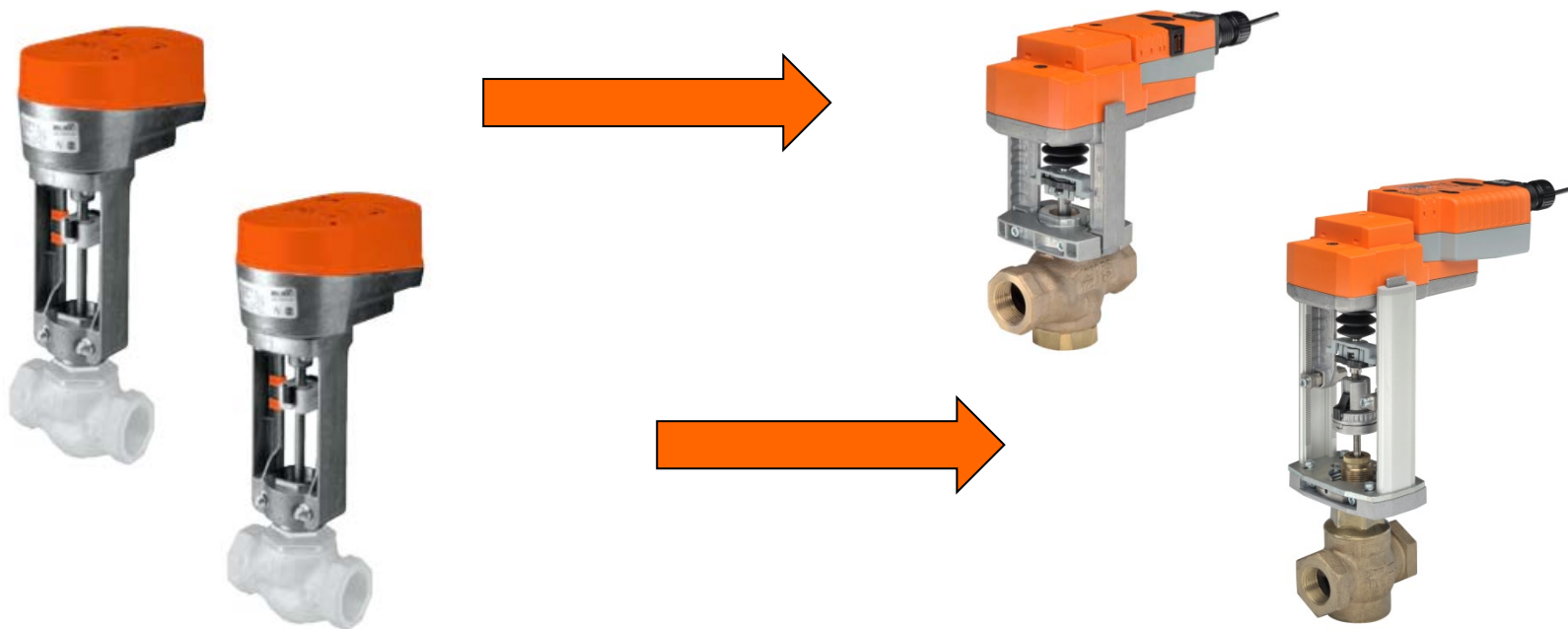


- Scope of Project
- Features, Benefits and Improvements
- Nomenclature Overview
- Dimensions
- Globe Valve Assembly Product Range
- Retrofit Linkage Product Range
- Accessories
- Marketing Tools
- Packaging
- Successes
- Final Thoughts

Scope of Project

New linear actuator product range for globe valves providing:

- **Increased forces for higher close-offs**
- **Improved stem coupler design for easy installation**
- **Universal linkage to fit/retrofit most globe valves in the market**

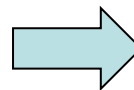


Globe valve solutions made Simple!

Improvements: New Gen vs. NV



	Old Gen (NV, NVF, NVG)	New Gen (LV,SV,AVK,EV,RV)
Force Ranges	180-359 lbf (800-1600 N)	112-1011 lbf (500-4500 N)
Actuator Stroke	3/4" (20mm)	LV: 0.6"(15mm) SV: 0.75"(20mm) AVK: 1.25"(32mm) EV/RV: 2 " (50mm)
Fail Positions	Pre-selected at factory; With -E for stem down Without -E for stem up	Field selectable with switch
Coupler	Cumbersome	User friendly
MFT Communication	U5 wire	U5 wire or MFT plug
Troubleshooting	Cover must be removed; red/green light	Externally viewable status light; similar to new gen actuators
Voltage(s)	24 V	24 V & 120 V (-3 only)
Steam Rated (G2S) (Retrofit)	50 psi inlet	100 psi inlet
Accessories	Weather shield only	Weather shield and End Switches add on options



Features and Benefits



A versatile product suitable for any HVAC application!

Universal linkage: Retrofits 80% of most competitor globe valves in the market, regardless of make and model. No form required!

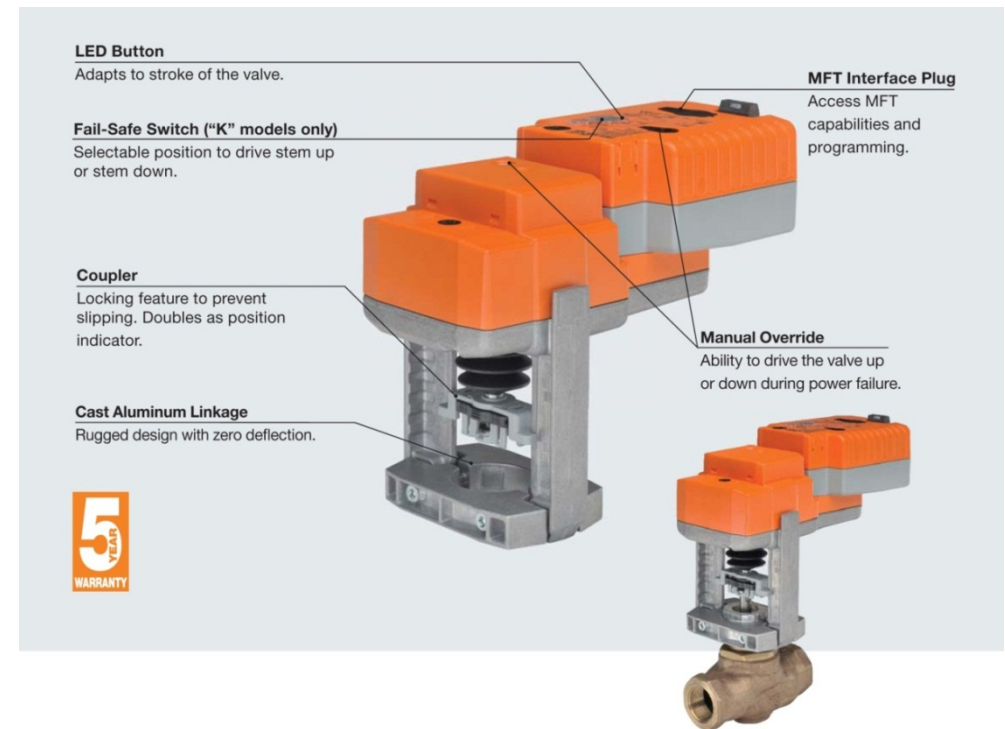
Selectable fail-safe switch: One switch to change fail direction in the field without actuator removal.

Optimized linkage and coupler design: Installation in minutes with no special tools required.

Increased force ranges: Higher close-off pressures than current NV series.

Higher steam rating: Increased steam inlet pressures from 50 to 100 psi.

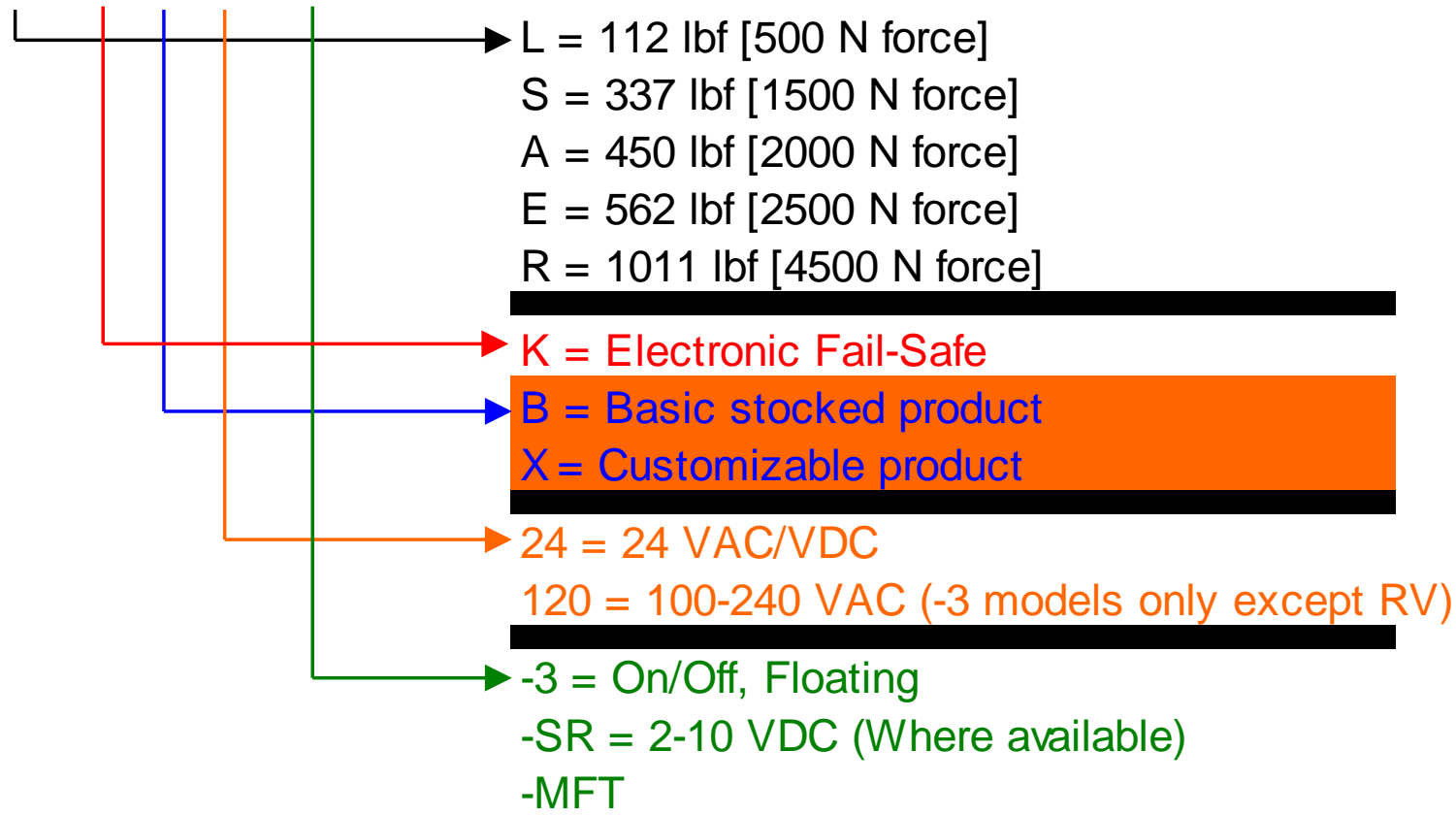
Streamlined product offering: Simplified selection process and minimized inventory.



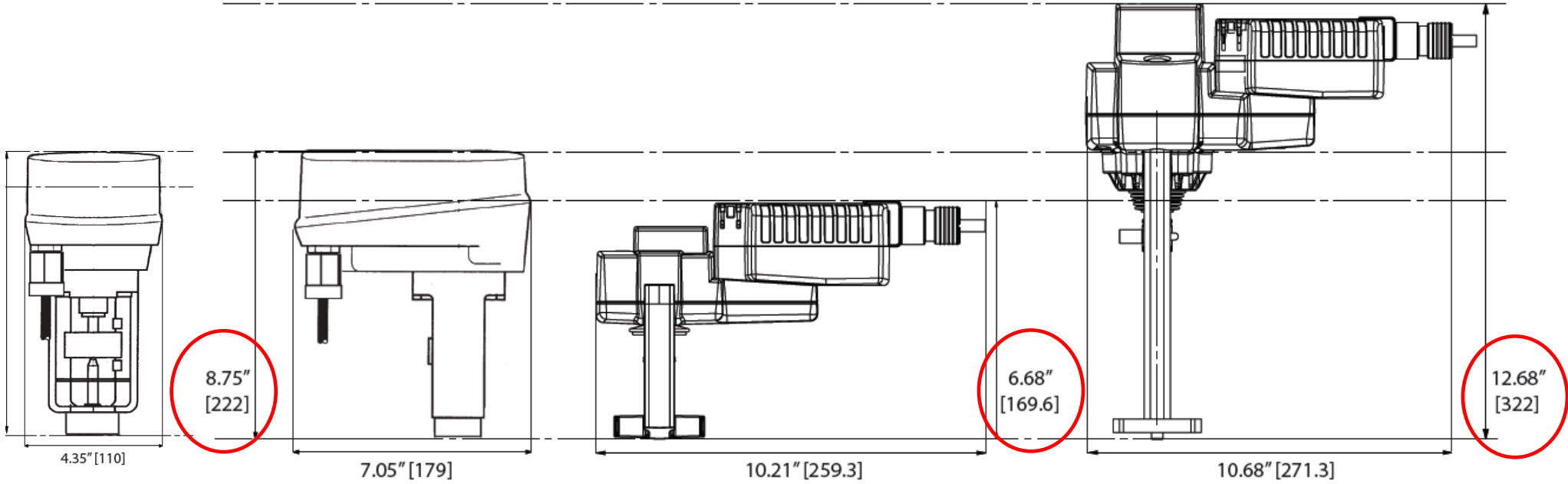
Actuator Nomenclature Overview



L V K X 24 -MFT



Dimensional Comparison NV vs. New Gen



UNV + NV, NVG
Used on G2/G3

SGVL + LV, SV
Used on G2/G3

WGVL + AV, EV, RV
Used on G6/G7

Globe Valve Assembly Product Range



Globe Valve Body		Size	Suitable Actuators	
2-Way NPT	3-Way NPT	Inches	Non-Spring Return	Electronic Fail-Safe
G212, G212S		½"	LV Series 112 lbf [500 N]	LWK Series 112 lbf [500 N]
G213, G213S		½"		
G214, G214S	G314	½"		
G215, G215S	G315, G315D	½"		
G219, G219S		¾"		
G220, G220S	G320, G320D	¾"		
G224, G224S		1"	SV Series 337 lbf [1500 N]	SVK Series 337 lbf [1500 N]
G225, G225S	G325, G325D	1"		
G232, G232S	G332, G332D	1¼"		
G240, G240S	G340, G340D	1½"		
G250, G250S	G350, G350D	2"		



Globe Valve Body	Size	Suitable Actuators	
2-Way Flanged	Inches	Non-Spring Return	Electronic Fail-Safe
G665C, G665CS, G665LCS, G665C-250, CS-2250	2½"	EV Series 562 lbf [2500 N]	AVK 450 lbf [2000 N]
G680C, G680CS, G680LCS, G680C-250, G680CS-2250	3		
G6100C, G6100CS, G6100LCS, G6100C-250, G6100CS-2250	4		
G6125C, G6125CS, G6125LCS, G6125C-250, G6125CS-2250	5		
G6150C, G6150CS, G6150LCS, G6150C-250, G6150CS-2250	6		



Globe Valve Body	Size	Suitable Actuators		
3-Way Flanged	Inches	Non-Spring Return	Electronic Fail-Safe	
G765, G765 S, G765-250, G765 S-250	2½"	RV Series 1011 lbf [4500 N]	EV	AVK
G780, G780 S, G780-250, G780 S-250	3			
G7100, G7100 S, G7100-250, G7100 S-250	4			
G7125, G7125 S, G7125-250, G7125 S-250	5			
G7150, G7150 S, G7150-250, G7150 S-250	6			
G765D, G765DS, G765DS-250	2½"			
G780D, G780DS, G780DS-250	3			
G7100D, G7100DS, G7100DS-250	4			
G7125D, G7125DS, G7125DS-250	5			
G7150D, G7150DS, G7150DS-250	6			



