DNV·GL

Certificate No:
TAA00002J3

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Gas sampling probe / sample tuber

with type designation(s)
SP180-H/MA, SP180-H-MA SS, Sp180 M/HC/400, SP180 M/HC/600, SP180 M/HC/800

Issued to
M&C Techgroup Germany GmbH
Ratingen, Nordrhein-Westfalen, 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.

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

Issued at **Hamburg** on **2019-11-19**
This Certificate is valid until **2021-06-06**.
DNV GL local station: **Essen**

for **DNV GL**

Approval Engineer: **Marco Rinkel**

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.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Product description

Electrically heated sample probe with protection cover applicable for continuous gas sampling.

Power supply: 110 … 240V AC, 50/60Hz
Sample pressure: 0.4 … 1.5bar absolut
Probe heating: +180°C, self-regulated
Low temperature contact, Alarm active <160°C, NO

Environmental Category:
Cold test with -25°C /2h
Dry heat test with +60°C / 16h
Vibration test tube: curve B up ti 300 Hz at a temperature of 180°C

Application/Limitation

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 Ships Pt.4 Ch.9 Control and Monitoring Systems.

Type Approval documentation

Tests carried out

Applicable tests according to Class Guidelines DNVGL-CG-0339, November 2016.

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number

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 typeapproved 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