



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. A-10495
This Certificate consists of 3 pages

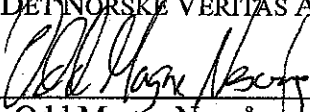
This is to certify that the
Level Transmitter
with type designations
Optiwave 8300 C - Aluminium version
Optiflex 4300 C - Aluminium version


Manufactured by:
Krohne SAS
ROMANS SUR ISERE, France

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and
Det Norske Veritas' Offshore Standards

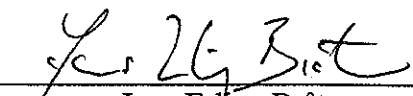
Application
Location classes:

Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	Required protection according to DNV Rules shall be provided upon installation on board

Place and date
Høvik, 2007-10-11
for DET NORSKE VERITAS AS

Odd Magne Nesvåg
Head of Section


Local Office
DNV Marseille

This Certificate is valid until
2011-12-31


Jens Erling Bråten
Surveyor *Snee*

Notice: 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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision 'Det Norske Veritas' shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: A-10495
File No.: 892.30
Job ID.: 262.1-002241-1

Product description

Optiwave 8300 C – Aluminium version. Radar level meter with aluminium housing.
Optiflex 4300 C – Aluminium version. Guided radar level meter with aluminium housing.

Application/Limitation

Note that for the Optiflex 4300 C, the wire must be mounted with some slack to avoid resonance frequencies to occur, which could cause stress and possible damage at the point where the wire is connected to the instrument. Manufacturers guidelines for mounting is to be complied with.

This certificate only covers use on inland and river going vessels where there is no salty atmosphere. The equipment is not approved for use on seagoing vessels.

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

- DNV Technical Report No. 2006-3573, Revision No.01
- DNV Technical Report No. 2007-3247, Revision No.01
- DNV Technical Report No. 2006-3445, Revision No.02
- Krohne Optiflex 1300C Handbook, doc.No. 7.02534.22.00 dated 2005-08
- Krohne Optiwave 7300C Handbook, doc.No. 7.02535.22.00 dated 2005-08
- Krohne Skarpenord, Description of test equipment for Type Approval, version 0.2

Tests carried out

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



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Certificate retention survey

The scope of the retention/renewal survey 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 survey 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

Retention survey is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE