

1. Housing: hard-anodized AL alloy and external coating of epoxy powder is suitable for the severe condition especially against the corrosion. Housing is designed in accordance with standard of Explosion-proof and IP67. and also we can offer HAITIMA™ HTQ with IP68 for option.



2. Motor: specially designed with squirrel caged induction motor to generate high starting torque and high efficiency equipped with thermal protector to prevent damage from over heating. it has several features such as high output power, high efficiency and lower noise.

3. PCU: high performance microprocessor, auto-calibration provides the most convenient to user without complicated set in field.



4. Sealing: sealing provided by double O-ring system.

5. Handwheel: Just by pulling over the lever, operating mode is switched to manual. then just supplying electrical power to actuator, clutch is automatically disengaged from manual and operating mode is switched to electric operation. The size of hand wheel is designed according to required torque to move the actuator, so that operator can easily move the actuator by hand.



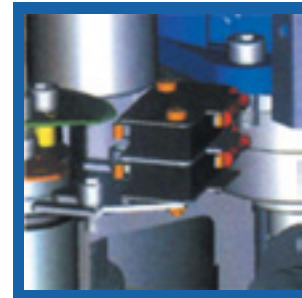
6. Gear & self locking: 2nd staged double worm gearing prevents movment caused by backward force transferred from valve and it provides the exact and stable position of actuator and valve when the power is off. High efficiency, high output torque, low noise level are another advantages.



7. Limit switches: directly engaged with driving shaft to set accurate position of valve.  
Torque switches: to protect actuator from damage caused by over torque from the driven valve over the whole travel.

8. Anti-condensation space heater: the switch is open when the temperature is around  $20\pm 3^{\circ}\text{C}$  to protect actuator condensation; The switch is close when the temperature is over  $30\pm 3^{\circ}\text{C}$  to prevent over heating.

9. Stopper bolt: stopper bolt installed both close and open direction prevents actuator's travel the limit during manual operation and also protects internal gearing from its breakaway.



10. Indicator: through the large size indicator window provides better position indication from a distance.

11. Terminal block: it is easy to add the number of strip for additional connection, spring loaded terminal strip is very strong against vibration.



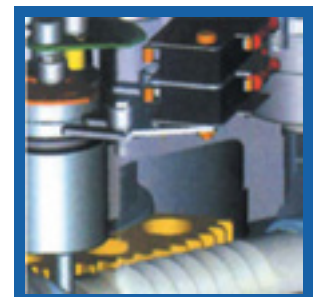
12. Wiring: the inside wiring is so simple and easy to connect.

13. Driving bushing: the driving bushing is removable to process, mounting base is designed according to ISO5211, it is convenient to adapt with valve.



14. Lubrication: all the gears and shafts use CIATM221 type Grease Moly, it is not necessary to refill lubricant for 5 years.

15. Anti-interference magnetic loop: it effectively prevents the actuator from outside magnetic field, and keeps the actuator operating stable.



**HAITIMA™ HTQ electric actuator guaranty high performance and stable quality product throughout severe test and inspection. We can provide advanced intelligent model with different models for option.**

1. Using very large scale digital integrated chip, so it has very powerful function and high accuracy. Once the actuator is supplied power, it will auto-check the control circuit to insure the correct operation.
2. Displacement transducer of actuator is n. hall sensor with digital quantization impulse signal, Hall magnetically pulse effects system can measure and control the travel of actuator exactly.
3. Using IA infrared ray system, IA always supports communication compatible with IrDA. The function specification of actuator can be set, adjusted and operated by handheld infrared remote controller, it is not necessary to open the top cover to reveal the inner control circuit.
4. Using liquid crystal display with high-resolution, English mark to indicate the travel percent of valve, It is very convenient to use in the night. LED signal with high lightness to indicate the position of actuator: full open-Red, full close-Green. The backup batteries will support the LED display when the main power is off.
5. The remote and local control (open/close/stop) function, with local lamp indication: full colse-Green (on). Closing-Green (flickering). Torque switch trip-Yellow (on), Fault-Yellow (Flickering). Full open-Red(on), Opening-Red(Flickering). Reversing, electronic contactors, Transformer, Phase discriminator has detection and auto-correction. 24 to 48 points terminal strips on terminal block for option. Position monitoring relays with remote position indication, local digital position indication.

