

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 the Kingdom of Norway.

This is to certify:

That the Galley exhaust duct fixed fire extinguishing systems components

with type designation(s)

Vesuvius N-pipe Type 2V-BM1, Etna N-Pipe Type I-K1

Issued to

Vid Fire-Kill ApS

Svendborg Syddanmark, Denmark

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2017/306,**

item No. MED/3.68. SOLAS 74 as amended, Regulation II-2/9

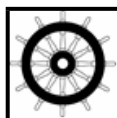
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2022-08-31**.

Issued at **Høvik** on **2017-09-01**

DNV GL local station:
Fredericia

Approval Engineer:
Piotr Orzechowski



Notified Body
No.: **0575**

for **DNV GL AS**

Vidar Dolonen
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 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.



Product description

" Vesuvius N-pipe Type 2V-BM1, Etna N-Pipe Type I-K1"

is a low pressure water mist system, composed of spray heads, stainless steel piping, section valves and supply component(s).

The galley duct protection system should be designed according to new SOLAS Ch. II-2/10, 6.4.1-5. This certificate addresses only item 6.4.1.

The spray heads are manufactured by the VID Fire-Kill ApS, Svendborg, Denmark.

Application/Limitation

The spray heads are to be installed in according to the following specifications:

Duct protection	
Maximum protection length of each spray head:	0.5 m
Number of spray heads:	Twelve per 6 m pipe (nozzle spacing every 0.5 m)
Position of spray head:	Upper corner for square ducts (nozzle pointing 64° downwards, from vertical duct side) and upper side in round ducts (nozzle pointing downwards)
Maximum size of square ducts: ¹⁾	0.6 x 0.3 m (W x H)
Maximum size of round ducts: ¹⁾	Ø 0.57 m
Normal operating pressure:	6 bar
Spray heads type:	Etna N-Pipe Type I-K1
Notes:	
1) Larger ducts can be accepted case by case (reduced nozzle spacing)	

Spray head information			
Spray head	k-factor ($Q = k \times p^{1/2}$)	Flow rate	Drawing no.
Etna N-Pipe Type I-K1 (per 6 m N-pipe) ²⁾	10.8 lpm/bar ^{1/2}	26.45 lpm at 6 bar	100303-807A
Etna N-Pipe Type I-K1 (per micro nozzle) ²⁾	0.9 lpm/bar ^{1/2}	2.2 lpm at 6 bar	100303-807A
Notes:			
2) Spray heads are to be made of stainless steel "SS AISI 303" and have a normal operating pressure of 6 bar.			

For all applications:

- The pumps shall be delivered with product certificate, whereas other system components are to be inspected in accordance with Class Rules (or equivalent standard as specified by the Flag Administration);
- Pipes, couplings and other components are regarded as "Class III" piping.
- The pump unit and section valves shall be installed in a room having ambient temperature between +4 °C and +45 °C.
- Only stainless steel piping, or equivalent corrosion resistant pipes, is to be applied (to avoid clogging of sprinklers). Primary water supply shall be fresh water of potable quality.

The following items are to be submitted for approval for each project:

- System arrangement plans including location of spray heads, section valves, release stations and cylinders.
- Capacity of pressure vessel system.
- Specification of pipes, pump, and associated components;
- Shut down of function defined by SOLAS II-2/10.6.4.2-5.
- Manual containing operating and maintenance instructions.

Job Id: **344.1-007226-1**
Certificate No: **MEDB0000309**

Installation testing:

- Pressure testing of water pipe system to at least 1,5 times maximum working pressure;
- Other tests according to makers manual.

Periodical testing:

- Periodical control and inspection to be in accordance with maker's manual.

Type Examination documentation

Fire Test Report No. 120321-66, dated 5 July 2012 from Danish Fire Laboratories.

Fire Test Report No. 120323-67, dated 2 August 2012 from Danish Fire Laboratories.

Component Test Report No. 110914-6 and 111004-7, both dated 28 October 2011 from Danish Fire Laboratories.

Drawings No. 80704-557A, 100303-807A from manufacturer.

Design, Installation and Service Manual No. 120829-01-04 dated 11 April 2013 from manufacturer.

Tests carried out

Tested according to ISO 15371:2009 and satisfying ISO 15371:2015. Component testing in accordance with MSC/Circ.1165.

Marking of product

The nozzles are to be marked with manufacturer name and address, type designation and Mark of Conformity (see first page) whereas other main components are to be marked with name of manufacturer.