



Certificate No:  
**TAF00001N9**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the Fire-extinguishing system for protection of galley extract ducts**

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

Issued to

**Vid Fire-Kill ApS**  
**Svendborg, Syddanmark, Denmark**

is found to comply with

**DNV statutory interpretations DNV-SI-0364 – SOLAS interpretations, Edition July 2021**  
**DNV rules for classification – Ships**  
**DNV offshore standards**

## Application :

**Approved for use as a fire extinguishing system for protection of galley extract ducts.**

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.**

Issued at **Høvik** on **2021-11-29**

for **DNV**

This Certificate is valid until **2026-11-28**.

DNV local station: **Fredericia FiS**

Approval Engineer: **Helge Bjørnarå**

**Helene David-Andersen**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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 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, 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 spray heads are type approved by this certificate. Other components are to be approved and/or certified case by case.

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

## Application/Limitation

Approved for use as a fire extinguishing system for galley extract ducts.

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 640 downwards, from vertical duct side) and upper side in round ducts (nozzle pointing downwards)
Maximum size of square ducts <sup>1)</sup> :	0.6 x 0.3 m (W x H)
Maximum size of round ducts <sup>1)</sup> :	Ø 0.57 m
Normal operating pressure:	6 bar
Spray head 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) <sup>2)</sup>	10.8 lpm/bar <sup>1/2</sup>	26.45 lpm at 6 bar	100303-807A
Etna N-Pipe Type I-K1 (per micro nozzle) <sup>2)</sup>	0.9 lpm/bar <sup>1/2</sup>	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.			

System components are to be certified or inspected in accordance with DNV Rules.

For all applications:

- The pumps or pump unit and the pressure tank are to be delivered with DNV product certificate. Other system components are to be certified or inspected in accordance with DNV Rules.
- 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.

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 2000 II-2/10.6.4.2-5.

Installation testing:

- Pressure testing of water pipe system to at least 1.5 times maximum working pressure.
- Function testing of the system
- Other tests according to makers manual.

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 Approval documentation**

Certification in accordance with Class Programme DNV-CP-0338, September 2021.

Design, Installation and Service Manual No. 120829-01-01, dated 29 August 2012 from manufacturer.

Fire test reports:

Test Report No. 120323-67 dated 2 August 2012 from Danish Fire Laboratories (DFL), Svendborg, Denmark.

Component test report:

Test Report No. 111004-7 dated 28 October 2011 from Danish Fire Laboratories (DFL), Svendborg, Denmark.

Drawings of spray heads:

Drawing No. 100303-807A dated 3 March 2010 from manufacturer.

### **Tests carried out**

Fire tested according to ISO 15371:2009 (same test requirements as to ISO 15371:2015).

Component tested according to IMO MSC/Circ.1165.

### **Marking of product**

The spray and sprinkler heads are to be marked with type designation whereas the pump and pressure units are also to be marked with name of manufacturer.

### **Periodical assessment**

DNV's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNV-CP-0338, Section 4.