DNV·GL

Certificate No:
TAA00001T5

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)
TOR 111..., TOR 112..., TOR 121..., TOR 122..., TOR 141..., TOR 142...

Issued to
VEGA Grieshaber KG
Schiltach, Germany

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 GL.

Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**A**

Issued at **Hamburg** on **2018-04-24**
This Certificate is valid until **2023-04-23**.
DNV GL local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

for **DNV GL**

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.

Job Id: **262.1-028582-1**
Certificate No: **TAA00001T5**

Product description

Signal conditioning instrument for level detection, VEGATOR Series 100

Type designation VEGATOR series:
TOR1ab.c d e f g h i

a	1-digit alphanumeric code
	1 for Namur Electronics **2** for two-wire 8/16mA **4** for continuously measuring 4…20mA-sensors
b	1-digit alphanumeric code
	1 for Single-Channel Conditioning Instrument **2** for Double-Channel Conditioning Instrument
c	1-digit alphanumeric code for scope
	A, **I**, **F**, **C, R, G or B**
d	1-digit alphanumeric code for Approval
	M for Ex – free area **O** for Ex - area (hazardous location)
e	Version
	X or **S**
f	1-digit alphanumeric code for SIL-Qualification
	X without **S** with
g	1-digit alphanumeric code for Housing / Protection
	K Plastic / IP20
h	1-digit alphanumeric code for Terminal blocks / Connections
	X detachable 2.5mm² / Sensor: 1 x black, … **B** detachable 2.5mm² / Ex-Sensor: 1 x blue, …
i	1-digit alphanumeric code for additional Certificates:
	M Yes **X** No

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, 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 GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Application/Limitation

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

Type Approval documentation

Test Report: Hansecontrol No. 1401-0160301R01
Test Report: Hansecontrol No. 1401-0160401R01
Test Report: Hansecontrol No. 1401-0160501R01
Test Report: Paconsult No. 14-6126
Test Reports of VEGA Inhouse Tests no. 1-9_TOR122_F1_1, no. 2-3_TOR112(122)(142)_F1_1
Technical Documents as referenced in "Application_DNV GL Maritime_VEGATOR Series 1** dated 30 September 2014".

Referenced documents "Update No. 1 of DNV GL - Maritime Type Approval for Signal Conditioning Instruments VEGATOR 1**, dated 20.04.2018.

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE