



Marine &amp; Offshore

Certificate number: 81280/A0 BV

File number: MPA2501802

Product code: 3746H

*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*

**ENDRESS + HAUSER SE + Co. KG**

Maulburg - GERMANY

*for the type of product*

**DIFFERENTIAL PRESSURE TRANSMITTER**

Deltabar PMD50

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 31 or 33 or 41BS (see item 4.3)

*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: 21 Jul 2030**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 21 Jul 2025,

Dirk Hoepfner

***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](http://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 :

**Deltabar PMD50** series are differential pressure transmitters for gauge pressure and differential pressure measurements.

#### **1.1 - Main characteristics:**

Sensor:	Metal isolating diaphragm
Measuring ranges	Up to 40bar (differential /gauge)
Power Supply:	24VDC, 4 to 20mA loop powered
Output:	4 to 20mA with HART protocol
Operation:	With or without display
Electrical connection:	Cable Gland; Thread
Housing:	Dual compartment, Aluminum, coated, Note: Not for use on open deck Dual compartment, 316L
Process connection:	NPT1/4-18 IEC61518 UNF7/16-20
Degree of protection:	IP66, IP68 (IP68 1.83 mH <sub>2</sub> O for 24h)
Software version:	01.00.zz, HART 7, DevRev01
<b>Optional Items</b>	
Membran coating:	As per process and/or environmental requirement

#### **1.2 - Variants:**

Type: PMD50-**aa bb c d e f gg h i j k l m** (acc. to order code rev.01 dated 20.05.2025 )

**aa** = Approval: Any two letter/number combination

**bb** = Output: BA

**c** = Display, Operation: A; C

**d** = Housing: J; K

**e** = Electrical connection: A; B; C; F; G; H; J

**f** = Pressure type: 3; 6

**gg** = Sensor Range: 7D; 7F; 7H; 7L; 7M

**h** = Calibration, Unit: A; B; C; D; E; F; J; M

**i** = Installation: A; D; G; K; N

**jjj** = Process Connection: SAJ; SAX

**k** = Membrane; Application: A; B

**l** = Fill Fluid: 1; 7

**m** = Seal: B; D; G; R

### 2. DOCUMENTS AND DRAWINGS :

- TI01774P/00/EN/03.24-00 dated 2024-03-29
- BA02333P/00/EN/03.24-00 dated 2024-03-29
- 961006890-A dated 11.04.2024; 961006891-A dated 11.04.2024; 961006892-A dated 09.04.2024;
- 961006895-A dated 11.04.2024; 961006898-A dated 11.04.2024; 961007542-A dated 08.04.2024;
- 961007543-A dated 08.04.2024
- FM24ATEX0010X dated 13 March 2025; FM24CA0015X dated 12 March 2025; FM24US0028X dated 12 March 2025
- IECEx FMG 24.0008X Issue No.: 1 dated 2025-03-12

### 3. TEST REPORTS :

- PAConsult: 24DE-00802 dated 17.01.2025; 24DE-00794 dated 2025-05-05
- MeßTechnikNord: 074339.565.25 V1.0 dated 19.03.2025
- Endress+Hauser: 970009669\_AK dated 2024-06-21; 970009672\_AK dated 2024-06-21;
- 970009651 dated 27.03.2024; 970009658 dated 11.04.2024; 970009659 dated 28.03.2024

### 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: 31** or **33** for aluminum housing or **41BS** for stainless-steel housing

4.4 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev.9.

4.5 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.

4.6 - Ex-certification is not covered by this certificate. Applications in hazardous areas are to be approved in each case according to the Rules and Conditions for Safe Use specified in a valid Ex-Certificate issued by a Notified Body.

**5. PRODUCTION SURVEY REQUIREMENTS :**

- 5.1 - The above mentioned sensors are to be supplied by **ENDRESS + HAUSER SE+Co. KG** 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 - **ENDRESS + HAUSER SE+Co. KG** 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, **ENDRESS + HAUSER SE+Co. KG** has declared to Bureau Veritas the following production site:

**ENDRESS + HAUSER SE+Co. KG**  
**Hauptstraße 1**  
**79689 Maulburg**  
**GERMANY**

**6. MARKING OF PRODUCT :**

- Maker's name or trademark
- Equipment type or model identification
- Date of manufacture and/or serial number

**7. OTHERS :**

- 7.1 - It is the responsibility of **ENDRESS + HAUSER SE+Co. KG** 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.

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