Globe Valve Assembly Ordering



G2	14	S	+	LVX	24	-SR	
Valve Type	Valve Size	Trim Material		Actuator Type	Power Supply	Control	
G2 = 2-way NPT	12-50 = ½" to 2"	Blank = Bronze Trim		Non-Spring Return	24 = 24 VAC/DC	Blank = On/Off	S = Built-in Auxiliary Switch*
G3 = 3-way NPT	65-150 = 2½" to 6" (Flanged)	S = Stainless Trim		LV...	120 = 120 VAC	-3-X1* = On/Off, Floating Point	
G6 = 2-way Flanged		-250 = ANSI 250 Bronze Trim		SV...	UP = 24-240 VAC* or 24-125 VDC	-SR = 2-10 VDC	
G7 = 3-way Flanged		S-250 = ANSI 250 Stainless Trim		EV...		-MFT or MFT-X1* = Multi-Function Technology	
		C = Bronze Trim Pressure Compensated		RV...		-MFT95-X1 = 0-135 Ω*	
		CS = Stainless Trim Pressure Compensated		Spring Return			
		LCS = Linear Stainless Trim Pressure Compensated		LF...			
		D = Diverting Bronze Trim		NF...			
		DS = Diverting Stainless Trim		AF...			
				Electronic Fail-Safe			
				LVK...			
				SVK...			
				AVK...			
				GK...			

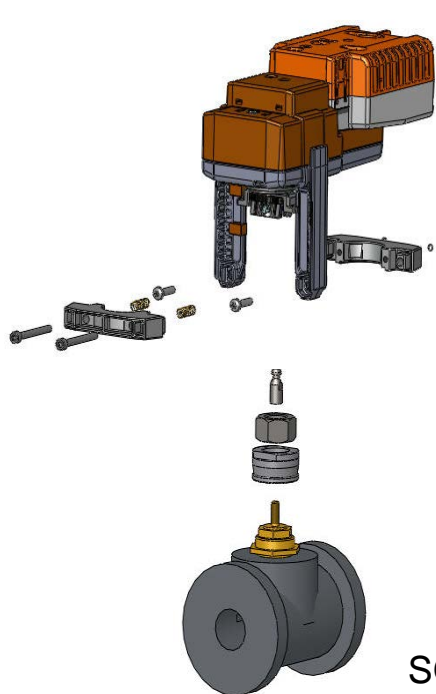
*On air side UGLK options only

- Only sold as complete assembly (Valve + Actuator)

Retrofit Linkage Product Range

- SGVL (Schneider Globe Valve Linkage)
 - Used with LV, SV Series Actuators
- UGVL (Universal Globe Valve Linkage)
 - Used with LV, SV Series Actuators
- WGVL (Warren Globe Valve Linkage)
 - Used with AVK, EV, RV Series Actuators
- FGVL (Flanged Globe Valve Linkage)
 - Used with AVK, EV, RV Series Actuators

NEW



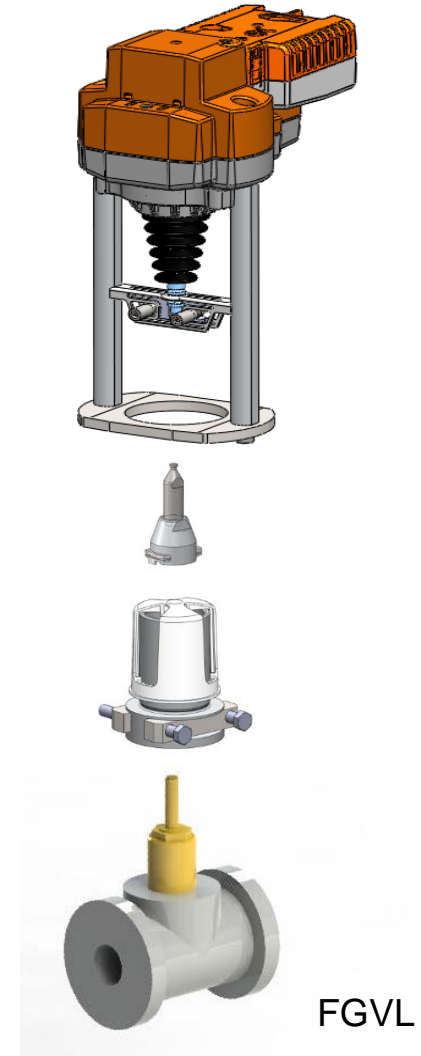
SGVL



UGVL

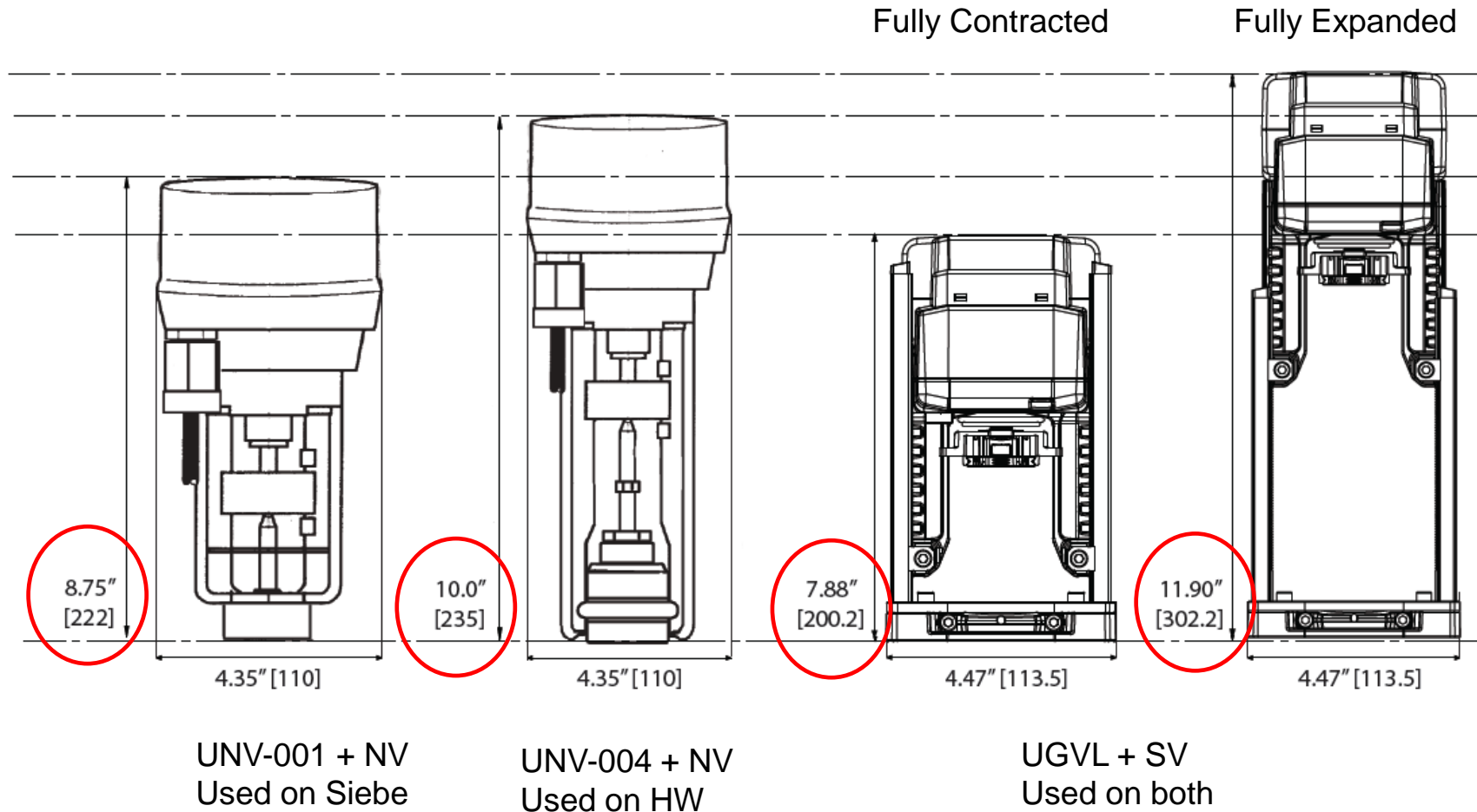


WGVL



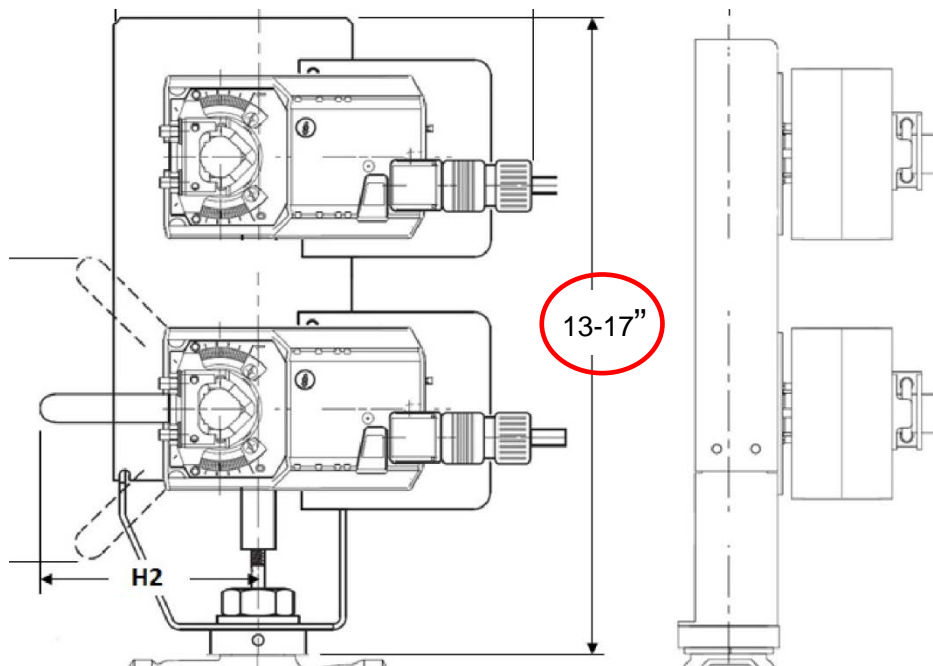
FGVL

Retrofit Comparison NV vs. New Gen



The UGVL is adjustable- one linkage does it all!

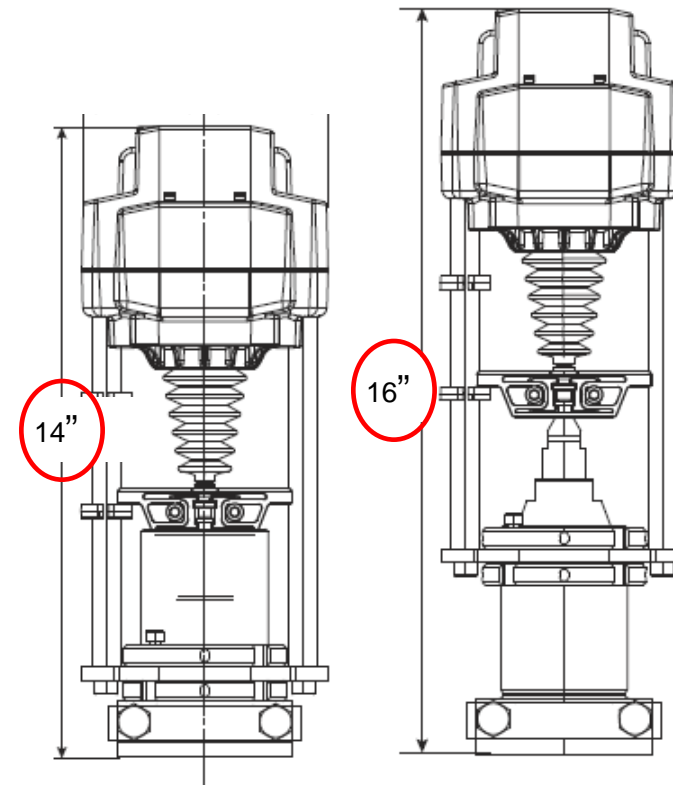
Retrofit Comparison UGLK vs. New Gen



UGLK + Dual GM's
Used on Siebe, HW, JCI etc.

Fully Contracted

Fully Expanded






FGVL + EV/RV
Used on all!

The FGVL is adjustable for 2.5" to 6" globes of all makes!

Retrofit Linkage Overview

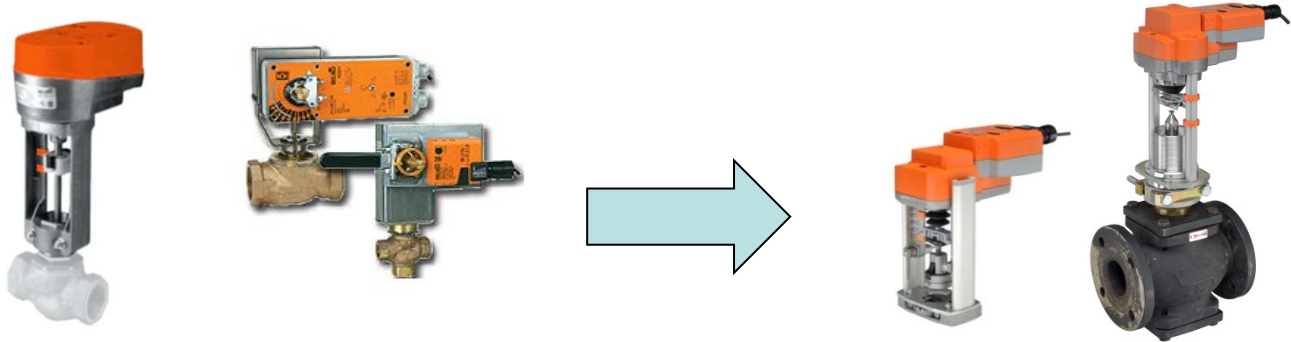
- LV series actuators
 - 1/2" to 3/4" valves
- SV series actuators
 - 1" to 2" valves
- EV/AVK series actuators
 - 2 1/2" to 4" valves
- RV series actuators
 - 4" to 6" valves

On Select Models	Belimo Linkages	
Honeywell	UGVL 1/2" to 2"	
Johnson Controls		
Robertshaw		
Siemens/Landis/Powers		
Siebel\Invensys\Barber Colman	FGVL 2.5" to 6"	
Honeywell		
Johnson Controls		
Siemens/Landis/Powers		
Siebel\Invensys\Barber Colman	SGVL 1/2" to 2"	

