DNV·GL

Certificate No:
TAA00001UK

TYPE EXAMINATION CERTIFICATE

This is to certify:

That the Wave Monitoring System

with type designation(s)
sigma S6 WaMoS II

Issued to
Rutter Inc.
St. John's, NL, Canada

is found to comply with
IEC 60945 Ed. 4 (2002-08) Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results
IEC 62288 Ed. 2.0 (2014-07) Maritime navigation and radiocommunication equipment and systems – Presentation of navigation-related information on shipborne navigational displays – General requirements, methods of testing and required test results

Application :

Wave Monitoring System

Issued at **Høvik** on **2018-05-18**
This Certificate is valid until **2023-05-17**.
DNV GL local station: **St. John's, NL**

Approval Engineer: **Arve Lepsøe**

for **DNV GL**

Jan Tore Grimsrud
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 Examination Certificate and not to the approval of equipment/systems installed.

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Product description

Rutter/ OceanWaveS *sigma* S6 WaMoS® II is a shipboard wave monitoring system consisting of the following components:

- Rutter RSi-5000 PCI Card, model RUT-01068-CA
- RSi-5000 Interface Module, model RUT-02898-AA
- NSI Desktop Keyboard/ Trackball, model KSML92S0001-W-MC1, or
- NSI Panel Mounted Keyboard/ Trackball, model KSML92F0001-W-MC1
- ISIC 19'' 4:3 Monitor, model DuraMON 19 Glass
- ISIC 24'' Widescreen Monitor, model DuraMON 24 Glass
- SW packages:
    - sigma S6 Server (raw data processing), version 9.x.x.x
    - WinWaMoS (sea state parameters calculation), version 9.x.x.x
    - SeaView (GUI for sigma S6 WaMoS II System), version 9.x.x.x

Application/Limitation

- For Marine and Offshore applications
- Installation to be performed according to the manufacturers installation manual
- Range of application. Standard deviation is based on comparative measurements:

Parameter	Resolution	Range	Accuracy
Significant wave height	0.01 m	0.01 – 5 m	+/- 0.5 m
Significant wave height	0.01 m	5 – 12 m	+/- 10%
Peak wave period	0.01 sec	4 – 16 sec	+/- 0.2 sec
Peak wave direction	1°	0 - 360°	+/- 2°
Current speed	0.01 m/s	0 – 10 m/s	+/- 0.2 m/s
Current direction	1°	0 - 360°	+/- 2°

Type Examination documentation

Tests carried out

- Environmental testing: IEC 60945 (2002)
- Presentation of information: IEC 62288 (2014)

Marking of product

The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location. In addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.

Certificate Retention Survey

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.
The scope of the periodical/renewal assessment is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society.