DNV·GL

Certificate No:
TAA00000JM

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Level Indicating System

with type designation(s)
SML 1000 A/D

Issued to
Scanjet Macron Co., Ltd.
Ulsan, Republic of Korea

is found to comply with
DNV GL rules for classification – Ships and offshore units
DNV GL rules for classification – 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	**A**
Enclosure	**A**

This Certificate is valid until **2018-06-30**.

Issued at **Busan** on **2016-07-05**

for **DNV GL**

DNV GL local station: **Ulsan**

Approval Engineer: **Dong Ho Park**

Baeg Soon Choi
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.

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Product description

SML 1000 A Analogue Electro-pneumatic tank level and draft gauging system.
Cabinet TLG30 comprising the following components:
- ACU 16, Analogue Control Unit
- CP SNT70, Power Supply Unit
- GSBxx, Gauge Pressure Sensor
- MNRxx, Modulator without rubber membrane
- MWRxx, Modulator with rubber membrane as option

SML 1000 D Digital Electro-pneumatic tank level and draft gauging system.
Cabinet TLG30 comprising the following components:
- MCU 302, Main Control Processor PCB
- SDU 30C, Service and Display unit
- DAU 16, Digital Analogue Converter Unit
- CP SNT70, Power Supply Unit
- GSBxx, Gauge Pressure Sensor
- ASBxx, Absolute Pressure Transmitter
- TBxx, Terminal Board
- SW30, Pressure Switch
- MNRxx, Modulator without rubber membrane
- MWRxx, Modulator with rubber membrane as option

Application/Limitation

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- System block diagram
- Power supply arrangement (may be part of the System block diagram)

The Type Approval covers hardware and software listed under Product description.

As long as the units are covered by the Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 A 202 will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

Type Approval documentation

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006

Periodical assessment

The scope of the retention/renewal survey 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 survey 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

Retention survey is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE