



TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB0000309
Revision No:
0

This Certificate is issued by DNV UK Limited based on authorisation of the Maritime & Coast Guard Agency (MCA) as an UK Approved Body to undertake conformity assessments on marine equipment in accordance with the requirements of the Merchant Shipping (Marine Equipment) Regulations 2016 as amended.

This is to certify:

That the Galley exhaust duct fixed fire extinguishing systems components

with type designation(s)
Etna N-Pipe Type I-K1

Issued to

Vid Fire-Kill ApS
Svendborg, Denmark

is found to comply with the requirements in the following Regulations/Standards:
Regulation **MSN 1874 Amendment 7,**
item No. UK/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 **2027-10-30**.

Issued at **London** on **2023-04-14**

DNV local unit:
Denmark CMC

Approval Engineer:
Tessa Bieber



Approved Body No.: **0097**

for **DNV UK Ltd.**

Christine Mydlak-Roeder
MER Service Responsible



**Maritime &
Coastguard
Agency**

UK Approved Body Authorised
by the MCA

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-control phase module (D, E or F) of Schedule 2 of the Merchant Shipping (Marine Equipment) Regulations 2016, as amended is fully complied with and controlled by a written inspection agreement with an approved body. The product liability rests with the manufacturer or his representative in accordance with the Merchant Shipping (Marine Equipment) Regulations 2016.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV UK Ltd. of any changes to the approved equipment. 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. This certificate remains valid unless suspended, withdrawn, re-called, or cancelled.

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 300,000 USD.



Product description

"Etna N-Pipe Type I-K1", is a low-pressure water mist system, composed of nozzles, stainless steel piping, section valves and supply component(s).

The galley duct protection system should be designed according to new SOLAS Ch. II-2, Reg. 9.7.5.1.1 or 9.7.5.2. This certificate addresses only item 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 0.25 m².

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

Duct protection	
Maximum protection length of each nozzle:	0.5 m
Number of nozzles:	Twelve per 6.0 m pipe (nozzle spacing every 0.5 m)
Position of nozzles:	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
Operating pressure:	6 bar
nozzles type:	Etna N-Pipe Type I-K1
Notes:	
1) Larger ducts can be accepted case by case (reduced nozzle spacing)	

Nozzle information:

Nozzle	k-factor [lpm/bar ^{1/2}]	Flow [lpm]	Pressure [bar]	Drawing no.
Etna N-Pipe Type I-K1 (per 6 m N-pipe)	10.8	26.5	6.0	100303-807
Etna N-Pipe Type I-K1 (per micro nozzle)	0.9	2.2	6.0	100303-807

Nozzles are to be made of stainless steel AISI 303. Maximum operating pressure is 16 bar.

Nozzles shall be provided with caps or other suitable devices to prevent the entrance of grease vapours, moisture, or other foreign materials into the piping.

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

For all applications:

- 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).
- 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.
- Pipes, couplings and other components are regarded as "Class III" piping.
- 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:

- System arrangement plans including location of nozzles, section valves, release stations and supply component(s).
- Specification of pipes, supply component(s), and associated components.
- Pressure drop calculations and water capacity calculations.
- Manual containing operating 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.

Type Examination documentation

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

Fire performance test:

Test report No. 120321-66, dated 5 July 2012 from Danish Fire Laboratories, Svendborg, Denmark.
Test report No. 120323-67, dated 2 August 2012 from Danish Fire Laboratories, Svendborg, Denmark.

Component test:

Test report No. 110914-6 dated 28 October 2011 from Danish Fire Laboratories, Svendborg, Denmark.
Test report No. 111004-7 dated 28 October 2011 from Danish Fire Laboratories, Svendborg, Denmark.

Drawing, nozzle:

Drawing No. 100303-807, Rev. E, dated 24 June 2020 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 type designation and MER Mark of Conformity (see first page) whereas the pump unit is to be marked with name of manufacturer and type designation.