



LQA Series Electric Actuators

► For Part-turn Application



Summary

- **Applicability** They provide a reliable position control of butterfly, ball valves, as well as similar ones.
- **Torque** 50 ~800 Nm

Features

- 1** LQA series can provide high reliability and good applicability through more than twenty years of practice and development.
- 2** LQA series which are equipped with limit and torque switch can be motor and manual operated. The motor, terminal strip, limit and torque switch are mounted in an aluminum alloy cover. Wiring, debugging and repairing can be run when the cover is removed.
- 3** The motor which is fixed on the baseplate by bolts can be dismantled independently.
- 4** For the adoption of the planetary gear, the shift from manual to motor operation is fully automatic and no hand/auto lever is provided. The consumer can directly operate the handwheel even in motor mode.
- 5** Both the gear and the terminal box have housing with IP54 enclosure which can protect from dust and rain. The house of the gear box is filled with gear lubricating grease. It is not need to refresh or replenish the grease periodically.
- 6** Two adjustable mechanical stop bolts are provided in open and close direction.



About us

Tianjin Beifang Valve Actuator Co., Ltd. (BF for short) always focus on the design and manufacture of excellent valve actuator and control equipment.

BF attaches great importance to product design, and the design team has strong product design and innovation ability. BF has complete intellectual property rights and a number of technical patents. Over the years, our products have been annual exported in batches and were widely and successfully used in water treatment, oil, electricity, chemical and other industries.

BF acquired the authentication of quality management system standards ISO9000 of DNV in 1998. Strict quality control in all stages and constantly improving the product quality control standards is the consensus of the staff.

BF believes that only solid the software and hardware foundation to achieve long-term stable development. We have set up some advanced computer-aided system, such as product design, resource management, production management, and soon. And we have set up the platform of precision machining mainly based on CNC machining center. We also continue to establish and improve a documented management system.

BF will design and manufacture products solidly and continue our efforts to create more value for customers.

Where to find information

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Structure

► Indication window

Large sized indication window provides local monitoring of valve position.

► Terminal strips

It provides 24 terminals at most for the consumer.

► Limit switch

A cam shaft remains in step the drive shaft by a pin. There are four independently adjustable cams over the limit shaft. Once the valve run to the right place, the cam will drive the microswitch to interrupt the power or transmit signals.

► Conduit entries

Two staggered arranged conduit entries are supplied for connection.

► Mechanical stop

Two adjustable mechanical stop bolts are provided in open and close direction.

► Manual and motor operation

LQA series electric actuators can be manual and motor operated, and handwheel is provided as standard (not showed in fig.)

► Motor operation

The motor gear set drives the eccentric shaft .Rotation of the eccentric shaft causes the planetary gear to drive the drive sleeve. The drive sleeve rotates to drive the valve stem. This reduction mechanism with the larger ratio is self-locking.

► Manual Operation

When operate the handwheel which is keyed to the worm shaft, the rotation of the worm gear causes the planetary gear to drive the drive sleeve. So the shift from manual to motor operation is fully automatic and no hand/auto lever is provided.

● Motor

Special motor for valve with high torque low inertia can be dismantled independently. A temperature protection switch embedded in the windings of the motor will trip the actuator control circuit if the motor windings overheat.

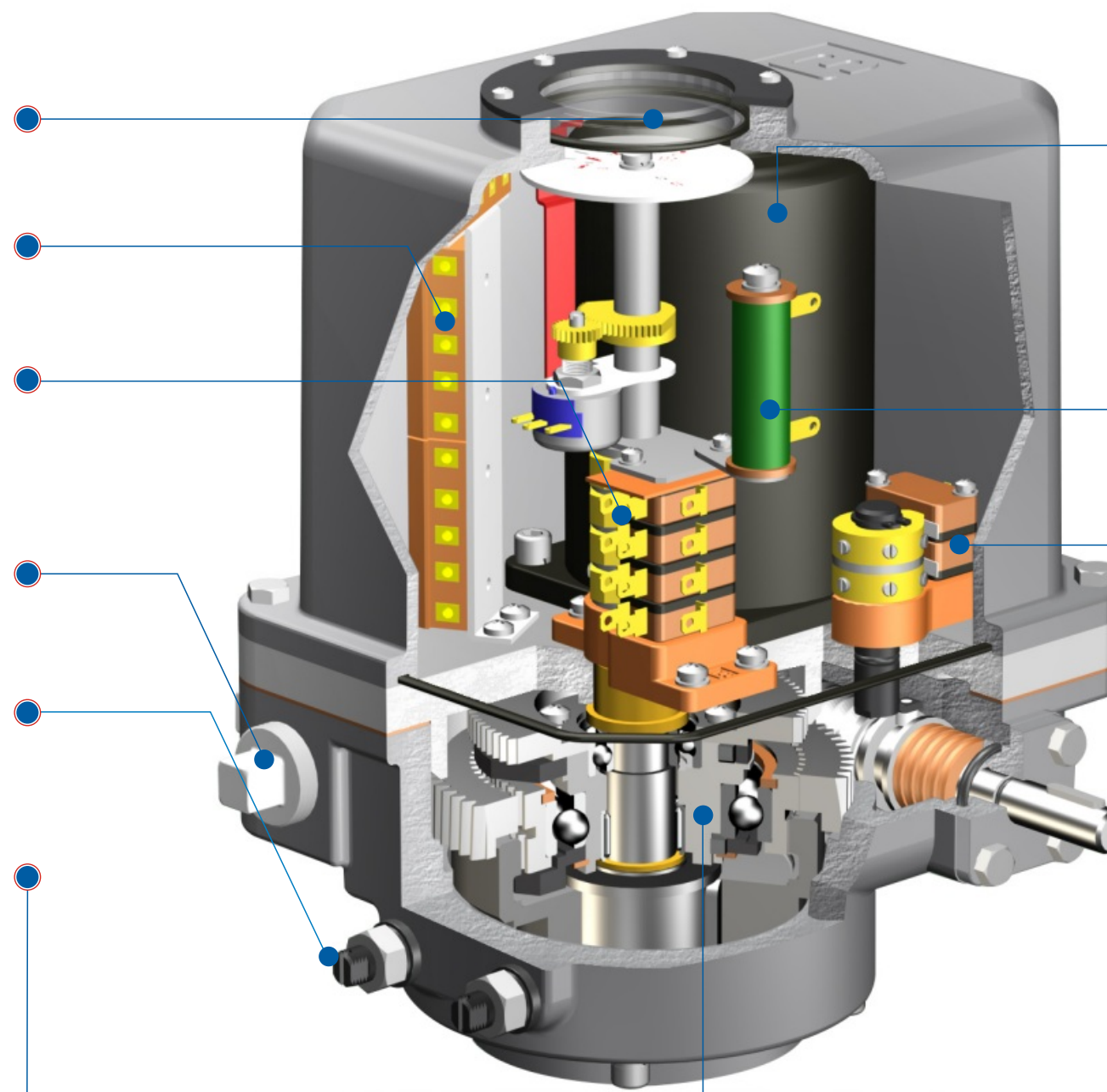
● Space heater

LQA series provide a space heater to prevent from humidity and condensation.

► Torque switch

The torque switch is designed to protect the actuator and the valve from damaging in the situation of abnormal phenomenon. It can switch off the power supply timely and give a signal when the valve is over torque.

The disk spring is mounted on the worm shaft. The axial move of the worm shaft is proportionable to the torque generated by the actuator. Two torque switches in open/close direction sense the movement of the worm shaft and interrupt the power to the motor.



Specification parameters

Output data

Model	Output torque	Output speed		380V/3Ph/50HZ S2-10min		Output speed		Max-dia. of stem	Handwheel turns	Weight
				Motor power	Rated current	Motor power	Rated current			
	Nm	r/min	Sec/90°	W	A	W	A	mm		Kg
LQA1	50	0.6	25	30	0.4	30	1	20	73	17
	50	1	15			30	1			
	50	2	7.5			60	1.8			
	100	0.6	25			30	1			
	100	1	15	60	0.8	60	1.8			
	100	2	7.5			90	2.1			
	200	0.6	25			60	1.8			
LQA1	200	1	15	90	0.95	90	2.1	35	64	35
	400	1	15			180	3.2			
	400	2	7.5			--	--			
	800	0.5	30			180	3.2			
	800	1	15			--	--			

Note1 : The output torque is the setting torque at the factory. Stall torque will be 1.1 to 1.5 times this value instantaneously.
Note2 : Output speed is the running speed of the drivesleeve .The value is the data of 380VAC/3 phase/50Hz. If special speed is required ,please contact us.

