



Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 08/NOV/2014. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 07/FEB/2018 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Product Name: Pressure Transmitter

Model Name(s): MBS 2100/2150, MBS 3100/3150, MBS 3300/3350

Presented to:

DANFOSS A/S
NORDBORGVEJ 81
NORDBORG
Denmark

Intended Service:

Marine, offshore, industrial

Description:

MBS 3100 and MBS 3150 are compact pressure transmitters designed with integrated pulse-snubber suitable for use in severe medium influences like cavitation, liquid hammer or pressure peaks. MBS2100/MBS2150 and MBS3300/MBS3350 are compact high temperature pressure transmitters with flexible pressure transmitter program covering different output signals, absolute and gauge (relative) versions, and wide range of pressure and electrical connections.

Ratings:

Pressure Range: 0-600 Bar; Power Supply: 10 VDC to 32 VDC; Output Signal: 4-20 mA; Protection: IP65/IP67; Shock Resistance: 500 g/1 ms; Operation Temperature: -40 degrees to 125 degrees C; Vibration Stability: 20g Sinusoidal, 7.5 gr random

Service Restrictions:

Unit Certification is not required for this product. Each specific arrangement is to be approved.

Comments:

Not Applicable

Notes / Documentation:

-This product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the product. -vibrations, heat and cold test, report No. 201000978 performed by

Danfoss.

Term of Validity:

This Product Design Assessment (PDA) Certificate 05-LD483624C-3-PDA, dated 08/Feb/2013 remains valid until 07/Feb/2018 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

ABS Rules:

The manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. The rules applicable to this assesment are: 2013 Steel Vessel Rules 1-1-4/7.7, 4-8-3/1.7 and 4-9-7/13.1

- National Standards:**
- International Standards:**
- Government Authority:**
- EUMED:**
- Others:**

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	05-LD483624C-3-PDA	08/FEB/2013	07/FEB/2018



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.