

VA-7000 SERIES ACTUATOR

DESCRIPTION

VA-7000 series actuator is electronic mechanic product, and can be mounted on VB-7000 series valves.

VA-7000 series actuator has 2 basic types:

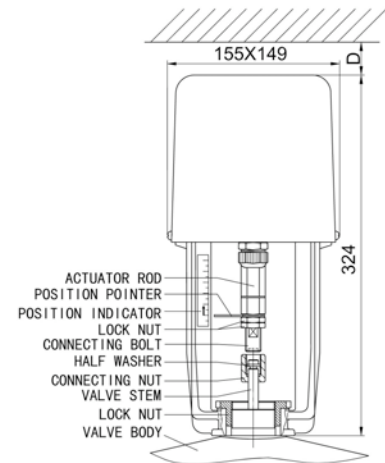
1. VA-7100 (VA-7200) reversible motor operation and provide increasing control;
2. VA-7102 (VA-7202) can accept input 0~10V DC or 4~20mA DC control signal input and provide proportional control.



(Fig. 1)

CHARACTERISTICS

- Low AC voltage synchronic reversible motor.
- The action uses gear to transit. Output gear rollers are supported by surface rolling bearing, which rotate around the central bearing. The valve stem uses central rod to connect and has position indicator.
- With valve operating position pointer.
- Fireproof ABS plastic casing.
- Conveniently mounting.
- Apply to 24mm, 36mm, 40mm or 42mm stroke. As to the stroke, which has increasing or proportional control type, is selected by jumper.
- Proportional 0~10V or 4~20mA DC control can be selected direct or reversible direction operation by jumper.



(Fig. 2)

*Note: "D" in Fig. 2 should be more than 160mm for installation and maintenance

OPERATION

1. Actuator is driven by reversible synchronous motor. Valve stem upward or downward operation makes the valve open or close. When the valve is fully opened or closed, it will create a counterforce against the actuator, and make the internal micro-switch of the actuator power off and the actuator will stop operation. When the actuator receives a control signal, it will make the valve open to a certain angle and stop at any position when there is no signal.
2. The signal of the increasing or proportional type controller can make the motor rotate clockwise or anti-clockwise.
3. VA-7102 (VA-7202) has a jumper, which can supply 24mm, 36mm, 40mm or 42mm stroke. Ex-factory setting is 42mm stroke. If the manufacturer has already mounted the actuator on the valve body, it will fit with the valve's stroke. VA-7102 (VA-7202) also has a jumper, which can select 0~10V or 4~20mA DC control signal. Ex-factory setting is 0~10V DC mode.

4. VA-7102 (VA-7202) has two potentiometers, one is to decide the start point of the actuator, the other is to adjust the span the maximum stroke. The power of the motor and circuit of VA-7102 (VA-7202) is supplied by a common 24V AC voltage.

INSTALLATION

1. Install the actuator bracket on the valve body. Mount the connecting nut on the valve stem. Put the two half washer into the groove of the top of valve stem, then screw the connecting bolt into the connecting nut. The degree of tightness depends on whether the valve stem and other parts can rotate correspondingly and without axis clearance. And then lock the nut tightly. Finally use lock nut to tighten the actuator. (See Fig. 2)
2. Give priority to vertically installation, and the lean should not more than 30°, remain enough space for maintenance use.
3. Connect the wires according to the Wiring Diagram.
4. Electrify and check. Make the valve stem move upward to the top end (fully closed) or downward to the bottom end (fully opened), the motor will be powered off and stop operation. If the valve stem have not moved to the top or bottom end but been locked (the main axis of the motor is shaking continuously), readjust the connecting length between the connecting bolt and actuator rod until they are fitted each other very well. (The connecting bolt and actuator rod have been adjusted in suitable length and tightened when ex-factory, it is not necessary to adjust them if there is no special requirement.)

NOTE

- Actuator must be protected and prevented from water dripping to destroy internal elements and motor.
- Actuator can't be covered with adiabatic material.

CAUTION

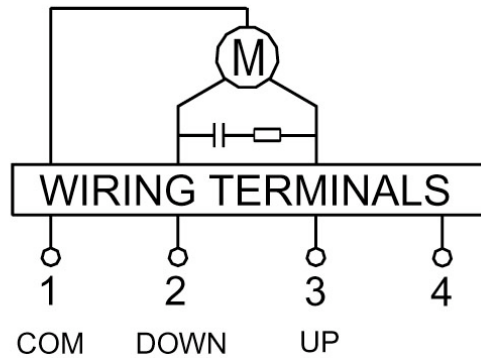
- Cut off power supply when repair the actuator, to avoid destroying elements or cause casualty because of leakage of electricity.
- When power is on, don't try to connect or disconnect the electrical wires.

SPECIFICATIONS AND TECHNICAL DATA

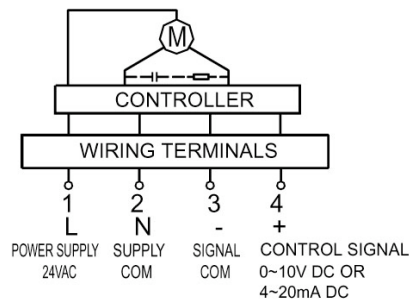
MODEL	VA-7100 (VA-7200)	VA-7102 (VA-7202)
OPERATION/CONTROL	Reversible and increasing control	Proportional control, direct or reversible
ELECTRICAL CIRCUIT	—	Power: 24V AC \pm 10%, 50/60Hz, Input signal range: 0~10V or 4~20mA DC
MOTOR TYPE	Bi-directional AC Synchronous motor	
MOTOR ELECTRICAL RATING	24VAC \pm 10%, 50 / 60Hz, 10VA	
POWER CONSUMPTION OF PCB	—	2VA
NORMAL TORQUE	2500N (*4000N)	
MATERIAL	GEAR	Stainless steel, brass
	REDUCER DOWN PANEL	Zinc-plated steel
	BRACKET	Die-casting aluminum alloyed
	CASING	Fire-proof ABS engineering plastic (UL94V-0)
OPERATION TIME	50Hz: 4.6s/mm (* 50Hz: 8.3s/mm)	
	60Hz: 3.8s/mm (* 60Hz: 6.9s/mm)	
ROOM TEMPERATURE	OPERATION	2~55°C
	STORAGE	-20~65°C
MAX. RH	<90% no condensation	
CONNECTING WIRES	0.5~1.5 mm ²	
EX-FACTORY SETTING	—	Stroke: 42mm; Input signal: 0~10VAC; Mode: DA
ACCESSORIES	Lock nut, connecting nut, half washer	
NET WEIGHT	4.1kg	4.3kg

- With "*" means VA-7200 (VA-7202) actuator's technical data.

VA-7100 (VA-7200) WIRING DIAGRAM



VA-7102 (VA-7202) WIRING DIAGRAM



INPUT CONTROL SIGNAL		ACTUATOR ROD
DA	RA	
INCREASE	DECREASE	DOWN
DECREASE	INCREASE	UP

VA-7102 (VA-7202) PCB SETTING DIAGRAM

