



Certificate number: 08472/F0 BV

File number: AP 3041

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 3100/3150/3153

MBS 3300/3350

MBS 9300

MBS 33M

**Requirements:**

BUREAU VERITAS Rules for the Classification of Steel Ships.

EC Code: 33

*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: 09 Jun 2031**

**For Bureau Veritas Marine & Offshore,**

At BV FREDERICIA, on 09 Jun 2026,

Jesper JENSEN

***This certificate was created electronically and is valid without signature***



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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

- Product model or type designation :

**Type: MBS 3100/3150/3153, MBS 3300/3350, MBS 9300, MBS 33M**

- Product description:

Pressure Transmitters for Marine Applications.

#### **Main characteristics:**

	<b>MBS 3100/3150/3153</b>	<b>MBS 3300/3350</b>
Range (Bar):	0-1 to 0-600 (Gauge and Absolute)	0-1 to 0-600 (Gauge and Absolute)
Supply Voltage (Vdc):	9 to 32	See Output
Output:	4 - 20 mA	4 - 20 mA (Supply: 9 to 32 Vdc) 0-5, 1-5, 1-6 Vdc (Supply: 9 to 32 Vdc) 0-10 Vdc (Supply: 15 to 32 Vdc)
Operating Temp. (°C):	-40 to 100	-40 to 125
Compensated Temp. (°C):	0 to 100	0 to 100
Electrical Connection:	EN 175301-803-A	EN 175301-803-A Screened Cable
Pressure connection:	DIN 3852-E-G1/4 EN 837 (G1/4 A, G1/2 A) 1/4 - 18NPT *	DIN 3852-E-G1/4 EN 837 (G1/4 A, G1/2 A) 1/4 - 18NPT *
Body Material:	AISI 316L	AISI 316L

	<b>MBS 33M</b>
Range (Bar):	0-1 to 0-600 (Gauge and Absolute)
Supply Voltage (Vdc):	
Output:	4 - 20 mA (Supply: 9 to 32 Vdc)
Operating Temp. (°C):	-40 to 85
Compensated Temp. (°C):	0 to 80
Electrical Connection:	EN 175301-803-A Screened cable
Pressure connection:	DIN 3852-E-G1/4, EN 837 (G1/4 A, G1/2 A) 1/4 - 18NPT *
Body Material:	AISI 316L

\* See Data Sheet.

	<b>MBS 9300</b>
Pressure span (mbar):	40 to 400 (Gauge and Absolute)
Supply Voltage (Vdc):	see output
Output:	4 - 20 mA (Supply: 9 to 32 Vdc) 10%-90% of supply voltage (Supply 4.5-5.5 Vdc)
Operating Temp. (°C):	-25 to 100
Compensated Temp. (°C):	0 to 80
Electrical Connection:	EN 175301-803-A
Pressure connection:	DIN 3852-E-G1/2 or G1/4*
Body Material:	AISI 316L

\* See Data Sheet.

### 2. DOCUMENTS AND DRAWINGS:

- Datasheet MBS 3100/3150 NO.AI308939294195en-000101 , dated 2019-12

- DataSheet MBS 3300/3350 No: AI308943247202en-000602, dated 2024-07
- DataSheet MBS 9300 No.: AI176386432536en-000801, dated 2021-03
- Datasheet MBS33M No: AI244286497067en-000902 , dated 2024-07
- Letter of Statement , dated 17 Dec 2025.

### **3. TEST REPORTS:**

- Force Technology test report 119-30777-1 dated 20200129
- Force Technology test report 119-21656-1 dated 20190410

### **4. APPLICATION / LIMITATION:**

- 4.1 - BUREAU VERITAS 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 - BUREAU VERITAS Environmental Category, **EC Code: 33**
- 4.4 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zones.
- 4.5 - Acid resistant stainless steel (AISI 316L).
- 4.6 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev10.

### **5. PRODUCTION SURVEY REQUIREMENTS:**

- 5.1 - The above products 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.
- 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 site :

**Danfoss (Tianjin) Ltd-Industrial Automation Business Unit**

**No. 9 Quanhui Rd.**

**Wuqing Development Area, Tianjin**

**TIANJIN**

**CHINA**

### **6. MARKING OF PRODUCT:**

- Maker's name or trademark,
- Serial number of the units,
- Equipment type number or model identification under which it was type-tested.

### **7. OTHERS:**

- 7.1 - It is **DANFOSS A/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 No. 08472/E0 BV issued by the Society.

\*\*\* END OF CERTIFICATE \*\*\*