



Installation & Operating Manual



HQ4 & HQ6 HQ Series 1/4 Turn Electric Actuator

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1. General

HQ Series electric actuators are designed to provide reliable and efficient operation of 90° quarter turn valves and dampers.

Warning: Use caution when working in, with, or around valves and actuators. High pressures, forces, voltages and flammable media can be present.

Warning: Failure to follow instructions for proper electrical wiring, storage, set-up and maintenance may cause serious injury, damage equipment, or void warranty.

Pre-Installation Inspection

Verify the actuator nameplate to ensure correct model number, torque, operating speed, voltage and enclosure type before installation or use.

It is important to verify that the output torque of the actuator is appropriate for the torque requirements of the valve and that the actuator duty cycle is appropriate for the intended application.

2. Actuator Mounting

The actuator may be mounted in any position.

HQ Series actuators are supplied with a female drive output. ISO5211 bolt patterns are provided for the actuator mounting.

It is mandatory that the actuator be firmly secured to a sturdy mounting bracket or directly mounted to the valves ISO mounting pad. High tensile bolts or studs with spring locking washers

must be used.

The valve output stem must be in line with the actuator output drive to avoid side loading of the stem.

To prevent backlash, no flexibility in the mounting bracket arrangement should be present.

3. Power Requirements

Consult the nameplate of the actuator (or product data sheet / catalogue) for duty cycle, voltage and current draw information.

4. Duty Cycle

Duty cycle rated IEC34 - S2 (35%)

Exceeding the actuator's rated duty cycle may cause thermal overload.

5. Manual Override

The HQ004 and HQ006 actuators are supplied with a manual override. This is located on the bottom of the unit and can be operated using the shank of a screwdriver (max 4.5mm diameter bar).



Please Note: Because the actuator does not have mechanical limit stops, be careful not to rotate past the valves full open or closed position.

6. Electrical Connection

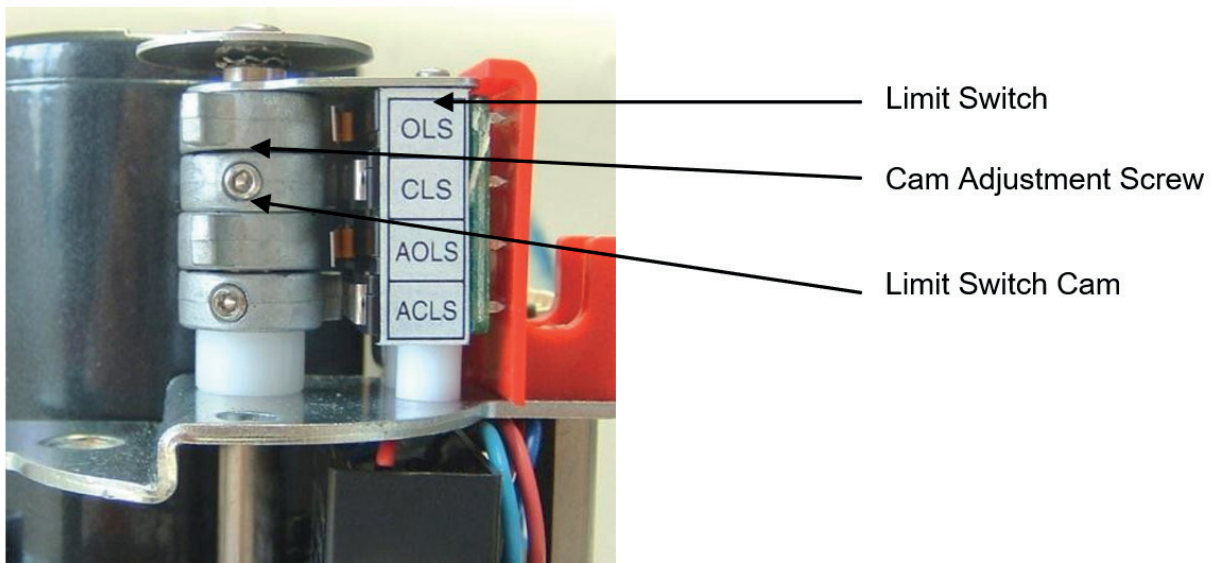
- Manually move valve to mid-position. This will allow sufficient time to stop actuator in case of improper hook-up or reversed power phases.
- Identify means of removing power during hookup.
- Be sure no erroneous remote control signals can be received causing actuator to energize.
- Electrically operate the valve in the open direction. If the valve closes, actuator must be

stopped and the power leads reversed to correct voltage phasing or improper field wiring.

Please Note: Improper power voltage phasing eliminates protection of the position limit switch, risking valve damage.

7. Limit Switch Settings

Limit Switches



- Operate the actuator manually to closed position.
- Using an allen key, loosen the cam adjustment screw in the CLOSE limit switch cam.
- Rotate the CLS cam CW towards the limit switch lever until the switch 'clicks'. Tighten setscrew with allen key.
- Operate the actuator manually to open position.
- Using an allen key, loosen the cam adjustment screw in the OPEN limit switch cam.
- Rotate the OLS cam CCW towards the limit switch lever until the switch 'clicks'. Tighten setscrew with allen key.

8. Lubrication

The HQ series actuators are totally enclosed units with permanently lubricated gear trains (Moly EP Grease). Once installed lubrication should not be required.

9. Mechanical Position Indicator

- Manually rotate actuator to fully closed position.
- Remove actuator cover.
- Loosen the indicator screw.
- Rotate indicator to the correct orientation.



- Tighten indicator screw, replace cover and check alignment.

10. Maintenance

At least once a year a check should be made of your HQ Series Actuator.

- Disconnect all power to actuator.
- Check that all external bolting and mounting to the valve is secure.
- Open Electrical Enclosure.
- Visually inspect for any electrical or mechanical damage. Inspect for excess moisture and condensation inside the electrical enclosure.

11. Storage

Actuators must be stored in a clean, cool and dry area. The unit shall be stored with the cover installed. If the actuator is mechanically installed but waiting for electrical connections, please ensure suitably rated cable glands or cable entry blanking plugs are fitted.

12. Trouble Shooting

The following instructions are offered for the most common difficulties encountered during installation and set-up.

Failure Mode	PROBABLE CAUSE	CORRECTIVE ACTION
Motor will not run.	Open in control circuit	Refer to appropriate wiring diagram and check for continuity.
No power available to actuator.	Tripped circuit breaker	Reset breaker and check for correct rating. Refer to catalogue data.
Manual Override is hard to turn.	Incorrectly sized actuator Jammed valve D amaged or bent valve stem. Valve gland packing too tight.	Refer to catalogue data and compare valve torque requirements with actuator (torque) output. Check for obstacles in the pipeline. Check for mechanical damage. Loosen valve gland packing as per the manufacturers instructions.

Valve only opens or closes partially with motor.	Limit switch incorrectly set	Check setting and reset if necessary.
	Over torque: Incorrectly sized actuator	Check to see if motor runs when disconnected from the valve. If so, refer to catalogue data and compare valve torque requirements with actuator (torque) output.
	Jammed valve	Check for obstacles in the pipeline.
	Damaged or bent valve stem.	Check for mechanical damage.
	Valve gland packing too tight.	Loosen valve gland packing as per the manufacturers instructions.
Manual Override does not operate valve.	Damaged manual override mechanism	Check for mechanical damage, replace parts as necessary.
Motor runs but does not operate valve.	Stripped gearing	Check for mechanical damage, replace parts as necessary.
	Damaged actuator / valve linkage.	Check for mechanical damage, replace parts as necessary.

13. Standard Specification

Enclosure Rating	Weatherproof IP67
Enclosure	High-grade aluminum alloy, hard anodized
Power Supply	110/220VAC 1 PH 50/60Hz, 24v AC/DC
Duty Cycle Motor	EC 34 S2 (35%)
Motor	Squirrel caged induction motor
Limit Switches	2 x open/close SPDT, 250VAC 10A rating
Auxiliary Limit Switches	2 x open/close SPDT, 250VAC 10A rating
Stall Protection	Built-in thermal protection
Travel Angle	320-degree +/- 10%
Indicator	Continuous position indicator
Manual Override	'Spanner type' manual override
Space Heater	2W ceramic housed
Conduit Entries	2 x M20
Lubrication	Grease Moly EP



Ambient Temperature	-20 °C to +70 °C
External Coating	Dry Polyester powder

14. Warranty

Albion Valves (UK) Ltd HQ4 & HQ6 Compact Electric Actuators are supported by a 12 month warranty. Further details can be found on our website.



About Albion Valves (UK) Ltd

Albion has been supplying valves and fittings to the building services and industrial markets for the past 40 years.

Albion was created with the sole purpose of providing quality products at an affordable price. With a growing reputation for quality and reliability, Albion is now an established brand providing the industry with a trusted alternative to premium-priced products.

Our commitment to setting the highest standards in all areas of our business means, if you're looking for quality, service, delivery and choice — you'll find it's all at Albion.

Quality

Whatever you need, you can rest assured that if it comes from Albion it has been designed and manufactured to deliver optimum performance and is accredited with the necessary approvals. Our in-house quality department are always on hand too!

Service

We pride ourselves on our customer service – we have even won awards for it! Our cradle to grave approach means you will never be on your own!

Delivery

We know that time is money, and when a priority project depends on a part you can trust Albion to deliver – next day for all orders placed before 4:00PM.

Choice

We may have started out with a single brass ball valve, but our range has grown substantially since and we now consider ourselves to be a 'One Stop Shop' with our comprehensive range. It is becoming more and more apparent to the industry, that it really is all at Albion.