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Globe Valves:

UNV Series Direct Coupled Actuator
 2-way Valves
 3-way Valves

UGLK Series Linkage Solution
 2-way Valves
 3-way Valves

Retrofit Solutions for Virtually any Valve

Manufacturers:

Globe: Siemens, Johnson
 Honeywell, Invensys
 and more

Control: On/Off, Floating, 2-10 VDC
 Multi-Function Technology®
 Spring Return or
 Non-Spring Return

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SELF ADAPTING STROKE

The NV Series actuators, which are used with the UNV retrofit kits (Figure 1), are stroke adapting actuators. In modulating applications, the actuator will recognize the stroke length requirement and automatically adjust the control signal for maximum resolution.

RATINGS FOR STEAM APPLICATION

The UNV-035 is rated for 50 psi inlet steam. All other UNV solutions are rated for 15 psi inlet steam.

All UGLK linkages can be used with Belimo actuators up to a maximum of 50 psi steam

For other applications between 50 psi and 100 psi inlet steam, please call Belimo Customer Service for assistance



Figure 1

SPRING RETURN FUNCTION

When ordering a UNV kit with an NV Series spring return actuator, you must know the required spring return direction. The NVF24-MFT US springs to the UP position and the NVF24-MFT-E US springs to the DOWN position.

If the required spring return direction is not known, a UGLK linkage (Figure 2) and spring return actuator may be selected. The rotary actuators can be turned over on the linkage and produce a spring return function in either direction.

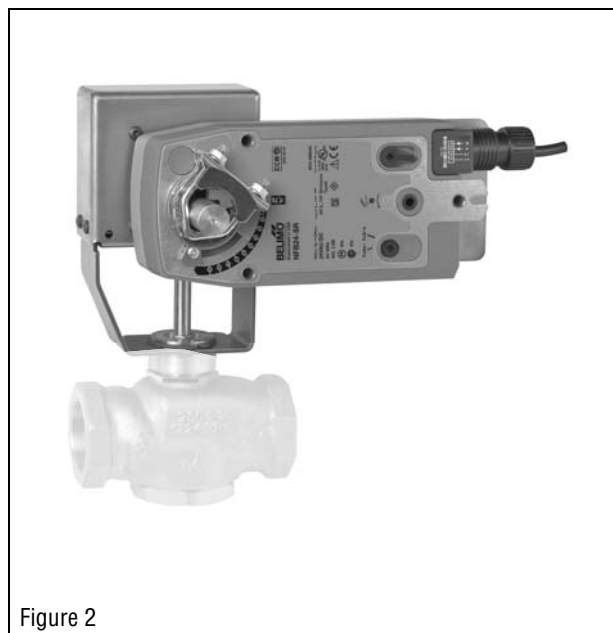
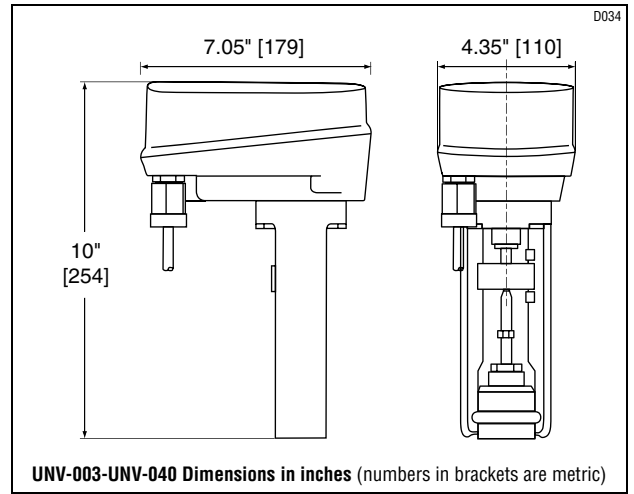
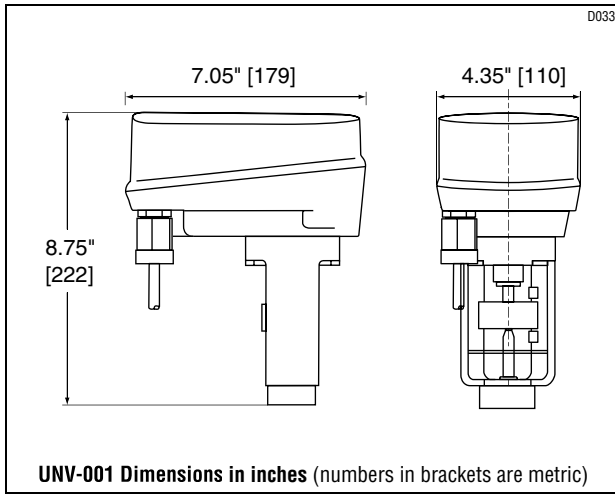
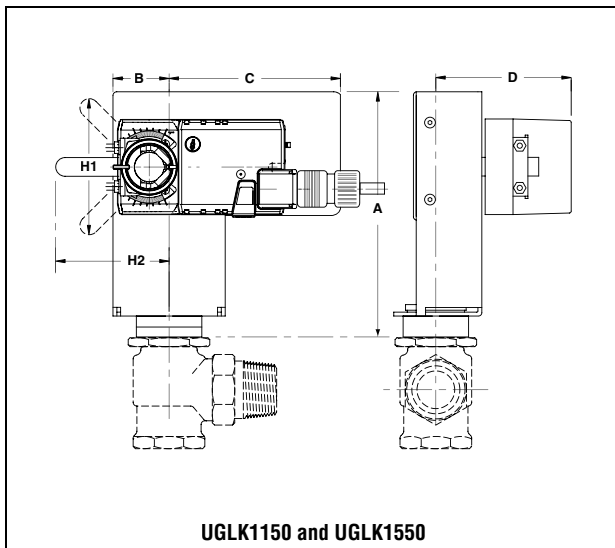
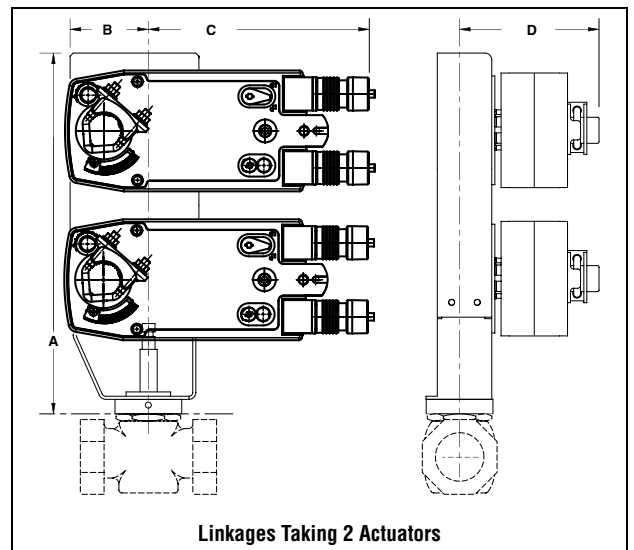
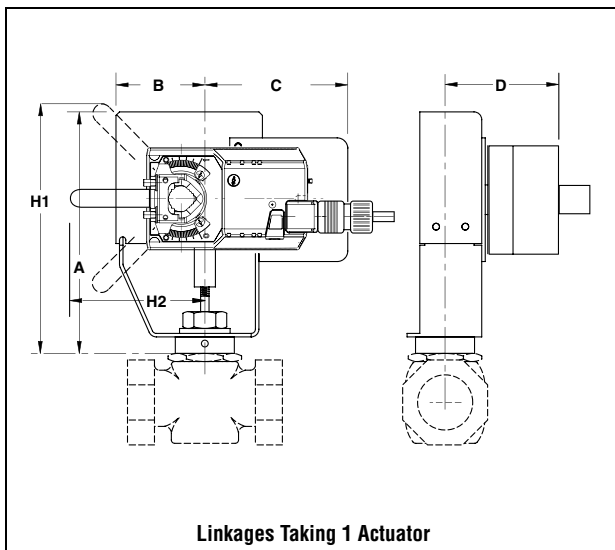


