DNV·GL

Certificate No:
TAF00001BC

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Water and Foam Monitor

with type designation(s)
FI-MMP 3, FI-EMP 3, FI-MMP 4 and FI-EMP 4

Issued to
Fierre S.r.l.
Pavia PV, Italy

is found to comply with
DNV GL statutory interpretations DNVGL-SI-0364 – SOLAS interpretations
DNV GL rules for classification – Ships
DNV GL offshore standards

Application :

The water and foam monitor is approved for installation on ships and offshore vessels.

Issued at **Høvik** on **2019-10-22**

This Certificate is valid until **2024-10-21**.
DNV GL local station: **Italy/Malta CMC**

Approval Engineer: **Thorvald Furuseth**

for **DNV GL**
Digitally Signed By: Schei-Nilsson, Mårten
Location: DNV GL Høvik, Norway

Mårten Schei-Nilsson
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.

Product description

FI-MMP 3, FI-EMP 3, FI-MMP 4 and FI-EMP 4,
water and foam monitors consisting of branchpipe (non-aspirating) and turret made of stainless steel (AISI 316). The fog/jet nozzles are of constant flow type, i.e. flow is the same at both fog and jet settings. The nozzle does not return automatically to maximum spray angle after use.

Name	Type	Rotation	Elevation
FI-MMP 3	Manual	360°	+60° - 15°
FI-EMP 3	Remote controlled	340°	+77° - 77°
FI-MMP 4	Manual	360°	+75° - 55°
FI-EMP 4	Remote controlled	340°	+80° - 80°

For further details, see drawings listed under Type Approval documentation below.

Manufactured by Fierre S.r.l., Pavia PV, Italy.

Application/Limitation

The water and foam monitors are approved for installation on ships and offshore vessels.

Size	Flow rate [lpm] 5)	Range [m]	Inlet pressure [bar]	k-factor [lpm/√bar]
FI-M/EMP 3 – water	300 - 5500	Length: 65 1) Height: 20	5.0 - 9.0	130 - 1830
FI-M/EMP 3 – foam	300 - 5500	Length: 65 2) Height: 20	5.0 - 9.0	130 - 1830
FI-M/EMP 4 – water	1500 - 6400	Length: 85 3) Height: 25	5.0 - 7.5	670 - 2340
FI-M/EMP 4 – foam	1500 - 6400	Length: 80 4) Height: 25	5.0 - 7.5	670 - 2340

1) Throw length and height measured at 9.0 bar with flow rate 5500 lpm
2) Throw length and height measured at 7.0 bar with flow rate 5250 lpm
3) Throw length and height measured at 7.4 bar with flow rate 6400 lpm
4) Throw length and height measured at 7.0 bar with flow rate 6250 lpm
5) Nozzle can change the flow adjusting the front plate.

Max working pressure at 16 bar.
Approved for use with approved foam concentrates with mixing ratio 3%.

Hydraulic test to 1.5 times working pressure to be documented before delivery.

Works certificate indicating mechanical properties of materials in the monitor and pressure test report is to accompany each product.

Materials are to be in accordance with the DNV GL Rules Part 4, Ch.6, Sec.1 (Pipe of class III).

The specific arrangement of water monitors, piping and control equipment is subject to approval in each case.

Each product is to be supplied with its manual for installation, use and maintenance.

Type Approval documentation

Certification in accordance with Class Program DNVGL-CP-0338, September 2018.

Test Report No. 160716-8250 Rev.0 dated 2019-07-16, from FIERRE S.R.L., Pavia, Italy.

Drawing "Water/foam manual monitor Mod. FI-MMP-3", Rev.0, dated 2019-05-14 from maker.
Drawing "Electric water/foam monitor Mod. FI-EMP-3", Rev.0, dated 2019-05-14 from maker.
Drawing "Water/foam manual monitor Mod. FI-MMP-4", Rev.0, dated 2019-05-14 from maker.
Drawing "Electric water/foam monitor Mod. FI-EMP-4", Rev.0, dated 2019-05-14 from maker.

Tests carried out

EN 13565-1:2019(E) as branchpipe (discharge coefficient/characteristics (flow) test, range test, leak test and mechanical test).

Marking of product

The product is to be marked according to EN 13565-1:2019, Section 7.

Periodical assessment

DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in DNVGL-CP-0338 Section 4.