

TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB00000GZ
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 Sprinkler systems components for accommodation spaces, service spaces and control stations equivalent to that referred to in SOLAS 74 Regulation II-2/12((limited to nozzles and their performance)

with type designation(s)
Neptun

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/3.9. SOLAS 74 as amended, Regulation II-2/7, II-2/9, II-2/10 & X/3, HSC Code 7, FSS Code 8, IMO MSC/Circ.912, IMO MSC/Circ. 1556, IMO Res.MSC.44(65), IMO Res. A.800(19) as amended**

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

This Certificate is valid until **2026-02-18**.

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

DNV local unit:
Denmark CMC



for **DNV UK Ltd.**

Approval Engineer:
Tessa Bieber

Approved Body No.: **0097**

Christine Mydlak- Roeder
MER Service Responsible



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 This certificate remains valid unless suspended, withdrawn, re-called, or cancelled.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

“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.

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]	Distance to wall [m]
Cabins < 12 m ² (4.0 x 3.0) ⁴⁾	OH-CA1	One per room	0.9
Cabins < 18 m ² (4.5 x 4.0) ⁴⁾	OH-SWC	One centred located in front wall ³⁾	
Cabins < 20 m ² (5.0 x 4.0) ⁴⁾	OH-CA	Two per room	0.9
Cabins < 22 m ² (5.5 x 4.0) ⁴⁾	OH-CA2	Centred	2.75
Corridors ²⁾	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) ¹⁾	OH-L2	4.0	2.0
Storage areas	OH-PX1	4.0	2.0

Note:

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

Sprinkler head	k-factor [lpm/bar ^{1/2}]	Pressure [bar]	Min. 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	24.5	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-A
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) shall 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).
- 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.

Other documents:

- Gas cylinders, gas pumps, any pipes above DN 50 mm, valves and couplings above DN 100 mm are to be delivered with product certificates (or standards considered by the Flag Administration to be equivalent);
- Documentation for other components (according to EN 3.1B and EN 2.2, as applicable) shall be submitted to the site representative of the Flag Administration.

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.
- Alarms at the manned control station(s) shall be tested.
- 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 Examination documentation

Design, Installation, Operation & Maintenance Manual no. 161202-01-03 Rev. 03 dated 2020-10-14.

Fire test reports:

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

Component test reports:

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

Component testing of Model OH-Poseidon nozzles statement from DFL dated 1 October 2015

Drawings, sprinkler heads:

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



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No. 91104-737-A dated 4 April 2019 from manufacturer (OH-L1).
No. 81201-624-C dated 4 April 2019 from manufacturer (OH-L2).
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 heads are to be marked with type designation, the MER Mark of Conformity, Notified Body No. and the year of manufacturing (see first page) whereas the pump unit is to be marked with name and address of manufacturer and type designation.