



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAA00001NS**  
Revision No:  
**1**

## This is to certify:

**That the Pressure Transmitter**

with type designation(s)  
**8842, 8843, 8852, 8853, 8838, 8858**

Issued to  
**Trafag AG**  
**Bubikon, Switzerland**

is found to comply with  
**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

## Application :

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.**

### Location classes:

<b>Temperature</b>	<b>B</b>
<b>Humidity</b>	<b>B</b>
<b>Vibration</b>	<b>A</b>
<b>EMC</b>	<b>A</b>
<b>Enclosure</b>	<b>Required protection according to DNV GL Rules shall be provided upon installation</b>

Issued at **Hamburg** on **2022-06-20**

This Certificate is valid until **2027-06-19**.

for **DNV**

DNV local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

.....  
**Joannis Papanuskas**  
**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.



## Product description

### Types 8842/8843/8852/8853...

Relative (gauge) pressure measurement	
Absolute (vacuum) pressure measurement	
Sealed gauge pressure measurement	
Measuring range	0...0.05 bar up to 0...1000 bar
Power supply	24 V DC nominal (non-ATEX: 9...33 VDC, ATEX: 10...30 VDC)
Output signal	4...20 mA, 2-wire configuration (non-ATEX and ATEX version)
Accuracy	According to data sheet (typically better than ±0.5%FS)
Thermal error	According to data sheet
Electrical connection (Degree of protection)	DIN 43650 (IP65), Binder 723 (IP67), MIL C26482 (IP40), Lumberg RSF 4/5 (IP67)
Process connection	G ½ M, G ¼ M, G ½ M frontal and flush version and others according to data sheet
Material	1.4435, Titanium or Hastelloy C-276 (wetted parts); Viton, EPDM or Kalrez (seal)
Degree of protection	Depending on electrical connection
Explosion-proof	According to certificate SEV 11 ATEX 0145 X

### Types 8838/8858... (submersible)

Relative (gauge) pressure measurement	
Absolute (vacuum) pressure measurement	
Sealed gauge pressure measurement	
Measuring range	0...0.05 bar up to 0...25 bar (0,5mH2O up to 250 mH2O)
Power supply	24 V DC nominal (non-ATEX: 9...33 VDC, ATEX: 10...30 VDC)
Output signal	4...20 mA, 2-wire configuration (non-ATEX and ATEX version)
Accuracy	According to data sheet (typically better than ±0.5%FS)
Thermal error	According to data sheet
Process connection	G ½ M, G ¼ M, G ½ M frontal and flush version and others according to data sheet
Electrical connection	Fixed cable PUR, PE or FEP Sensor and amplifier in separate housings connected via cable Connectable cable version (field replaceable)
Mounting	freely suspended cable (cable installation inside tank only)
Material	1.4435 or Titanium (wetted parts and housing); Viton, EPDM or Karlez (seal)
Degree of protection	IP68
Explosion-proof	According to certificate SEV 11 ATEX 0145 X

## Place of manufacture

STS Sensor Technik Sirmach AG  
 Sirmach, Switzerland

## Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

## Application/Limitation

8842/8843/8852/8853: screened cable has to be used  
 8838, 8858: cable installation inside tank only

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to DNV Rules and Ex-Certification / Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

## Type Approval documentation

## Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021

### Marking of product

The products to be marked with:

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

### 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 is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE