

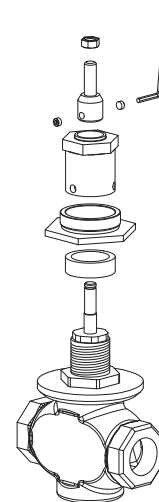
**Selection Guide**

**Competitive Globe Valve Adapters**

**AV-8xx Series Adapter Kits**

TAC AV-8xx Series Adapter Kits mount on the bonnet of competitors' valves to allow replacement of the actuator with an appropriate TAC pneumatic, DuraDrive™, or Forta™ actuator. The replacement TAC actuator is then installed using its standard mounting procedure and hardware.

Actuators with integral linkages, such as TAC DuraDrive Mx51-710x (105 lb<sub>f</sub>), mount directly on the TAC adapter. Other actuators, such as the MK-2690 (6 in<sup>2</sup>) pneumatic actuator, use their standard linkage kit (e.g. MK-2690 uses the AV-7400 for valves with 1/2" of stroke).



AV-802 Adapter on Johnson Controls Globe Valve

Kit Part Number	Kit Description	Literature F Number
AV-801	Adapter Kit for Johnson Controls™ 1/2" to 3/4" VG7xxxxT Two- and Three-Way Globe Valves	F-27396
AV-802	Adapter Kit for Johnson Controls 1/2" to 3/4" VG7xxxxS, VG7xxxxT, and VTM Two- and Three-way Globe Valves	F-27427
AV-803	Adapter Kit for Johnson Controls 1/2" to 2" VG7xxxx, VB-3754, VB-3974, VB-4322, and VB-4324 Two- and Three-Way Globe Valves	F-27431
AV-810	Adapter Kit for Honeywell™ 1/2" to 3" V5011, V5011F, V5011G, V5011N, V5013, V5013F, V5013G, and V5013N Two- and Three-Way Globe Valves	F-27433
AV-811	Adapter Kit for obsolete Barber-Colman VB-9000 Series 1/2" to 2" Two- and Three-Way Bronze Globe Valves	F-27442
AV-812	Adapter Kit for VB-8000 and obsolete Barber-Colman VB-9000 Series 2-1/2" to 6" Two- and Three-Way Iron Flanged Globe Valves	F-27443
AV-814	Adapter Kit for Siemens™ 599-03xx Flowrite™ Series 1/2" to 2" Two- and Three-Way Globe Valves	F-27444
AV-815	Adapter Kit for Siemens 658-00xx or 658-01xx Powertop™ Series 1/2" to 1 1/4" Two- and Three-Way Globe Valves	F-27445
AV-816	Adapter Kit for Siemens (Landis & Gyr/Powers™) 591-6xxx and 591-7xxx 1/2" and 3/4" Two-Way and 1 1/4" to 2" Three-Way Globe Valves	F-27446
AV-817	Adapter Kit for Robertshaw™, V61xx, V62xx, V63xx, V64xx, V65xx, V66xx, V67xx, V68xx, V69xx, V2566, V2567, V2568 1/2" to 2" Globe Valves	F-27447
AV-7800	Pneumatic Actuator Linkage Kit for MK-2690 to provide 3/4" stroke for competitive globe valves (requires AV-801, AV-802, AV-803, AV-815, or AV-816 ordered separately).	F-27432

## Applicable Literature

- *AK-42309-500 Pneumatic Positive Positioner Relay General Instructions*, F-22909
- *AV-401 Valve Linkage Kit for MK-4601, MK-4611, MK4621 Pneumatic Actuators General Instructions*, F-25586
- *AV-430 Valve Linkage for MK-66x1, MK-68x1, MK-6911 Pneumatic Actuators General Instructions*, F-19072
- *AV-7400 Pneumatic Actuator Linkage Kit for MK-2690 and 1/2" Stroke Valves General Instructions*, F-26236
- *AV-7800 Pneumatic Actuator Linkage Kit for MK-2690 and 3/4" Stroke Valves General Instructions*, F-27432
- *MK-2690 Pneumatic Valve Actuator General Instructions*, F-13893
- *MK-46xx Series Pneumatic Valve Actuators General Instructions*, F-13894
- *MK-6600 Series, MK-6800 Series, and MK-6911 Pneumatic Valve Actuators General Instructions*, F-13895
- *Mx51-710x Two-Position, Floating, and Proportional DuraDrive Linear Actuators General Instructions*, F-27169
- *Mx51-720x Two-Position, Floating, and Proportional DuraDrive Linear Actuators General Instructions*, F-27120
- *TAC Forta M400A(-VB)/M800A(-VB)/M1500A(-VB) Non-Spring Return Actuators General Instructions*, F-27599
- *TAC Pneumatic Products Catalog*, F-27383
- *TAC Electric-Electronic Products Catalog*, F-27382
- *TAC Valves Catalog*, F-27414

## Selection Guide Contents

<b>AV-8xx Adapter Kit Selection Procedure</b> .....	page 2
<b>AV-800 Series Application Overview</b> .....	page 3
<b>AV-800 Series Adapter Installation Considerations</b> .....	page 4
<b>Johnson Controls Adapter Application Reference</b> .....	page 5
<b>Honeywell Adapter Application Reference</b> .....	page 8
<b>Siemens (Landis &amp; Gyr, Powers) Adapter Application Reference</b> .....	page 11
<b>Robertshaw Adapter Application Reference</b> .....	page 14

## AV-8xx Adapter Kit Selection Procedure

---

**Note:** Be sure to consult "AV-800 Series Adapter Installation Considerations" on page 4 before proceeding.

---

1. Determine the manufacturer, part number, size, and stroke of the competitive valve body.
2. Determine the type of actuator required (e.g. pneumatic, electric two-position, electric floating, electric proportional), the required supply voltage (if electric), and the desired input control signal to the actuator. Also note any physical size and close-off pressure constraints when selecting an actuator/linkage.
3. Consult the appropriate section of this selection guide to determine the required AV-8xx kit number, compatible TAC actuator part number, and TAC actuator linkage (if needed).

---

**Caution:** *Only* the TAC actuators listed in this selection guide may be used.

---

# AV-800 Series Application Overview

Valve Adapter	Valve Manufacturer	Models	Valve Size	Valve Stroke	TAC Approved Actuators <sup>a</sup>	Additional Linkage Required
AV-801	Johnson Controls	VG7xxxCT, ET, GT, LT	1/2", 3/4"	5/16"	MK-2690	AV-7400 <sup>c</sup>
					Mx51-710x	Included <sup>b c</sup>
AV-802		VG7xxxCT, ET, GT, LT, CS, ES, GS, LS VTM-xxxxx			MK-2690	AV-7400 <sup>c</sup>
					Mx51-710x	Included <sup>a c</sup>
AV-803		VG7xxxC, E, G, L, N, P, R, or S followed by T or S VB-3754, VB-3974, VB-4324, VB-4322	1/2" to 2"	Up to 3/4"	MK-2690	AV-7400 <sup>c</sup> AV-7800 <sup>d</sup>
					Mx51-710x	Included <sup>a c</sup>
	1" to 2"		3/8" or greater <sup>e</sup>	Mx51-720x	Included <sup>a d</sup>	
				M400A, M800A, M1500A	AV-811	
		M400A-VB, M800A-VB, M1500A-VB	Included			
AV-810	Honeywell	V501xx	1/2" to 3"	3/4"	MK-2690	AV-7800 <sup>d</sup>
					Mx51-720x	Included <sup>a d</sup>
					M400A(-VB), M800A(-VB), M1500A(-VB)	Included <sup>a</sup>
AV-811	Barber-Colman	Obsoleted VB-9000 Series	1/2" to 2"	1/2", 1"	Mx51-710x	Included <sup>f</sup>
					Mx51-720x	Included <sup>f</sup>
			2-1/2" to 3"	1", 2"	M400A(-VB), M800A(-VB), M1500A	Included <sup>f</sup>
Mx51-720x	Included					
		M800A(-VB), M1500A(-VB)	Included			
AV-814	Siemens	599-03xxx 2xx-03xxx	1/2" to 2"	3/4"	MK-2690	AV-7800 <sup>d</sup>
					Mx51-720x	Included <sup>a d</sup>
					M400A-VB, M800A-VB, M1500A-VB	Included
					M400A, M800A, M1500A	Included <sup>a g</sup>
— <sup>g</sup>						
AV-815		658-0xxx	1/2" to 1-1/4"	1/2"	MK-2690	AV-7400 <sup>c</sup>
					Mx51-710x	Included <sup>a c</sup>
					M400A(-VB), M800A(-VB)	— <sup>h</sup>
AV-816		591-6xxx 591-7xxx	3/4" to 1" two-way 1-1/4" to 2" three-way	3/4" for 591-66xx 1/2" & 3/4" two-way 5/16" for 1-1/4" to 2" 591-66xx three-way	MK-2690	AV-7400 <sup>c</sup>
					MK-2690	AV-7800 <sup>d</sup>
	MK-46x1				AV-401 <sup>c</sup>	
	MK-68x1				AV-430 <sup>i</sup>	
	Mx51-710x				Included <sup>a c</sup>	
	Mx51-720x				Included <sup>a d</sup>	
M400A(-VB), M800A(-VB) <sup>e</sup>	Included <sup>a</sup>					
AV-817	Robertshaw	V610x, V6200, V6300, V6400 V6501, V6600 (V2566), V6700 (V2567), V6800 (V2568), V6900	1/2" to 2"	3/8" and 5/8"	MK-46xx, MK-66xx, MK-68xx Mx51-710x, Mx51-7201	AV-401 <sup>c</sup> AV-430 <sup>i</sup> Included <sup>b</sup>
					M400A(-VB), M800A(-VB), M1500A(-VB)	Included <sup>a</sup>

<sup>a</sup> For final valve actuator selection, refer to actuator compatibility tables on pages six through sixteen.  
<sup>b</sup> Linkage included in actuator  
<sup>c</sup> For up to 1/2" valve stroke.  
<sup>d</sup> For 3/4" valve stroke.  
<sup>e</sup> 3/8" stroke or greater. Do not use TAC Forta actuators on valves with less than 3/8" stroke.  
<sup>f</sup> Additional linkage may be required for some older obsolete 1-1/2" and 2" VB-9xxx valves. See F-27234 (AV-608) for further details.  
<sup>g</sup> No additional adapter required. Direct mount. AV-814 not required.  
<sup>h</sup> No separate linkage required.  
<sup>i</sup> For up to 1" stroke

## AV-800 Series Adapter Installation Considerations

1. TAC actuator and adapter dimensions may need to be checked to assure proper clearances are maintained.
2. The replacement actuator and adapter listed represent what TAC believes are an equivalent. Actuators do not necessarily have the same physical size, range, wire codes, terminations, electrical ratings, etc. as the original actuator. The emphasis has been placed on providing a replacement actuator of similar specifications to meet the valve and system requirements. The user must determine the substitution acceptability by reviewing the valve specifications, actuator specifications, and the application. When an actuator is replaced, make sure that the capacity of the replacement unit will meet the requirements of the valve it is being mounted on and the system in which it is being used.