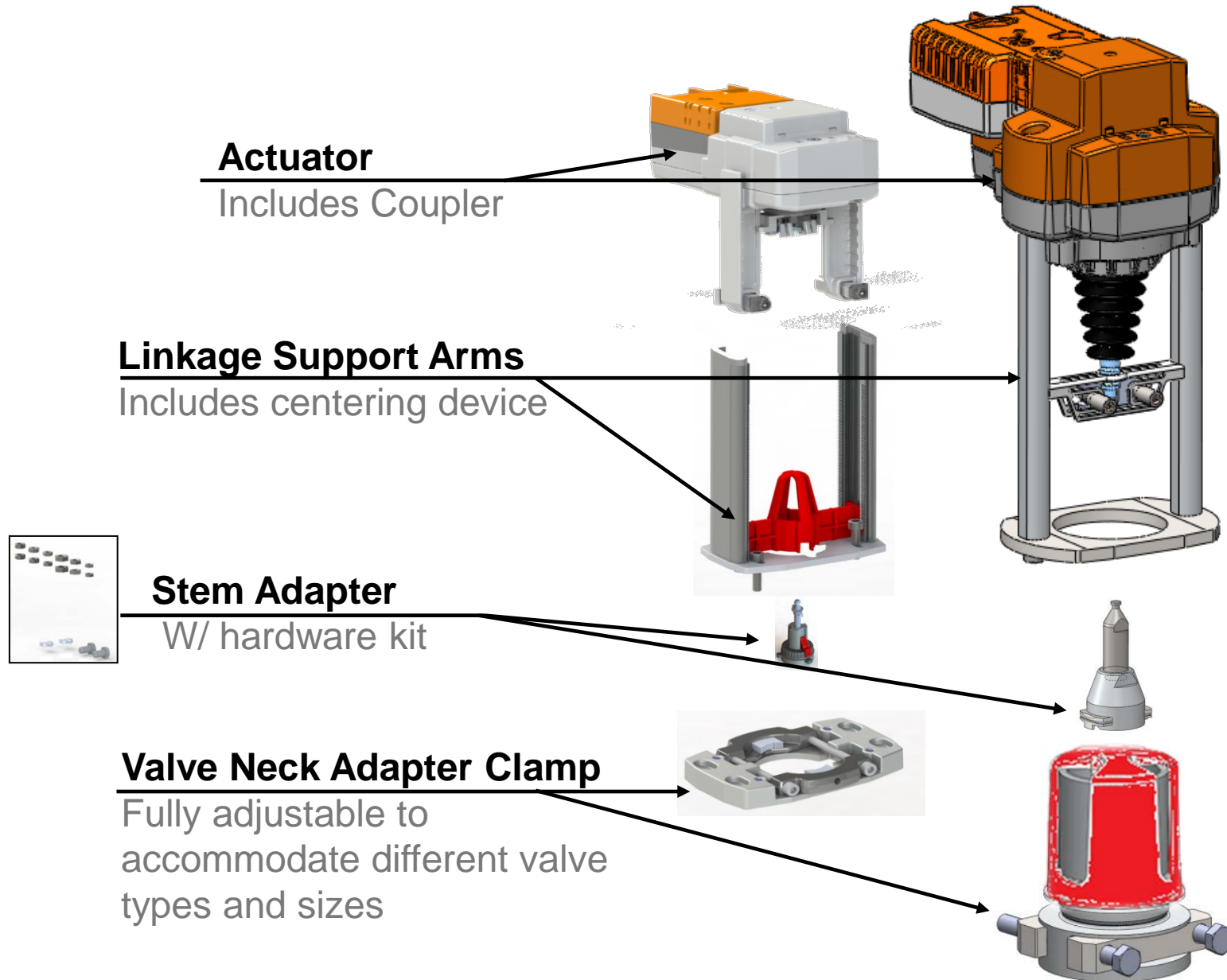
Reduced Inventory



Old Solutions		New Generation Equivalent
NV24-3 us (obsolete)		LV or SV
NV24-MFT us (obsolete)		
NVF24-MFT(-E) (obsolete)		LVK, SVK, or AVK
NVG24-MFT us (obsolete)		EV or RV
UNV-001	UGLK11...	SGVL
UNV-003	UGLK12...	UGVL or FGVL
UNV-004		
UNV-005		
UNV-006	UGLK18...	
UNV-007	N/a	
UNV-008	UGLK14...	
UNV-009		
UNV-040		
UNV-035	UGLK10...	
UNV-051	UGLK22...	



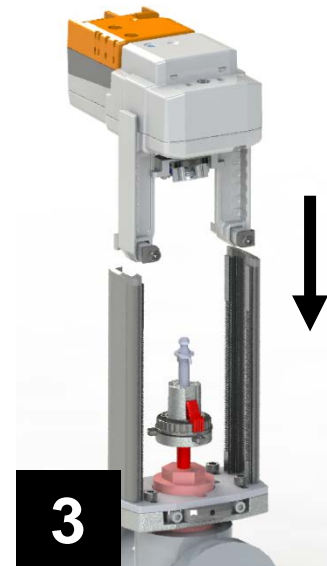
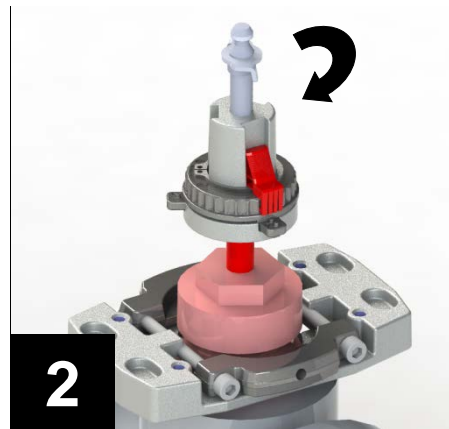
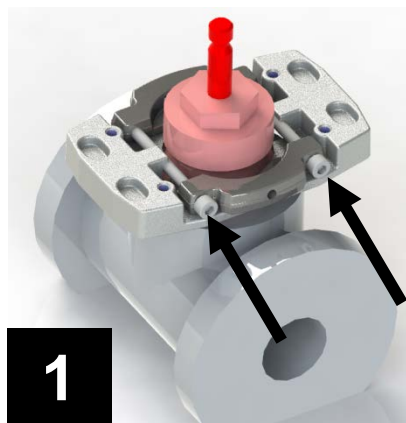
Universal Linkages- A Closer Look...



Universal Retrofit Linkages

Easy Installation with Rugged Design

10 Minutes!



- Same concept for both UGVL and FGVL

Retrofit Linkage Assembly Ordering

UGVL	+	LVX	24	-SR
Linkage Type		Actuator Type	Power Supply	Control
UGVL = Universal Globe Valve Linkage		Non-Spring Return LV...	24 = 24 VAC/DC 120 = 120 VAC	-3 = On/Off, Floating Point
SGVL = Schnieder Globe Valve Linkage		SV...		-SR = 2-10 VDC
WGVL = Warren Globe Valve Linkage		EV...		-MFT = Multi-Function Technology
FGVL = Flange Globe Valve Linkage		RV... Electronic Fail-Safe		
		LVK... SVK... AVK...		



