

NUTORK®

Actuator & Controls



NTQ Series Quarter Turn Electric Actuator



Approved by:
NEPSI & ATEX EExdIIBT6
Low Voltage Directive 2006/95/EC
Machinery Directive 2006/42/EC
Electromagnetic Compatibility Directive 2004/108/EC

NUTORK CORPORATION



- ▶ For On-Off and modulation operation
- ▶ 13 sizes with torque from 60Nm to 6000Nm
- ▶ Robust hard anodized aluminium housing epoxy coated
- ▶ Heavy duty squirrel caged induction motor gives high starting torque
- ▶ Dome type easy visibility position indicator
- ▶ Manual override auto declutch mechanism
- ▶ Enclosure IP67 and optional explosion proof Exd IIB T4
- ▶ Anti condensation space heater
- ▶ Auxiliary limit & over torque switches to protect actuator
- ▶ Permanently lubricated for trouble free operation
- ▶ Optional accessories available on request
- ▶ Sales support and back up by our team.

NUTORK NTQ series electric actuator are available from 60 to 6000 Nm torque output. Due to robust design and construction they can be used in most industrial environments. The housing is hard anodized Aluminium Alloy and external epoxy coating paint provides superior resistance for rigorous environments.

The actuator is fitted with a specially designed squirrel cage induction motor to generate high starting torque and is fitted with thermal overload protection to prevent damage from overheating. Included internally are both torque and limit switches for remote indication.

Actuators are supplied standard with manual override and external operating lever that switches the actuator to manual mode. This is automatically disengaged when switched to electrical operation. The gear mechanism is self locking to eliminate the possibility of reverse movement from the valve.

Removable drive bushing allows easy adaption to suit most valve requirements.

Available with a range of optional accessories including extra limit switches, potentiometer, process control unit, local control and signal indication.

| Actuator Model | Valve Conn. ISO5211 | Output Torque (Nm) | Duty Cycle IEC34 - 1 S2 - % | Operating Time(Sec.) 50/60Hz | Max.Bore Square | Max.Bore Key Ø | Rated Current (A) | | | | | No. of Handle Turn | Weight Kg. |
|----------------|---------------------|--------------------|-----------------------------|------------------------------|-----------------|----------------|-------------------|------------|------------|------------|-------|--------------------|------------|
| | | | | | | | 1Ph 230VAC | 1Ph 110VAC | 3Ph 380VAC | 3Ph 440VAC | 24VDC | | |
| NTQ-060 | F05/F07 | 60 | 35% | 21 / 18 | 20 | 22 | 0.45 | - | - | - | - | 9 | 8 |
| NTQ-100 | F05/F07 | 100 | 35% | 26 / 22 | 20 | 22 | 0.5 | 1.0 | 0.22 | 0.26 | 1.7 | 10 | 8 |
| NTQ-160 | F07/F10 | 160 | 35% | 28 / 23 | 25 | 32 | 0.6 | 1.45 | 0.25 | 0.30 | 2.0 | 12 | 14 |
| NTQ-240 | F07/F10 | 240 | 35% | 28 / 23 | 25 | 32 | 0.7 | 1.6 | 0.35 | 0.39 | 2.8 | 12 | 14 |
| NTQ-350 | F10/F12 | 350 | 35% | 32 / 27 | 25 | 32 | 0.9 | 1.8 | 0.38 | 0.42 | 4.0 | 13 | 18 |
| NTQ-500 | F10/F12 | 500 | 35% | 32 / 27 | 25 | 32 | 1.3 | 3.2 | 0.8 | 0.86 | 6.9 | 13 | 19 |
| NTQ-800 | F12/F14 | 800 | 35% | 36 / 30 | 38 | 42 | 1.5 | 3.9 | 1.1 | 1.2 | 9.8 | 15 | 24 |
| NTQ-1100 | F12/F14 | 1100 | 35% | 36 / 30 | 38 | 42 | 2.2 | 4.2 | 1.5 | 1.6 | 12.5 | 15 | 26 |
| NTQ-1500 | F14/F16 | 1500 | 35% | 110 / 92 | 50 | 60 | 1.5 | 3.9 | 1.1 | 1.2 | 9.8 | 46 | 50 |
| NTQ-2000 | F14/F16 | 2000 | 35% | 110 / 92 | 50 | 60 | 1.5 | 3.9 | 1.1 | 1.2 | 9.8 | 46 | 50 |
| NTQ-2500 | F14/F16 | 2500 | 35% | 110 / 92 | 50 | 60 | 2.2 | 4.2 | 1.5 | 1.6 | 12.5 | 46 | 52 |
| NTQ-4000 | F16/F25/F30 | 4000 | 35% | 180 / 150 | 50 | 60 | 1.5 | 3.9 | 1.1 | 1.2 | 9.8 | 73 | 200 |
| NTQ-6000 | F16/F25/F30 | 6000 | 35% | 180 / 150 | 60 | 70 | 2.2 | 4.2 | 1.5 | 1.6 | 12.5 | 73 | 202 |

| Accessories | Descripton | Accessories | Descripton |
|-------------|---|-------------|---|
| EX | Explosion-Proof ExdIIBT4 | CT | Current Transmitter (Output Signal 4-20mA) |
| WT | Water-Proof IP68 10M 100Hr. | PCU | Process Control Unit (4-20mA input & output signal) |
| ALS | Auxiliary Limit Switches | LCU | Local Control Unit. LCU1:1Ph , LCU3:3Ph |
| ATS | Auxiliary Torque Switches | LCD | LCD Signal Indication |
| SV | Variation in Torque and Operating Speed | FS | Fail Safe |
| PK | Potentiometer Kit(0~1K/5K ohm) | DI | Dome Type Indicator |

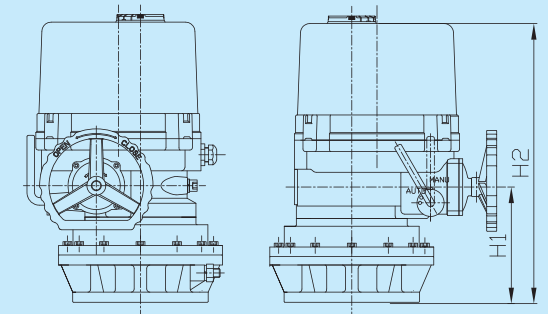
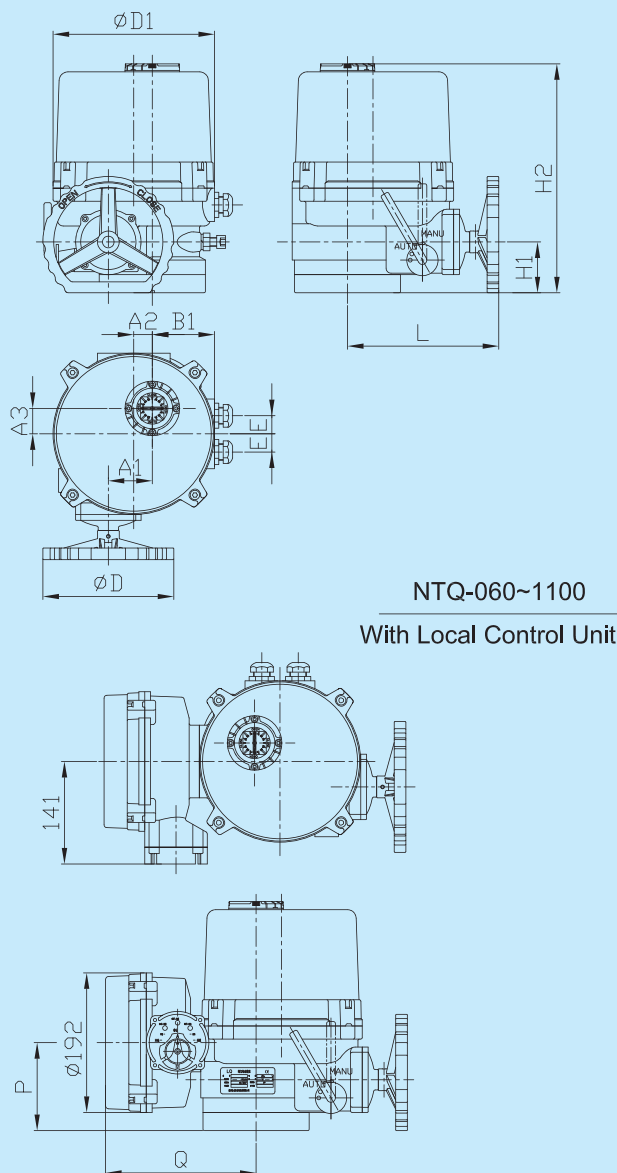
Standard Specification

1. Main Power Supply : Standard: 1Ph/220VAC & 3Ph/380VAC
Optional: 1Ph/110VAC, 3Ph 220VAC or 440VAC, 24VAC/24VDC
2. Control Power Supply : 110/220VAC or 24VDC
3. Duty Cycle(on/Off) : S2 : 10min ~ 30min / S4 : 20 ~ 50%
4. Duty Cycle(Modulating) : S4 : 30 ~ 50%, 300 ~ 1200 start/hour
5. Motor : Squirrel Caged Induction Motor
6. Limit Switches : 2 x SPDT, 10A@250VAC at open & closed position
Except NTQ-060/100: 1 x SPDT, 10A@250VAC at open & closed position
7. Torque Switches : 1 x SPDT, 10A@250VAC at open/closed position(Except NTQ-060/100)
8. Stall Protection / Set Temp. : Built - in thermal protection , Open : 150 & Close : 97
9. Position Indicator : Continous mechanical indicator with arrow
10. Mechanical stopper : 1 each for each travel end (open & closed), external & adjustable
11. Self-Locking : Provided by double worm gear (no brake)
12. Manual Override : De-Clutchable
13. Space heater : 5W(110/220VAC) for anti-condensation
14. Cable Entry : 2 x PF3/4"
15. Lubrication : EP type grease
16. Terminal block : Screw & lever push type(spring loaded)
17. Amb. Temperature: Standard: -20 ~ 70
18. Amb. Humidity : 90%RH Max(No - Condensing)
19. Anti Vibration : XYZ 10g, 02 ~ 34Hz, 30 minutes
20. External Coating : Dry Powder(Polyester)
21. Enclosure : Weather-Proof IP67, NEMA 4 & 6.
IP68(option) or EExdIIBT4(option)

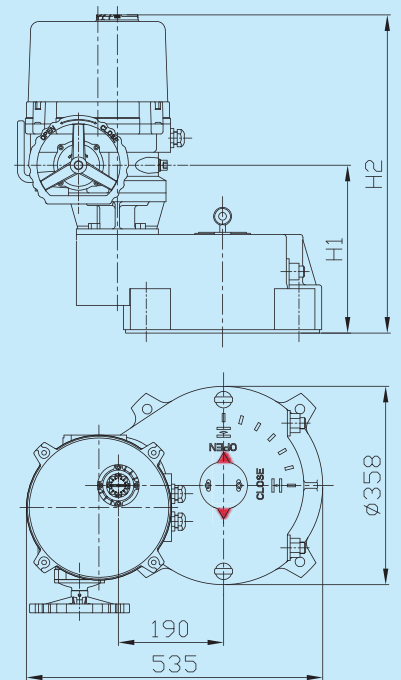
Dimension

(mm)

| Model | A1 | A2 | A3 | B1 | D | D1 | E | H1 | H2 | L | P | Q | |
|--------------------|------|------|----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| NTQ-060/100 | 41 | 12 | 31 | 67 | 100 | 157 | 23 | 55 | 223 | 167 | 96 | 179 | |
| NTQ-100/160/240 | 57.5 | 23.5 | 27 | 80.5 | 180 | 206 | 25 | 67 | 261 | 197 | 112 | 207 | |
| NTQ-350/500 | 60.5 | 25.5 | 35 | 85.5 | | | | 222 | 70 | 315 | 208 | 121 | 207 |
| NTQ-800/1100 | 70 | 35 | 40 | 96 | | | | 262 | 81 | 352 | 230 | 132 | 222 |
| NTQ-1500/2000 | | | | | 185 | 456 | 230 | | 236 | 222 | | | |
| NTQ-2500/4000/6000 | | | | | | | | 303 | 574 | / | / | / | |

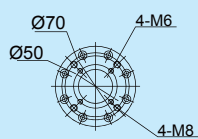


NTQ-1500~2500
NTQ-4000~6000

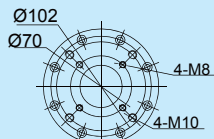


Mounting Dimension

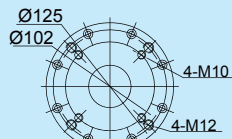
Mounting base according to ISO5211 standard



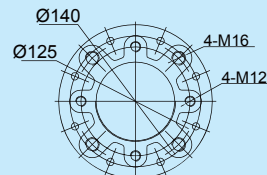
NTQ-060/100



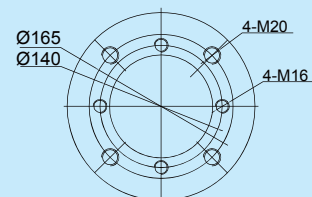
NTQ-160/240



NTQ-350/500



NTQ-800/1100



NTQ-1500/2000/2500



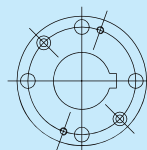
Ø22(MAX)

NTQ-060/100



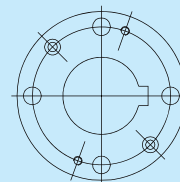
Ø32(MAX)

NTQ-160/240/350/500



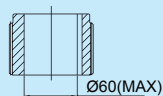
Ø42(MAX)

NTQ-800/1100



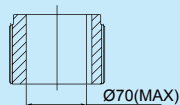
Ø60(MAX)

NTQ-1500/2000/2500



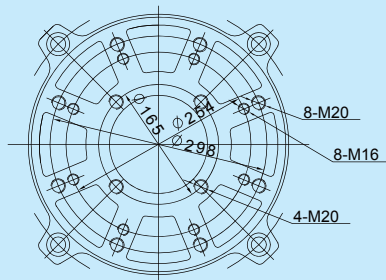
Ø60(MAX)

NTQ-4000

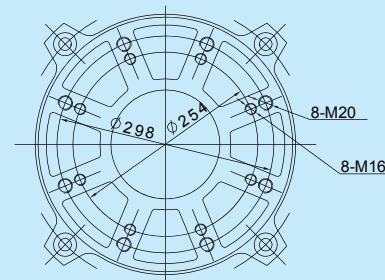


Ø70(MAX)

NTQ-6000



NTQ-4000



NTQ-6000

NUTORK CORP. manufactures a wide range of pneumatic actuators, electric actuators and the accessories of pneumatic actuator (limit switchbox, solenoid valve, manual override ---etc.) for quarter turn valves

Nutork Corp. supply the following product range:

| | |
|---|---|
|  | <p>NK series rack & pinion type (CE-ATEX certified and PED compliant) 14 models, the output torque from 9Nm(80in.lbs) to 3,920Nm(34,660in.lbs) at 6 bar air supply. ISO5211/DIN3337 for valve connection, VDI/VDE 3845(Namur) standard connection for solenoid valve and shaft top end(limit switchbox or E/P positioner), +/-5 degree stroke adjustment. 25~30um standard hard anodized treatment on actuator body and over 120um epoxy coated on end caps which meet ASTM B117 qualification(salt spread test over 1,000 hours and no corrosion).</p> <p>PTFE, Polyester, Nickel, Ceramic and Epoxy coated are available on request.</p> |
|  | <p>NSF series scotch yoke type pneumatic and hydraulic actuators (CE-ATEX certified and PED compliant) The output torque from 978Nm(8,656in.lbs) to 226,200Nm (2,001,870in.lbs) at 6 bar air supply. Anti-corrosion painting on outer body and cylinder as standard. VDI/VDE 3845(Namur) standard connection for shaft top end(limit switchbox or E/P positioner), +/-10 degree stroke adjustment. ISO5211 standard for valve connection. PTFE coated on inner cylinder surface. Hydraulic manual override is available for big size actuator.</p> |
|  | <p>NTE series electric actuator, CE approval 13 models and the output torque from 18Nm(159in.lbs) to 6000Nm(53,106in.lbs), compact design, die-casting aluminum alloy housing, alloy steel with heat treatment gear driving unit, integral wormgear & drive shaft, 30% duty rating, detachable crank handle, ISO5211(option), IP67 enclosure.IP68 for option.</p> |
|  | <p>NTE-02L Quarter Turn Electric Actuator Output torque 25Nm(222in.lbs),operation time 10Sec;voltage 24VAC,110VAC & 220VAC for option,ABS housing, 30% duty rating,IP65 enclosure.</p> |
|  | <p>NTQ electric actuator, CE approval(IP67 & EExdIIBT4 enclosure) 11 models, the output torque from 60Nm(531in.lbs) to 2500Nm(22125in.lbs), de-clutchable manual override, 2xSPDT each for open & close, torque switch: 1xSPDT each for open & close. space heater, self-lock, IP67 & EExdIIBT4 enclosure.</p> |
|  | <p>The fully range accessories(Limit Switchbox, Solenoid Valve, De-clutchable Manual Override, Air Filter regulator, E/P Positioner ---etc).</p> |

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