

Certificate No:

A-14160

File No:

897.30

Job Id:

262.1-017554-1

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

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards**Application :****Location classes:**

Temperature	D
Humidity	B
Vibration	B
EMC	A
Enclosure	C

This Certificate is valid until **2019-06-30**.Issued at **Høvik** on **2015-02-06**DNV GL local station: **Augsburg**Approval Engineer: **Nils Jarem**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.

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Product description

Electronic Actuators with brushless disc motor.

StG EC 40
StG EC 40 RS-CW
StG EC 40 RS-CCW
StG EC 250

Ratings:

StG EC 40: 24V DC (redundant)
StG EC 250: 48V DC (drive), ECU: 24V DC (separate supply)

Software version:

xx.11.01 (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, 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.

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

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

Marking of product

The products to be marked with:

- model name
- manufacturer name
- serial number

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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