Lloyd's Register

Notified Body authorised by the MCA

Maritime & Coastguard Agency

EC TYPE EXAMINATION (MODULE B) CERTIFICATE

This is to certify that:

LLOYD'S REGISTER VERIFICATION LIMITED (LRV), designated as a "notified body" under the terms of the Merchant Shipping (Marine Equipment) Regulations 2016 (S.I. 2016 No.1025), did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the essential Fire protection equipment requirements of Marine Equipment Directive (MED) 2014/90/EU and Commission Implementing Regulation (EU) 2017/306 indicating design, construction and performance requirements and testing standards for marine equipment, subject to any conditions in the Design Appraisal Document attached hereto.

Manufacturer (Applicant)	VID Fire-Kill ApS
Address	Svalbardvej 13 DK-5700 Svendborg Denmark
Reference/Regulation Item (No & Item designation)	**MED/3.48 - FIXED WATER BASED LOCAL APPLICATION FIRE FIGHTING SYSTEMS COMPONENTS FOR USE IN CATEGORY 'A' MACHINERY SPACES**
Product Type	**FIXED LOCAL APPLICATION FIRE-FIGHTING SYSTEM**
Product Description	Fixed Local Application Fire Extinguishing System – Type: "**Skagerrak**" Nozzles
Specified Standard	IMO MSC.1/Circ. 1387 superseding MSC/Circ. 913 (and superseding MSC.1/Circ.1276)

The attached Design Appraisal Document (schedule) forms part of this certificate.
This certificate remains valid unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

Date of issue	7 June 2017	Expiry date	10 October 2021
Certificate No.	MED 1750003/M1	Signed	
Sheet No.	1 of 4	Name	S. Abraham For and on behalf of Lloyd's Register Verification **LRV EC Distinguishing No. 0038**

Note:

This certificate is issued under the authority of the MCA.
This certificate is not valid for equipment; the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify the notified body named on this certificate of any modification or changes to the equipment in order to obtain a valid Certificate.

Lloyd's Register Verification Limited
71 Fenchurch Street, London, EC3M 4BS
Telephone 020 7423 2416 Fax 020 7423 2053
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Document number
MED 1750003/M1
Issue number
1

DESIGN APPRAISAL DOCUMENT

Date	Quote this reference on all future communications
7 June 2017	SOUTSO/SFS/TA/FF/SA/WP26693236

ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. MED 1750003/M1

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions and European Union legislation for the EC Type Examination of Marine Equipment for use on Merchant Ships Registered in the European Economic Area.

This Design Appraisal Document (schedule) forms part of the Certificate.

APPROVAL DOCUMENTATION

DFL (Danish Fire Laboratories/Svendborg Denmark) Test Reports: 100623-43, dated 15 September 2010 and 110414-2, dated 24 August 2011.

CONDITIONS OF CERTIFICATION

1. The system has been designed in accordance with IMO MSC/Circ. 1387, Annex, "Principle Requirements for the System"
2. For use in Machinery Spaces of Category A for the protection of local hazards. The capacity and arrangement of the spray nozzles is to be denoted in the following;
   - Table 2-1 for Passenger Ships, Cargo Ships, Yachts, High Speed Craft and Tankers **OR;**
   - When the system is provided onboard LR Classed Inland Waterways Passenger ships, the capacity and arrangement of the nozzles shall be specially considered in the design stages in all cases
3. Arrangement drawings and calculations are to be submitted for acceptance in each case where it is proposed to install this system. Control panel schematics are also to be submitted for acceptance in each case where it is proposed to be identified with their location in relation to the protected space(s) indicated
4. Production items of the subject equipment are to be manufactured in accordance with either an approved Production Quality Assurance system (Module D), a Product-Quality assurance system (Module E) or a Product Verification Process (Module F). The wheelmark cannot be affixed to the product until a conformity assessment module is in place
5. Each item, batch or lot of the equipment is to be issued with a "Declaration of Conformity" and have the "Mark of Conformity" affixed after a conformity assessment module is in place
6. See GENERAL NOTES.