Specification description

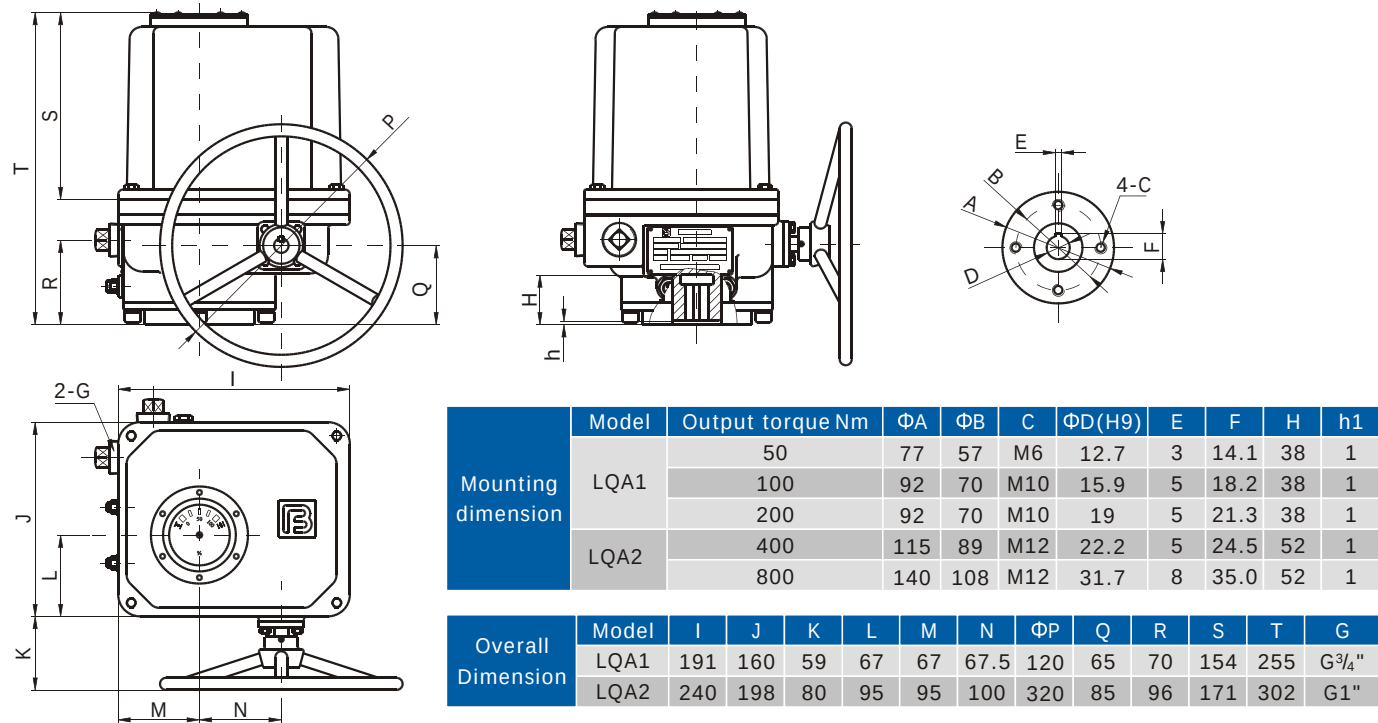
	Standard	Options
Performing standard	GB/T24923 《Technical specifications of basic version electric valve actuators》	
Degree of protection	IP54(GB4028)	
Ambient temperature	-20 ~ +60℃	
Power supply	380VAC/3 Phase/50Hz	220VAC/1 Phase/50Hz
Motor	Class F insulated , duty type S2	
Travel range	90°±10°	
Limit switch	Two switches in open/closedirection respectively, 250VAC 16A	
Torque switch	One switch inopen/close direction respectively, 250VAC 16A	Two switches in open/close direction respectively, 250VAC 16A
Manual operation	Automatic hand/auto shift	
Position Indication	A mechanical positionindicator keep in step with the drive sleeve	
Position Transmitter	A potentiometer of 560 ohm	VPT2 : Two-wire system position transmitter feedback 4~20mA analog signal.
		VPT4 : Four-wire system position transmitter feedback 4~20mA analog signal.
Mechanical Stops	One adjustable mechanical stop bolt in open/close direction respectively	
Lubrication	00# lubricating grease	

Model and specification

LQA1	• 20	- 1	
			Output speed, unit: r/min
			Output torque, the output torque value whose unit is Nm is 10 times the valve
			Model

Note : If the options are required , please tell us when order

Overall & mounting dimension



Wiring Diagram

The basic wiring diagram refers to the right drawing. If other wiring is required, please contact us.

Introduction

- 1. The internal wiring is showed on the right side of the dashed line or inside the dashed line.
- 2. Limit switches in the diagram show that the valve is in the intermediate position. Torque switches show that the valve is not over torque.

KXK	Open limit switch
GXK	Close limit switch
KZK	Open torque switch
GZK	Close torque switch
U	Potentiometer
THR	Space heater

