

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

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

This is to certify:

That the Fixed water based local application fire fighting systems components for use in category "A" machinery spaces (Nozzles and performance tests)

with type designation(s)
VTIMist

Issued to
VTI Fire Products(Shanghai) Co., Ltd.
Shanghai, China

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2015/559**,
Annex A.1, item No. A.1/3.48 and Annex B, Module B in Directive; SOLAS 74 as amended
Regulation II-2/10 & X/3 and 2000 HSC Code 7

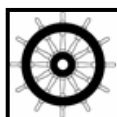
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2022-02-27**.

Issued at **Hamburg** on **2017-02-28**

DNV GL local station:
Shanghai CMC

Approval Engineer:
Michael Kämpf



Notified Body
No.: **0098**

for **DNV GL SE**

Sven Dudszus
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 GL 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.



Product description

The system consists of following main components:

Pump unit, water mist nozzles, electrically operated section valves, piping, main/remote release panels, local release boxes and alarm devices.

The water mist nozzles have the following main details:

Nozzle details	
Type	Open nozzle (deluge type)
Designation	GW Model M5 (MisterySpray K-5/1.8-60)
Material	Fresh water: SnNi plated brass body with deflector and filter made of stainless steel Sea water: all parts made of stainless steel
k-factor (using $Q = k \times p^{1/2}$)	5.0 lpm/bar ^{1/2}

Only the water mist nozzles are certified with this certificate.

Application/Limitation

The water mist nozzles are to be installed above the protected objects according to the following specifications:

Nozzle arrangement, minimum nozzle pressure 3.5 bar	
Nozzle grids (2x2, 2x3, etc.)	
Maximum horizontal spacing	3.0 m
Minimum vertical distance from protected object	0.5 m
Maximum vertical distance from protected object	8.0 m
Minimum lateral distance of the outer nozzles from protected object	0.0 m
Single rows of nozzles	
Maximum horizontal spacing	1.5 m
Minimum vertical distance from protected object	0.5 m
Maximum vertical distance from protected object	8.0 m
Minimum lateral distance of the outer nozzles from protected object	0.0 m
Single nozzles	
Minimum vertical distance from protected object	0.5 m
Maximum vertical distance from protected object	8.0 m
Nozzle arrangement, minimum nozzle pressure 9.0 bar	
Nozzle grids (2x2, 2x3, etc.)	
Maximum horizontal spacing	3.0 m
Minimum vertical distance from protected object	8.1 m
Maximum vertical distance from protected object	14.5 m
Minimum lateral distance of the outer nozzles from protected object	0.0 m
Single rows of nozzles	
Maximum horizontal spacing	1.5 m
Minimum vertical distance from protected object	8.1 m
Maximum vertical distance from protected object	14.5 m
Minimum lateral distance of the outer nozzles from protected object	0.0 m
Single nozzles	
Minimum vertical distance from protected object	8.1 m
Maximum vertical distance from protected object	14.5 m
The nozzles are to be installed in a pendant (downward) position. Single rows of nozzles may be applied if the width of the protected object does not exceed 1.5 m. Single nozzles may be applied if the width and length of the protected object does not exceed 1.5 m.	



Job Id:
Certificate No: **MEDB000020X**

The water mist nozzles are approved for use in a fixed water-based local application fire-extinguishing system for protection of category A machinery spaces or similar fire risk areas.

Type Examination documentation

- VTI Approval Documentation, doc.-no. AME02-1387
- SINTEF Test Report on Fire Tests, No. NBL10 F01121, dated 2001-09-05
- SINTEF Test Report on Fire Tests, No. NBL10 F01135, dated 2001-09-27
- FMRC Report on Component Testing, Project ID. 3009895, dated 2002-01-02
- FMRC Report on Component Testing, Project ID. 30411062, dated 2011-03-15
- DNV TAC F-20159
- GL TAC 42209-01 HH

Tests carried out

The system is tested according to IMO MSC/Circ.913 (superseded by IMO MSC.1/Circ.1387).

Marking of product

The nozzles are to be provided with the mark of conformity (wheel mark). This mark shall be followed by our identification number 0098 and by the year in which the mark is affixed, e.g. 0098/2016. Furthermore, the obligations of manufacturers as defined in Article 12 of Directive 2014/90/EU shall be observed.