VA-3100 Series Electric Valve Actuators Catalog Page

2019-10-29 LIT-1900065

Description

Figure 1: VA-3100 Series Electric Valve Actuator



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

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

Table 1: 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:			
M stem (3/8 in.), 2-1/2 in. through 4 in. valves	▪	▪	▪
N stem (1/2 in.), 5 in. and 6 in. valves	▪	▪	▪

Johnson Controls

Accessories

Table 2: Accessories

Code number	Description	Ship. Wt., lb [1]
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. M 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 in. and 4 in. valves)	3.0
VA-3100-501	Mounting kit for field mounting VA-3100 Series Electric Actuators to 5 in. and 6 in. VG2000 Series Cast Iron Flanged Globe Valves with 1/2 in. N 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

Table 3: Technical specifications

VA-3100 Series Electric Valve Actuators		
Force output		675 lb (3,000 N)
Power requirements	On/off (floating) control models	20 VAC to 28 VAC, 60 Hz;16 VA Minimum
	Proportional control models	20 VAC to 28 VAC, 60 Hz;18 VA Minimum

Table 3: Technical specifications

VA-3100 Series Electric Valve Actuators		
Input signal	On/off (floating) control models	20 VAC to 28 VAC, 60 Hz
	Proportional control models	0 VDC 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°F to 140°F (-10°C to 60°C)
	Proportional control models	14°F to 122°F (-10°C 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)

Product warranty

This product is covered by a limited warranty, details of which can be found at www.johnsoncontrols.com/buildingswarranty.

Single point of contact

APAC	Europe	NA/SA
JOHNSON CONTROLS	JOHNSON CONTROLS	JOHNSON CONTROLS
C/O CONTROLS PRODUCT MANAGEMENT	VOLTAWEG 20	507 E MICHIGAN ST
NO. 32 CHANGJIANG RD NEW DISTRICT	6101 XK ECHT	MILWAUKEE WI 53202
WUXI JIANGSU PROVINCE 214028	THE NETHERLANDS	USA
CHINA		

© 2021 Johnson Controls. All rights reserved. All specifications and other information shown were current as of document revision and are subject to change without notice.
www.johnsoncontrols.com

Johnson Controls