

VA-9070 Series Electric Rotary Actuators for Two-Position and Modulating Service

Description

The VA-9070 Series Electric Rotary Actuators for Two-Position and Modulating Service are designed for direct mounting on VF Series Butterfly Valves. The VA-9070 is available in eight different sizes, for two-position and modulating service on VF Series Standard-Pressure, Standard-Temperature Butterfly Valves and VF Series High-Pressure, High-Temperature Butterfly Valves.

Refer to the *VA-9070 Series Electric Rotary Actuators for Two-Position and Modulating Service Product Bulletin (LIT-977319)* for important product application information.

Features

- low profile and lightweight design
- built-in motor overload protection
- pre-wired actuator switches to terminal block; field-configurable power and input signals
- patented travel limit switch cam design
- external manual handwheel override
- rugged, die-cast aluminum National Electrical Manufacturers' Association (NEMA) 4, 4X, IP65 Type enclosure and captive housing screws
- valve status display
- heater/thermostat



VA-9070 Series Electric Rotary Actuator Mounted on a VF Series Butterfly Valve

Repair Information

If the VA-9070 Series Electric Rotary Actuators for Two-Position and Modulating Service fails to operate within its specifications, refer to the *VA-9070 Series Electric Rotary Actuators for Two-Position and Modulating Service Product Bulletin (LIT-977319)* for a list of repair parts available.

Selection Charts

Code Numbers and Cross-Reference Data (Part 1 of 2)

Johnson Controls® Actuator Only Code Number	Johnson Controls® VF Series Butterfly Valve Assembly Actuator Sub-code	Bray® Series Number
Electric Two-Position Models		
VA-9072-02	-722	S70-006 On-Off
VA-9075-02	-725	S70-020 On-Off
VA-9076-02	-726	S70-030 On-Off
VA-9077-02	-727	S70-050 On-Off
VA-9078-02	-728	S70-065 On-Off
VA-9072-12	-722D4	S70-006 On-Off, AC 24V
VA-9075-12	-725D4	S70-020 On-Off, AC 24V
VA-9077-12	-727D4	S70-050 On-Off, AC 24V
VA-907A-02	-927	S70-130 On-Off
VA-907B-02	-928	S-180 On-Off

Code Numbers and Cross-Reference Data (Part 2 of 2)

Johnson Controls® Actuator Only Code Number	Johnson Controls® VF Series Butterfly Valve Assembly Actuator Sub-code	Bray® Series Number
Electric Modulating Models		
VA-9072-01	-702	S70-006 Modulating
VA-9075-01	-705	S70-020 Modulating
VA-9076-01	-706	S70-030 Modulating
VA-9077-01	-707	S70-050 Modulating
VA-9078-01	-708	S70-065 Modulating
VA-9072-11	-702N4	S70-006 Modulating, AC 24V
VA-9075-11	-705N4	S70-020 Modulating, AC 24V
VA-9077-11	-707N4	S70-050 Modulating, AC 24V
VA-907A-01	-907	S70-130 Modulating
VA-907B-01	-908	S70-180 Modulating

VA-9070 Series Electric Rotary Actuators for Two-Position and Modulating Service (Continued) Accessories

Description	Code Number	
Servo Kit	For All Models of VA-9070 Series Modulating Electric Actuators VA-907x-630	
Thermostat/Heater Kit	For All Models of VA-9070 Series Two-Position and Modulating Electric Actuators VA-907x-609	
Mounting and Adaptor Kits for Standard-Pressure, Standard-Temperature Two-Way VF Series Butterfly Valves	Mounts VA-9072 Series Two-Position and Modulating Electric Actuators on 2 through 3 in. Valves VA-9072-300	
	Mounts VA-9072 Series Two-Position and Modulating Electric Actuators on 4 in. Valves VA-9072-400	
	Mounts VA-9072 Series Two-Position and Modulating Electric Actuators on 5 and 6 in. Valves VA-9072-600	
	Mounts VA-9075 Series Two-Position and Modulating Electric Actuators on 4 in. Valves VA-9075-400	
	Mounts VA-9075 Series Two-Position and Modulating Electric Actuators on 5 and 6 in. Valves VA-9075-600	
	Mounts VA-9075 Series Two-Position and Modulating Electric Actuators on 8 in. Valves VA-9075-800	
	Mounts VA-9075 Series Two-Position and Modulating Electric Actuators on 10 and 12 in. Valves VA-9075-1200	
	Mounts VA-9076, VA-9077, and VA-9078 Series Two-Position and Modulating Electric Actuators on 8 in. Valves VA-9078-800	
	Mounts VA-9076, VA-9077, and VA-9078 Series Two-Position and Modulating Electric Actuators on 10 and 12 in. Valves VA-9078-1200	
	Mounts VA-9076, VA-9077, and VA-9078 Series Two-Position and Modulating Electric Actuators on 14 and 16 in. Valves VA-9078-1600	
	Mounts VA-907A Series Two-Position and Modulating Electric Actuators on 16 in. Valves VA-9078-2000	
	Mounts VA-9076, VA-9077, and VA-9078 Series Two-Position and Modulating Electric Actuators on 18 and 20 in. Valves VA-9078-2000	
	Mounts VA-907A Series Two-Position and Modulating Electric Actuators on 18 in. Valves VA-9078-2000	
	Mounts VA-907B Series Two-Position and Modulating Electric Actuators on 20 in. Valves VA-9078-2000	
Mounting and Adaptor Kits for Class 150 High-Pressure, High-Temperature Two-Way VF Series Butterfly Valves	Mounts VA-9072 Series Two-Position and Modulating Electric Actuators on 2 through 3 in. Valves VA-9072-300	
	Mounts VA-9072 Series Two-Position and Modulating Electric Actuators on 4 in. Valves VA-9072-400	
	Mounts VA-9072 Series Two-Position and Modulating Electric Actuators on 5 and 6 in. Valves VA-9072-600	
	Mounts VA-9072 Series Electric Actuators on 2-1/2 through 4 in. Valves VA-9072-410	
	Mounts VA-9075 Series Electric Actuators on 5 in. and on 6 in. Valves VA-9075-610	
	Mounts VA-9076 Series Electric Actuators on 8 in. Valves VA-9078-810	
Mounting and Adaptor Kits for Class 300 High-Pressure, High-Temperature Two-Way VF Series Butterfly Valves	Mounts VA-9077 Series Electric Actuators on 10 in. and VA-9078 Series Electric Actuators on 12 in. Valves VA-9078-1210	
	Mounts VA-907A Series Electric Actuators on 14 in. Valves VA-9078-1600	
	Mounts VA-907A Series Electric Actuators on 16 in. Valves VA-9078-2000	
	Mounts VA-9075 Series Electric Actuators on 2-1/2 through 4 in. Valves VA-9075-430	
	Mounts VA-9075 Series Electric Actuators on 5 in. Valves VA-9075-530	
	Mounts VA-9076 Series Electric Actuators on 6 in. Valves VA-9075-630	
Local Control Station	Mounts VA-9077 Series Electric Actuators on 8 in. Valves VA-9075-830	
	Mounts VA-907A Series Electric Actuators on 12 in. Valves VA-9078-1600	
	Mounts VA-907B Series Electric Actuators on 14 in. Valves VA-9078-2000	
	For All Models of VA-9070 Series Modulating Electric Actuators; Kit Includes Local and Remote Control Switch, Open-Stop-Close Switch, and Two LEDs for Position Indication (Green for Open and Red for Closed) VA-907X-620	
	Auxiliary Switch Kits	Single Auxiliary Switch for VA-9074 and VA-9075 Series Modulating Electric Actuators VA-907X-601
		Single Auxiliary Switch for VA-9076, VA-9077, and VA-9078 Series Modulating Electric Actuators VA-907X-602
Single Auxiliary Switch for VA-9074 and VA-9075 Series Two-Position Electric Actuators VA-907X-603		
Single Auxiliary Switch for VA-9076, VA-9077, and VA-9078 Series Two-Position Electric Actuators VA-907X-604		
Two Auxiliary Switches for VA-9074 and VA-9075 Series Two-Position Electric Actuators VA-907X-605		
Two Auxiliary Switches for VA-9076, VA-9077, and VA-9078 Series Two-Position Electric Actuators VA-907X-606		
Feedback Potentiometer Kits	Feedback Potentiometer Kit, 5,000 Ohm, Gear Driven for VA-907x Series Proportional Non-Spring Return Electric Actuators VA-907X-615	



VA-9070 Series Electric Rotary Actuators for Two-Position and Modulating Service (Continued)

VA-9070 Series Electric Rotary Actuators Motor Ratings and Operating Speeds

Actuator Series: Johnson Controls Code Number (Bray Series Number)	50/60 Hz Single Phase Motors: Current Rating in Amperes at All Speeds		Two-Position and Modulating Speeds for 90° Operation in Seconds ¹ (Total Gear Ratio)
	VAC	Amperes	
VA-9072 (S70-006)	120	1.0	30 seconds (11,151:1)
	24	1.8 at 60 Seconds	
VA-9075 (S70-020)	120	1.0	30 seconds (3,340:1)
	24	2.0	
VA-9076 (S70-030)	120	1.2	30 seconds (3,340:1)
VA-9077 (S70-050)	120	1.6	
	24	3.0	
VA-9078 (S70-065)	120	2.3	110 seconds (10,000:1)
VA-907A (S70-130)	120	2.3	
VA-907B (S70-180)	120	2.5	

1. The duty cycle for two-position and modulating operation is 100% at a maximum ambient temperature of 104°F (40°C).

VA-9070 Series Electric Rotary Actuators Output Torque Values, Rim Pull, and Mounting Data

Actuator Series: Johnson Controls Code Number (Bray Series Number)	Output Torque lb-in (N·m)	Rim Pull lb (kg)	Net Weight lb (kg)
VA-9072 (S70-006)	600 (68)	22.8 (10.3)	12.0 (5.4)
VA-9075 (S70-020)	2,000 (226)	33.0 (15.0)	28.0 (12.7)
VA-9076 (S70-030)	3,000 (339)	33.0 (15.0)	48.0 (21.8)
VA-9077 (S70-050)	5,000 (565)	55.0 (25.0)	
VA-9078 (S70-065)	6,500 (734)	72.0 (32.7)	118.0 (53.5)
VA-907A (S70-130)	13,000 (1,470)	80.0 (36.2)	
VA-907B (S70-180)	18,000 (2,030)		

Technical Specifications

VA-9070 Series Electric Rotary Actuators

Supply Voltage	120 VAC, 50/60 Hz or 24 VAC 50/60 Hz
Limit Switches	Two SPDT (Single-Pole, Double-Throw) switches rated for 10 amperes (75 to 80% power factor), 1/2 hp 125 VAC and 3/4 hp 250 VAC
Control Signal, Proportional Models	4 to 20 mA, 0 to 5 VDC, 0 to 10 VDC, or 2 to 10 VDC, field-selectable
Ambient Temperature Limits	-40 to 150°F (-40 to 66°C); Heater/Thermostat Kit Required below 32°F (0°C)
Agency Listings	Models for 120 VAC Voltage (VA-907x-0x): UL File number E200414; CSA reference LR 78858; CE compliant. All VA-9070 actuators are CSA approved under Class 3211 07 Industrial Control Equipment - Miscellaneous Apparatus. The CSA certificate number is LR78858-4 issued July 1996 to Bray Controls for the Series 70 actuators, NEMA 4, and NEMA 4X.