DNV·GL

Certificate No:
TAA00001MB
File No:
893.30
Job Id:
262.1-025856-1

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Level Indicator

with type designation(s)
Portable Tank Gauging Equipment "Flexi-dip"

Issued to
MMC International Corp.
Inwood NY, USA

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

Application :

See page 3, Tests carried out:

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

This Certificate is valid until **2020-01-25**.

Issued at **Hamburg** on **2018-01-26**
DNV GL local station: **New York** for **DNV GL**

Approval Engineer: **Didier Girardin**

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.
If any person suffers loss or damage which is proven to have been caused by any negligent act or omission of the Society, then the Society shall pay compensation to such person for his proven direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question. The maximum compensation shall never exceed USD 2 million.
In this provision the "Society" shall mean DNV GL AS as well as all its direct and indirect owners, affiliates, subsidiaries, directors, officers, employees, agents and any other person or entity acting on behalf of DNV GL AS.

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

Certificate No: **TAA00001MB**
File No: **893.30**
Job Id: **262.1-025856-1**

Product description

Portable electronic tank gauging equipment "Flexi-dip", and associated tank entry vapour control valves, consisting of:

1. Portable tank gauging equipment (Intrinsically safe):

Sensor type :	Model number:	Monitoring function :
Tri-mode Stainless and plastic sensor version	D-2401-2	Ullage, Temperature, Oil/Water Interface
Oil/Water Interface Stainless and plastic sensor version	D-2401-2UI	Ullage, Oil/Water Interface
Bi-mode	D-2401-2UT	Ullage, Temperature
Temperature	D-2272-1B	Temperature
Oxygen	D-2615-11	0-25% Oxygen

2. Vapor control valves:

Valve type :	Model number :	Monitoring function :
"A"	D-2291-1A	4" A.N.S.I., 150#
"B"	B-2318-23 (XXX)	2" A.N.S.I., 150#
"MB"	B-2318-24 (XXX)	2" A.N.S.I., 150#
"MMB"	B-2318-18 (XXX)	1-1/2" A.N.S.I., 150#
"S"	D-2314-1S	4" A.N.S.I., 150#

Note : (XXX) denotes material variation in valve trim (seals, valve cap).

Application/Limitation

Portable electronic equipment, not for permanent installation.

Ex-certification is not covered by this certificate and the following paragraph, which is for information only, is based on information received from the manufacturer, but not verified by DNVGL.

Information on Ex-Certification received from manufacturer – Not verified by DNV		
Equipment	Certified	Certificate No.
Flexidip Portable Gauging Tape Type D-2401-2**	⟨Ex⟩ II 1 G EEx ia IIB T4 (-20 ºC ≤ Ta ≤ +40ºC)	BAS02ATEX1274X

The special conditions for safe use in above list EX-Certificate must be complied with.

Notes:
IBC gauging class definition for chemical carriers. I.S. class ullage to be confirmed.
Valve ballport is electro-statically grounded.
Ship's hull ground to vapour valve to be confirmed upon all valve installations.

Type Approval documentation

See ANNEX

Tests carried out

Environmental tests according to Standard for Certification DNVGL-CG-0339 is not carried out, as equipment is portable and shall not be left permanently installed.

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

ANNEX