



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAF00000D2**  
Revision No:  
**4**

## This is to certify:

**That the Equivalent Sprinkler System**

with type designation(s)  
**Neptun OH-Nozzles**

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 an automatic water sprinkler system for accommodation areas, public spaces and store rooms.**

**Product approved by this certificate is 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**

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**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

“Neptun”

is an automatic, fast response, low-pressure water mist system of wet pipe type. The system is composed of sprinkler heads, stainless steel piping, sprinkler valves, control system, strainers, pumps and a pressure tank.

The system is to be designed in accordance with the "Principal Requirements for the System" in IMO Res. A.800(19) as amended by IMO Res. MSC.265(84).

Only the sprinklers are type approved by this certificate. Other components are to be approved and/or certified case by case.

The sprinklers are manufactured by Vid Fire-Kill Aps, Svendborg, Denmark.

## Application/Limitation

Approved for use as an automatic water sprinkler system for accommodation areas, public spaces, service spaces and store rooms.

Installation shall be in accordance with table 1, appendix 2, IMO Res. MSC.265(84):

Application	Sprinkler head	Max. spacing / coverage [m]	Max. distance to wall [m]
Cabins < 12 m <sup>2</sup> (4.0 x 3.0) <sup>1)</sup>	OH-CA1	One per room	0.9
Cabins < 18 m <sup>2</sup> (4.5 x 4.0) <sup>1)</sup>	OH-SWC	One centred located in front wall <sup>4)</sup>	
Cabins < 20 m <sup>2</sup> (5.0 x 4.0) <sup>1)</sup>	OH-CA	Two per room	0.9
Cabins < 22 m <sup>2</sup> (5.5 x 4.0) <sup>1)</sup>	OH-CA2	Centred	2.75
Corridors <sup>2)</sup>	OH-CO	3.0	0.75
Public space (h < 2.5 m)	OH-L0	2.5	1.3
Public space (h < 2.5 m)	OH-L1	4.0	2.0
Public space (h < 5 m) <sup>3)</sup>	OH-L2	4.0	2.0
Storage areas	OH-PX1	4.0	2.0

Note:

- 1) Cabin area is gross area, including wet unit.
- 2) Maximum width of corridor should not exceed 1.5 m.
- 3) Ceiling height of more than 5 meter is subject to case by case approval.
- 4) Installed 0.12 m beneath the ceiling.

Sprinkler head	k-factor [lpm/bar <sup>1/2</sup> ]	Min. pressure [bar]	Flow [lpm]	Drawings
OH-CA1	13.0	6.0	31.8	151202-4106-A
OH-SWC	23.0	6.0	56.3	100519-830-A
OH-CA	10.0	6.0	24.4	151203-4109-A
OH-CA2	18.0	6.0	44.0	201014-5153-A
OH-CO	15.5	6.0	38.0	190405-5011-A
OH-L0	7.0	6.0	17.0	151203-4107-B
OH-L1	13.5	6.0	33.1	91104-737-B
OH-L2	14.5	6.0	35.5	81201-624-C
OH-PX1	23.0	9.0	69.0	80930-596-D

For all applications:

- A. Maximum system working pressure is 16 bar, while the minimum working pressure at the sprinkler heads is 6 bar, except for stores which are 9 bar.
- B. All sprinkler heads are to be installed in the ceiling in a pendant (downward) position, except model OH-SWC which has to be placed sideways located centred in front wall.
- C. All sprinklers' heads are made of brass and are fitted with Job F2 bulbs, with nominal releases temperature of 57 °C (orange). Bulbs with higher temperature ratings, but not more than 30 °C above ambient temperature, are subject to approval in each case.
- D. The pumps (or pump unit) and gas cylinders shall be delivered with DNV product certificate, whereas other system components are to be certified or inspected in accordance with DNV Rules (or equivalent standard as specified by the Flag Administration).

- E. Redundant pump arrangement is to be approved on a case by case basis.
- F. Only stainless steel piping or equivalent fire and corrosion resistant pipes are to be applied (to avoid clogging of sprinklers). Primary water supply shall be fresh water of potable quality.
- G. Pipes, couplings and other components are regarded as "Class III" piping.
- H. The pump unit and section valves shall be installed in a room having ambient temperature between 4°C and 45°C.

The following documents are to be approved and filed by the Flag State Administration for each project:

- a. System arrangement plans including location of sprinklers, pipes, sections valves, control system and pump-unit.
- b. Specification of pipes, valves, electrical motor, pumps, pressurised tank(s) and associated components (including water supply specifications).
- c. Pressure drop calculations and water capacity calculations.
- d. Arrangement of power supply and control system.
- e. Manual containing installation, operation and maintenance instructions.

Installation:

- Water to be in accordance with manufacturer's specification for water quality. No chemicals shall be added to the water, for the purpose of e.g., cleaning, bacterial control, corrosion inhibition, etc., without the acceptance from the Manufacturer.

Installation testing:

- Not less than 2 sprinkler heads in each section shall be tested. Testing may be limited to 10 sections. i.e., 2 x 10 sprinkler heads if it is successful.
- Automatic start and stop of pumps.
- Automatic change over from main to emergency electric supply.
- Other tests as required by Class rules (pressure testing of piping, etc.) and according to maker's manual (or equivalent standard as specified by the Flag Administration).

Periodical testing:

- The testing shall comply with instructions from flag administration, Statutory Interpretations and maker's maintenance manual.
- Not less than 2 sprinkler heads shall be tested annually. Further testing will be required in case of failure(s) or for systems older than 5 years.

## **Type Approval documentation**

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

Design, Installation, Operation & Maintenance Manual no. 120820-01-03 dated 18 December 2015.

Fire test reports:

Test report No. 111014-58 dated 15 December 2009 from DFL, Svendborg, Denmark.  
Test report No. 111014-57 dated 15 April 2010 from from DFL, Svendborg, Denmark.  
Test report No. 110110-48 dated 13 August 2010 from DFL, Svendborg, Denmark.  
Test report No. 150918-161A dated 6 November 2015 from DFL, Svendborg, Denmark.  
Test report No. 150918-161B dated 23 October 2015 from DFL, Svendborg, Denmark.  
Test report No. 150918-161C dated 26 November 2015 from from DFL, Svendborg, Denmark.  
Test report No. 201029-266 dated 30 October 2020 from DFL, Svendborg, Denmark.

Component test reports:

Test report No. 110415-5 dated 15 April 2011 from DFL, Svendborg, Denmark.  
Test report No. 150918-161D dated 2 December 2015 from DFL, Svendborg, Denmark.  
Test report No. 201016-264 dated 20 October 2020 from DFL, Svendborg, Denmark.

Component testing of Model OH-Poseidon nozzles statement dated 1 October 2015 from DFL, Svendborg, Denmark.

Drawings, sprinkler heads:

Drawing No. 151202-4106-A dated 31 October 2019 from manufacturer. (OH-CA1)  
Drawing No. 100519-830-A dated 9 April 2019 from manufacturer. (OH-SWC)  
Drawing No. 151203-4109-A dated 31 October 2019 from manufacturer. (OH-CA)  
Drawing No. 201014-5153-A dated 14 October 2020 from manufacturer. (OH-CA2)  
Drawing No. 190405-5011-A dated 5 April 2019 from manufacturer. (OH-CO)  
Drawing No. 151203-4107-B dated 31 October 2019 from manufacturer. (OH-L0)  
Drawing No. 91104-737-B dated 4 April 2019 from manufacturer. (OH-L1)  
Drawing No. 81201-624-C dated 4 April 2019 from manufacturer. (OH-L2)



Job Id: **262.1-023357-5**  
Certificate No: **TAF00000D2**  
Revision No: **4**

Drawing No. 80930-596-D dated 14 October 2020 from manufacturer. (OH-PX1)

### **Tests carried out**

Fire performance test in accordance with IMO Res. A.800(19) and as amended by IMO Resolution MSC.265(84).

Component test in accordance with IMO Res. A.800(19) and as amended by IMO Resolution MSC.265(84).

### **Marking of product**

The sprinkler head is to be marked with type designation whereas pump/control unit is to be marked with name of manufacturer and type designation.

### **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.