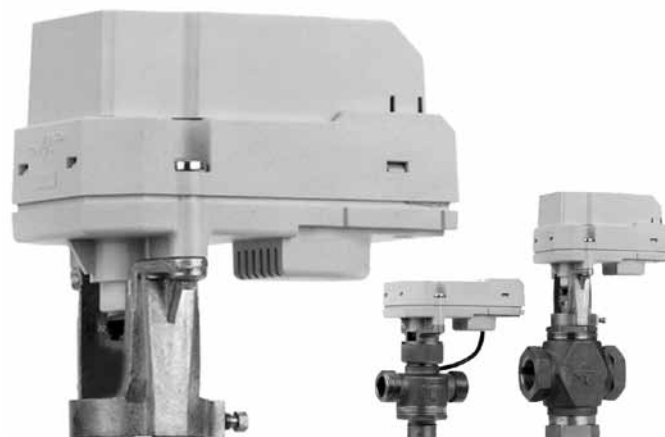

VA-7310

Electric Non Spring Return Globe Valve Actuator

Product Bulletin

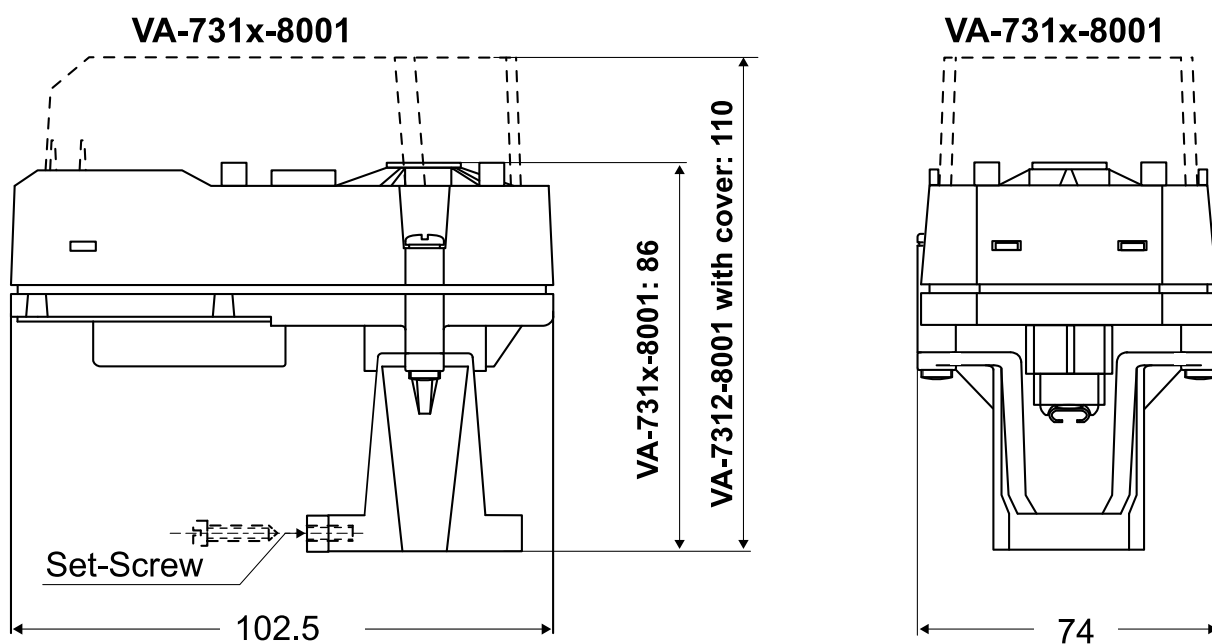
The VA-7310 series non spring return globe valve actuator provides floating or proportional control in HVAC applications.

These actuators are available with 150 N nominal force and can be used in combination with the VG7000 series valves in accordance with the specified maximum close-off pressure ratings (see the pertinent valve bulletins).



- **Only one Setscrew for in-situ installation**
Easy installation, greater flexibility in actuator selection
- **Magnetic clutch and built-in electronic timer**
Constant close-off and long life design
- **Manual override using standard 5-mm Allen key**
Allows easy manual positioning
- **Modulating 0..5, 0...10 or 5...10 V control selectable in-situ**
Allows sequence control

Dimensions (in mm)



Ordering Codes

VA-731	x	-8	x	01
Valve Type				
0 VG7000				
Options				
<i>Floating models</i>				
0 None				
<i>Proportional (0...10 V) models</i>				
2 None				

Ordering procedure

The actuator can be ordered as a separate unit or a factory fitted valve-actuator combination. Should the latter be requested, please just add "+M" to the end of the actuator ordering code.

For example:

Item 1 **VG7201AS** (valve body)

Item 2 **VA-7312-8001** (actuator)

Alternatively, to order a factory fitted combination:

Item 1 **VG7201AS** (valve body)

Item 2 **VA-7312-8001+M** (actuator)

Actuator-Valve Combinations

The VA-731x-8001 can be combined with the VG7000 Series Bronze Globe Valve DN15 and DN20 with slotted stem (VG7xxxxS).

Operation

Floating models

See also the pertinent valve product bulletin for valve operation.

Red cable energised:



Actuator stem extends

White cable energised:



Actuator stem retracts

Proportional models

Jumper function	Input control signal	Actuator Stem
Direct action	increases decreases	extends retracts
Reverse action	increases decreases	retracts extends

"Signal fail" position

A signal failure on proportional models, will cause the actuator to automatically reach the safe position, depending on how the actuator is set:

Actuator Action	Safe Position
Direct action	Stem totally retracted
Reverse action	Stem totally extended

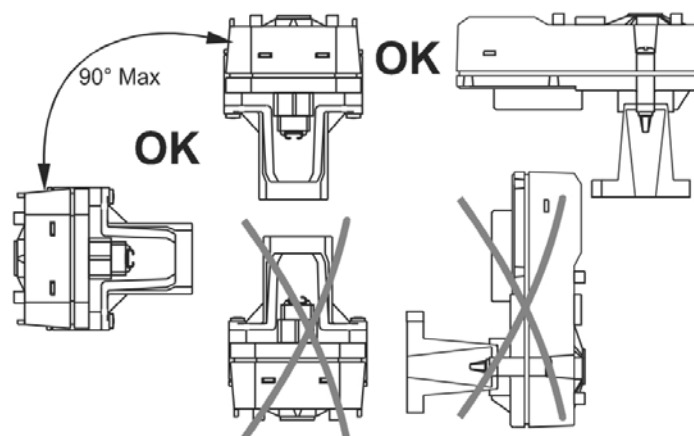
Timer function

All models (Modulating and ON/OFF) are equipped with an internal electronic timer which prevents the motor from running in the same direction continuously for more than 2 minutes.

Mounting instructions

When mounting the actuator on a valve, please follow the instructions below:

- It is recommended that the valves be mounted upright in an easily accessible location. When mounted horizontally, the yoke should be fitted such that the stanchions are aligned vertically, one above the other.




- The actuator must be protected against dripping water, which could enter the housing and damage the mechanism or motor.
- Do not cover with insulating material.
- Sufficient clearance must be allowed for actuator removal (refer to the dimension drawings).
- The valve must be installed so that the plug seats against the flow, as indicated by the arrows on the valve.

Wiring instructions

- All wiring must be in accordance with local regulations and national electrical codes and should be carried out by authorised personnel only.
- Make sure that the line power supply is is in accordance with the power supply specified on the device.
- See also the instructions in paragraph "Application".

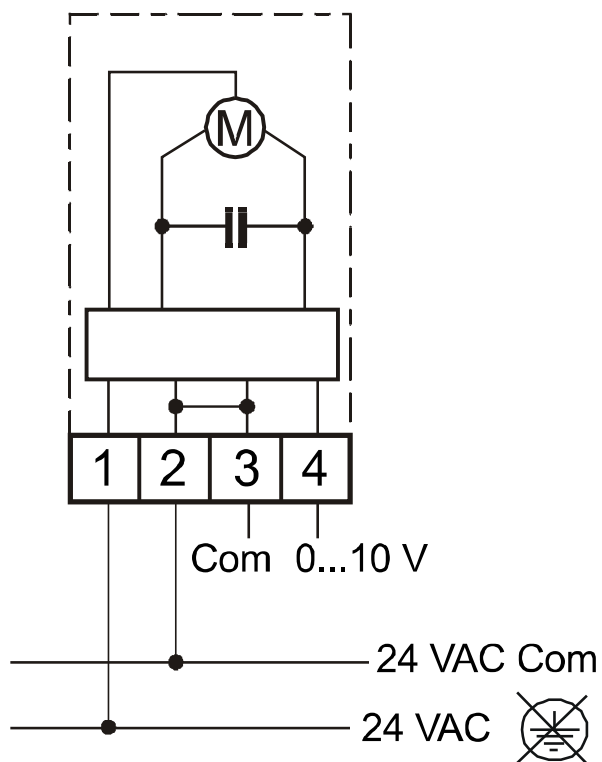
Note: The actuator stem must be completely retracted before installation is carried out.



