

TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB00004WV
Revision No:
1

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 Fixed water based local application fire fighting systems components for use in category "A" machinery spaces

with type designation(s)
K7-Kattegat low pressure water mist system

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/3.48 SOLAS 74 as amended Regulation II-2/10 & X/3 and 2000 HSC Code 7, IMO MSC.1/Circ.1387

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

This Certificate is valid until **2028-11-27**.

Issued at **London** on **2023-11-28**

DNV local unit:
Denmark CMC



for **DNV UK Ltd.**

Approval Engineer:
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Approved Body No.: **0097**

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MER Service Responsible



UK Approved Body Authorised
by the MCA

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with the approved body named on this certificate.
During the period of validity of this certificate the applicable regulations (international conventions and the relevant resolutions and circulars of the IMO) and testing standards may change, therefore the product conformity may need to be re-assessed by the Approved 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-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. In case limitations of use apply, these should be indicated in the Annex.

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Product description

'K7-Kattegat low pressure water mist system', is a local application water mist system for machinery spaces of category A consisting of open low-pressure water mist nozzles, stainless steel piping, electrically operated control valves, filters, strainers, control systems and electrically driven pumps.

The system is to be designed according to 'principal requirements' for the system, IMO MSC.1/Circ.1387 and SOLAS Reg. II-2/10.5.6.

Only the nozzles are type approved by this certificate. Pumps, pipes, couplings, valves and other systems components are subject to case-by-case approval.

Application/Limitation

The nozzles are to be installed above the protected objects according to the following specifications:

| Nozzle | K7 | K7 |
|---|----------------------------|----------------------------|
| Maximum horizontal spacing: | 3.0 m x 3.0 m | 3.0 m x 3.0 m |
| Vertical distance from object: | 1.0 m – 3.75 m | 0.75 m – 9.25 m |
| Minimum operation pressure: | 2 bar (at nozzles) | 6 bar (at nozzles) |
| Flow rate: | 9.9 lpm (at 2 bar) | 17.1 lpm (at 6 bar) |
| k-factor (using $Q = k \times p^{1/2}$): | 7.0 lpm/bar ^{1/2} | 7.0 lpm/bar ^{1/2} |
| Drawing: | 180824-06 | 180824-06 |
| Nozzles are to cover the area out to the periphery of the protected object (see IMO MSC.1/Circ.1387, 3.4.2.2). The nozzles are to be installed in a pendant (downward) position. Single nozzle or single rows are accepted when half spacing is used. | | |

For all systems

- A. Nozzles are to be made of stainless steel or nickel coated brass. The maximum operating pressure is 16 bar.
- A. Turbo machinery should also be covered by the system but with gentle application of water. Essential electrical equipment and air intakes should preferably not be directly exposed to the water discharge. Electrical equipment as per Class Rules shall be applied for new buildings.
- B. 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).
- C. Only stainless-steel piping or equivalent corrosion resistant pipes are to be applied (to avoid clogging of nozzles). System filter shall be provided for each pump unit. Primary water supply shall be a fresh water of potable quality.
- D. Pipes, couplings and other components are regarded as "Class I" piping.
- E. 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 Administration:

- a. System arrangement plans including location of nozzles, sections valves, release stations and pump-unit (including water supply specifications).
- b. Documentation of power supply and control system.
- c. Specification of pipes, electrical motor, valves, pumps and associated components.
- d. Pressure drop calculations and water capacity calculations.
- e. Arrangement of interface to fire detection and alarm system (where applicable).
- f. Design, installation, operation and maintenance manual.

Other documents:

- Documentation for other components (according to DIN 3.1B and DIN 2.2, or equivalent), including qualification of welders and approval of welding procedures (if applicable) is to be submitted to the Flag Administration/Recognized organization in question.

Installation testing:

- At least one section should be tested with full flow through the nozzles.
- Test of manual and remote release of all section valves and start of pumps.
- Testing of alarms (SOLAS Reg. II-2/10.5.6.4).
- Cleaning of system according to maker's procedure.
- Pressure testing of water pipe system to at least 1.5 times maximum working pressure.
- Testing of automatic start of system (in case of unattended machinery spaces).
- Other tests according to maker's manual and any required by the authority having jurisdiction.

Periodical testing:

- Periodical testing shall comply with instructions from flag administration, statutory interpretations and maker's maintenance manual.
- At least one section should each year be tested with full flow through the nozzles.

Type Examination documentation

Design, Installation, Operation and maintenance (DIOM) manual, 181019-01-03-K7 DIOM 1387 LP Rev.3 dated 17 October 2021 from manufacturer.

Fire test report:

No. 180808-218 dated 20 November 2018 from DFL, Svendborg, Denmark.

Component test reports:

No. 110415-5 dated 15 April 2015 from DFL, Svendborg, Denmark

No. 150918-161 D dated 22 December 2015 from DFL, Svendborg, Denmark

Drawing, nozzle:

No. 180824-06 Rev. A dated 24 August 2018 from manufacturer.

Tests carried out

Fire performance testes according to IMO MSC.1/Circ.1387.

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

Marking of product

The nozzle is to be marked with type designation. In addition, the nozzle or its packing shall be marked with the name and address of manufacturer and the MER Mark of Conformity.