

# VA-3100 Series Electric Valve Actuators

## Description

VA-3100 Series Electric Valve Actuators use a synchronous motor to accurately position Johnson Controls® VG2000 Series Cast Iron Flanged Globe Valves in HVAC and industrial applications. These non-spring-return electric actuators have a 675 lb (3,000 N) force output for on/off (floating) or proportional control. Integral auxiliary switches are available to indicate end-stop position or to perform switching functions. Position feedback is also available through an isolated 2,000 ohm potentiometer. All models feature a manual hand crank for manual positioning of the valve, independent of a power supply.

Refer to the *VA-3100 Series Electric Valve Actuators Product Bulletin (LIT-977283)* for important product application information.

## Features

- synchronous motor with pressure switches
- provides a constant running speed and establishes fixed closeoff forces
- two-bolt coupler clamp provides quick and easy coupling of the actuator to the valve stem
- on/off (floating) or proportional control allows optimal choice of control signal
- adjustable starting point, span, and action (proportional control model only) provides application flexibility and allows for easy sequencing from only one output signal
- 0 to 10 VDC position feedback signal (proportional control model only) provides accurate valve position indication in response to an input signal up to 10 VDC
- auxiliary switches and feedback potentiometer available on select models provide independent verification of actuator position
- manual hand crank allows for manual positioning of the valve, independent of a power supply



**VA-3100 Series  
Electric Valve Actuator**

## Repair Information

If the VA-3100 Series Electric Valve Actuator fails to operate within its specifications, replace the unit. For a replacement actuator, contact the nearest Johnson Controls representative.

## Selection Chart

Description	Actuator Model		
	VA-3100-AGA	VA-3100-AGC	VA-3100-HGC
On/Off (Floating) Control	■	■	—
Proportional Control	—	—	■
Feedback:			
2,000 Ohm Potentiometer	—	■	—
Two Auxiliary Switches	—	■	■
Stem and Valve Size:			
<b>M</b> Stem (3/8 in.), 2-1/2 through 4 in. Valves	■	■	■
<b>N</b> Stem (1/2 in.), 5 and 6 in. Valves	■	■	■

## Accessories

Code Number	Description	Ship.Wt., lb <sup>1</sup>
VA-3100-101	Auxiliary Switch Cam Adjusting Wrench (Used on VA-3100 Series Electric Actuators – One Wrench is Supplied with Each Actuator)	0.1
VA-3100-500	Mounting Kit for Field Mounting VA-3100 Series Electric Actuators to 2-1/2 through 4 in. VG2000 Series Cast Iron Flanged Globe Valves with 3/8 in. <b>M</b> Stem (Kit Includes One Stem Jam Nut, One Yoke Adaptor, One Packing Nut, One 2-1/4 in. Length Stem Adaptor for 2-1/2 in. Valves, and One 2-1/2 in. Length Stem Adaptor for 3 and 4 in. Valves)	3.0
VA-3100-501	Mounting Kit for Field Mounting VA-3100 Series Electric Actuators to 5 and 6 in. VG2000 Series Cast Iron Flanged Globe Valves with 1/2 in. <b>N</b> Stem (Kit Includes One Stem Jam Nut, One Yoke Adaptor, One Packing Nut, and One Stem Adaptor)	3.5

1. lb x 0.454 = kg.

## Technical Specifications

VA-3100 Series Electric Valve Actuators		
Force Output		675 lb (3,000 N)
Power Requirements	On/Off (Floating) Control Models	20 to 28 VAC, 60 Hz; 16 VA Minimum
	Proportional Control Models	20 to 28 VAC, 60 Hz; 18 VA Minimum
Input Signal	On/Off (Floating) Control Models	20 to 28 VAC, 60 Hz
	Proportional Control Models	0 to 10 VDC
Input Impedance	Proportional Control Models Only	5,600 Ohms
Feedback Signal	VA-3100-AGC Only	0 to 2,000 Ohms
	VA-3100-HGC Only	Approximately 9 VDC Span (0.5 VDC with Valve Stem Fully Down; 9.5 VDC with Valve Stem Fully Up)
Switch Contact Rating		5 A, 24 VAC
Maximum Stroke		1-21/32 in. (42 mm)
Nominal Timing for 1 in. Stroke		92 Seconds
Ambient Operating Temperature Limits (Limited by the Actuator)	On/Off (Floating) Control Models	14 to 140°F (-10 to 60°C)
	Proportional Control Models	14 to 122°F (-10 to 50°C)
Agency Compliance		UL 873 Listed, File E27734; CSA C22.2 No. 139 Certified
Enclosure Rating		NEMA 3/3R, IP 54
Shipping Weight		9.7 lb (4.4 kg)