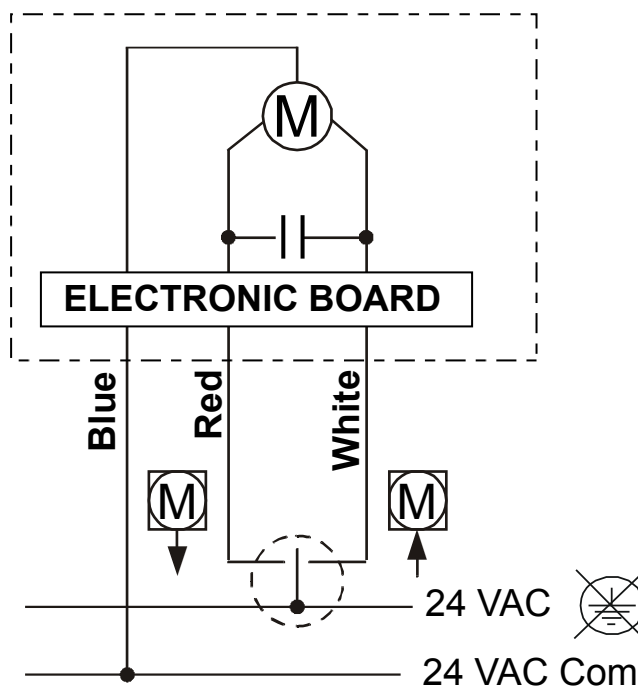
WARNING:
Shock Hazard
 Disconnect the power supply before wiring connections are made to avoid personal injury.
Equipment Damage Hazard
 Make and check all wiring connections before applying power to the system.
 Short circuited or improperly connected wires may result in permanent damage to the unit

Wiring Diagrams


Modulating model



Floating model



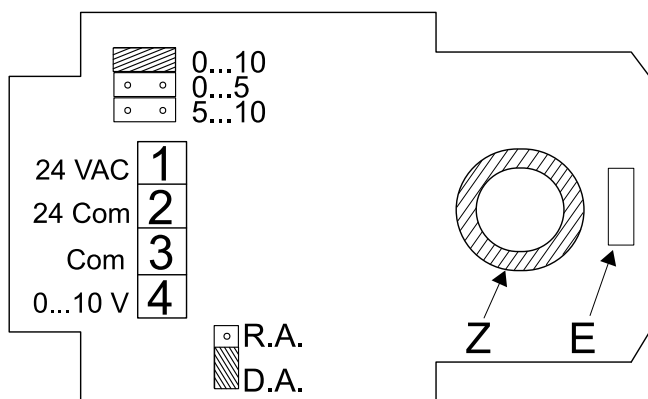
Adjustments



WARNING:
Great care must be taken when the cover is removed (by authorised personnel only) for adjustment or inspection.
In all other cases when the cover is removed the power must be switched off.
Do not touch or attempt to connect or disconnect wires when the electrical power is on.

VA-7312 Jumper Settings

The actuator stroke is proportional to the input control signal (0...5 V, 0...10 V or 5...10 V) and selectable in-situ through a jumper, with fine adjustment through a potentiometer. The action (D.A. or R.A.) is also selectable through jumper.



Z: Potentiometer for starting point fine adjustment.

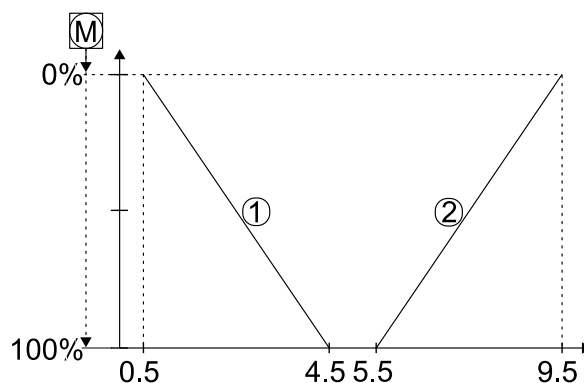
E: Potentiometer for span fine adjustment.

Note: The control signal is factory set at 0...10V (1...9 V effective), D.A.

Applications

Sequential operation of proportional VA-7312

Example: 1 Heating- and 1 Cooling PDTC (NO) valve in sequential operation.



Adjustments	Jumper "DA-RA"	Jumper "Control signal"
Actuator 1	DA	0...5
Actuator 2	RA	5...10

Technical Specifications

Actuators model	VA-7310	VA-7312
Type of motor	Synchronous with magnetic clutch	
Control	Floating	Proportional 0...10 V
Motor rating	24 VAC \pm 15%, (2VA)	
Additional circuit board		
- Power Supply		24 VAC \pm 10% 2 VA
- Input Signal		0...5, 0...10, 5...10 VDC, 100 k Ω input impedance
Manual override	Standard 5 mm Allen key (not supplied with delivery)	
Nominal force		
VA-731x-8001	150 N \pm 20%	
Nominal stroke		
VA-731x-8001	8 mm (max 10 mm)	
Nominal running speed		
50 Hz	7.5 s / mm	
60 Hz	6.3 s / mm	
Enclosure protection	IP40 (EN 60529)	
Materials		
- Gears	Acetat resin	
- Enclosure	Thermoplastic PPO glass filled –UL 94 V0	
- Yoke	Aluminium	
Ambient operating condition	-5 to +55 °C, 10...90% RH non condensing	
Ambient storage condition	-20 to +65 °C, 10...90% RH non condensing	
Net weight	0.28 Kg	



Compliance

Johnson Controls, Inc., declares that these products are in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.