DNV·GL

Certificate No:
MEDB00006KN

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 Nozzles for fixed pressure waterspraying fire-extinguishing systems for cabin balconies

with type designation(s)
Ultra Fog Balcony Sprinkler 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/3.60. SOLAS 74 as amended Regulation II-2/10, FSS Code 7, IMO MSC.1/Circ.1313 and IMO MSC.1/Circ.1268

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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: **344.1-010534-1**
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Product description

"Ultra Fog Balcony Sprinkler System"
is an automatic, fast response, high pressure sprinkler system composed of sprinkler heads, stainless steel piping, sections valves, control systems, strainers and sprinkler pumps.

For cabin balcony the system is to be designed in accordance with the "Principal Requirements for the System" in IMO MSC.1/Circ.1268.

Only the sprinkler heads are type approved by this certificate. Other components are to be approved and/or certified case by case.

Application/Limitation

Approved for use as an automatic water sprinkler system for cabin balconies.

Installation should be in accordance with the below:

Application	L x W [m^2]	Sprinkler head type	Location	Projection	Spacing [m]	Dist. to wall [m]
Small cabin balcony 1)	3 x 2	603-240-061-B	Ceiling	Pendant	Single	Centre 2)
		603-200-035-B-W	Sidewall	Horizontal	Single	Centre 2)
Large cabin balcony 1)	6 x 2	603-600-035-B	Ceiling	Pendant	Single	Centre 2)

Note:
1) Heights above 2.5 m are subject to case by case approval.
2) Sprinkler head is centred along the length of the balcony and either centre of the width or mounded on the side wall.

Sprinkler head information:

Sprinkler head type	k-factor [lpm/$bar^{1/2}$]	Flow [lpm]	Pressure [bar]	Dwg. no.
603-240-061-B	3.01	30.1	100	20110810-603
603-200-035-B-W	2.35	23.5	100	20110810-603
603-600-035-B	6.35	56.8	80	20110810-603

For all applications

A. Maximum system working pressure is 165 bar, while the minimum working pressure at the sprinkler heads is 80 or 100 bar.
B. All sprinklers are made of stainless steel housing with an aluminium bronze bulb screw. All sprinkler heads are fitted with a fast response glass bulb which releases at nominal 57 °C. Bulbs with higher temperature ratings, but not more than 30 °C over ambient temperature, are subject to approval in each case.
C. 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).
D. Redundant pump arrangement is to be approved on a case by case basis.
E. Only stainless steel piping or equivalent corrosion resistant pipes are to be applied (to avoid clogging of sprinklers). Primary water supply shall be fresh water of potable quality.
F. Pipes, couplings and other components are regarded as "Class I" piping.
G. The pump unit and section valves shall be installed in a room having ambient temperature between 4 °C and 45 °C.

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

a. System arrangement plans including location of sprinklers, pipes, sections valves, control system and pump-unit.
b. Specification of pipes, valves, electrical motor, pumps, pressurised tank(s) and associated components (including water supply specifications).
c. Pressure drop calculations and water capacity calculations.

d. Arrangement of power supply and control system.
e. Manual containing installation, operation and maintenance instructions.

Installation
- Water to be in accordance with manufacturer's specification for water quality. No chemicals shall be added to the water, for the purpose of e.g. cleaning, bacterial control, corrosion inhibition, etc., without the acceptance from the Manufacturer.

Installation testing:
- Not less than 2 sprinkler heads shall be tested.
- Automatic start and stop of pumps.
- Automatic change over from main to emergency electric supply.
- Other tests as required by class rules (pressure testing of piping, etc.) and according to maker's manual (or equivalent standard as specified by the Flag Administration).

Periodical testing:
- The testing shall comply with instructions from flag administration, statutory interpretations and maker's maintenance manual.
- Not less than 2 sprinkler heads shall be tested annually. Further testing will be required in case of failure(s) or for systems older than 5 years.

Type Approval documentation
Technical Installation Manual Accommodation Areas from Ultra Fog AB.

Fire test reports:
Test report No. 01.16351.01.008 [2]dated 19 September 2013 from SwRI, San Antonio, USA.

Component test reports:
Test Report No. Ex5204 dated 23 July 1999 from Underwriters Laboratories Inc.
Test Report No. 01.16351.01.011 dated 11 December 2012 from SwRI, San Antonio, USA.
Statement to component test No. 20130416.01 dated 16 April 2013 from manufacturer.

Drawings:

Tests carried out
Fire and component tested according to IMO MSC.1/Circ.1268.

Marking of product
The sprinkler 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.