Table 2-1 Recommended Nozzle Arrangements for Passenger Ships, Cargo Ships, Yachts, High Speed Craft and Tankers

Nozzle Designation	Location	Max. Distance from Hazard	Min. Distance from Hazard	Spacing	Lateral Distance from Hazard (1)	Minimum Water Pressure
		M	M	M	M	Bar
Skagerrak	Ceiling	11.0	0.75	1.5 x 1.5	0.375	12.5

(1) The outer nozzles of grid must be located at least a quarter of the maximum nozzle spacing outside of the protected area.

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GENERAL NOTES

1. The type approval is restricted to the arrangement and approval of the nozzles only, approval of ancillary components is to be carried out at the design stage
2. For installations which may be protected using individual nozzles or a single row of nozzles, the protected area (width and length) is to be in accordance with MSC.1/Circ.1387 for a 3 x 3 nozzle grid (3.4.2.1 & Figures 3.4.2.5 & 3.4.2.6)
3. The minimum CONSTANT nozzle pressure being 12.5 bar
4. The as tested nozzle is made in NiSn plated naval brass. Each individual water spray nozzle shall be fitted with a mesh strainer (mesh size No. 16, 1200µm). The nozzle characteristics are delineated in Table 4-1:

Table 4-1 Nozzle Characteristics

Nozzle designation	K-factor l/min*bar ½	Flow at 12.5 bar l/min
Skagerrak	**5.6**	**19.80**

5. Piping and water tank material shall be made of stainless steel having minimum grade of AISI 304L
6. To ensure that the system is capable of 20-minutes operation, in all installations the system is incorporate a sea water inlet via remotely operated valve, allowing for either an automatic or a manual change-over connection to sea water supply upon loss of fresh water unless alternative arrangements are agreed at the design stage by the plan approval authority. These connections are to be located in the same compartment as the pump unit and in a readily accessible position
7. The system main pump unit, water tank and sea connection shall not be situated in any area required to be protected by the system
8. The pump unit shall have on the pressure side a mess strainer (mesh size No. 50, 300µm)
9. Activation of any water distribution valve (e.g. section valve) should give a visual and audible alarm in the engine control room and the navigating bridge or continuously manned central control station. Audible alarms may use a single tone
10. The number of spare watermist nozzles and parts for the system being provided are to be indicated in the manufacturer's design, installation, operation and maintenance manual
11. The use of subject system in conjunction with or as part of a water based main fire extinguishing system (MSC/Circ. 1165, as amended by MSC/1269) is acceptable and will be specially considered at the design stage provided the local protection system is capable of being isolated from the main system
12. Appropriate operational measures or interlocks should be provided if the engine room is fitted with a fixed high expansion foam or aerosol fire-fighting system, to prevent the local application system from interfering with the effectiveness of these systems

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13. Construction details and constituent component of the system as well as calculations are to be submitted for acceptance in each case where it is proposed to install this system. Control panel schematics and if applicable also details of any PLC (Programmable Logic Controller) are to be submitted. All principle components of the system are to be identified with their location in relation to the protected space(s) indicated. The control system is to be surveyed at the manufacturer's works prior to installation on board
14. The electrical components of the pressure source for the system should have a minimum rating of IPX4 if located in the protected space. Where, X means the characteristic numeral used to mark the degree of protection against access to hazardous parts and ingress of solid foreign objects, which could be 1 to 6
15. Any fire detection and alarm system installed in conjunction with this system is outside of the scope of this Fire Approval Certificate and must be separately approved by the Administration and have valid MED certification
16. Nozzles are to be installed in the vertically downwards position
17. Valves and other piping system components having working pressures exceeding 7 bar, and all pumps and any independent power units are to be constructed under survey. Additionally, the system pipe work including flexible hoses and pipes are to be approved by Adminstration
18. In the case of Periodically Unattended machinery Spaces, the local application fire fighting system shall have both automatic and manual release capabilities in accordance with revised SOLAS 74 Chapter II-2 Regulation 10.5.6.2. The automatic activation arrangements are in each case to be approved by the Administration at the design stage
19. On completion of the installation final acceptance of the system is dependent on satisfactory survey and testing in accordance with the manufacturer's Design, Installation, Operation and Maintenance Instructions which being submitted in each case where the system is intended being installed

PLACE OF PRODUCTION

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