

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Oil-content meters

with type designation(s)

Model TD-107C and Model TD-107 5.0

Issued to

Benchmark International Inc.
Edmonton, AB, Canada

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2018/773**,
item No. MED/2.3. Marpol 73/78 as amended, Annex I Regulation 14, IMO Res.
MEPC.107(49), IMO MEPC.1/Circ. 643

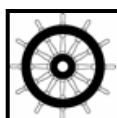
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-06-30**.

Issued at **Høvik** on **2018-07-01**

DNV GL local station:
Vancouver

Approval Engineer:
Thomas Grafton



Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body



The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Product description

The TD-107 series of Bilge Alarms by Benchmark International Inc. are intended for installation on-board ships for monitoring the oil content of bilge water. The unit monitors the effluent from an approved Bilge Water Separator and sends an alarm signal that facilitates the activation of discharge control devices that divert bilge water from overboard to bilge tank(s) when the oil content exceeds 15ppm.

The TD-107 series uses fluorometry in combination with a proprietary flow cell to achieve highly accurate oil content measurements.

The 15ppm Bilge Alarm is designed and tested to meet the requirements of IMO Resolution MEPC.107(49).

The TD-107 series 15ppm Bilge Alarm was previously manufactured by Turner Hydrocarbon Instruments Inc. Benchmark International Inc. has merged with Turner Hydrocarbon Instruments Inc. and Benchmark International Inc. has taken over responsibility for production and certification.

Application/Limitation

The bilge alarm is fitted with a flow status sensor that will detect if the connected Oily Water Separator is functioning. A "Zero Signal Alarm" will be triggered if the measured oil concentration is approximately 0 ppm. This signal alarm shall be connected to the automatic stopping device preventing overboard discharge. This will detect the "no flow of sample" and "cleaning water" conditions that are required to be verified during installation (see below).

A copy of the Operation, installation and maintenance manual shall be on board vessel at all times.

The equipment is not permitted to be installed in spaces subject to explosion hazards.

The following shall be verified during installation :

- The alarm is always activated whenever clean water is used for cleaning or zeroing purposes.
- The alarm is always activated whenever no flow of sample through alarm is detected by the flow sensor.
- Any alarm will activate the automatic stopping device preventing overboard discharge and lead to recirculation.
- 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.

Type Examination documentation



Job Id: **344.1-004140-3**
Certificate No: **MEDB000049C**

Tests carried out

Marking of product

For traceability to this EC Type-Examination, each unit to be marked with;

- Manufacturer's name and trade mark
- Type designation
- Serial No.
- Mark of Conformity

--This certificate replaces previous certificates MEDB000001T and MED-B-8707 which are now withdrawn--

APPENDIX – TD107C

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APPENDIX – TD107^{5.0}

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