---

**Caution:** For proper operation, make sure the stroke of the selected TAC actuator is equal to or greater than that of the competitive valve.

---

3. TAC assumes no responsibility for guaranteeing the acceptability of any suggested replacements. The suggestions contained herein should only be used as a guide.
4. Consult the valve manufacturer if the system pressures or temperatures are being changed to assure proper performance.
5. Pneumatic actuator close-offs are based on 20 psig to the actuator diaphragm
6. All specified close-offs are nominal, and can vary based on the age of the valve, tightness of the stem packing, and variations in stem drag

# Johnson Controls Adapter Application Reference

## Compatible Johnson Controls Bronze Globe Valves

Compatible Johnson Controls Two- and Three-Way Globe Valves	AV-801	AV-802	AV-803
VG7xxxCT 1/2" VG7xxxET 1/2" VG7xxxGT 1/2" VG7xxxLT 3/4"	<b>X</b>	<b>X</b>	<b>X</b>
VTM-Axxxx-xxx 1/2" VTM-Gxxxx-xxx 1/2" VTM-Txxxx-xxx 1/2" VTM-Uxxxx-xxx 1/2" VTM-Xxxxx-xxx 3/4"		<b>X</b>	
VG7xxxCS 1/2" VG7xxxES 1/2" VG7xxxGS 1/2" VG7xxxLS 3/4"		<b>X</b>	<b>X</b>
VG7xxxCT 1/2" VG7xxxET 1/2" VG7xxxGT 1/2" VG7xxxLT 3/4" VG7xxxNT 1" VG7XXXPT 1-1/4" VG7XXXRT 1-1/2" VG7xxxST 2" VG7xxxCS 1/2" VG7xxxES 1/2" VG7xxxGS 1/2" VG7xxxLS 3/4" VG7xxxNS 1" VG7xxxPS 1-1/4" VG7xxxRS 1-1/2" VG7xxxSS 2"			<b>X</b>
VB-3754 1/2" to 2" VB-3974 1/2" to 2" VB-4322 1/2" to 2" VB-4324 1/2" to 2"			<b>X</b>

The "xxx" characters in the part number field denote various body types, end connections, trim, and flow characteristics.

### Recommended TAC Actuators

Refer to the following tables in this section for complete actuator information. *Only* use the TAC actuators shown in this selection guide for the specific valve, linkage, and actuator combination.

## AV-801/AV-802 — Actuator, Linkage, and Close-off Information for 1/2" and 3/4" Two- and Three-way Johnson Controls Valves with TAC Spring Return Actuators

Johnson Controls Valve Models	Actuator	MK-2690			Mx51-710x
	Additional Linkage	AV-7400			Included <sup>a</sup>
	Valve Stroke	5/16" <sup>b</sup>	5/16" <sup>b</sup>	5/16" <sup>b</sup>	5/16"
	Spring Range	3-7 psig	5-10 psig	8-13 psig	—
VG7xxxxx VTM-xxxxx	1/2" Normally Open	220 <sup>c</sup>	170 <sup>c</sup>	90 <sup>c</sup>	250
	3/4" Normally Open	130 <sup>c</sup>	120 <sup>c</sup>	60 <sup>c</sup>	200
	1/2" Normally Closed	Not Recommended	50	130	250
	3/4" Normally Closed		30	60	200

<sup>a</sup> Linkage included in actuator.

<sup>b</sup> Pneumatically-actuated valves with less than 1/2" stroke may require you to adjust the throttling range of the controller to obtain good proportional control.

<sup>c</sup> 20 psig supply air pressure.

**Note:** Do not use TAC Forta actuators with Johnson Controls 1/2" and 3/4" VG7xxxxx and VTM-xxxxx valve bodies (insufficient valve stroke).

## AV-803 — Actuator, Linkage, and Close-off Information for 1/2" and 3/4" Two- and Three-way Johnson Controls Valves with TAC Spring Return Actuators

Johnson Controls Valve Models	Actuator	MK-2690			Mx51-710x
	Additional Linkage	AV-7400			— <sup>a</sup>
	Valve Stroke	5/16" <sup>b</sup>	5/16" <sup>b</sup>	5/16" <sup>b</sup>	5/16"
	Spring Range	3-7 psig	5-10 psig	8-13 psig	—
VG7xxxxx	1/2" Normally Open	220 <sup>c</sup>	170 <sup>c</sup>	90 <sup>c</sup>	250
	3/4" Normally Open	130 <sup>c</sup>	120 <sup>c</sup>	60 <sup>c</sup>	200
	1/2" Normally Closed	Not Recommended	50	130	250
	3/4" Normally Closed		30	60	200

<sup>a</sup> No separate linkage required.

<sup>b</sup> Pneumatically-actuated valves with less than 1/2" stroke may require you to adjust the throttling range of the controller to obtain good proportional control.

<sup>c</sup> 20 psig supply air pressure.

For three-way valves, use the lowest published close-off pressure (normally open or normally closed) for the actuator selected.

**Note:** Do not use TAC Forta actuators with Johnson Controls 1/2" and 3/4" VG7xxxxx valve bodies (insufficient valve stroke).

## AV-803 — Actuator, Linkage, and Close-off Information for 1” Through 2” Two- and Three-way Johnson Controls Valves (TAC Pneumatic and DuraDrive Spring Return Actuators)

Johnson Controls Valve Models	Actuator	MK-2690			Mx51-710x	MK-6801	MK-6811	MK-6821	Mx51-720x
	Additional Linkage	AV-7400			Included <sup>a</sup>	AV-430			Included <sup>a b</sup>
	Valve Stroke	1/2”	1/2”	1/2”	1/2”	3/4”	3/4”	3/4”	3/4”
	Spring Range	3-7 psig	5-10 psig	8-13 psig	—	3-8 psig	5-10 psig	8-13 psig	—
VG7xxxxx VB-3754 VB-3974 VB-4322 VB-4324	1” Normally Open	70 <sup>c</sup>	50 <sup>c</sup>	25 <sup>c</sup>	150	250 <sup>c</sup>	250 <sup>c</sup>	250 <sup>c</sup>	200
	1-1/4” Normally Open	40 <sup>c</sup>	30 <sup>c</sup>	15 <sup>c</sup>	90	250 <sup>c</sup>	250 <sup>c</sup>	250 <sup>c</sup>	150
	1-1/2” Normally Open	29 <sup>c</sup>	20 <sup>c</sup>	9 <sup>c</sup>	—	250 <sup>c</sup>	230 <sup>c</sup>	160 <sup>c</sup>	100
	2” Normally Open	Not Recommended	Not Recommended		—	160 <sup>c</sup>	120 <sup>c</sup>	90 <sup>c</sup>	65
	1” Normally Closed		9	30	90	80	160	250	200
	1-1/4” Normally Closed		Not Recommended	15	60	60	120	200	150
	1-1/2” Normally Closed			Not Recommended	—	40	80	170	100
2” Normally Closed	—				20	50	90	65	

<sup>a</sup> Linkage included in actuator.

<sup>b</sup> 1” and 1-1/4” Johnson valves that have 3/8” dia stems and 1/4 28 threads can be used with Mx51-720x actuators. Do not use these actuators on 1/4” dia stem Johnson valves.

<sup>c</sup> 20 psig supply air pressure.

For three-way valves, use the lowest published close-off pressure (normally open or normally closed) for the actuator selected.

## AV-803 — Actuator, Linkage, and Close-off Information for 1” Through 2” Two- and Three-way Johnson Controls Valves (TAC Forta Non-Spring Return Actuators)

Johnson Controls Valve Models	Actuator	M400A (-VB)	M800A (-VB)	M1500A (-VB)
	Additional Linkage	AV-811 for M400A, M800A, M1500A Included for M400A-VB, M800A-VB, M1500A-VB		
	Valve Stroke	3/4”		
VG7xxxxx VB-3754 VB-3974 VB-4322 VB-4324	1”	92	207	Not Recommended
	1-1/4”	56	130	
	1-1/2”	37	88	177
	2”	19	48	98

# Honeywell Adapter Application Reference

## Recommended TAC Actuators

Refer to table below for complete actuator information. *Only* use the TAC actuators shown in this selection guide for the specific valve, linkage, and actuator combination.

### AV-810 — Actuator, Linkage, and Close-Off Information for Two-and Three-Way Honeywell Valves (TAC Pneumatic and DuraDrive Spring Return Actuators)

Honeywell Valve Models <sup>a</sup>	Actuator	MK-2690			MK-6801	MK-6811	MK-6821	Mx51-720x	
	Additional Linkage	AV-7800			AV-430			Included <sup>b</sup>	
	Valve Stroke	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	
	Spring Range	3-7 psig	5-10 psig	7-12 psig	3-8 psig	5-10 psig	8-13 psig	—	
V5011 V5011F V5011G V5011N V5013 V5013F V5013G V5013N	1/2" Normally Open	220 <sup>c</sup>	170 <sup>c</sup>	90 <sup>c</sup>	Not Recommended			250	
	3/4" Normally Open	130 <sup>c</sup>	120 <sup>c</sup>	60 <sup>c</sup>	250 <sup>c</sup>	250 <sup>c</sup>	250 <sup>c</sup>	250	
	1" Normally Open	70 <sup>c</sup>	50 <sup>c</sup>	25 <sup>c</sup>	250 <sup>c</sup>	250 <sup>c</sup>	250 <sup>c</sup>	200	
	1-1/4" Normally Open	40 <sup>c</sup>	30 <sup>c</sup>	15 <sup>c</sup>	250 <sup>c</sup>	150 <sup>c</sup>	150 <sup>c</sup>	150	
	1-1/2" Normally Open	29 <sup>c</sup>	20 <sup>c</sup>	9 <sup>c</sup>	250 <sup>c</sup>	230 <sup>c</sup>	160 <sup>c</sup>	100	
	2" Normally Open	Not Recommended	Not Recommended	Not Recommended	160 <sup>c</sup>	120 <sup>c</sup>	90 <sup>c</sup>	65	
	2-1/2" Normally Open				110 <sup>c</sup>	80 <sup>c</sup>	50 <sup>c</sup>	35	
	3" Normally Open				70 <sup>c</sup>	60 <sup>c</sup>	40 <sup>c</sup>	25	
	1/2" Normally Closed	Not Recommended	50	130	Not Recommended	Not Recommended	Not Recommended	250	
	3/4" Normally Closed		30	60				250	
	1" Normally Closed		9	30	80	160	250	200	
	1-1/4" Normally Closed		10	15	60	120	200	150	
	1-1/2" Normally Closed		Not Recommended	Not Recommended	Not Recommended	40	80	170	100
	2" Normally Closed					20	50	90	65
	2-1/2" Normally Closed					12	33	60	35
3" Normally Closed	7					22	40	25	

<sup>a</sup> For three-way valves, use the lowest published close-off pressure (normally open or normally closed) for the actuator selected.

<sup>b</sup> Linkage included in actuator.

<sup>c</sup> 20 psig supply air pressure.

### AV-810 — Actuator, Linkage, and Close-Off Information for Two-and Three-Way Honeywell Valves (TAC Forta Non-Spring Return Actuators)

Honeywell Valve Models	Actuator	M400A (-VB)	M800A (-VB)	M1500A (-VB)
	Additional Linkage	— <sup>a</sup>		
	Valve Stroke	3/4"		
V5011 V5011F V5011G V5011N V5013 V5013F V5013G V5013N	1/2"	250	250	Not Recommended
	3/4"	198	250	
	1"	92	207	
	1-1/4"	56	130	
	1-1/2"	37	88	177
	2"	19	48	98
	2-1/2"	Not Recommended	29	61
	3"		19	42

<sup>a</sup> No separate linkage required.



# Barber-Colman Adapter Application Reference

## Recommended TAC Actuators

Refer to table below for complete actuator information. *Only* use the TAC actuators shown in this selection guide for the specific valve, linkage, and actuator combination.

### AV-811/AV-812 — Actuator, Linkage, and Close-Off Information for Two-and Three-Way Obsolete VB-9xxx Barber-Colman Valves (TAC DuraDrive Spring Return Actuators)

Barber-Colman Valve Models <sup>a</sup>	Actuator	Mx51-710x		Mx51-720x		Mx61-720x		Valve Stroke
	Additional Linkage	Included		Included		Included <sup>b</sup>		
	NC or NO	NO	NC	NO	NC	NO	NC	
Two-Way VB-92xx  Three-Way Mixing VB-9313	1/2"	250	250	—	—	—	—	Two-Way 7/16"  Three-Way 3/8"
	3/4"	200	200	—	—	—	—	
	1"	150	90	—	—	—	—	
	1-1/4"	90	60	150	150	—	—	
	1-1/2"	—	—	—	—	100	100	7/8"
	2"	—	—	—	—	65	65	
	2-1/2"	—	—	—	—	33	33	
	3"	—	—	—	—	22	22	
Three-Way Diverting VB-9323	4"	—	—	—	—	12	12	
	1/2"	250		—		—		3/8"
	3/4"	250		—		—		
	1"	250		—		—		
	1-1/4"	250		250		—		
	1-1/2"	—		—		250		7/8"
2"	—		—		250			

<sup>a</sup> For three-way mixing valves, use the lowest published close-off pressure (normally open or normally closed) for the actuator selected.

<sup>b</sup> Consult F-27203 (AM-73x). Older obsolete 1-1/2" and 2" VB-9xxx Valves will require additional linkage.

## AV-811/AV-812 — Actuator, Linkage, and Close-Off Information for Two-and Three-Way Barber-Colman VB-9xxx Valves (TAC Forta Non-Spring Return Actuators)

Barber-Colman Valve Models	Actuator	M400A	M400A-VB	M800A	M800A-VB	M1500A	M1500A-VB	Valve Stroke
	Linkage	AV-811	Included	AV-811	Included	AV-811	Included	
Two-Way VB-92xx  Three-Way Mixing VB-9313	1/2"	250		250		250		Two-Way 7/16"
	3/4"	198		250		250		
	1"	92		207		250		Three-Way 3/8"
	1-1/4"	56		130		250		
	1-1/2" <sup>a</sup>	37	—	88	—	177	—	7/8"
	2" <sup>a</sup>	19	—	48	—	98	—	
	Linkage	—	—	AV-812	—	AV-812	—	Valve Stroke
	2-1/2"	—		29	—	61	—	7/8"
	3"	—		19	—	42	—	
	4"	—		10	—	22	—	
	5"	—		—	—	14	—	2"
	6"	—		—	—	9	—	
Three-Way Diverting VB-9323	Linkage	AV-811	Included	AV-811	Included	—	—	Valve Stroke
	1/2"	250		250		—		3/8"
	3/4"	250		250		—		
	1"	250		250		—		
	1-1/4"	250		250		—		
	1-1/2" <sup>a</sup>	250	—	250	—	—	—	7/8"
	2" <sup>a</sup>	250	—	250	—	—	—	

<sup>a</sup> Additional linkage may be required for older obsolete 1-1/2" and 2" VB-9xxx valves. See F-27234 (AV-608) for further details.

# Siemens (Landis & Gyr, Powers) Adapter Application Reference

## Compatible Siemens Bronze Globe Valves

Compatible Siemens Two- and Three-Way Globe Valves	AV-814	AV-815	AV-816
599-03xxx 1/2" - 2" 2xx-03xxx 1/2" - 2"	<b>X</b>		
658-00xx 1/2" - 1-1/4" 658-01xx 1/2" - 1-1/4"		<b>X</b>	
591-6xxx 1/2" - 2" 591-7xxx 3/4" - 1"			<b>X</b>

**Note:** TAC Forta actuators require **no** additional adapters to mount on Siemens 599 Series valves (AV-81x not required).

## Recommended TAC Actuators

Refer to the following tables in this section for complete actuator information. *Only* use the TAC actuators shown in this selection guide for the specific valve, linkage, and actuator combination.

### AV-814 — Actuator, Linkage, and Close-Off Information for Two- and Three-Way Siemens Valves (TAC Pneumatic and DuraDrive Spring Return Actuators)

Siemens Valve Models	Actuator	MK-2690			MK-6801	MK-6811	MK-6821	Mx51-720x
	Additional Linkage	AV-7800			AV-430			Included <sup>a</sup>
	Valve Stroke	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
	Spring Range	3-7 psig	5-10 psig	7-12 psig	3-8 psig	5-10 psig	8-13 psig	—
599-03xxx 2xx-03xxx	1/2" Normally Open	220 <sup>b</sup>	170 <sup>b</sup>	90 <sup>b</sup>	Not Recommended			250
	3/4" Normally Open	130 <sup>b</sup>	120 <sup>b</sup>	60 <sup>b</sup>	Not Recommended			250
	1" Normally Open	70 <sup>b</sup>	50 <sup>b</sup>	25 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	200
	1-1/4" Normally Open	40 <sup>b</sup>	30 <sup>b</sup>	15 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	150
	1-1/2" Normally Open	29 <sup>b</sup>	20 <sup>b</sup>	9 <sup>b</sup>	250 <sup>b</sup>	230 <sup>b</sup>	160 <sup>b</sup>	100
	2" Normally Open	14 <sup>b</sup>	10 <sup>b</sup>	Not Recommended	160 <sup>b</sup>	120 <sup>b</sup>	90 <sup>b</sup>	65
	1/2" Normally Closed	Not Recommended	50	130	Not Recommended	Not Recommended	Not Recommended	250
	3/4" Normally Closed		30	60				250
	1" Normally Closed		9	30	80	160	250	200
	1-1/4" Normally Closed		Not Recommended	15	60	120	200	150
	1-1/2" Normally Closed			10	40	80	170	100
	2" Normally Closed			Not recommended	20	50	90	65

<sup>a</sup> Linkage included in actuator.

<sup>b</sup> 20 psig supply air

## AV-814 — Actuator, Linkage, and Close-Off Information for Two- and Three-Way Siemens Valves (TAC Forta Non-Spring Return Actuators)

**Note:** AV-814 Adapter not required on Mxx00A Models. Tall TAC Forta actuators mount directly on Siemens 599 Series valves.

Siemens Valve Models	Actuator	M400A (-VB) <sup>a</sup>	M800A (-VB) <sup>a</sup>	M1500A (-VB) <sup>a</sup>
	Valve Stroke	3/4"		
599-03xxx 2xx-03xxx	1/2"	250	250	Not Recommended
	3/4"	198	250	
	1"	92	207	
	1-1/4"	56	130	
	1-1/2"	37	88	177
	2"	19	48	98

<sup>a</sup> AV-814 Adapter not required on Mxx00A Models. Tall TAC Forta actuators mount directly on Siemens 599 Series valves.

## AV-815 — Actuator, Linkage, and Close-Off Information for Two- and Three-Way Siemens Valves (TAC Pneumatic and DuraDrive Spring Return Actuators)

Siemens Valve Models	Actuator	MK-2690			MK-4601	MK-4611	MK-4621	Mx51-710x	Mx51-720x
	Additional Linkage	AV-7400			AV-401			Included <sup>a</sup>	Included <sup>a</sup>
	Valve Stroke	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
	Spring Range	3-7 psig	5-10 psig	8-13 psig	3-6 psig	5-10 psig	10-13 psig	—	—
658-00xx 658-01xx	1/2" Normally Open	220 <sup>b</sup>	170 <sup>b</sup>	90 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	200 <sup>b</sup>	250	250
	3/4" Normally Open	130 <sup>b</sup>	120 <sup>b</sup>	60 <sup>b</sup>	250 <sup>b</sup>	180 <sup>b</sup>	120 <sup>b</sup>	200	250
	1" Normally Open	70 <sup>b</sup>	50 <sup>b</sup>	25 <sup>b</sup>	150 <sup>b</sup>	100 <sup>b</sup>	65 <sup>b</sup>	150	200
	1-1/4" Normally Open	40 <sup>b</sup>	30 <sup>b</sup>	15 <sup>b</sup>	90 <sup>b</sup>	60 <sup>b</sup>	40 <sup>b</sup>	90	150
	1/2" Normally Closed	Not Recommended	50	130	30	100	250	250	250
	3/4" Normally Closed		30	60	20	70	160	200	250
	1" Normally Closed		9	30	Not Recommended	30	60	90	200
	1-1/4" Normally Closed		Not Recommended	15		15	40	60	150

<sup>a</sup> Linkage included in actuator.

<sup>b</sup> 20 psig supply air pressure.

For three-way valves, use the lowest published close-off pressure (normally open or normally closed) for the actuator selected.

## AV-815 — Actuator, Linkage, and Close-Off Information for Two- and Three-Way Siemens Valves (TAC Forta Non-Spring Return Actuators)

Siemens Valve Models	Actuator	M400A (-VB)	M800A (-VB)	M1500A (-VB)
	Additional Linkage	— <sup>a</sup>		
	Valve Stroke	1/2"		
658-00xx 658-01xx	1/2"	250	250	Not Recommended
	3/4"	198	250	
	1"	92	207	
	1-1/2"	56	130	

<sup>a</sup> No separate linkage required.

## AV-816 — Actuator, Linkage and Close-Off Information for 3/4" and 1" Two-Way Siemens Valves (TAC Pneumatic and DuraDrive Spring Return Actuators)

Siemens Valve Models	Actuator	MK-2690			MK-6801	MK-6811	MK-6821	Mx51-720x
	Additional Linkage	AV-7800			AV-430			Included <sup>a</sup>
	Valve Stroke	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
	Spring Range	3-7 psig	5-10 psig	7-12 psig	3-8 psig	5-10 psig	8-13 psig	—
591-6xxx 591-7xxx Two-Way	3/4" Normally Open	130 <sup>b</sup>	120 <sup>b</sup>	60 <sup>b</sup>	Not Recommended			250
	1" Normally Open	70 <sup>b</sup>	50 <sup>b</sup>	25 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	200
	3/4" Normally Closed	Not Recommended	30	60	Not Recommended			250
	1" Normally Closed		9	30	80	160	250	200

<sup>a</sup> Linkage included in actuator.

<sup>b</sup> 20 psig supply air

## AV-816 — Actuator, Linkage and Close-Off Information for 3/4" and 1" Two-Way Siemens Valves (TAC Forta Spring Return Actuators)

Siemens Valve Models	Actuator	M400A (-VB)	M800A (-VB)	M1500A (-VB)
	Additional Linkage	— <sup>a</sup>		
	Valve Stroke	3/4"		
591-6xxx 591-7xxx Two-Way	1/2"	198	250	Not Recommended
	3/4"	92	207	

<sup>a</sup> No additional linkage required.

## AV-816 — Actuator, Linkage and Close-Off Information for 1<sup>1</sup>/<sub>4</sub>" through 2" Three-Way Siemens Valves (TAC Pneumatic and DuraDrive Spring Return Actuators)

Siemens Valve Models	Actuator	MK-2690			MK-4601	MK-4611	MK-4621	MK-6601	MK-6611	MK-6621	Mx51-710x
	Additional Linkage	AV-7400			AV-401			AV-430			Included <sup>a</sup>
	Valve Stroke	5/16" <sup>b</sup>	5/16" <sup>b</sup>	5/16" <sup>b</sup>	5/16" <sup>b</sup>	5/16" <sup>b</sup>	5/16" <sup>b</sup>	5/16" <sup>b</sup>	5/16" <sup>b</sup>	5/16" <sup>b</sup>	5/16"
	Spring Range	3-7 psig	5-10 psig	8-13 psig	3-6 psig	5-10 psig	10-13 psig	3-8 psig	5-10 psig	8-13 psig	—
591-66xx Three-Way	1-1/4"	Not Recommended	Not Recommended	15 <sup>c</sup>	90 <sup>c</sup>	60 <sup>c</sup>	40 <sup>c</sup>	60 <sup>c</sup>	120 <sup>c</sup>	200 <sup>c</sup>	60
	1-1/2"			Not Recommended				40 <sup>c</sup>	80 <sup>c</sup>	180 <sup>c</sup>	35
	2"			Not Recommended				20 <sup>c</sup>	50 <sup>c</sup>	90 <sup>c</sup>	20

<sup>a</sup> Linkage included in actuator.

<sup>b</sup> Pneumatically-actuated valves with less than 1/2" stroke may require you to adjust the throttling range of the controller to obtain good proportional control.

<sup>c</sup> 20 psig supply air pressure.

**Note:** Do not use TAC Forta actuators with Siemens 591-66x three-way valve bodies (insufficient valve stroke).

## Robertshaw Adapter Application Reference

### Compatible Robertshaw Bronze Globe Valves

Compatible Robertshaw Two- and Three-Way Globe Valves	AV-817
V61xx, V62xx, V64xx, V65xx, V67xx 1/2" to 2" Two-Way V63xx, V66xx 1/2" to 2" Three-Way V68xx 1/2" to 2" Two-Way V2566 1/2" to 2" (Uni-Line™) Three-Way <sup>a</sup> V2567 1/2" to 2" (Uni-Line) Two-Way <sup>a</sup> V2568 1/2" to 2" (Uni-Line) Two-Way <sup>a</sup>	<b>X</b>

<sup>a</sup> Check valve stroke to determine which table below to consult for actuator, linkage, and close-off information

### Recommended TAC Actuators

Refer to table on following page for complete actuator information. *Only* use the TAC actuators shown in this selection guide for the specific valve, linkage, and actuator combination.

**AV-817 — Actuator, Linkage, and Close-Off Information for 1/2” through 1-1/2”  
Robertshaw 3/8” Stroke Valves (TAC Pneumatic and DuraDrive Spring Return Actuators)**

Robertshaw Valve Models	Actuator	MK-4601	MK-4611	MK-4621	MK-6601	MK-6611	MK-6621	Mx51-710x
	Additional Linkage	AV-401			AV-430			Included <sup>a</sup>
	Valve Stroke	3/8”	3/8”	3/8”	3/8”	3/8”	3/8”	3/8”
	Spring Range	3-6 psig	5-10 psig	10-13 psig	3-8 psig	5-10 psig	8-13 psig	—
V6100 V6101 V6102 V6200 V6300 V6400 V6501 V6600 V6700 V6800 V6900	1/2” Normally Open	250 <sup>b</sup>	250 <sup>b</sup>	200 <sup>b</sup>	Not recommended			250
	5/8” Normally Open	250 <sup>b</sup>	180 <sup>b</sup>	120 <sup>b</sup>				200
	3/4” Normally Open	250 <sup>b</sup>	180 <sup>b</sup>	120 <sup>b</sup>				200
	7/8” Normally Open	150 <sup>b</sup>	100 <sup>b</sup>	65 <sup>b</sup>				150
	1” Normally Open	150 <sup>b</sup>	100 <sup>b</sup>	65 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	150
	1-1/4” Normally Open	90 <sup>b</sup>	60 <sup>b</sup>	40 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	90
	1-1/2” Normally Open	Not recommended			250 <sup>b</sup>	230 <sup>b</sup>	160 <sup>b</sup>	60
	1/2” Normally Closed	30	100	250	Not recommended			250
	5/8” Normally Closed	20	70	160				200
	3/4” Normally Closed	20	70	160				200
	7/8” Normally Closed	5	30	60	80	120	250	90
	1” Normally Closed	5	30	60	80	120	250	90
	1-1/4” Normally Closed	Not Recommended	15	40	60	120	200	60
	1-1/2” Normally Closed	Not recommended			40	80	170	35

<sup>a</sup> Linkage included in actuator.

<sup>b</sup> 20 psig supply air pressure

For three-way valves, use the lowest published close-off pressure (normally open or normally closed) for the actuator selected.

**AV-817 — Actuator, Linkage, and Close-Off Information for 1/2” through 1-1/2”  
Robertshaw 3/8” Stroke Valves (TAC Forta Non- Spring Return Actuators)**

Robertshaw Valve Models	Actuator	M400A (-VB)	M800A (-VB)	M1500A (-VB)
	Additional Linkage	— <sup>a</sup>		
	Valve Stroke	3/8”		
V6100 V6101 V6102 V6200 V6300 V6400 V6501 V6600 V6700 V6800 V6900	1/2”	250	250	Not Recommended
	5/8”	198	250	
	3/4”	198	250	
	7/8”	92	207	
	1”	92	207	
	1-1/4”	56	130	
	1-1/2”	37	88	177

<sup>a</sup> No separate linkage required.

## AV-817 — Actuator, Linkage, and Close-Off Information for 1” through 2” Robertshaw 5/8” Stroke Valves (TAC Pneumatic and DuraDrive Spring Return Actuators)

Robertshaw Valve Models	Actuator	MK-6801	MK-6811	MK-6821	Mx51-720x
	Additional Linkage	AV-430			Included <sup>a</sup>
	Valve Stroke	5/8”	5/8”	5/8”	5/8”
	Spring Range	3-8 psig	5-10 psig	8-13 psig	—
V6600 V6700 V6800	1” Normally Open	250 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	200
	1-1/4” Normally Open	250 <sup>b</sup>	250 <sup>b</sup>	250 <sup>b</sup>	150
	1-1/2” Normally Open	250 <sup>b</sup>	230 <sup>b</sup>	160 <sup>b</sup>	100
	2” Normally Open	160 <sup>b</sup>	120 <sup>b</sup>	90 <sup>b</sup>	65
	1” Normally Closed	80	160	250	200
	1-1/4” Normally Closed	60	120	200	150
	1-1/2” Normally Closed	40	80	170	100
	2” Normally Closed	20	50	90	65

<sup>a</sup> Linkage included in actuator.

<sup>b</sup> 20 psig supply air pressure

## AV-817 — Actuator, Linkage, and Close-Off Information for 1” through 2” Robertshaw 5/8” Stroke Valves (TAC Forta Non-Spring Return Actuators)

Robertshaw Valve Models	Actuator	M400A (-VB)	M800A (-VB)	M1500A (-VB)
	Linkage	— <sup>a</sup>		
	Valve Stroke	5/8”		
V6600 V6700 V6800	1”	92	207	Not Recommended
	1-1/4”	56	130	
	1-1/2”	37	88	177
	2”	19	48	98

<sup>a</sup> No separate linkage required.