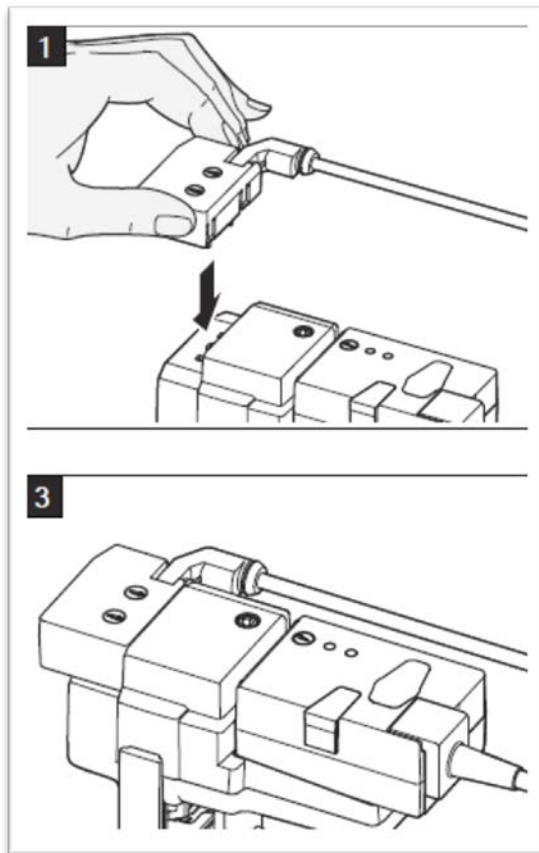
- Only sold as linkage and actuator combination

LV: 0.6"(15mm) 500N
 SV: 0.75"(20mm) 1500N
 AVK: 1.25"(32mm) 2000N
 EV: 2 " (50mm) 2500N
 RV: 2 " (50mm) 4500N

Accessories

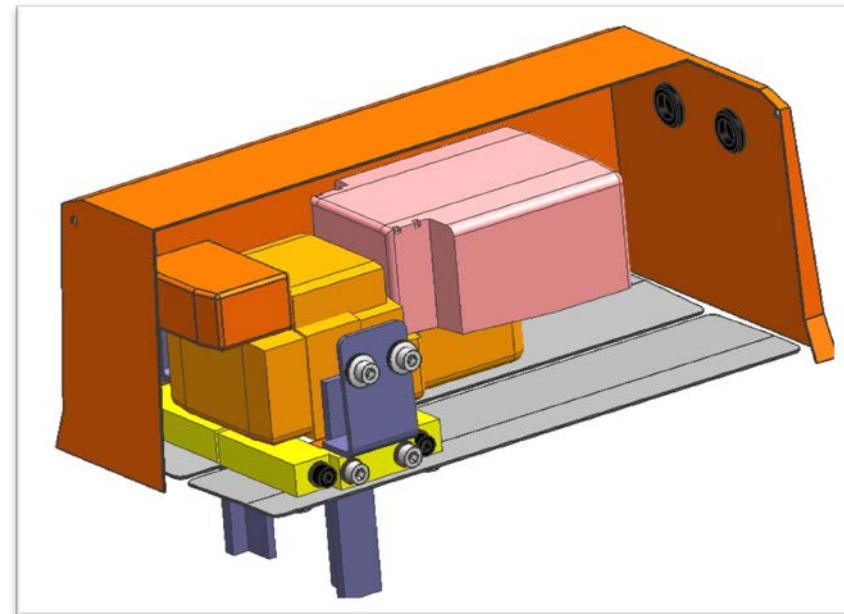
- **End switches**

- S2A-GV (2x SPDT)



- **Weather shields** (Cover only)

- ZS-GV-001 (LV/SV)
- ZS-GV-002 (EV/RV/AVK)



Marketing Tools



- **Printed Materials**

- Marketing flyer
- PGPL

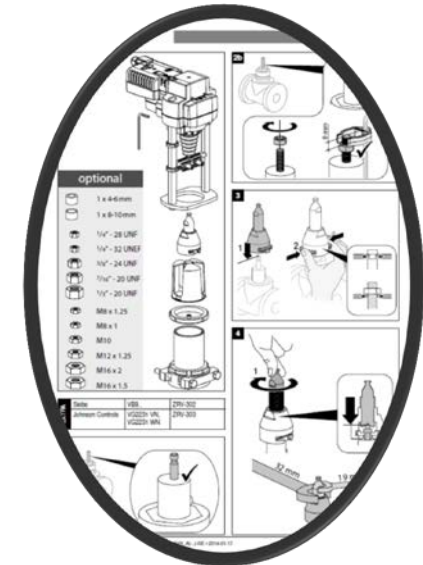
- **Website**

- One page instruction sheet
- Videos
- <http://youtu.be/LAwPDb15FYE>

- Submittals/Tech doc
- Product presentation
- www.Belimo.us

- **Displays**

- Show booth kit



Packaging Improvements

- All in one box
- Combination label on side
- One page instructions



FGVL



UGVL/SGVL

A versatile product suitable for any HVAC application!

St. Francis (CT)



Hearst Tower (NY)



Oklahoma City VA Hospital (OK)



Features and Benefits!



The New Generation Globe Valve Actuators: More Power and Flexibility

- **Universal linkages:** Retrofits most globe valves in the market, regardless of make and model.
- **Selectable fail-safe switch:** Changes fail direction in the field without actuator removal.
- **Optimized linkage and coupler design:** Installation in minutes with no special tools required.
- **Increased force ranges:** For higher close-off pressure requirements.
- **Higher steam rating:** Increased steam inlet pressures from 50 to 100 psi.
- **Streamlined product offering:** Simplified selection process and minimized inventory.



Questions ???



Thank you