



Marine & Offshore

Certificate number: 06094/F1 BV

File number: AP 2750

Product code: 3891H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

DANFOSS A/S

NORDBORG - DENMARK

for the type of product

PRESSURE TRANSMITTERS / TRANSDUCERS

Type: MBS 5100, MBS 5103, MBS 5150, MBS 5153

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.

EC Code : 31

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 06 Apr 2025

For Bureau Veritas Marine & Offshore,

At BV FREDERICIA, on 19 Apr 2021,

Jesper JENSEN



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=7e06qpl4wp>

BV Mod. Ad.E 530 June 2017

This certificate consists of 2 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

PRESSURE TRANSMITTER
 Type : MBS 5100, MBS 5103
 Type: MBS 5150, MBS5153 with pulse-snubber

2. DOCUMENTS AND DRAWINGS:

- Data sheet AI369160646499en-000101 dated 2021.02
- Drawing 060N9000 rev 02 dated 2020.12.29
- Drawing ESH060N1279 rev 00 dated 2021/01/26

3. TEST REPORTS:

- Test report N° 4-23160 dated 95/02/16 and 94/06/27 carried out by DANFOSS in-house Laboratory under Society's witnessing.
- Force Technology E10 marine vibration test report 120-30437 dated 2020-11-20
- Force Technology E10 marine high voltage test report 120-30437 dated 2020-11-20
- Force Technology damp heat test report 120-30437-1 dated 2020-11-05
- Force Technology marine dry heat and cold test report 120-30437-1 dated 2020-11-02
- Phoenix Testlab test report E201507E2 dated 11.11.2020

4. APPLICATION / LIMITATION:

- 4.1 - BV Rules for the Classification of Steel Ships.
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.3 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev 7.
- 4.4 - The equipment, once installed on board ship, is to be tested in accordance with the above referred Regulations under the supervision of a Society's Surveyor.

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The **Pressure Transmitters** are to be supplied by **DANFOSS A/S** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
- 5.3 - **DANFOSS A/S** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
- 5.4 - For information, **DANFOSS A/S** has declared to Bureau Veritas the following production sites :

Danfoss (Tianjin) Ltd.
No.9 Quanhui Road.,
Wuqing Development Area,
TIANJIN
CHINA

DANFOSS A/S
Nordborgvej 81
DK-6430 NORDBORG
DENMARK

6. MARKING OF PRODUCT:

- 6.1 - Trade name.
- 6.2 - Date of manufacture and serial number.
- 6.3 - Equipment type or model identification under which it was type-tested

7. OTHERS:

- 7.1 - It is **DANFOSS A/S's** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
- 7.2 - This Certificate supersedes the Type Approval Certificate N° 06094/F0 BV issued on 06 Apr 2020 by the Society.

*** END OF CERTIFICATE ***