DNV·GL

Certificate No:
TAA000025F

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Level Indicating System

with type designation(s)
Float Type: FSH, FSV, MGF, PCT, Fig 6000, 6000 D Series
Pressure Type: 20DL, P Series

Issued to
SEMCO Ltd.
KOBE, Hyogo Pref., Japan

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: See page 2.

Issued at **Høvik** on **2019-01-08**
This Certificate is valid until **2023-12-31**.
DNV GL local station: **Kobe**

Approval Engineer: **Ståle Sneen**

for **DNV GL**

Jan Tore Grimsrud
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

Level switches: FSH Series Horizontal Float Switch,
FSV Series Vertical Float Switch.
Level indicators: 20DL Diaphragm Type Level Indicator,
MGF Local Level Indicator,
PCT Series Closed Type Local Level Indicator,
Type 6000 Series Closed Type Local Level Indicator,
Type 6000D Series Closed Type Remote Level Indicator,
Pressure Type Remote Level Indicator (P Series).

Location classes:

Type	Temp.	Humidity	Vibration	EMC	Enclosure
FSH Series Horizontal Float Switch	B	B	A	N/A	B
FSV Series Vertical Float Switch	C	B	A	N/A	B
20DL Diaphragm Type Level Indicator	A	B	A	N/A	B
MGF Local Level Indicator	A	B	A	N/A	C
PCT Series Closed Type Local Level Indicator	B	B	A	N/A	C
Type 6000 Series Closed Type Local Level Indicator	C	B	A	N/A	B
6000D Series Closed Type Remote Level Indicator	A	B	A	B	B
Pressure Type Remote Level Indicator	D	B	B	B	D

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

Length of FSV stem not to be increased above length of vibration tested component unless supported in lower end.

Type Approval documentation

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

END OF CERTIFICATE