



Marine & Offshore

Certificate number: 23436/C0 BV

File number: AP4139

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*

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

Maulburg - GERMANY

*for the type of product*

**PRESSURE TRANSMITTERS / TRANSDUCERS**

Pressure Transmitter

Cerabar S of type: PMC71, PMP71/75

### 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: 06 Nov 2025**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 06 Nov 2020,

Dirk Hoepfner



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 :

**Cerabar S: PMC71, PMP71/75** series are absolute pressure transmitters for continuous measurement.

#### 1.1 - Main characteristics:

Sensor:	Ceramic isolating diaphragm (PMC71) Metal isolating diaphragm (PMP71 and PMP75)
Measuring ranges:	PMC71: from -0.10/0...0.10bar to -1/0...40bar PMP71: from -0.10/0...0.10bar to -1/0...700bar PMP75: from -0.40/0...0.40bar to -1/0...400bar
Process Connection:	Flange or thread
Power Supply:	24VDC, 4 to 20mA loop powered
Output:	4 to 20mA with HART protocol
Operation:	With or without display
Housing:	T14, cast aluminum or cast stainless steel T17, stainless steel
Cable entry:	Gland, thread, plug
Degree of protection:	IP65, IP66/67, IP66/68
Software version:	2.20.xx (HART)

#### 1.2 - Variants: (acc. to document TI00383P/00/EN/22.15)

Sensor Type: **PMC71 a b c d e f g h**

**a= Approval:**

Ex-approvals

**b= Output:**

A to F

**c= Housing, Cable entry, Protection:**

A to F, 1 to 8, R to V

**d= Sensor range:**

1C, 1E, 1F, 1H, 1K, 1M, 1P, 1S for gauge pressure  
2C, 2E, 2F, 2H, 2K, 2M, 2P, 2S for absolute pressure

**e= Calibration, Units:**

1 to 6, B to F, H, I, K to M

**f= Process connection:**

Ax, Bx, Cx, Gx, Jx, Kx, Mx, Rx, Tx, 1x, 2x

**g= Seal:**

A, B, D, E, F, G, L, M, 1, 2

Sensor Type: **PMP75 a b c d e f g h**

**a= Approval:**

Ex-approvals

**b= Output:**

A to F

**c= Housing, Cable entry, Protection:**

A to F, 1 to 8, R to V

**d= Sensor range:**

1C, 1E, 1F, 1H, 1K, 1M, 1P, 1S, 1U, 1W, 1X for gauge pressure  
2C, 2E, 2F, 2H, 2K, 2M, 2P, 2S, 2U, 2W, 2X for absolute pressure

**e= Calibration, Units:**

1 to 6, B to F, H, I

**f= Membrane material:**

E, 1, 2, 3, 5, 6, 7, 8

**g= Process connection:**

1x, 2x, Tx, Sx, Mx, Cx, Dx, Ex, Bx, Ax, Hx, Jx, Kx, Ux

**h= Fill fluid:**

A, B, C, D, F, G, H, K, N, 1 to 8

Sensor Type: **PMP71 a b c d e f g h i**

**a= Approval:**

Ex-approvals

**b= Output:**

A to F

**c= Housing, Cable entry, Protection:**

A to F, 1 to 8, R to V

**d= Sensor range:**

1C, 1E, 1F, 1H, 1K, 1M, 1P, 1S, 1U, 1W, 1X for gauge pressure  
2C, 2E, 2F, 2H, 2K, 2M, 2P, 2S, 2U, 2W, 2X for absolute pressure  
MP, MT, MU

**e= Calibration, Units:**

1 to 6, B to F, H, I, K to M

**f= Membrane material:**

1, 2, 6

**g= Process connection:**

Ax, Bx, Cx, Gx, Kx Rx, Ux, 1x, 2x

**h= Fill fluid:**

A, F, K, N

**2. DOCUMENTS AND DRAWINGS:**

- TI00383P/00/EN/22.15
- Assembly drawings for pcb's; software documentation

**3. TEST REPORTS :**

- Phoenix Testlab GmbH: S102258E1 dated 15 Sept. 2010; E102258E2 dated 08 Sept. 2010
  - Paconsult: 0722A-05 dated May 05, 2005; 07-1567-Rev. 1 dated 28 Sept. 2007
  - Endress + Hauser GmbH & Co. KG: FES\_E\_12\_020\_GL dated 31.08.2012; PTC\_E\_05\_032\_GL dated 30.05.2005; PTC\_E\_05\_031\_GL dated 30.05.2005
  - KEMA: KEMA 03ATEX 1561; KEMA 04ATEX2018; KEMA 05ATEX 1009
  - FM Approvals: CoC: 3017778 dated January 16,2004; 3017836dated March 26,2004
  - CSA: CoC: 1509834 dated 2008/09/17
- For C0 version:
- Endress + Hauser SE & Co. KG: 970008000\_AK\_01 dated 2020-10-09; 970008004\_AK\_01 dated 2020-10-09; 970008005\_AK\_01 dated 2020-10-09

**4. APPLICATION / LIMITATION:**

- 4.1 - Bureau Veritas Rules and Regulations 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 Zone and Deck Zone.
- 4.5 - The above products have been tested according to Bureau Veritas Rules dated Jan 2020.
- 4.6 - Bureau Veritas-Rules: Part C, Ch 1, Sec 10 apply for pressurized parts made of aluminium or aluminium alloys if they are used in piping systems for flammable liquids or fire-extinguishing systems.
- 4.7 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.
- 4.8 - 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 or Recognised Certification Body.

**5. PRODUCTION SURVEY REQUIREMENTS:**

- 5.1 - The above mentioned products 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 recognized by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

**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
- Ex marking, as relevant

**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.
- 7.2 - This certificate supersedes the Type Approval Certificate N° 23436/B0 BV issued on 07 Aug 2015 by the Society.

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