EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB0000B4Z
Revision no.:
0

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

that the **Galley exhaust duct fixed fire extinguishing systems components**

with type designation(s)
Minifog marine XP

issued to
Minimax Technologies GmbH
Bad Oldesloe, **Germany**

is found to comply with the Implementing Regulation **(EU) 2024/1975** for
Item no. **MED/3.68** (Row **1 of 1**)
according to the following requirements:
SOLAS 74 Reg. II-2/9

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

Date of issue: **2025-08-20**

Expiry date: **2030-08-19**

DNV local unit:
Hamburg – CMC North/East

Approval Engineer:
Helge Bjørnarå

Notified Body
no.: **0098**

for **DNV SE**

Christine Mydlak-Röder
Head of Notified Body

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 SE 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") 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 USD 300 000.

Product description

"Minifog marine XP"
is a manually operated water mist system composed of nozzles, stainless steel piping, section valves, filters, control system and water supply pump(s).

The galley duct protection system should be designed according to SOLAS Reg. II-2/9.7.5.1.1 or 9.7.5.2. This certificate addresses only SOLAS Reg. II-2/9.7.5.1.1.3 and 9.7.5.2.4.

Only the nozzles 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 fire extinguishing system for galley ducts with cross sectional area not exceeding 1.44 m2.

For installation specifications and nozzle data, please consult Appendix: Application/Limitation.

The nozzles shall be protected from entrance of grease vapour, moisture and other foreign materials:
- If nozzle MXD pop-up adapter is fitted, then it is provided with protective flap as per technical description Doc. No. 100113445.
- If nozzle MXD standard adapter is fitted, then it shall be inspected and maintained according to instructions as per Doc. No. 100109670.

The system shall cover the duct between the lower damper and the closing appliance on open deck (SOLAS Reg. II-2/9.7.5).

For all applications:
A. The pump(s) unit is to 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).
B. Only stainless-steel piping, or equivalent corrosion resistant pipes are to be applied (to avoid clogging of nozzles). Primary water supply shall be fresh water of potable quality.
C. Pipes, couplings and other components are regarded as "Class I" piping.
D. Ambient room temperature for pump unit should be between 4 °C and 45 °C.

The following items are to be submitted for approval for each project:
a. System arrangement plans including location of nozzles, sections valves, release stations and pressure equipment.
b. Specification of pipes, cylinders, valves and associated components.
c. Pressure drop calculations and water capacity calculations.
d. Manual with operating, test and maintenance instructions.

Installation testing:
- Function testing of the system.
- Pressure testing of water pipe system to at least 1.5 times maximum working pressure.
- 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.

Each system is to be supplied with a manual for installation, operation and maintenance according to ISO 15371:2015, Chapter 6.

Please see Appendix: Application/Limitation

Type Examination documentation

Tests carried out

Tested in accordance with ISO 15371:2015.

Component testing in accordance with IMO MSC/Circ.1165.

Marking of product

The nozzles are to be marked with type designation and MED Mark of Conformity (see first page) whereas the pump unit is to be marked with name and address of manufacturer and type designation.

APPENDIX
Application/Limitation

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The nozzles are to be installed in according to the following specifications:

Duct protection	
Maximum nozzle spacing [2) 3)]	10 m
Maximum size of square ducts [1)]	1.8 m x 0.8 m (W x H)
Maximum size of round ducts [1)]	Ø 1.65 m
Orientation	Horizontal or perpendicular to duct wall.
Location	Center
Operating pressure	60 bar
Nozzles type	MXD-V17-K1,2-XP
Notes: 1) Larger ducts can be accepted case by case (reduced nozzle spacing) 2) Fire extinguishing performance as per ISO 15371:2015 5.3 and 5.4 is proved for duct with bends. The bends in duct should not decrease maximum nozzle spacing. 3) The nearest nozzle shall be installed at maximum distance of 1.5 m from a hood.	

Hood plenum		
Maximum hood dimensions1) [m]	3.6 x 1.2 x 0.6	7.2 x 1.2 x 0.6
Nozzle amount	A single nozzle at one hood side	Two nozzles (one per hood side)
Orientation	Horizontal	
Location	- On the hood vertical centreline. - In the middle of plenum in vertical direction.	
Operating pressure	60 bar	
Nozzles type	MXD-V16-K1,1-XP	
Notes: 1) Larger hood should be assessed case by case.		

Nozzle information:

Nozzle	k-factor [lpm/bar1/2]	Flow [lpm]	Pressure [bar]	Drawing
MXD-V17-K1,2-XP	1.2	9.1	60	100090056
MXD-V16-K1,1-XP	1.1	8.6	60	100090062
Nozzles are to be made of stainless steel. Maximum operating pressure is 140 bar.				