



# EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

In accordance with Article 10.1 of EU Regulation 391/2009

Certificate No:  
**MRA000001U**  
Revision No:  
**1**

This Certificate is issued to

**Trafag AG**  
**Bubikon, ZH, Switzerland**

for

**Pressure Gauges/Transmitters**

with type designation(s)

**EPN 8288 Marine pressure transmitter**

The product is found to comply with

**EU RO Mutual Recognition Technical Requirements for Pressure Gauges – Transmitters**

Intended service

**Pressure transmitters for use in control, alarm, monitoring and instrumentation systems subject to classification.**

**Applicable for a ship as defined in Mutual Recognition Provisions Article 10 Regulation on Common Rules and Standards For Ship Inspection and Survey Organizations.**

See product description on page 2 for further details.

**Temperature [°C]:** -40°C and 125°C  
**Vibration:** ±1.6 mm / 4.0 g  
**EMC:** General power distribution zone  
**IP Code:** IP65

## This is to certify:

that the Product referred to herein has been inspected for the Manufacturer, pursuant to the relevant requirements of the European Union Recognised Organisation Mutual Recognition procedure, required by Article 10.1 of EU Regulation 391/2009, and has been found in accordance with those requirements.

This Certificate is valid until **2028-06-19**.

Issued at **Høvik** on **2023-06-20**

DNV local unit: **Augsburg**

for **DNV**

Approval Engineer: **Ståle Sneen**

.....  
**Frederik Tore Elter**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: MRTA 201

Revision: 2022-12

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## Product description

EPN 8288 series marine pressure transmitter.

Ordering information / type code: 8288.aa bb cc dd ff

aa – Measuring range:	Different ranges in bar, from 0...2.5 to 0...600 Different ranges in psi, from 0...30 to 0...7500
bb – Sensor:	23 = Accuracy 0.3%, Material press. conn. and housing 1.4542 (AISI630) 25 = Accuracy 0.5%, Material press. conn. and housing 1.4542 (AISI630) 33 = Accuracy 0.3%, Material press. conn. and housing 1.4404 (AISI316L) 35 = Accuracy 0.5%, Material press. conn. and housing 1.4404 (AISI316L)
cc – Pressure connection:	17 = G1/4" male 30 = 1/4" NPT male 19 = R1/4" male DIN3858 51 = 1/2" NPT male 31 = M14x1.5 male DIN6149-2 11 = G1/2" male (Manometer)
dd – Electrical connection:	05 = Male electrical plug EN 175301-803-A
ee – Output signal:	19 = 4...20 mA 17 = 0...10 VDC
ff – Accessories:	Different seals, pressure peak damping elements and electric connections.

### Technical specifications

Materials Diaphragm	1.4542 (AISI630)
Sealing	FPM/EPDM/NBR

Accuracy (typical)	Class 0.5%	Class 0.3%
Total Error Band @ -25°C...+85°C	±1.75% FS	±0.5% FS
Accuracy @ +25°C	±0.5% FS	±0.3% FS
Non-linearity and hysteresis @ +25°C (best straight line)	±0.2% FS	±0.1% FS
Temperature coefficient zero point and span	±0.03% FS/K	±0.005% FS/K
Long term stability 1 year @ +25°C	±0.1% FS	±0.1% FS

### Manufactured by

Trafag AG,  
 Industriestrasse 11,  
 CH-8608 Bubikon,  
 Switzerland

### Application/Limitation

Pressure transmitters for use in control, alarm, monitoring and instrumentation systems subject to classification.  
 The pressure transmitter shall be powered by an approved instrument power supply.

### Type Approval documentation

### Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

### Other conditions

The pressure transmitters have been verified for compliance with EU Mutual Recognition Technical Requirements for Pressure gauges – transmitters version 0.2, dated 2023-01-01.

#### Environmental test parameters

Temperature: -40°C ~ +125°C  
Vibration: ±1.6 mm / 4.0 g  
Humidity: 95%RH @ 55°C, damp heat cyclic  
EMC: General power distribution zone  
Enclosure: IP65 (IP-ratings according to IEC 60529)

#### DNV location classes

D  
B  
B  
A  
B

### Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment will be performed annually and at renewal of the certificate.

END OF CERTIFICATE

### Generic Statement for EU RO MR Type Approval Certificate

When a product is presented with this EU RO MR Type Approval Certificate for given application, its acceptability with regards to the limitations stated in the certificate conditions defined in 1b, 1c and 1d of the applied Technical Requirement will be evaluated by the EU RO in charge of classing the ship or being in charge of the unit/system certification.

In accordance with Article 10 of Regulation (EC) No 391/2009 of the European Parliament and of the Council of 23 April 2009 "on common rules and standards for ship inspection and survey organizations", the following organizations, recognized by the EU on this date, have agreed on the technical and procedural conditions under which they will mutually recognize this certificate:

- American Bureau of Shipping (ABS);
- Bureau Veritas (BV);
- China Classification Society (CCS);
- Croatian Register of Shipping (CRS);
- DNV;
- Indian Register of Shipping (IRS);
- Korean Register (KR);
- Lloyd's Register Group Ltd. (LR);
- Nippon Kaiji Kyokai General Incorporated Foundation (ClassNK);
- Polish Register of Shipping (PRS);
- RINA Services S.p.A. (RINA).

The scheme for the mutual recognition of class certificates for materials, equipment and components laid down by Article 10(1) of Regulation (EC) No 391/2009 is only enforceable within the Union in respect of ships flying the flag of a Member State. As far as foreign vessels are concerned, the acceptance of relevant certificates remains at the discretion of relevant non-EU flag States in the exercise of their exclusive jurisdiction, notably under the United Nations Convention on the Law of the Sea (UNCLOS). (In accordance with COMMISSION IMPLEMENTING REGULATION (EU) No 1355/2014 amending Regulation (EC) No 391/2009 - recital (25)).