

Electric Quarter Turn Actuator HQ-005

Features

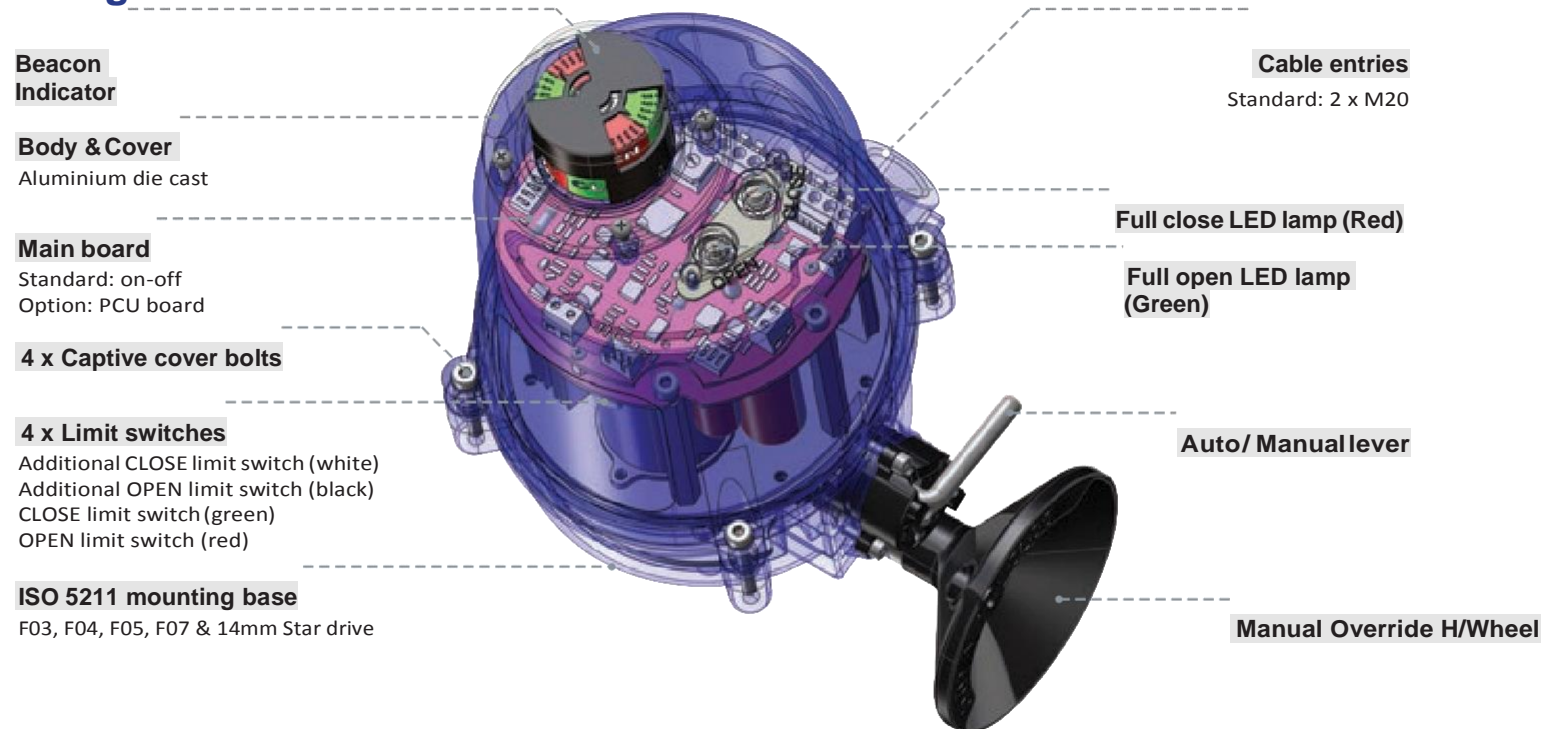
- Multi voltage design (Single phase & 24V)
- High corrosion resistance, anodized & painted housing
- 4 off Limit switches
- Torque output: 50 Nm
- low current, long-life actuator due to unique brushless DC motor ensuring high reliability
- 2 off M20 cable entries
- IP67 weatherproof enclosure
- F03/F04/F05/FO7 mounting base with 14mm Star drive
- Captive cover bolts
- Visual beacon indicator & LED lamps
- 70% Duty Rating (on/off only)
- Declutchable manual override handwheel
- Electronic torque limiter



Description

HQ005 Electric actuator is specially designed for small quarter turn valves, such as ball, butterfly, plug valves, dampers and other similar usages. The actuator housing is made from high grade aluminum die cast which is robust and light weight. To provide high corrosion resistance, the housing is hard anodized inside & outside prior to polyester painting on the external surface. Rugged design with tight O-ring system means the HQ-005 is rated to IP67 as standard. The actuator is fitted with manual override handwheel and declutch system for use when power is lost or in an emergency. Available options include modulating positioner card for all voltages (single phase & 24VAC/DC) and torque overload indication system via flashing LED lamps

Design Construction



Performance Data

Model	Max. output torque		Operating time 50/60 Hz	Mounting base	Motor stop electric current	Rated current (A)			Duty cycle IEC34-1		Weight kg
	kgf.m	NM				1 phase, 50/60 Hz		24 VAC/DC	S4	S2	
						110 VAC	220 VAC				
HQ-005	5	50	13 sec	F03, F04, F05, F07	1 A	0.1 A	0.05 A	0.8 A	70 %	50 %	2.6

Standard Specification

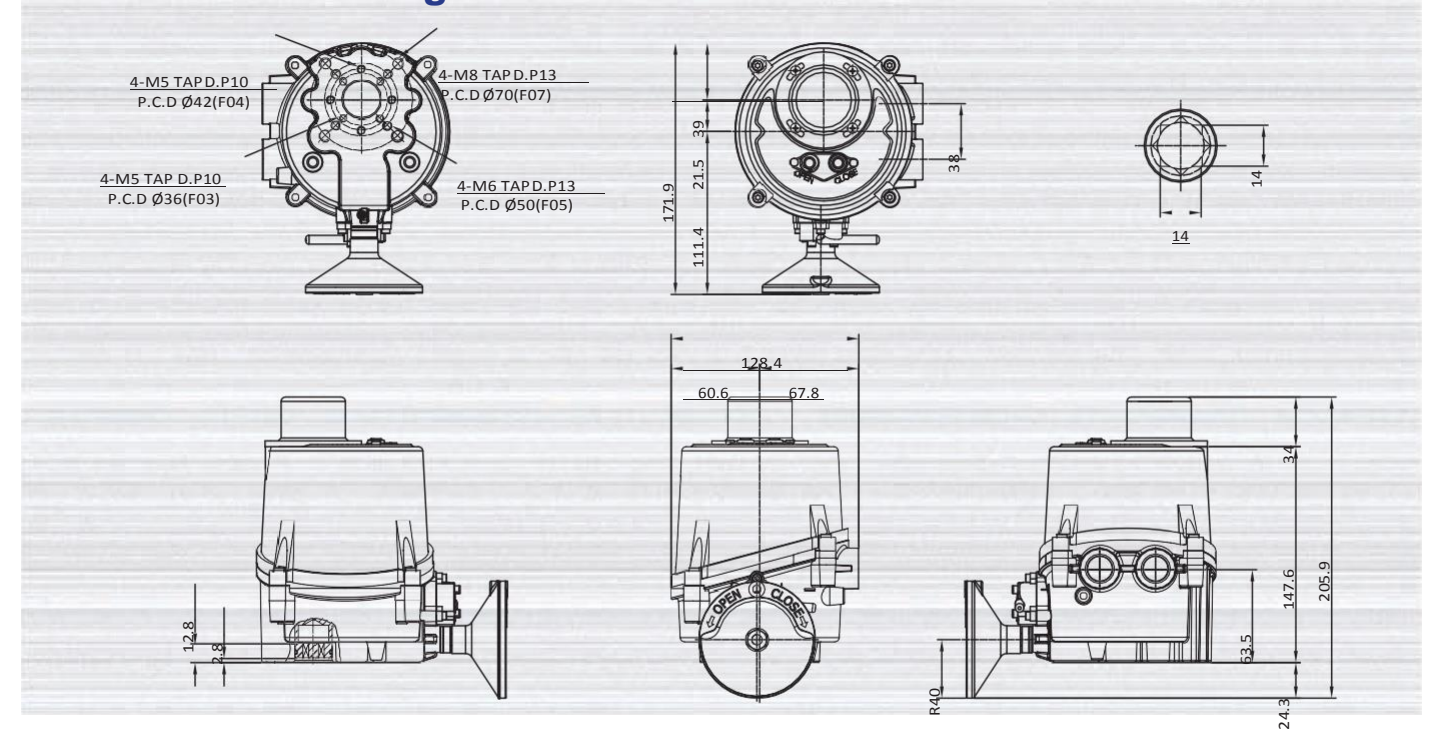
Enclosure	Weatherproof enclosure IP67
Power supply	85 - 265 VAC 1 ph, 50/60 Hz 24 VAC/DC
Duty cycle	S4: 70% (average load of 80% Max. torque) S2: 50% (average load of 80% Max. torque)
Motor	BLDC motor
Limit switches	2 x open/close, SPDT, 250 V ac 10 A rating
Additional limit switches	2 x open/close, SPDT, 250 V ac 10 A rating
Anti-condensation board	2 W
Manual override	Manual Handwheel
Cable entries	Standard: 2 x M20
Movement angle	320 ± 10° (0 - 330°)
Ambient temperature	-20 to +80 °C