Figure 2

MAXIMUM DIMENSIONS – UNV with NV Series Actuators



MAXIMUM DIMENSIONS – UGLK Linkages with Rotary Actuators



MAXIMUM DIMENSIONS

Linkages Taking 1 Actuator			
A	7"-14" [356]	D	5" [127]
B	3" [76]	H1	9.5" [241]
C	9" [229]	H2	9.5"

Linkages Taking 2 Actuators			
A	19" [483]	D	5" [127]
B	3" [76]		
C	9" [229]		

UGLK1150 and UGLK1550			
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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How to select a Globe Valve Retrofit Solution

Follow the four steps listed below when ordering a globe valve retrofit kit.

Example: Siemens 658 series, 1¼" valve, needing **90 psi** close-off pressure and **Spring Return** 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, use the actuator selection guide to determine the appropriate linkage for a given application. The 658 Series valve uses linkage **UGLK1350** or **UGLK1214**.
- Use the actuator selection guide and your close-off pressure requirement to select the correct actuator series for your application. Looking at the **UGLK1350** there are no spring return actuators that will achieve 90 psi close-off for 1¼" valve. Looking at the **UGLK1214**, the **NF Series** actuator will provide **156 psi close-off** for the 1¼" valve.
- Use the actuator listings to make your final actuator selection. Decide between **NFB24** and **NFB24-MFT**.
- HOW TO ORDER: **Item 1 1pc UGLK1214**
Item 2 1pc NFB24-MFT



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

EXAMPLE PAGE
Siemens\Landis\Powers
591, 599 and 658 Series Valves - NPT Bodies
Actuator Selection Guide

Valve Body Model	Valve Configuration	Size	Body Type	Flow	Failsafe	Close-Off psi	Close-Off psi (AFX Series)	Belimo Actuator Series (Sold Separately)	Belimo Linkage
658 Series	2-way	1"	NPT	N/a	No	120	(blank)	LM	UGLK1350
						229	(blank)	NV	UNV-004
						244	(blank)	NM	UGLK1350
					Yes	250	(blank)	AM	UGLK1214
						95	(blank)	NVG	UNV-004
						183	(blank)	LF	UGLK1350
	1¼"	NPT	N/a	No	244	(blank)	NF	UGLK1214	
					250	(blank)	AF	UGLK1214	
					78	(blank)	LM	UGLK1350	
				Yes	147	(blank)	NV	UNV-004	
					156	(blank)	NM	UGLK1350	
					235	(blank)	NVG	UNV-004	
3-way	½"	NPT	N/a	No	250	(blank)	AM	UGLK1214	
					61	(blank)	LF	UGLK1350	
					117	(blank)	NVF	UNV-004	
				Yes	156	(blank)	NF	UGLK1214	
					231	250	AF	UGLK1214	
					250	(blank)	LM	UGLK1350	
								AM	UGLK1214
								NV	UNV-004
								LF	UGLK1350
								NF	UGLK1214
								NVF	UNV-004

UGLK1214
Example: **Siemens Series #658, 2-Way, 1¼"** valve to be retrofitted.
Choose correct kit **UGLK1214**.

2 Verify close-off is suitable for application. Looking at the **UGLK1214**, the **NF Series** actuator will provide **156 psi close-off** for the **1¼" valve**.

3 Select actuator based on needed control type. Decide between **NFB24** and **NFB24-MFT**.

Model	Control Input	Feedback	Power Supply	Running Time(s)		VA Rating	Auxiliary Switch	Cable Length
				M	◆◆			
BASIC PRODUCTS								
NFB24	On/Off	-	24 VAC/DC	<75	20	8.5	-	3 ft.
NFB24-S	On/Off	-	24 VAC/DC	<75	20	8.5	Built-In	3 ft.
NFBUP	On/Off	-	24-240 VACi	<75	20	9.5	-	3 ft.
NFBUP-S	On/Off	-	24-240 VACi	<75	20	9.5	Built-In	3 ft.
NFB24-SR	2-10 VDC	2-10 VDC	24 VAC/DC	95	<20	6	-	3 ft.
NFB24-SR-S	2-10 VDC	2-10 VDC	24 VAC/DC	95	<20	6	Built-In	3 ft.
NFB24-MFT	2-10 VDC	2-10 VDC	24 VAC/DC	150	<20	9	-	3 ft.
NFB24-MFT-S	2-10 VDC	2-10 VDC	24 VAC/DC	150	<20	9	Built-In	3 ft.
CUSTOMIZE PRODUCTS								
NFX24	NF200 1A1 003**	On/Off	-	24 VAC/DC	<75	20	8.5	3 ft.
NFX24	NF200 1A3 003**	On/Off	-	24 VAC/DC	<75	20	8.5	10 ft.
NFX24-S	NF220 1A1 003**	On/Off	-	24 VAC/DC	<75	20	8.5	3 ft.
NFX24-S	NF220 1A3 003**	On/Off	-	24 VAC/DC	<75	20	8.5	10 ft.
NFXUP	NF000 1A1 003**	On/Off	-	24-240 VACu	<75	20	9.5	3 ft.
NFXUP	NF000 1A3 003**	On/Off	-	24-240 VACu	<75	20	9.5	10 ft.
NFXUP-S	NF000 1A1 003**	On/Off	-	24-240 VACu	<75	20	9.5	3 ft.
NFXUP-S	NF000 1A3 003**	On/Off	-	24-240 VACu	<75	20	9.5	10 ft.
NFX24-SR	NF400 1A1 H01**	2-10 VDC (4-20mA*)	2-10 VDC	24 VAC/DC	95	<20	6	3 ft.
NFX24-SR	NF400 1A3 H01**	2-10 VDC (4-20mA*)	2-10 VDC	24 VAC/DC	95	<20	6	10 ft.
NFX24-SR-S	NF420 1A1 H01**	2-10 VDC (4-20mA*)	2-10 VDC	24 VAC/DC	110	<20	8	3 ft.

4 Complete Ordering Example:
Item 1: **UGLK1214**
Item 2: **NFB24-MFT**

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LINEAR ACTUATORS						
SERIES	MODEL	Spring Return	Control Input	Feedback Position	Power Supply	Standard Running Time
NVF Series	NVF24-MFT US	spring UP	Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	150 seconds
	NVF24-MFT-E US	spring DOWN	Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	150 seconds
NV Series	NV24-3 US		Floating Pt., On/Off		24 VAC/DC	150 seconds
	NV24-MFT US		Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	150 seconds
NVG Series	NVG24-MFT US		Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	150 seconds

ROTARY ACTUATORS SUGGESTION							
SERIES	MODEL	Spring Return	Electronic Fail Safe	Control Input	Feedback Position	Power Supply	Standard Running Time
LF Series*	LF24 US	•		24 VAC/DC		24 VAC/DC	Consult Specifications
	LF24-MFT US	•		Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	
NF Series*	NFBUP-X1	•		24 VAC/DC		24 VAC/DC	
	NFX24-MFT-X1	•		Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	
AF Series*	AF24 US, AFB24	•		24 VAC/DC		24 VAC/DC	
	AFX24-MFT-X1	•		Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	
LM Series*	LMB24-3-X1			Floating Pt., On/Off		24 VAC/DC	
	LMX24-MFT-X1			Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	
NM Series*	NMB24-3-X1			24 VAC/DC		24 VAC/DC	
	NMX24-MFT-X1			Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	
AM Series*	AMB24-3-X1			24 VAC/DC		24 VAC/DC	
	AMX24-MFT-X1			Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	
GM Series*	GMB24-3-X1			24 VAC/DC		24 VAC/DC	
	GMX24-MFT-X1			Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	
GK Series*	GKB24-3-X1		•	24 VAC/DC		24 VAC/DC	
	GKX24-MFT-X1		•	Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	

*Please consult the Damper sections 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.

MULTI-FUNCTION TECHNOLOGY								
NV CODES	P-CODE			Control Input		Running Time	Built-in Feedback	
			ROTARY ACTUATOR CODES					
	V-10001	N01		P-10001	A01	2-10 VDC	150 seconds	2-10 VDC
	V-10002	N02		P-10002	A02	0-10 VDC	150 seconds	0-10 VDC
	V-10028	N1E		P-10028	A28	0-10 VDC	150 seconds	0-10 VDC
	V-10063	N1K		P-10063	A63	0.5-4.5 VDC	150 seconds	0.5-4.5 VDC
	V-10064	N1L		P-10064	A64	5.5-10 VDC	150 seconds	5.5-10 VDC
	V-20002	N1U		P-20002	W02	0.02-5.00 seconds PWM	150 seconds	2-10 VDC
	V-20003	N1V		P-20003	W03	0.10-25.5 seconds PWM	150 seconds	2-10 VDC
	V-30001	N24		P-30001	F01	Floating Pt.	150 seconds	2-10 VDC
	V-40002	N29		P-40002	J02	On/Off	150 seconds	2-10 VDC

Note: V-codes used for NV...Series actuator. All other MFT actuators use P-codes.

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Valve Body Model	Valve Configuration	Size	Body Type	Flow	Failsafe	Close-Off psi	Close-Off psi (AFX Series)	Belimo Actuator Series (Sold Separately)	Belimo Linkage		
Belimo USA G2 series	2-way	1"	NPT	-	No	250	-	AM	UGLK1000		
					Yes	250	250	AF	UGLK1000		
		1 1/4"	NPT	-	No	250	-	AM	UGLK1000		
					Yes	231	250	AF	UGLK1000		
		1 1/2"	NPT	-	No	217	-	AM	UGLK1000		
					Yes	161	217	AF	UGLK1000		
		2"	NPT	-	No	122	-	AM	UGLK1000		
					Yes	90	122	AF	UGLK1000		
Belimo USA G3 series	3-way	1"	NPT	-	No	250	-	AM	UGLK1000		
					Yes	250	250	AF	UGLK1000		
		1 1/4"	NPT	-	No	250	-	AM	UGLK1000		
					Yes	231	250	AF	UGLK1000		
		1 1/2"	NPT	-	No	217	-	AM	UGLK1000		
					Yes	161	217	AF	UGLK1000		
		2"	NPT	-	No	122	-	AM	UGLK1000		
					Yes	90	122	AF	UGLK1000		
Belimo USA G2 series	2-way	1/2"	NPT	-	No	250	-	LM	UGLK1150		
					Yes	250	-	LF	UGLK1150		
		3/4"	NPT	-	No	215	-	LM	UGLK1150		
					Yes	250	-	NM	UGLK1150		
		1"	NPT	-	No	120	-	LM	UGLK1150		
					Yes	244	-	NM	UGLK1150		
		1 1/4"	NPT	-	No	95	-	LF	UGLK1150		
					Yes	78	-	LM	UGLK1150		
					No	156	-	NM	UGLK1150		
					Yes	61	-	LF	UGLK1150		
		Belimo USA G3 series	3-way	1/2"	NPT	-	No	250	-	LM	UGLK1150
							Yes	250	-	LF	UGLK1150
3/4"	NPT			-	No	215	-	LM	UGLK1150		
					Yes	250	-	NM	UGLK1150		
1"	NPT			-	No	215	-	LF	UGLK1150		
					Yes	120	-	LM	UGLK1150		
1 1/4"	NPT			-	No	244	-	NM	UGLK1150		
					Yes	95	-	LF	UGLK1150		
					No	78	-	LM	UGLK1150		
					Yes	156	-	NM	UGLK1150		
					Yes	61	-	LF	UGLK1150		

