Certificate No:
TAP00002NX

TYPE APPROVAL CERTIFICATE

This is to certify:

That the 5 ppm Bilge Alarm

with type designation(s)
OMD-24 DNV

Issued to
DECKMA HAMBURG GmbH
Hamburg, **Germany**

is found to comply with
DNV class programme DNV-CP-0485 – Type approval – 5 ppm bilge alarms
IMO Resolution MEPC.107(49) – Revised Guidelines and Specifications for Pollution Prevention Equipment for Machinery Space Bilges of Ships

Application :

This is to certify that the 5 ppm Bilge Alarm OMD-24 DNV has been examined and tested in accordance with the requirements of the specifications contained in Resolution MEPC.107(49) and DNV CP-0485:2022.
System Design Limitations / Limiting Operating Conditions imposed are described in this document.

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

Issued at **Hamburg** on **2023-09-25**
This Certificate is valid until **2028-09-24**.
DNV local unit: **Hamburg – CMC North/East**

Approval Engineer: **Hagen Markus**

for **DNV**

Sven Klinger
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.

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 300,000 USD.

Product description

The OMD-24 DNV 5ppm bilge alarm hardware is based on approved 15ppm OMD-24 whereas the software/firmware is modified to achieve accuracy values specified in CP-0485.

The bilge alarm detects hydrocarbons in water using an optical sensor array for measuring light scattered and absorbed by oil droplets in the sample stream. The sensor signals are processed by a microprocessor to produce linearized output.
The bilge alarm monitors the effluent from an DNV approved 5ppm bilge separator. In case the oil content exceeds 5 ppm or no flow in the measuring cell is detected it sends an alarm signal that facilitates the activation of discharge control devices to changeover from overboard discharge to bilge or bilge tank(s).

References: DECKMA HAMBURG “Instruction Manual OMD-24 Series 15ppm Bilge Alarm”.

Standard configuration

Bilge alarm consist of a computer unit with flow sensor PCB combined with a separate measuring cell provided with manual cleaning unit MCU. Computer unit and measuring cell are electrical connected by a communication cable.
For monitoring of measuring cell water flushing a special valve arrangement is provided.

Monitoring of water flow in the measuring cell by a flow sensor arranged in the sample outlet of the measuring cell.
The flow sensor PCB is connected to the flow sensor and measuring cell by an 8pin connector and Y-cable.

Alternatively, the sample flow monitoring may be integrated in the bilge water separator monitoring system.

Optional configurations

- Measuring cell auto clean system, suffix “A.”
- Monitoring of water flushing valve by electric valve arrangement, suffix “EV.”
  In combination with auto clean system, suffix “EVA.”

Wiring connection to Bilge Separator

Two oil alarm relays, Alarm 1 and Alarm 2, and one 4-20 mA output are provided to control the overboard discharge and to monitor oil content level remotely.
Bilge alarm is not fitted with automatic stopping device but fitted with electrical outlet for automatic stopping device.

Firmware

Application/Limitation

The OMD-24 DNV is type approved for the use in conjunction with a DNV type approved 5ppm Bilge Separator installed on ships with classifier “Clean(Design)”.

Installation of OMD-24 series Bilge alarms in spaces subject to explosion hazard is not approved.

Installation/Integration of bilge alarm in bilge water separator piping and monitoring system

Installation requirements to the 5 ppm bilge arrangement shall be as per DNV-CP-0485,
Section 2 – 5 Installation requirements to the 5 ppm bilge arrangement.

Arrangement of any components other than mechanical joints for connection of pipe sections in the sample line is not approved.

The onboard arrangement of the 5 ppm bilge alarm, 5 ppm bilge separator and automatic stopping device shall function automatically.

Fail-safe arrangements to avoid any discharge in case of malfunction shall be provided and verified after installation:

1. The alarm is always activated whenever clean water is used for cleaning or zeroing purposes if applicable;
2. The alarm is always activated whenever no flow of sample through alarm is detected by the flow sensor;
3. Any alarm will activate the automatic stopping device preventing overboard discharge and lead to recirculation;
4. The overall response time (including the response time of the alarm) between the effluent discharge exceeding 5 ppm oil and the operation of the automatic stopping device preventing overboard discharge is not more than 20 seconds;
5. By-passing the alarm during normal operation shall by no means be possible.

Type Approval documentation

Tests carried out

The equipment is tested in accordance with the requirements of DNV-CP-0485:2022 and IMO Resolution MEPC.107(49).

Marking of product

The final product shall be provided with permanent visible marking, which completely identifies the product and its components according to drawings/equipment specification.

Computer module

Marking scope	Example
Manufacturer's identification	DECKMA
Type designation	OMD-24 DNV
Serial number	20XXXXX
Date of manufacture (month/year)	08.23

Measuring cell

Marking scope	Example
Manufacturer's identification	DECKMA Hamburg GmbH
Type designation	OMD-24 measuring cell DNV
Serial number	40XXXXX
Date of manufacture (month/year)	08.23

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment to verify that the conditions for the Type Approval are complied with. Refer to the Class Programme DNV-CP-0338, Sec.4.

To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com

APPENDIX

Test data and results of tests
conducted on a 5 ppm Bilge Alarm
in accordance with
DNV CP-0485:2022 and IMO Resolution MEPC.107(49).

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