

VA-8122

# Proportional Valve Actuator



VA-8122-1 Valve Actuator

## Description

The VA-8122 Proportional Valve Actuator is an electric actuator that provides proportional control of valves with up to a 5/16 in. stroke in Heating, Ventilating, and Air Conditioning (HVAC) applications. This compact, non-spring return actuator has a 22 lb minimum seating force in a compact, easy-to-install package.

The VA-8122 can be ordered factory coupled to the 1/2 in. or 3/4 in. VG7000 Series bronze valves for hot or cold water service only. The VA-8122 can be used for retrofits of VT Series Terminal Unit Valves (with slotted stems) and VB-5x39 Series Flare Valves. Refer to the appropriate valve literature for more information.

## Features

- AUTOCAL pushbutton allows the actuator to define the control input range proportionally over the stroke
- simplified setup and adjust procedures decrease installation costs
- selectable direction of action, Drive Down or Drive Up, provides application flexibility
- wide range of control inputs meets the needs of most applications
- power failure detection and low voltage indication prevent data corruption of the actuator's memory and warns of insufficient supply voltage
- Light-Emitting Diode (LED) reduces commissioning time and displays operating status

## Applications

The actuator uses a reversible synchronous motor to accurately position the valve. The motor can reliably generate 22 pounds of force in either the Drive Down or Drive Up direction. Once the valve closes, a shutoff force builds up. When this force reaches 22 pounds, a lever within the actuator operates a force sensor that stops the motor. The constant load at the end of travel ensures tight valve seat shutoff and compensates for seat wear.

Field calibration of shutoff is not required. The actuator maintains the shutoff force and its last position even if power is removed.

**Note:** The valve stem can be positioned manually by turning the manual adjustment knob. Rotating the knob counterclockwise moves the valve stem up.

## Repair Parts

Field repairs must not be made.

## To Order

To order a proportional valve actuator, contact the nearest Johnson Controls representative and specify product code number **VA-8122-1**. Refer to the *Accessories* chart for accessories available.

## Specifications

VA-8122 Proportional Valve Actuator	
<b>Power Requirements</b>	24 VAC at 50/60 Hz, 5.0 VA supply minimum, Class 2
<b>Input Signal</b>	Jumper Selectable: 0 (2) to 10 VDC, 0 (4) to 20 VDC, 6 (12) to 9 (18) VDC, 0 (4) to 20 mA Factory Setting: 0 to 10 VDC, Drive Down (DD) action on signal increase
<b>Input Impedance</b>	Voltage Input: 0 to 10 VDC, 150,000 ohms and 0 to 20 VDC, 450,000 ohms Current Input: 0 to 20 mA, 500 ohms
<b>5/16 in. Stroke Time</b>	50 Hz: Approximately 108 seconds nominal 60 Hz: Approximately 90 seconds nominal
<b>Force</b>	Shutoff and Breakaway: 22 lb (98 N) minimum
<b>Cycles</b>	60,000 full cycles; 1,500,000 repositions
<b>Enclosure</b>	NEMA 1, IP20
<b>Audible Noise Rating</b>	35 dBA maximum at 3.28 ft (1 m)
<b>Ambient Operating Conditions</b>	35 to 135°F (2 to 57°C); 85°F (30°C) Maximum dew point at 90% RH, non-condensing
<b>Ambient Storage Conditions</b>	-40 to 150°F (-40 to 65°C); 85°F (30°C) Maximum dew point at 90% RH, non-condensing
<b>Valve Media Temperature</b>	Water: 195°F (90°C) maximum Steam: Actuator is not rated for this application.
<b>Dimensions (H x W x D)</b>	4.5 x 5.0 x 2.5 in. (114 x 127 x 64 mm)
<b>Shipping Weight</b>	1.6 lb (0.74 kg)
<b>Agency Compliance</b>	UL 873 Recognized, File E27734, Guide XAPX2 CSA C22.2 No. 139 Certified, File LR85083, Class 3221 02 CE Directive 89/336/EEC

## Accessories

Code Number	Description
<b>VA-8020-100</b>	Mounting kit for VT Series valves
<b>VA-8020-601</b>	Replacement cover only
<b>VA-8020-605 (a)</b>	Stem retainer and clip kit
<b>M9000-105</b>	Pluggable 3-position terminal block

(a) One kit is included with the actuator. If ordered separately, it must be ordered in multiples of five.