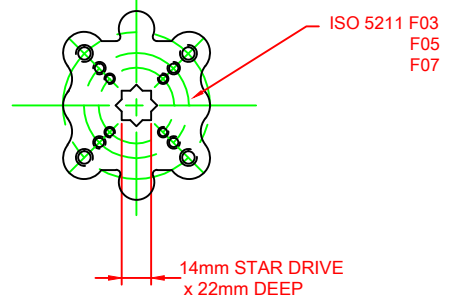
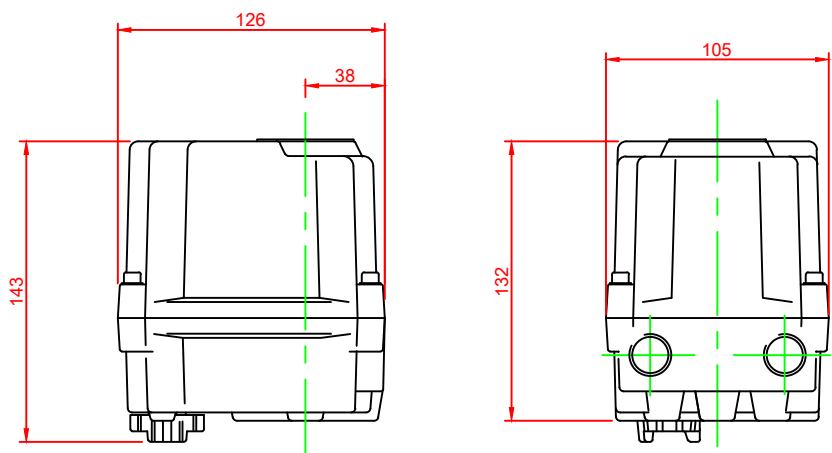
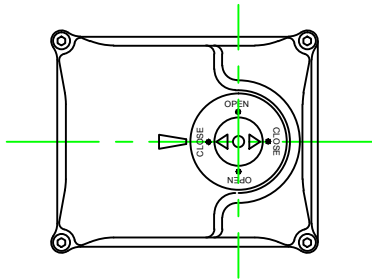
Optional Specification

PIU	Potentiometer unit (1-10 kΩ)
PCU	Proportional control unit (in/out: 0-10V or 4-20 mA)
*CPT	Current position transmitter (output: 4-20 mA dc)
WTA	Watertight enclosure actuator (IP68 10 m 72 hr)
*PRO1	Profibus DP interface module (single & redundancy)
*MOD1	Modbus module (single & redundancy)
TS	Torque overload indicator via flashing LED module

*Note: These options are currently under development.

Dimensional Drawing





Description:

The HQ-004 & HQ-006 electric actuators are specially designed for quarter turn applications such as small ball, butterfly, plug valves and dampers.

Small, light and compact design with high output torques. Various control options and a wide range of voltages are available to meet your specific requirements.

High quality electrical components and alloy gearing ensure reliability and extended life span.

The Actuator housing is Hard Anodised inside & out prior to painting to increase corrosion resistance.

Standard Specification:

- Enclosure : Weatherproof IP67
- Power Supply : 110/220v 50/60Hz, 24vAC/DC
- Duty Cycle (On/Off Duty) : S2 35%
- Motor : Reversible Motor
- Limit Switches : 2 x SPDT, 250V AC 3A
- Additional Limit Switches : 2 x SPDT, 250V AC 3A
- Space Heater : 2W (110/220V AC)
- Manual Override : Hexagon
- Conduit Entries : 2 x M20
- Movement Angle : 320° ± 10° (0° to 320°)
- Ambient Temperature : -20°C to 70°C
- External Coating : Dry Powder, Polyester
- Motor Class : F

Option Specification:

- Enclosure : Waterproof IP68
- Conduit Entries : 2 x PG 13.5, 1/2" NPT
- PIU * : Potentiometer Unit (1K - 10K)
- PCU * : Proportional Control Unit (In/Out:0-10V,4-20mA)
- CPT * : Current Position Transmitter (Output 4-20mA DC)
- LCU-D * : Local Control Unit (Remote/Open/Stop/Close s/w)
- EXA * : Explosion Proof Enclosure ATEX II2G EEXD IIB T4

* HQ-006 ONLY

Performance

TYPE (MODEL)	MAXIMUM OUTPUT TORQUE	OPERATING TIME 50/60Hz 90°	RATED CURRENT (A)				WEIGHT Kg
			AC 1PH . 50/60Hz			DC	
			24V	110V	220V		
HQ-004	40Nm	14/12 SECS	1.7	0.4/0.4	0.2/0.2	1.7	3
HQ-006	60Nm						

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Description:

The HQ008 to HQ120 electric actuators are specially designed for quarter turn applications such as ball, butterfly, plug valves and dampers. With a wide range of output torques and control options the HQ series electric actuator can be configured to meet the demands of any site specification.

High quality electrical components, alloy gearing and a high pressure die cast aluminium housing ensure reliability and extended life span.

Standard Specification:

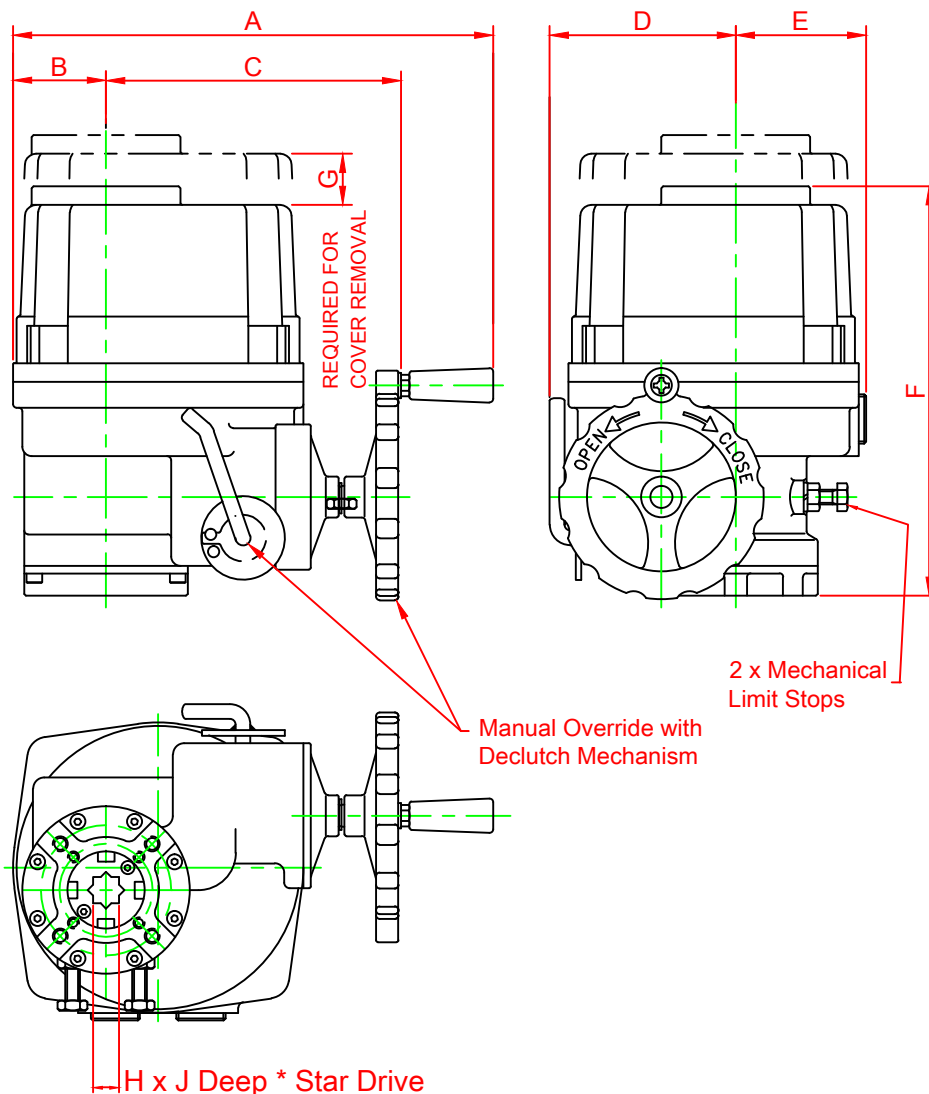
- Enclosure : Weatherproof IP67 (IP68 Option)
- Power Supply : 110/220v 50/60Hz, 24vAC/DC, 380/440V 3Phase
- Duty Cycle (On/Off Duty) : S4, 70% Standard, 100% for max 30 mins
- Motor : Squirrel Caged Induction Motor
- Limit Switches : 4 x SPDT, 250V AC 10A
- Torque Switches : 2 x SPDT, 250vAC 10A (HQ015-HQ120)
- Space Heater : 10W(110/220VAC) Anti Condensation
- Conduit Entries : 2 x M25 (PG13.5 OR 1/2"NPT OPTION)
- Travel Angle : 90° ± 5°
- Ambient Temperature : -20°C to +70°C On/Off, -20° to +55° Modulating
- External Coating : Hard Anodised before Dry Powder Polyester Coating

Option Specification:

- PIU : Potentiometer Unit (1K - 10K)
- PCU : Proportional Control Unit (In/Out: 0-10VDC, 4-20mA)
- CPT : Current Position Transmitter (Output 4-20mA)
- LCU-B : Local Control Unit (Remote/Open/Stop/Close switch)
- EXA : Explosion Proof Enclosure. ATEX II 2G Eexd IIB T4
- FPA : Fire Proof Actuator. 250°C/150 min
- RBP : Rechargeable Battery Back up for Fail Safe
- MRCT : Speed Control Card

Performance:

MODEL	HQ008	HQ015	HQ020	HQ030	HQ050	HQ060	HQ080	HQ120
TORQUE (Nm)	80	150	200	300	500	600	800	1200
SPEED 90° 50/60Hz	16/13	25/21	25/21	31/26	31/26	31/26	34/28	34/28
CURRENT (A)	110/1/50	1.2	2.1	2.2	2.4	4.2	4.4	5.7
	220/1/50	0.6	1	1.1	1.3	1.9	2	2.8
	380/3/50	0.2	0.6	0.7	0.6	0.9	1	1.3
MAX 24V AC/DC	3.7	5.3	6.5	8.6	-	-	-	-
WEIGHT (Kg)	7.4	16.6	16.6	22	23	23	29	29
MAX. SQ. DRIVE	17	19	19	30	30	30	40	40



DRIVE BUSH CAN BE MACHINED TO SUIT MOST VALVE STEMS (ON REQUEST)

Dimensions:

MODEL	BASE	A	B	C	D	E	F	G	H	J
HQ008	F07	258	50	157	100	70	235	120	14*	40
HQ015	F07/F10	338	73	200	142	87	268	160	17*	45
HQ020	F07/F10	338	73	200	142	87	268	160	17*	45
HQ030	F10/F12	368	82	221	160	99	290	180	22*	52
HQ050	F10/F12	368	82	221	160	99	290	180	22*	52
HQ060	F10/F12	368	82	221	160	99	290	180	27	52
HQ080	F12/F14	410	103	242	186	111	330	210	27	60
HQ120	F12/F14	410	103	242	186	111	330	210	36	60

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