

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Electric Actuator**with type designation(s)  
**MT50 1.0, MT150 1.0**

Issued to

**ELTORQUE AS**  
**VANVIKAN, Norway**is found to comply with  
**DNV GL 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 GL.****Location classes:**

| Type      | Temperature | Humidity | Vibration | EMC | Enclosure |
|-----------|-------------|----------|-----------|-----|-----------|
| MT50 1.0  | C           | B        | A         | A   | D         |
| MT150 1.0 | C           | B        | A         | A   | D         |

This Certificate is valid until **2020-12-13**.Issued at **Høvik** on **2015-12-14**DNV GL local station: **Trondheim**Approval Engineer: **Ståle Sneen**for **DNV GL**

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**Odd Magne Nesvåg**  
**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.

Job Id: **262.1-019053-1**  
Certificate No: **TAA000006V**

### Place of manufacture

Eltorque AS  
Verkstedvegen 4  
7125 Vanvikan  
Norway

Eltorque Automation (Xiamen) Co., Ltd.  
5/7 Xinshidai building, No.1 Huli Da Dao, Huli District,  
Xiamen, Fujian Province, Postcode: 361006  
China

### Product description

Electric multi-turn valve actuator

|                   |             |                |
|-------------------|-------------|----------------|
| Power Supply:     | MT50, MT150 | 230 V AC 50 Hz |
| Operating Torque: | MT50        | Max. 50 Nm     |
|                   | MT150       | Max. 150 Nm    |

Interface options as listed in table below.

| Actuator  | Interface boards                       |
|-----------|----------------------------------------|
| MT50 1.0  | MT50 1.0 Digital<br>MT50 1.0 CANopen   |
| MT150 1.0 | MT150 1.0 Digital<br>MT150 1.0 CANopen |

Firmware versions:

| Interface type         | MT50, MT150 |
|------------------------|-------------|
| CANopen (Fieldbus)     | 1.0.x       |
| Digital (Open – Close) | 1.0.x       |

### Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, 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 GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

### Type Approval documentation

#### Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2015.

All actuators tested for IP68 down to 10 m for 72 h according to IEC 60529:2001.

### Marking of product

- Actuator model name
- Interface type
- Manufacturer name
- Serial number
- Input power ratings

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### **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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE