

Valve Linkages

Application

For assembling electric gear train actuators to valve bodies.

The AV-390 through AV-396 linkages are used to field assemble Siebe Environmental Controls gear train actuators and VB-9XXX and VB-7XXX series of valve bodies.

Features:

- Die case aluminum mounting bracket.
- Valve position indication provided as standard.

Specifications

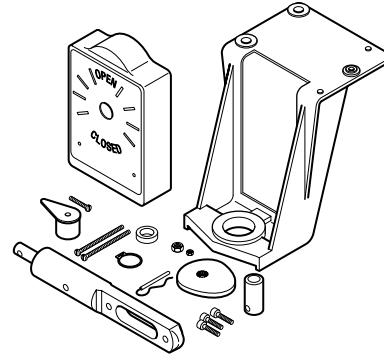
- Actuator mounting: In any upright position with actuator above the center line of the valve body.

Siebe Model No.	Description	Minimum Actuator Torque Required (Actuator must be 180° Stroke) (lb-in.)	Stem Force (lb)
AV-29	Cam, Plunger and Connection Pin Kit	50	150
AV-30		100	300
AV-91	Cam, Plunger and Stem Extension Kit	40	150
AV-92 ^a		50	150
AV-93		70	300
AV-94 ^b		100	300
AV-300	Common Parts Kits Req. AV-29, 30	—	—
AV-347	Complete Linkage	50	150
AV-347-10		100	300
AV-347-20		50	150
AV-347-30		100	300
AV-390	Common Parts Kits Req. AV-91, 92, 93, 94	—	—
AV-391	Complete Linkages	40	150
AV-392 ^a		50	150
AV-393		70	300
AV-394 ^b		100	300
AV-395		50	150
AV-396		100	300

^a Used on obsolete 1-1/2 & 2" VB-9XXX valves with spring return actuators only.

^b Used on obsolete 1-1/2 & 2" VB-9XXX valves with non-spring return actuators only.

AV-29, AV-30, AV-9X Series , AV-300, AV-347, AV-39X Series Electric/Electronic Valve Linkage Kits



Application

The AV-352 valve linkage is used to field-install gear train actuators on specified 2-1/2 to 6 in. valve bodies.

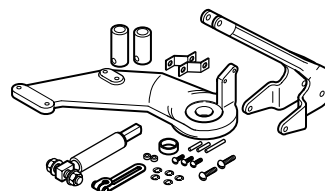
Features:

- Compatible with SiebeEnvironmental Controls (Barber-Colman) 2-1/2 to 6 in. valves.
- Provides increased close-off pressure on 2-1/2 to 4 in. valves.
- Required for rated close-off pressure on 5 and 6 in. valves.

Specifications

- Actuator mounting: In any upright position with actuator above the center line of the valve body.
- Minimum actuator torque required: 220 lb-in.
- Actuator travel required: 180°.

AV-352 Gear Train Actuator Valve Linkage



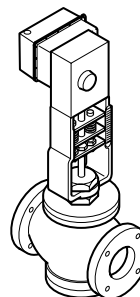
Application

For assembling MP-9000 Series gear train actuators to 4 to 6 in. VB-9213 and VB-9313 valve bodies.

Specifications

- Actuator mounting: In any upright position with actuator above the center line of the valve body.

AV-357, AV-358 Electric/Electronic Valve Linkage Kits



Application

The AV-400 valve linkage kit is used to field-install MK-2690 pneumatic actuators to a variety of 1/2 through 1-1/4 in. valve bodies.

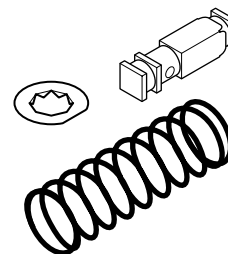
Features:

- Springs are provided for all control signal applications, including 3 to 7, 5 to 10, and 8 to 13 psig.
- Kit fits both current and obsolete Siebe Environmental Controls (Barber-Colman) valve bodies.
- Contains parts for either VB-9XXX or VB-7XXX valve bodies.

Specifications

- Actuator mounting: In any upright position with actuator above the center line of the valve body.

AV-400 Pneumatic Actuator Valve Linkage Kit



Spring Range psig (kPa)	Spring Color
3 to 7 (21 to 46)	Yellow
5 to 10 (34 to 69)	Black
8 to 13 (55 to 90)	Blue

Valve Linkages

Application

For assembling MK-46XX Series pneumatic actuators to specific 1/2 to 2 in. VB-7XXX valve bodies.

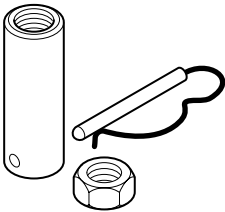
Specifications

- Actuator mounting: In any upright position with actuator above the center line of the valve body.

Actuator Effective Area 11 sq. in. (21 cm ²)	Spring Range psig (kPa)
MK-4601	3 to 6 (21 to 41)
MK-4611	5 to 10 (34 to 69)
MK-4621	10 to 13 (69 to 90)
MK-4641	3 to 13 (21 to 90)

AV-401

Pneumatic Actuator Valve Linkage Kit



Application

For assembling MK-6800 Series 50 sq. in. pneumatic actuators to 2-1/2 to 6 in. VB-9XXX valve bodies.

For assembling MK-6600 Series 50 sq. in. pneumatic actuators to 1-1/2 and 2 in. VB-7XXX valve bodies.

Specifications

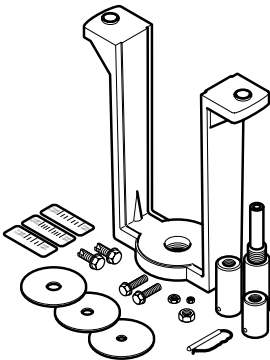
- Actuator mounting: In any upright position with actuator above the center line of the valve body.

Valve Body Description	Required Parts from AV-430-0-0-1			
	Lock Nut	Stem Extension	Indicator Plate	Scale Length
1-1/2 and 2 in. (VB-7XXX)	1/4 in.	For 1/4 in. Stem	With 1/4 in. Dia. Hole	1 in.
2-1/2 to 4 in. (VB-202, 252, 304, 804)	3/8 in.	For 3/8 in. Stem	With 3/8 in. Dia. Hole	1 in.
1-1/2 to 3 in. (VB-817) 2-1/2 & 3 in. (VB-9323)	3/8 in.	For 3/8 in. Stem ^a	With 3/8 Dia. Hole	1 in.
4 in. (VB-817, 9323)	3/8 in.	For 3/8 in. Stem	With 1/2 in. Dia. Hole	1 in.
5 and 6 in. (VB-817, 9323)	3/8 in.	For 3/8 in. Stem	With 3/8 in. Dia. Hole	1-1/2 in.

^a Required stem extension may be shipped with valve body.

AV-430

Electric/Electronic and Pneumatic Valve Linkage Kit



Application

For assembling pneumatic actuators to 2-1/2 to 6 in. valve bodies.

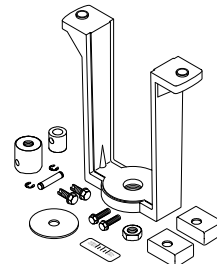
Specifications

- Actuator mounting: In any upright position with actuator above the center line of the valve body.

Linkage Number	Valve Body Sizes Except VB-9323	Actuator
AV-496	2-1/2 to 6 in.	MK-88XX MK-89XX

AV-496

Pneumatic Valve Linkage Kit



Application

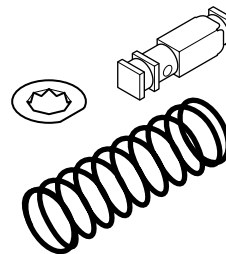
For assembling MA, MF, MP-5X1X and MPR-5X1X Series hydraulic actuators to (1/2 to 1-1/4 in.) VB-7XXX and obsolete VB-9XXX valve bodies. Device consists of spring retainer, spring and combination stem extension and lock nut. TOOL-19 spring compression tool is recommended for assembly.

Specifications

- Actuator mounting: In any upright position above the center line of the valve body. For steam applications only, mount the actuator above the valve body at 45° from vertical.
- Contains parts for either VB-9XXX or VB-7XXX valve bodies.

AV-600

Electric/Electronic Valve Linkage Kit



Valve Linkages

Application

The AV-601 valve extension kit is used to increase the allowable ambient temperature range of MA, MF, MP-5X1X-XXX, MPR-5X1X and MP-541X Series actuators. The MF-5X1X, MP-541X, and MPR-5X1X Series of actuators require the AV-601 extension. This kit is used to insulate the actuator from high and/or low temperature conduction from the valve fluid. It does not insulate the actuator from radiant or convective heat transfer.

Specifications

- Kit consists of an extension coupling and a spacer.
- Dimensions: Add 2-1/32 in. (52 mm) to the "E" dimension for the valve assembly using an AV-601 linkage extension. Refer to complete dimensions:
 - Two-Way Valves, Union End and Flared.
 - Two-Way Valves, Screwed and Flanged.
 - Three-Way Mixing and Sequencing Valves, Flared.
 - Three-Way Mixing and Diverting Valves, Screwed.

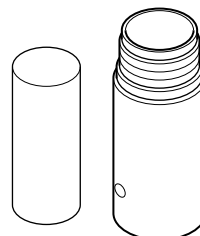
Restrictions on Maximum Ambient Temperature for Valve Actuators

Maximum Temperature of Media in Valve Body °F (°C) (Check Rating of Valve)	Maximum Ambient Temperature at Actuator °F (°C)			
	MA-521X-XXX or MP-521X-XXX Series		MF-5X1X, MP-541X or MPR-5XXX Series	
	Without AV-601	With AV-601	Without AV-601	With AV-601
366 (180)	90 (32)	90 (32)	æ	88 (31)
340 (171)	100 (38)	100 (38)	æ	93 (34)
281 (138)	115 (46)	140 (60) ^a	60 (15)	103 (39)
181 (83)	140 (60) ^a	140 (60) ^a	76 (24)	135 (57)
140 (60)	140 (60) ^a	140 (60) ^a	140 (60) ^a	140 (60) ^a

^a Maximum allowable ambient temperature of the actuator.

AV-601

Electric/Electronic Valve Linkage Extension Kit



Application

For assembling MM/MMR-400 or MM/MMR-500 Series actuators to 1/2 to 2 in. VB-7XXX, 2-1/2 to 4 in. VB-9XXX, and 2-1/2 to 3 in. VB-9323 valve bodies. Refer to table below.

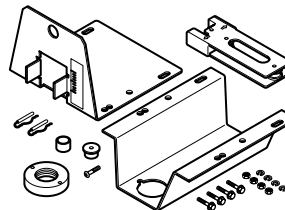
Specifications

- Motor mounting: In any upright position with motor above center line of the valve body.

Valve Size	Linkage
1/2 to 1-1/4 in.	AV-630-010
2-1/2 to 4 in. except VB-9323	AV-630-030
2-1/2 and 3 in. VB-9323	AV-630-040
All the above valves	AV-630

AV-630

Electric/Electronic Valve Linkage Kit

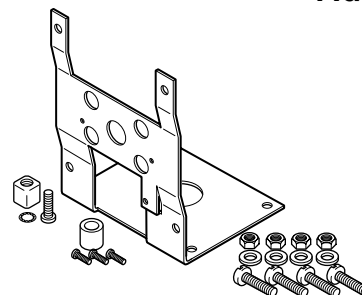


Application

For mounting MM-400/500 modular actuator to Honeywell Q618A and Johnson Y20EBD valve linkages.

The kit is also used to mount Honeywell Q607 auxiliary switch and Q181A auxiliary potentiometer kits to MM-400/500 modular actuators.

AV-632 Adaptor Kit



Application

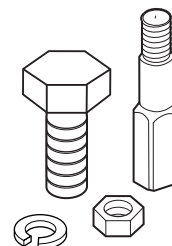
The AV-641 Valve Linkage is designed for mounting MF-22XX3 series Floating Electric and MS-22353 Proportional actuators onto SEC series valve bodies.

Features:

- Provides direct couple interface between actuators and valve bodies.

Specifications

- Actuator mounting: In any upright position with actuator above the center line of the valve body.
- Also see AV-644 Valve Linkage Kit for hex (center section) stem extension.



AV-641

Valve Linkage Kit

Application

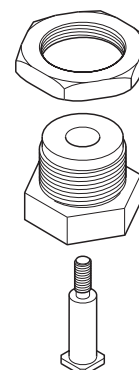
The AV-642 Valve Linkage is designed for mounting MF-22XX3 series Floating Electric and MS-22353 Proportional actuators onto 15 mm and 20 mm GBX and VT Controlli series valve bodies.

Features:

- Provides direct couple interface between actuators and Controlli valve bodies.

Specifications

- Actuator mounting: In any upright position with actuator above the center line of the valve body.



AV-642

Valve Linkage Kit

Valve Linkages

Application

The AV-644 Valve Linkage is designed for mounting MF-22XX3 series Floating Electric and MS-22353 Proportional actuators onto SEC series valve bodies.

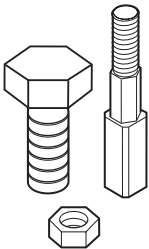
Features:

- Provides direct couple interface between actuators and valve bodies.

Specifications

- Actuator mounting: In any upright position with actuator above the center line of the valve body.
- Replaces AV-643 Valve Linkage (plastic).

Note: AV-644-10 includes the drive screw.



AV-644

Valve Linkage Kit

Application

Provides the interface between electric gear train actuators and Honeywell V-5011 two-way and V-5013 three-way (1/2 to 3 in.) valve bodies with 1-3/8 in. bonnets.

Specifications

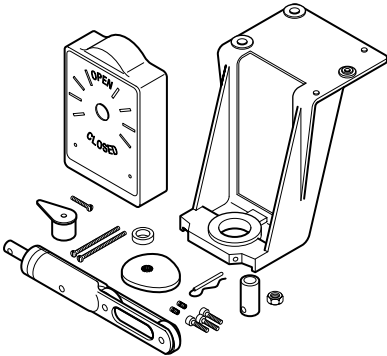
- Actuator mounting: In any upright position with actuator above center line of the valve body.
- Minimum actuator torque required: 50 lb-in. (5.6 N-m). Actuator must have 180° stroke.
- Stem force: 150 lb (667 N).
- Typical actuators:
 - MA-318, 318-500, 416, 416-500, 418, 418-500, 419, 419-500.
 - MC-351, 421, 431, 4311 and MC5-4311.
 - MP-361, 371, 381, 382, 421, 422, 451, 452, 461-600, 465, 471-600, 475, 481-600, 485, 486, 4851.
 - MP5-4651, 4751, 4851.

Close-Off Pressure Ratings

Valve Body		Close-Off Pressure Ratings psi (kPa) ^a	Valve Body		Close-Off Pressure Ratings psi (kPa) ^a
V-5011	1/2 in.	150 (1034)	V-5013	1/2 in.	150 (1034)
	3/4 in.			3/4 in.	
	1 in.			1 in.	
	1-1/4 in.	132 (910)		1-1/4 in.	137 (945)
	1-1/2 in.	85 (586)		1-1/2 in.	92 (634)
	2 in.	52 (359)		2 in.	63 (434)
	2-1/2 in.	30 (207)		2-1/2 in.	30 (207)
	3 in.	19 (131)		3 in.	21 (145)

^a Based on 1050 lb (668 N) stem force.

AV-650 Electric/Electronic Valve Linkage Kit



Application

For mounting MF-60000 Series actuators on 2-1/2, 3, or 4 in. VB-921X and VB-931X valves.

Features:

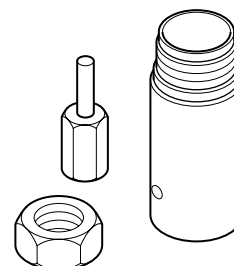
- Provides direct couple interface between MF-60000 actuator and 2-1/2 to 4 in. valve.

Specifications

- Actuator mounting: In any upright position with actuator above the center line of the valve body.

AV-672

Electric/Electronic Valve Linkage Kit



Application

For mounting MF-60000 Series actuators on Johnson Controls 1/2 through 2 in. VB-3754, VB-3924, and VB-4324 valves.

Features:

- Provides direct couple interface between MF-631X3 actuator and 1/2 through 2 in. Johnson Controls VB-3754, VB-3924, and VB-4324 valves.

Specifications

- Actuator mounting: In any upright position with actuator above the center line of the valve body.

Close-Off Rating

Two-Way Valves

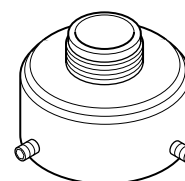
Johnson Controls Valve Body	P Code	Size in.	MF-631X3 Close-Off Pressure Ratings psig
VB-3754 (Push Down to Close)	-1	1/2	150
	-2		
	-3		
	-4	3/4	
VB-3974 (Push Down to Open)	-5	1	95
	-6	1-1/2	
	-7	2	55

Three-Way Valves

Johnson Controls Valve Body	P Code	Size in.	Close-Off Pressure Ratings
VB-4324 (Three-Way Mixing)	-1	1/2	150
	-2		
	-3		
	-4	3/4	
	-5	1	95
	-6	1-1/2	
	-7	2	55

AV-673

Electric/Electronic Valve Linkage Kit



Application

For mounting MF-60000 Series actuators on 1/2 to 3 in. Honeywell 3/4 in. stroke valves.

Features:

- Provides direct couple interface between MF-631X3 actuator and 1/2 to 3 in. Honeywell 3/4 in. stroke valve.

Specifications

- Actuator mounting: In any upright position with actuator above the center line of the valve body.

Close-Off Rating

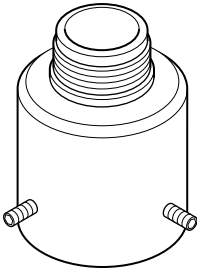
Two-Way Valves

Honeywell Valve Body	Size in.	Close-Off Pressure Ratings psig
V5011F (Screwed)	1/2	150
	3/4	
	1	
	1-1/4	
	1-1/2	123
	2	75
	2-1/2	44
	3	27
V5011G (Screwed, Comp. Disc)	2	75
	2-1/2	44
	3	27
V5011G (Screwed, Metal-to-Metal Seating)	1/2	150
	3/4	
	1	
	1-1/4	
	1-1/2	123

Three-Way Valves

Honeywell Valve Body	Size in.	Close-Off Pressure Ratings psig
V5013F (Screwed, Mixing)	1/2	150
	3/4	
	1	
	1-1/4	
	1-1/2	137
	2	96

Electric/Electronic Valve Linkage Kit



Application

The AV-7400 valve linkage kit is used to field-install MK-2690 pneumatic actuators to a variety of VB-7XXX series 1/2 through 2 in. valve bodies.

Features:

- Springs are provided for all control signal applications, including 3 to 7, 5 to 10, and 8 to 13 psig.
- Kit fits all VB-7XXX series valve bodies.

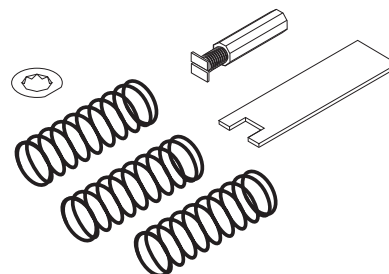
Specifications

- Actuator mounting: In any upright position with actuator above the center line of the valve body.

Spring Range psig (kPa)	Spring Color
3 to 7 (21 to 48)	Yellow
5 to 10 (34 to 68)	Black
8 to 13 (55 to 89)	Blue

AV-7400

Pneumatic Actuator Valve Linkage Kit



Application

The AV-7600 valve linkage kit is used to field assemble MA-521X, MF-5X13, MP-521X, MP-541X, MP-551X, MPR-561X, MPR-571X, and MPR-581X round hydraulic actuators to 1/2 through 2 in. VB-7XXX series valve bodies.

Features:

- Provides direct couple interface between MA, MF, MP, and MPR-5XXX actuators and valve bodies.
- Kit fits all VB-7XXX series valve bodies.

Specifications

- Actuator mounting: In any upright position above the center line of the valve body. For steam applications only, mount the actuator above the valve body at 45° from vertical.

AV-7600

Hydraulic Actuator Valve Linkage Kit