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

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Valve Body Model	Valve Configuration	Size	Body Type	Flow	Failsafe	Close-Off psi	Close-Off psi (AFX Series)	Belimo Actuator Series (Sold Separately)	Belimo Linkage
VB304X-0-1-10	3-way	1½"	NPT	Mixing	No	38	-	LM	UGLK1002
						77	-	NM	UGLK1002
						153	-	AM	UGLK1004
					Yes	250	-	GM	UGLK1004
						30	-	LF	UGLK1002
						113	153	AF	UGLK1004
VB304X-0-1-11	3-way	2"	NPT	Mixing	No	22	-	LM	UGLK1002
						43	-	NM	UGLK1002
						86	-	AM	UGLK1004
					Yes	173	-	GM	UGLK1004
						17	-	LF	UGLK1002
						64	86	AF	UGLK1004
VB304X-0-1-4	3-way	½"	NPT	Mixing	No	250	-	LM	UGLK1002
						250	-	NM	UGLK1002
					Yes	250	250	AF	UGLK1004
VB304X-0-1-7	3-way	¾"	NPT	Mixing	No	153	-	LM	UGLK1002
						250	-	NM	UGLK1002
					Yes	119	-	LF	UGLK1002
VB304X-0-1-8	3-way	1"	NPT	Mixing	No	86	-	LM	UGLK1002
						173	-	NM	UGLK1002
						250	-	AM	UGLK1004
					Yes	67	-	LF	UGLK1002
VB304X-0-1-9	3-way	1¼"	NPT	Mixing	No	55	-	LM	UGLK1002
						110	-	NM	UGLK1002
						221	-	AM	UGLK1004
					Yes	43	-	LF	UGLK1002
VB7XXX-0-4-1	2-way	½"	NPT	-	No	250	-	LM	UGLK1150
					Yes	250	-	LF	UGLK1150
	3-way	½"	NPT	-	No	250	-	LM	UGLK1150
					Yes	250	-	LF	UGLK1150
VB7XXX-0-4-10	2-way	1½"	NPT	-	No	217	-	AM	UGLK1000
					Yes	161	217	AF	UGLK1000
	3-way	1½"	NPT	-	No	217	-	AM	UGLK1000
					Yes	161	217	AF	UGLK1000
VB7XXX-0-4-11	2-way	2"	NPT	-	No	122	-	AM	UGLK1000
					Yes	90	122	AF	UGLK1000
	3-way	2"	NPT	-	No	122	-	AM	UGLK1000
					Yes	90	122	AF	UGLK1000
VB7XXX-0-4-2	2-way	½"	NPT	-	No	250	-	LM	UGLK1150
					Yes	250	-	LF	UGLK1150
	3-way	½"	NPT	-	No	250	-	LM	UGLK1150
					Yes	250	-	LF	UGLK1150
VB7XXX-0-4-3	2-way	½"	NPT	-	No	250	-	LM	UGLK1150
					Yes	250	-	LF	UGLK1150
	3-way	½"	NPT	-	No	250	-	LM	UGLK1150
					Yes	250	-	LF	UGLK1150
VB7XXX-0-4-4	2-way	½"	NPT	-	No	250	-	LM	UGLK1150
					Yes	250	-	LF	UGLK1150
	3-way	½"	NPT	-	No	250	-	LM	UGLK1150
					Yes	250	-	LF	UGLK1150
VB7XXX-0-4-5	2-way	¾"	NPT	-	No	215	-	LM	UGLK1150
						250	-	NM	UGLK1150
					Yes	215	-	LF	UGLK1150
	3-way	¾"	NPT	-	No	215	-	LM	UGLK1150
						250	-	NM	UGLK1150
					Yes	215	-	LF	UGLK1150

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Valve Body Model	Valve Configuration	Size	Body Type	Flow	Failsafe	Close-Off psi	Close-Off psi (AFX Series)	Belimo Actuator Series (Sold Separately)	Belimo Linkage
VB7XXX-0-4-6	2-way	¾"	NPT	-	No	215	-	LM	UGLK1150
						250	-	NM	UGLK1150
						Yes	215	-	LF
	3-way	¾"	NPT	-	No	215	-	LM	UGLK1150
						250	-	NM	UGLK1150
						Yes	215	-	LF
VB7XXX-0-4-7	2-way	1"	NPT	-	No	120	-	LM	UGLK1150
						244	-	NM	UGLK1150
						250	-	AM	UGLK1000
	3-way	1"	NPT	-	Yes	95	-	LF	UGLK1150
						250	250	AF	UGLK1000
						120	-	LM	UGLK1150
VB7XXX-0-4-8	2-way	1"	NPT	-	No	120	-	LM	UGLK1150
						244	-	NM	UGLK1150
						250	-	AM	UGLK1000
	3-way	1"	NPT	-	Yes	95	-	LF	UGLK1150
						250	250	AF	UGLK1000
						120	-	LM	UGLK1150
VB7XXX-0-4-9	2-way	1¼"	NPT	-	No	78	-	LM	UGLK1150
						156	-	NM	UGLK1150
						250	-	AM	UGLK1000
	3-way	1¼"	NPT	-	Yes	61	-	LF	UGLK1150
						231	250	AF	UGLK1000
						78	-	LM	UGLK1150
VB804X-0-1-10	3-way	1½"	NPT	Mixing	No	38	-	LM	UGLK1002
						77	-	NM	UGLK1002
						153	-	AM	UGLK1004
	3-way	1½"	NPT	Mixing	Yes	250	-	GM	UGLK1004
						30	-	LF	UGLK1002
						113	153	AF	UGLK1004
VB804X-0-1-11	3-way	2"	NPT	Mixing	No	22	-	LM	UGLK1002
						43	-	NM	UGLK1002
						86	-	AM	UGLK1004
	3-way	2"	NPT	Mixing	Yes	173	-	GM	UGLK1004
						17	-	LF	UGLK1002
						64	86	AF	UGLK1004
VB804X-0-1-4	3-way	½"	NPT	Mixing	No	250	-	LM	UGLK1002
						250	-	NM	UGLK1002
	3-way	½"	NPT	Mixing	Yes	250	250	AF	UGLK1004
						250	-	LF	UGLK1002
VB804X-0-1-7	3-way	¾"	NPT	Mixing	No	153	-	LM	UGLK1002
						250	-	NM	UGLK1002
	3-way	¾"	NPT	Mixing	Yes	119	-	LF	UGLK1002
						173	-	GK	UGLK1004
VB804X-0-1-8	3-way	1"	NPT	Mixing	No	86	-	LM	UGLK1002
						173	-	NM	UGLK1002
	3-way	1"	NPT	Mixing	Yes	250	-	AM	UGLK1004
						67	-	LF	UGLK1002
250	250	AF	UGLK1004						

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

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Valve Body Model	Valve Configuration	Size	Body Type	Flow	Failsafe	Close-Off psi	Close-Off psi (AFX Series)	Belimo Actuator Series (Sold Separately)	Belimo Linkage					
VB804X-0-1-9	3-way	1¼"	NPT	Mixing	No	55	-	LM	UGLK1002					
						110	-	NM	UGLK1002					
						221	-	AM	UGLK1004					
					Yes	43	-	LF	UGLK1002					
						163	221	AF	UGLK1004					
VB9XXX-0-4-1	2-way	½"	NPT	-	No	250	-	LM	UGLK1150					
					Yes	250	-	LF	UGLK1150					
	3-way	½"	NPT	-	No	250	-	LM	UGLK1150					
					Yes	250	-	LF	UGLK1150					
VB9XXX-0-4-10 (Post '94)	2-way	1½"	NPT	-	No	79	-	AM	UGLK1016					
						158	-	GM	UGLK1016					
						250	-	2*GM	UGLK1066					
					Yes	58	79	AF	UGLK1016					
						154	209	2*AF	UGLK1066					
						158	-	GK	UGLK1016					
						250	-	2*GK	UGLK1066					
						3-way	1½"	NPT	-	No	79	-	AM	UGLK1016
											158	-	GM	UGLK1016
	250	-	2*GM	UGLK1066										
	Yes	58	79	AF	UGLK1016									
		154	209	2*AF	UGLK1066									
		158	-	GK	UGLK1016									
		250	-	2*GK	UGLK1066									
		VB9XXX-0-4-10 (Pre '94)	2-way	1½"	NPT	-	No	104	-	AM	UGLK1008			
								250	-	2*GM	UGLK1064			
	209							-	GM	UGLK1008				
	Yes						77	104	AF	UGLK1008				
154							209	2*AF	UGLK1064					
250							-	2*GK	UGLK1064					
3-way	1½"		NPT	-	No	104	-	AM	UGLK1008					
						250	-	2*GM	UGLK1064					
						209	-	GM	UGLK1008					
					Yes	77	104	AF	UGLK1008					
						154	209	2*AF	UGLK1064					
						250	-	2*GK	UGLK1064					
VB9XXX-0-4-11 (Post '94)	2-way	2"	NPT	-	No	44	-	AM	UGLK1016					
						89	-	GM	UGLK1016					
						209	-	2*GM	UGLK1066					
					Yes	33	44	AF	UGLK1016					
						87	117	2*AF	UGLK1066					
						89	-	GK	UGLK1016					
	3-way	2"	NPT	-	No	44	-	AM	UGLK1016					
						89	-	GM	UGLK1016					
						209	-	2*GM	UGLK1066					
					Yes	33	44	AF	UGLK1016					
						87	117	2*AF	UGLK1066					
						89	-	GK	UGLK1016					
VB9XXX-0-4-11 (Pre '94)	2-way	2"	NPT	-	No	59	-	AM	UGLK1008					
						117	-	GM	UGLK1008					
						209	-	2*GM	UGLK1064					
					Yes	43	59	AF	UGLK1008					
						87	117	2*AF	UGLK1064					
						117	-	GK	UGLK1008					
	3-way	2"	NPT	-	No	59	-	AM	UGLK1008					
						117	-	GM	UGLK1008					
						209	-	2*GM	UGLK1064					
					Yes	43	59	AF	UGLK1008					
						87	117	2*AF	UGLK1064					
						117	-	GK	UGLK1008					

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

Valve Body Model	Valve Configuration	Size	Body Type	Flow	Failsafe	Close-Off psi	Close-Off psi (AFX Series)	Belimo Actuator Series (Sold Separately)	Belimo Linkage					
VB9XXX-0-4-12 (Post '94)	2-way	2½"	NPT	-	No	78	-	AM	UGLK1000					
						196	-	2*GM	UGLK1068					
						58	78	AF	UGLK1000					
					Yes	82	110	2*AF	UGLK1068					
						196	-	2*GK	UGLK1068					
						78	-	AM	UGLK1000					
	3-way	2½"	NPT	-	No	196	-	2*GM	UGLK1068					
						58	78	AF	UGLK1000					
						82	110	2*AF	UGLK1068					
					Yes	196	-	2*GK	UGLK1068					
						78	-	AM	UGLK1000					
						196	-	2*GM	UGLK1068					
VB9XXX-0-4-12 (Pre '94)	2-way	2½"	NPT	-	No	38	-	AM	UGLK1010					
						75	-	GM	UGLK1010					
						134	-	2*GM	UGLK1070					
					Yes	28	38	AF	UGLK1010					
						55	75	2*AF	UGLK1070					
						75	-	GK	UGLK1010					
					3-way	2½"	NPT	-	No	134	-	2*GK	UGLK1070	
										38	-	AM	UGLK1010	
										75	-	GM	UGLK1010	
	Yes	134	-	2*GM					UGLK1070					
		28	38	AF					UGLK1010					
		55	75	2*AF					UGLK1070					
	VB9XXX-0-4-13 (Post '94)	2-way	3"	NPT					-	No	54	-	AM	UGLK1000
											136	-	2*GM	UGLK1068
											40	54	AF	UGLK1000
					Yes	57	77	2*AF		UGLK1068				
						136	-	2*GK		UGLK1068				
						54	-	AM		UGLK1000				
3-way		3"	NPT	-	No	136	-	2*GM	UGLK1068					
						40	54	AF	UGLK1000					
						57	77	2*AF	UGLK1068					
	Yes				136	-	2*GK	UGLK1068						
					54	-	AM	UGLK1000						
					136	-	2*GM	UGLK1068						
VB9XXX-0-4-13 (Pre '94)	2-way	3"	NPT	-	No	52	-	GM	UGLK1010					
						26	-	AM	UGLK1010					
						93	-	2*GM	UGLK1070					
					Yes	19	26	AF	UGLK1010					
						52	-	GK	UGLK1010					
						93	-	2*GK	UGLK1070					
					3-way	3"	NPT	-	No	38	52	2*AF	UGLK1070	
										52	-	GM	UGLK1010	
										26	-	AM	UGLK1010	
	Yes	93	-	2*GM					UGLK1070					
		19	26	AF					UGLK1010					
		52	-	GK					UGLK1010					
	VB9XXX-0-4-2	2-way	½"	NPT	-	No	250	-	LM	UGLK1150				
						Yes	250	-	LF	UGLK1150				
						No	250	-	LM	UGLK1150				
3-way		½"	NPT	-	Yes	250	-	LF	UGLK1150					
					No	250	-	LM	UGLK1150					
					Yes	250	-	LF	UGLK1150					
VB9XXX-0-4-3	2-way	½"	NPT	-	No	250	-	LM	UGLK1150					
					Yes	250	-	LF	UGLK1150					
					No	250	-	LM	UGLK1150					
	3-way	½"	NPT	-	Yes	250	-	LF	UGLK1150					
					No	250	-	LM	UGLK1150					
					Yes	250	-	LF	UGLK1150					
VB9XXX-0-4-4	2-way	½"	NPT	-	No	250	-	LM	UGLK1150					
					Yes	250	-	LF	UGLK1150					
					No	130	-	LM	UGLK1150					
	3-way	½"	NPT	-	Yes	250	-	LF	UGLK1150					
					No	130	-	LM	UGLK1150					
					Yes	250	-	LF	UGLK1150					

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Valve Body Model	Valve Configuration	Size	Body Type	Flow	Failsafe	Close-Off psi	Close-Off psi (AFX Series)	Belimo Actuator Series (Sold Separately)	Belimo Linkage
VB9XXX-0-4-5	2-way	¾"	NPT	-	No	215	-	LM	UGLK1150
						250	-	NM	UGLK1150
						Yes	215	-	LF
	3-way	¾"	NPT	-	No	215	-	LM	UGLK1150
						250	-	NM	UGLK1150
						Yes	215	-	LF
VB9XXX-0-4-6	2-way	¾"	NPT	-	No	215	-	LM	UGLK1150
						250	-	NM	UGLK1150
						Yes	215	-	LF
	3-way	¾"	NPT	-	No	215	-	LM	UGLK1150
						250	-	NM	UGLK1150
						Yes	215	-	LF
VB9XXX-0-4-7	2-way	1"	NPT	-	No	120	-	LM	UGLK1150
						244	-	NM	UGLK1150
						250	-	AM	UGLK1000
					Yes	95	-	LF	UGLK1150
						250	250	AF	UGLK1000
						250	250	AF	UGLK1000
	3-way	1"	NPT	-	No	120	-	LM	UGLK1150
						244	-	NM	UGLK1150
						250	-	AM	UGLK1000
					Yes	95	-	LF	UGLK1150
						250	250	AF	UGLK1000
						250	250	AF	UGLK1000
VB9XXX-0-4-8	2-way	1"	NPT	-	No	120	-	LM	UGLK1150
						244	-	NM	UGLK1150
						250	-	AM	UGLK1000
					Yes	250	250	AF	UGLK1000
						250	250	AF	UGLK1000
						250	250	AF	UGLK1000
	3-way	1"	NPT	-	No	120	-	LM	UGLK1150
						244	-	NM	UGLK1150
						250	-	AM	UGLK1000
					Yes	95	-	LF	UGLK1150
						250	250	AF	UGLK1000
						250	250	AF	UGLK1000
VB9XXX-0-4-9	2-way	1¼"	NPT	-	No	78	-	LM	UGLK1150
						156	-	NM	UGLK1150
						250	-	AM	UGLK1000
					Yes	61	-	LF	UGLK1150
						231	250	AF	UGLK1000
						231	250	AF	UGLK1000
	3-way	1¼"	NPT	-	No	78	-	LM	UGLK1150
						156	-	NM	UGLK1150
						250	-	AM	UGLK1000
					Yes	61	-	LF	UGLK1150
						231	250	AF	UGLK1000
						231	250	AF	UGLK1000

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Valve Body Model	Valve Configuration	Size	Body Type	Flow	Failsafe	Close-Off psi	Close-Off psi (AFX Series)	Belimo Actuator Series (Sold Separately)	Belimo Linkage
VB304X-0-2-12	3-way	2½"	Flanged	Mixing	No	38	-	AM	UGLK1006
						75	-	GM	UGLK1006
						134	-	2*GM	UGLK1072
					Yes	28	38	AF	UGLK1006
						55	75	2*AF	UGLK1072
						75	-	GK	UGLK1006
VB304X-0-2-13	3-way	3"	Flanged	Mixing	No	52	-	GM	UGLK1006
						26	-	AM	UGLK1006
						93	-	2*GM	UGLK1072
					Yes	19	26	AF	UGLK1006
						52	-	GK	UGLK1006
						39	52	2*AF	UGLK1072
VB304X-0-2-14	3-way	4"	Flanged	Mixing	No	15	-	AM	UGLK1006
						29	-	GM	UGLK1006
						52	-	2*GM	UGLK1072
					Yes	11	15	AF	UGLK1006
						22	29	2*AF	UGLK1072
						29	-	GK	UGLK1006
VB304X-0-2-15	3-way	5"	Flanged	Mixing	No	7	-	AM	UGLK1014
						14	-	GM	UGLK1014
						25	-	2*GM	UGLK1076
					Yes	5	7	AF	UGLK1014
						11	14	2*AF	UGLK1076
						14	-	GK	UGLK1014
VB304X-0-2-16	3-way	6"	Flanged	Mixing	No	5	-	AM	UGLK1014
						10	-	GM	UGLK1014
						18	-	2*GM	UGLK1076
					Yes	4	5	AF	UGLK1014
						7	10	2*AF	UGLK1076
						10	-	GK	UGLK1014
VB804X-0-2-12	3-way	2½"	Flanged	Mixing	No	38	-	AM	UGLK1006
						75	-	GM	UGLK1006
						134	-	2*GM	UGLK1072
					Yes	28	38	AF	UGLK1006
						55	75	2*AF	UGLK1072
						75	-	GK	UGLK1006
VB804X-0-2-13	3-way	3"	Flanged	Mixing	No	52	-	GM	UGLK1006
						26	-	AM	UGLK1006
						93	-	2*GM	UGLK1072
					Yes	19	26	AF	UGLK1006
						52	-	GK	UGLK1006
						39	52	2*AF	UGLK1072
VB804X-0-2-14	3-way	4"	Flanged	Mixing	No	15	-	AM	UGLK1006
						29	-	GM	UGLK1006
						52	-	2*GM	UGLK1072
					Yes	11	15	AF	UGLK1006
						22	29	2*AF	UGLK1072
						29	-	GK	UGLK1006
VB804X-0-2-15	3-way	5"	Flanged	Mixing	No	7	-	AM	UGLK1014
						14	-	GM	UGLK1014
						25	-	2*GM	UGLK1076
					Yes	5	7	AF	UGLK1014
						11	14	2*AF	UGLK1076
						14	-	GK	UGLK1014
VB804X-0-2-16	3-way	6"	Flanged	Mixing	No	5	-	AM	UGLK1014
						10	-	GM	UGLK1014
						18	-	2*GM	UGLK1076
					Yes	4	5	AF	UGLK1014
						7	10	2*AF	UGLK1076
						10	-	GK	UGLK1014

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Valve Body Model	Valve Configuration	Size	Body Type	Flow	Failsafe	Close-Off psi	Close-Off psi (AFX Series)	Belimo Actuator Series (Sold Separately)	Belimo Linkage
VB804X-0-2-16	3-way	6"	Flanged	Mixing	No	5	-	AM	UGLK1014
						10	-	GM	UGLK1014
						18	-	2*GM	UGLK1076
					Yes	4	5	AF	UGLK1014
						7	10	2*AF	UGLK1076
						10	-	GK	UGLK1014
VB9XXX-0-5-12	2-way	2½"	Flanged	-	No	38	-	AM	UGLK1010
						75	-	GM	UGLK1010
						134	-	2*GM	UGLK1070
					Yes	28	38	AF	UGLK1010
						55	75	2*AF	UGLK1070
						75	-	GK	UGLK1010
	3-way	2½"	Flanged	-	No	38	-	AM	UGLK1010
						75	-	GM	UGLK1010
						134	-	2*GM	UGLK1070
					Yes	28	38	AF	UGLK1010
						55	75	2*AF	UGLK1070
						75	-	GK	UGLK1010
VB9XXX-0-5-13	2-way	3"	Flanged	-	No	52	-	GM	UGLK1010
						26	-	AM	UGLK1010
						93	-	2*GM	UGLK1070
					Yes	19	26	AF	UGLK1010
						52	-	GK	UGLK1010
						93	-	2*GK	UGLK1070
	3-way	3"	Flanged	-	No	52	-	GM	UGLK1010
						26	-	AM	UGLK1010
						93	-	2*GM	UGLK1070
					Yes	19	26	AF	UGLK1010
						52	-	GK	UGLK1010
						93	-	2*GK	UGLK1070
VB9XXX-0-5-14	2-way	4"	Flanged	-	No	11	-	AM	UGLK1012
						22	-	GM	UGLK1012
						40	-	2*GM	UGLK1074
					Yes	8	11	AF	UGLK1012
						16	22	2*AF	UGLK1074
						22	-	GK	UGLK1012
	3-way	4"	Flanged	-	No	11	-	AM	UGLK1012
						22	-	GM	UGLK1012
						40	-	2*GM	UGLK1074
					Yes	8	11	AF	UGLK1012
						16	22	2*AF	UGLK1074
						22	-	GK	UGLK1012

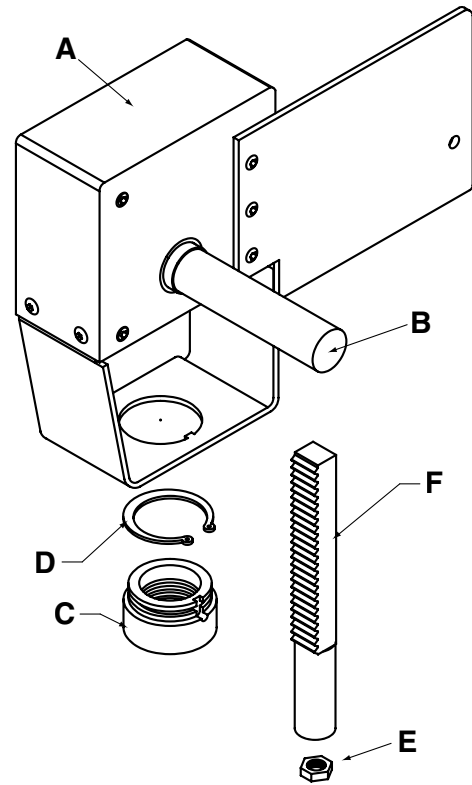
All close-off pressures listed are approximate and based on valve condition and application.

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Assembly Sequence for Existing Valves



The valve should be stripped down to its basic form, as shown. The linkage components have been designed to attach to the valve in this state, rather than to any existing hardware. Note that this style valve has a permanently attached bonnet nut which rotates freely, but does not come off the valve itself.



Follow these steps to properly assemble STYLE 1 type globe valves to the retrofit linkage. Reference the step-by-step photos to help guide you through the assembly process.

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STEP 1) Assemble the supplied stem nut (E) to the valve stem, and thread at least 10 - 12 turns down onto the stem.



STEP 2) Attach the rack assembly (F), which may or may not include an extension or adapter, onto the valve stem. Thread the assembly as far down onto the valve stem as possible, until you contact the previously attached valve stem nut.

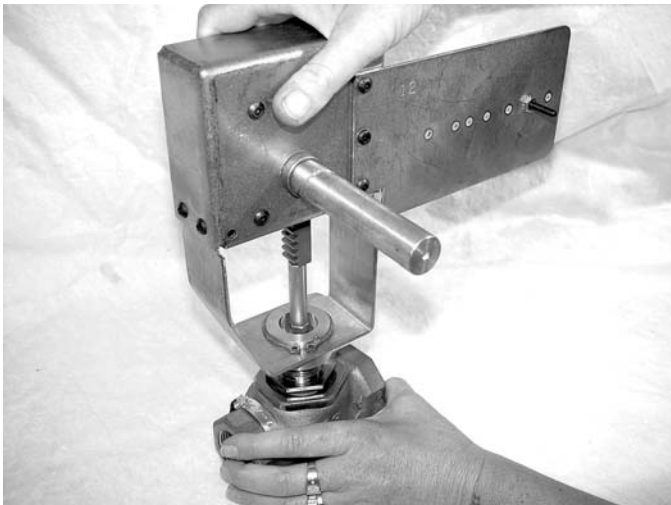


STEP 3) Use a 1/2" open end wrench, and an additional open end wrench sized to match the valve stem nut (E), to tighten the rack assembly (F) to the valve stem. Use the 1/2" open end wrench to attach to the smooth back side of the rack, opposite the teeth. This will prevent damage to the rack teeth during the tightening sequence.



STEP 5) Use slip joint pliers to tighten the valve bonnet nut against the brass bonnet adapter (C) on the bottom of the linkage. Hold the linkage from turning while you are tightening the bonnet nut.

STEP 6) Check for full stem travel by turning the linkage drive shaft (B) fully clockwise (CW) and counter clockwise (CCW) until you feel the valve seat or hit travel limit stops in both directions. The shaft should turn freely without binding.

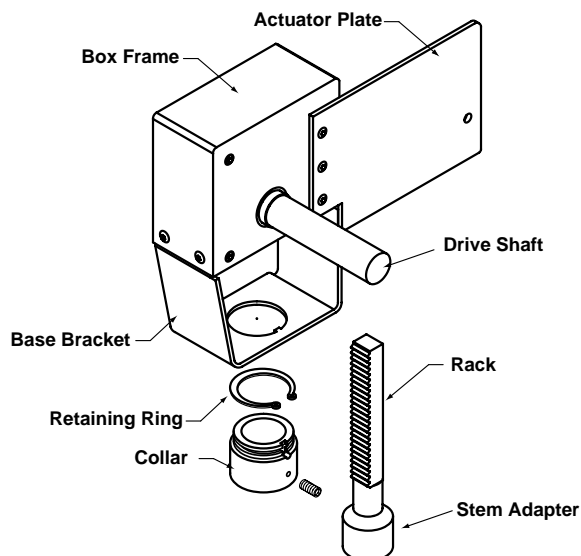
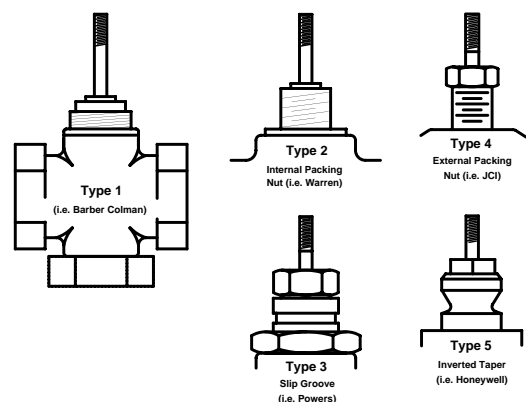


STEP 4) Slide the gearbox (A) assembly over the rack and down onto the valve bonnet nut. Note the the rack teeth must point TOWARDS the linkage drive shaft (B), and that the rack enters a small square hole in the bottom of the gearbox when aligned properly.

STEP 7) Turn the linkage drive shaft fully CW, and attach the actuator. This will position the linkage in the stem down position. Lightly snug up on the actuator's shaft clamp nuts. Turn the actuator CCW until you feel resistance due to the valve reaching end of travel. Notice the distance between the actuator's current position and the actuator's end of travel @ fully CCW. Loosen the actuator shaft clamp nuts, and rotate the actuator ONE-HALF the distance to its full CCW travel. Tighten the actuator's shaft clamp nuts securely. This procedure balances the valve travel limits within the range of motion of the actuator, thereby assuring unimpeded valve stem travel. When using an AF or NF actuator, a 5° offset may be necessary to ensure proper close off.

UGLK Collars			Most Commonly Used Valve Type				
Part Number	Inside Diameter	Description	Type 1	Type 2	Type 3	Type 4	Type 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	1.375"	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		•	•	•	•

UGLK Stem Adapters			Most Commonly Used Valve Type				
Part Number	Inside Diameter	Description	Type 1	Type 2	Type 3	Type 4	Type 5
UGLK-STM-1800	1/4" - 28 Stem Thd.		•	•	•	•	•
UGLK-STM-1801	3/8" - 24 Stem Thd.		•	•	•	•	•
UGLK-STM-1802	1/2" - 20 Stem Thd.		•			•	•
UGLK-STM-1803	7/16" - 20 Stem Thd.						•
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	1/2" OD Grooved	Landis 4-6" -599 Series			•		
UGLK-STM-UNIV	Custom	Must be machined	•	•	•	•	•

UGLK Stem Adapters

UGLK Collars


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