

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Electric Actuator**with type designation(s)
StG EC 40, StG EC 250

Issued to

Heinzmann GmbH & Co. KG
Schönau im Schwarzwald, Baden-Württemberg, Germany

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Temperature	D
Humidity	B
Vibration	B
EMC	A
Enclosure	C

Issued at **Hamburg** on **2019-07-10**for **DNV GL**This Certificate is valid until **2024-07-09**.DNV GL local station: **Augsburg**Approval Engineer: **Jens Dietrich**

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.



Job Id: **262.1-017554-2**
Certificate No: **TAA00002EX**

Product description

Electronic Actuators with brushless disc motor.

StG EC 40 type subtypes with different parameter settings for rotation, direction and signals:

StG EC 40
StG EC 40 RS-CW
StG EC 40 RS-CCW
WEA 40
WEA 40-CW-PWM
WEA 40-CCW-PWM
WEA 40-CW-CURR
WEA 40-CCW-CURR
StG EC 40 CW-PWM
StG EC 40 CCW-PWM
StG EC 40 CW-CURR
StG EC 40 CCW-CURR

StG EC 250 type subtypes with different parameter settings for rotation, direction and signals:

StG EC 250
WEA 250

Ratings:

StG EC 40: 24V DC (redundant)
StG EC 250: 40V DC (drive), ECU: 24V DC (separate supply).

Software version:

xx.11.02 (xx: customer reference)

Approval conditions

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

Data sheets: ETM_DS_STGEC250_02_12_10_e; ETM_DS_STGEC40_02_12_10_e
DG 09 005-e, ver 1.4 ; StG EC 40/250 Specification; Instructions: DG 11 002-e, dated 2014-04.
Drawings: 507-00-004-.. dated 2014-06-03, 504-00-100-00 ver. D.
Test reports: 100858_03_H, dated 2011-04-04; 100682_04_H, dated 2011-04-04;
100682_03_H, dated 2011-01-31; 100682_02_H, dated 2010-10-21; 100682_02_G, dated 2010-10-22
VR 036/09, dated 2011-03-03; 71378355, dated 2010-12-09; VR 071/14, dated 2014-11-13; DG 1801-04 ver. 0; StG EC 250 Torque Test Ver. 0, StG EC40 Performance Test.
TA Assessment Report DNV GL Augsburg, dated 2019-07-10.

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Marking of product

The products to be marked with:

- model name
- manufacturer name
- serial number

Periodical assessment



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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