



Marine & Offshore
Division

Certificate number: 26022/B0 BV

File number: AP 4245

Product code: 3932H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Eltorque AS

Vanvikan - NORWAY

for the type of product

ELECTRICAL ACTUATORS

Quarter-turn Electric Valve Actuators

Types: QT250, QT800, QT2500 & QT4000.

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.

BUREAU VERITAS Rules for the Classification of Offshore Units.

EC Code: 21, 41S

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 07 Feb 2022

For BUREAU VERITAS,

At BV OSLO, on 07 Feb 2017,

Rune MARSTEIN

Rune Marstein



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=adv05uzmt1>

BV Mod. Ad.E 530 October 2014

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

- Product model or type designation :
QT250, QT800, QT2500 & QT4000
- Product description:
Quarter-turn Electric Valve Actuators

1.1 - Main Characteristics of QT250 & QT800 (1.0 and 2.0):

| | QT250 | QT800 |
|--------------------------|--|--------------|
| Max Torque (Nm) | 250 | 800 |
| Opening Angle | 0 - 360 deg (Electronically adjustable) | |
| Power Supply | 230 VAC - 50/60 Hz | |
| Ingress Protection Index | IP68 (10m - 72h) | |
| Working Temperature | -25°C to 55 °C (1.0) -25°C to 70 °C (2.0)* | |
| Remote Control Interface | 4-20 mA, Digital (Open-Close), CANopen, Modbus | |
| Enclosure | Aluminium | |
| Firmware / Software | 1.1.x (For all Control Interface versions) | |

* Can be installed on exposed deck.

1.2 - Main Characteristics of QT2500 & QT4000:

| | QT2500 | QT4000 |
|--------------------------|--|---------------|
| Max Torque (Nm) | 2500 | 4000 |
| Opening Angle | 0 - 360 deg (Electronically adjustable) | |
| Power Supply | 110/240 VAC - 50/60 Hz** | |
| Ingress Protection Index | IP68 (10 m - 0.5h) | |
| Working Temperature | -25°C to 55 °C | |
| Remote Control Interface | 4-20 mA, Digital (Open-Close), CANopen, Modbus | |
| Enclosure | Aluminium and Steel | |
| Firmware / Software | 0.1.x (For all Control Interface versions) | |

** For installation in Deck zone, a Schaffner Filter FN2010-3-06 is to be installed on AC Power Port.

2. DOCUMENTS AND DRAWINGS:

Eltorque AS :

- Version Numbering System (Hardware and Software), Revision date: 13.10.2011.
- Checklist Firmware Testing, dated 10.08.11.
- Software - Eltorque Release Notes (4 documents, 1 for each Control Interface) for QT2500, all with Rev. 0 and dated 11.09.2009
- Software - Eltorque Release Notes (4 documents, 1 for each Control Interface) for QT250 & QT800:
 - Digital Interface: Rev. 0 dated 16.06.2010
 - Analogue Interface: Rev. 0 dated 15.10.2010
 - Modbus Interface: Rev. 1 dated 17.02.2011
 - CANopen Interface: dated 27.06.2011.

For modification B0 version:

Eltorque AS :

- QT4000 PRODUCT SHEET REVISION 2 - Jun 24, 2016
- Technical Manual - Control interfaces for QT2500 and QT4000 Rev. 7, dated Dec 9, 2014
- User Manual QT4000 Rev. 2, dated Sep 29, 2014
- User Manual - QT250 & QT800 Electrical Part-turn Valve Actuators, Revision date: Dec 21, 2016
- User Manual - QT2500 Electrical Part-turn Valve Actuator Rev. 8, Revision date: Nov 29, 2012
- Installation Manual - Eltorque Actuators - QT250 & QT800, Rev. D, dated Jan 22, 2013
- Technical Manual - Control Interfaces for Eltorque QT250 & QT800 Valve Actuators Rev. 7, dated May 13, 2014

3. TEST REPORTS:**Nemko:**

Test Report (QT250) - Electromagnetic Compatibility, Order No. 43316 issued on 2005-06-30
Test Report (QT2500), Report No. 10122.03 issued on 2010-11-10
Statement of Conformity (IP), Order No. 171756 issued on 2011-03-28
Statement of Conformity (HV Test), Order No. 175904 issued on 2011-05-12.

DNV:

Technical Report, Environmental testing of electrical actuator, QT250, Report No. 2005-3200, Rev. 01 issued on 2005-06-06.

4. APPLICATION / LIMITATION:

4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships and Offshore Units.
4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
4.3 - BUREAU VERITAS Environmental Category, **EC Code: 21, 41S** (version 2.0 only).
4.4 - The equipment fulfils the EMC requirements for installation on Deck (with Schaffner Filter FN2010-3-06 for QT2500) and in General power Distribution Zones.
4.5 - Remote controlled valves whose failure could impair essential services are to be provided with a secondary means for operating them which may be manual control.
4.6 - The equipment, once installed on board ship, is to be tested in accordance with the above referred Regulations under the supervision of a Society's Surveyor.
4.7 - Only Hardware and Software successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.
4.8 - Ex-certification is not covered by this certificate. Applications in hazardous areas are to be approved in each case according to the Rules and Conditions for Safe Use specified in a valid Ex-Certificate issued by a Notified or Recognised Certification Body.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **Eltorque AS** in compliance with the type described in this certificate.
5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
5.3 - **Eltorque AS** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
5.4 - **Eltorque AS** has declared to Bureau Veritas the following production site(s):

Eltorque AS
Lyng Industrial Park
7125 Vanvikan
NORWAY

6. MARKING OF PRODUCT:

- Maker's name or trade mark.
- Serial number of the units.
- Equipment type number or model identification under which it was type-tested.

7. OTHERS:

7.1 - It is **Eltorque AS - NORWAY**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
7.2 - This certificate supersedes the Type Approval Certificate No. 26022/A0 BV issued on 23 Nov 2011 by the Society.

***** END OF CERTIFICATE *****