

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Actuator

with type designation(s)
NTE-Series, NTQ-Series

Issued to

Nutork Corp.
Shanghai, China

is found to comply with
DNV rules for classification – Ships and offshore units

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location classes:

Type	Temperature	Humidity	Vibration	EMC	Enclosure
NTE-Series	D	B	A	A	IP67
NTQ-Series	D	B	A	A	IP67

Issued at **Hamburg** on **2022-07-14**

for **DNV**

This Certificate is valid until **2027-06-14**.

DNV local station: **Shanghai**

Approval Engineer: **Holger Jansen**

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Joannis Papanuskas
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

NTE-Series electrical actuators

Type	Max. Output Torque	Controls
NTE-02Ex	24 Nm	ON-OFF
NTE-05B	50 Nm	ON-OFF
NTE-05E	50 Nm	Modulating
NTE-10B	100 Nm	ON-OFF
NTE-10E	100 Nm	Modulating
NTE-20B	200 Nm	ON-OFF
NTE-20E	200 Nm	Modulating
NTE-40B	400 Nm	ON-OFF
NTE-40E	400 Nm	Modulating
NTE-50B	500 Nm	ON-OFF
NTE-50E	500 Nm	Modulating
NTE-60B	600 Nm	ON-OFF
NTE-60E	600 Nm	Modulating
NTE-100B	1000 Nm	ON-OFF
NTE-100E	1000 Nm	Modulating
NTE-200B	2000 Nm	ON-OFF
NTE-200E	2000 Nm	Modulating
NTE-300B	3000 Nm	ON-OFF
NTE-300E	3000 Nm	Modulating

NTQ-Series electrical actuators

Type	Max. Output Torque	Controls
NTQ-060-(Ex)	60 Nm	ON-OFF
NTQ-060+PCU-(Ex)	60 Nm	Modulating
NTQ-100-(Ex)	100 Nm	ON-OFF
NTQ-100+PCU-(Ex)	100 Nm	Modulating
NTQ-160-(Ex)	160 Nm	ON-OFF
NTQ-160+PCU-(Ex)	160 Nm	Modulating
NTQ-200-(Ex)	200 Nm	ON-OFF
NTQ-200+PCU-(Ex)	200 Nm	Modulating
NTQ-240-(Ex)	240 Nm	ON-OFF
NTQ-240+PCU-(Ex)	240 Nm	Modulating
NTQ-350-(Ex)	350 Nm	ON-OFF
NTQ-350+PCU-(Ex)	350 Nm	Modulating
NTQ-500-(Ex)	500 Nm	ON-OFF
NTQ-500+PCU-(Ex)	500 Nm	Modulating
NTQ-800-(Ex)	800 Nm	ON-OFF
NTQ-800+PCU-(Ex)	800 Nm	Modulating
NTQ-1100-(Ex)	1100 Nm	ON-OFF
NTQ-1100+PCU-(Ex)	1100 Nm	Modulating
NTQ/SR50-(Ex)	50 Nm	ON-OFF with spring return
NTQ/SR100-(Ex)	100 Nm	ON-OFF with spring return
NTQ/SR200-(Ex)	200 Nm	ON-OFF with spring return
NTQ/SR300-(Ex)	300 Nm	ON-OFF with spring return

“Ex” in the product type means explosion-proof product, not verified by DNV.

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Type Approval documentation

Test reports: SiTiiAS Report No. A21-008-WT-01, 2021-10-22
SiTiiAS Report No. A21-008-WT-02, 2021-10-22

Drawings: User manual NTQ-Series 2020 Version
User manual NTE-Series
NTE-series elec. and assembly documentation
NTQ-series elec. and assembly documentation
Comparison table

Type Approval Assessment Report 2022-06-29

Tests carried out

Applicable tests according to DNV Class Guideline CG0339, August 2021.

Marking of product

The products to be marked with:

- Model name
- Manufacturer name
- Serial number

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE