Certificate no.:
TAA00003GH

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Oil & Turbidity Detector

with type designation(s)
OR 52-5, OR 52-6

issued to
Gestra AG
Bremen, **Germany**

is found to comply with
DNV rules for classification – Ships

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location classes:

Temperature	**A**
Humidity	**B**
Vibration	**A**
EMC	**A**
Enclosure	**B (IP56)**

Issued at **Hamburg** on **2024-09-27**
This Certificate is valid until **2029-09-26**.
DNV local unit: **Hamburg – CMC North/East**

for **DNV**

Approval Engineer: **Holger Jansen**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

Oil & Turbidity Detector
The measuring sensor is a photometric measuring device.

OR 52-5		**OR 52-6**	
Measuring sensor:	ORG 12	Measuring sensor:	ORG 22
Measuring transducer:	ORT 6	Measuring transducer:	ORT 6

Supply voltage:	115 or 230 Vac, 50 – 60 Hz
Measuring range:	0 – 25 ppm
Signal output:	0/4 mA – 20mA
Alarm contacts:	2 adjustable values between 0 and 15 ppm
Max. water temperature:	160°C
Max. water pressure:	10 bar

Application/Limitation

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

Tests carried out

Applicable tests according to DNV Class Guideline CG0339, August 2021.

Marking of product

The products to be marked with:
- Model name
- Manufacturer name
- Type number

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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE