DNV·GL

Certificate No:
MEDB00006KR

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Fixed water based local application fire fighting systems components for use in category "A" machinery spaces

with type designation(s)
Ultra Fog Local Application System

Issued to
ULTRA FOG S.R.L.
VIAREGGIO, LU, Italy

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2020/1170,**
item No. MED/3.48 and Annex B, Module B in Directive. SOLAS 74 as amended Regulation II-2/10 & X/3 and 2000 HSC Code 7, IMO MSC.1/Circ.1387

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-09-02**.
Issued at **Høvik** on **2020-09-03**

DNV GL local station:
Italy/Malta CMC

Approval Engineer:
Helge Bjørnarå

Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body

NORWEGIAN ACCREDITATION PROD 019

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

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Job Id: **344.1-010535-1**
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Product description

"Ultra Fog Local Application System",
is a local application water mist system for machinery spaces of category A, composed of spray heads, steel piping, manual or automatic section valves, test valves, control panel and water supply pump(s).

The system is to be designed according to principal requirements for the system, IMO MSC.1/Circ.1387 and SOLAS Ch.II-2, Reg.10.5.6.

Only the spray heads are type approved by this certificate. Pumps, pipes, valves, couplings and other systems components are subject to case by case approval.

Application/Limitation

Approved for use as a fixed water based local application system for machinery spaces of category A.

The spray heads are to be installed above the protected objects according to the following specifications:

For heights between 0.5 and 4.0 m	
Maximum horizontal spacing:	5.0 m
Approved height above protected object:	0.5 – 4.0 m
Minimum pressure at spray head:	100 bar
Spray head type:	202-240-080-O
Spray heads are to be installed out to a position being at the periphery of the protected object (see IMO MSC/Circ.1387, annex 3.4.2.2). The spray heads are to be installed in a pendant (downward) position. Single spray heads or single rows are accepted when half spacing is used.	

For heights between 4.0 and 8.0 m	
Maximum horizontal spacing:	8.0 m
Approved height above protected object:	4.0 – 8.0 m
Minimum pressure at spray head:	100 bar
Spray head type:	202-200-130-O
Spray heads are to be installed out to a position being at the periphery of the protected object (see IMO MSC/Circ.1387, annex 3.4.2.2). The spray heads are to be installed in a pendant (downward) position. Single spray heads or single rows are accepted when half spacing is used.	

Spray head information:

Spray head	k-factor [lpm/bar$^{1/2}$]	Flow [lpm]	Pressure [bar]	Drawing no.
202-240-080-O	3.2	32	100	20110516-001
202-200-130-O	3.3	33	100	20110516-001
Spray heads are to be made of naval brass or stainless steel.				

For all systems:

A. Maximum system working pressure is 165 bar, while the minimum working pressure at the spray heads is 100 bar for all application.
B. The pumps (or pump unit) shall be delivered with product certificate, whereas other system components are to be certified or inspected in accordance with class rules (or equivalent standard as specified by the Flag Administration).
C. Only stainless steel piping, or equivalent corrosion resistant pipes, is to be applied (to avoid clogging of spray heads). Primary water supply shall be fresh water of potable quality.
D. Turbo machinery should also be covered by the system but with gentle application of water. Essential electrical equipment and air intakes should preferably not be directly exposed to the water discharge. Electrical equipment as per class rules (or equivalent standard as specified by the Flag Administration) shall be applied for new buildings.
E. The pump unit and section valves shall be installed in a room having ambient temperature between 4 °C and 45 °C.

The following documents are to be approved and filed by the Flag State Administration for each project:

a. System arrangement plans including location of spray heads, sections valves, release stations and pump-unit (including water supply specification).
b. Documentation of power supply and control system.
c. Specification of pipes, electrical motor, valves, pumps and associated components.
d. Pressure drop calculations and water mist capacity calculations.
e. Arrangement of interface to fire detection and alarm system (where applicable).
f. Manual with design, installation, operation, test and maintenance instructions.

Other documents:

- Documentation for other components (according to DIN 3.1B and DIN 2.2, or equivalent), including qualification of welders and approval of welding procedures (if applicable) is to be submitted to the Flag Administration/Recognized organization in question.

Installation testing:

- System to be cleaned in accordance with routines outlined in makers installation manual.
- At least one section should be tested with full flow through the spray heads.
- Test of manual and remote release of all section valves and start of pumps.
- Testing of alarms (SOLAS Ch.II-2, Reg.10.5.6.4).
- Pressure testing of water pipe system to at least 1.5 times maximum working pressure.
- Testing of automatic start of system (in case of unattended machinery spaces).
- Other tests as required by class Rules (pressure testing of piping, etc.) or a similar standard acceptable to the Flag Administration and according to maker's manual shall be carried out.

Periodical testing:

- The periodical testing shall comply with instructions from flag administration, statutory interpretations and maker’s maintenance manual.
- At least one section should each year be tested with full flow through the nozzle. The sections tested should be chosen so that all sections are tested within a five-year period.

Type Examination documentation

Technical installation Manual No. 20120426 MSC913 from Ultra Fog AB.

Fire test reports:
Test report No. 01.16351.01.004 dated 12 March 2012 from SwRI, San Antonio, USA.

Component test reports:
Test report No. EX5204 dated 23 July 1999 from UL, Northbrook, USA.
Statement to component test No. 20130416.01 dated 16 April 2013 from manufacturer.

Drawings:
20110516-001, 940610-051, 940610-052, 940808-005, 950606-006, 950606-017, 950606-021 from manufacturer.

Tests carried out

Fire performance test in accordance with IMO MSC/Circ.913.

Component test in accordance with relevant parts of IMO Res. A.800(19).

Marking of product

The spray heads are to be marked with type designation, the MED Mark of Conformity, Notified Body No. and the year of manufacturing (see first page) whereas the pump unit is to be marked with name and address of manufacturer and type designation.