DNV·GL

Certificate No:
MEDB00000HA

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2014/93/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

This is to certify:

That the Deep fat cooking equipment fire extinguishing systems components (automatic or manual type)

with type designation(s)
WHDR-125 and WHDR-260 Wet Chemical System

Issued to
Kidde-Fenwal
ASHLAND MA, United States

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/3.43 and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/1, II-2/10 & X/3 and 2000 HSC Code 7

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

This Certificate is valid until **2021-02-21**.
Issued at **Høvik** on **2016-02-22**

DNV GL local station:
New York

Approval Engineer:
Ragnar Tonjer

Notified Body
No.: **0575**

for **DNV GL AS**

Digitally Signed By: Hoff, Øyvind
Location: DNV GL Høvik, Norway
Signing Date: 24.02.2016, on behalf of

Vidar Dolonen
Head of Notified Body

NORWEGIAN ACCREDITATION PROD 019

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-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS 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.

Product description

"WHDR-125 and WHDR-260 Wet Chemical System"
fire extinguishing system consisting of spray nozzles, piping, section valves (as applicable), cylinders and a mechanical release module. The system is a pressure vessel system.

The deep – fat cooking protection system shall be designed according to new SOLAS Ch. II-2, Reg.10, 6.4.1 - .5. This certificate addresses only item Reg. 10, 6.4.1. Compliance with the shut down function according to SOLAS Ch. II-2, Reg.10, 6.4.2 – 6.4.5 has to be verified in each case.

Application/Limitation

Approved for use as a fire extinguishing system for galley deep-fat cooking equipment.

The system is composed of the following main components:

Part	**Description**
Cylinder for WHDR-125	Part no. 87-120001-001 Expellant gas: Nitrogen Capacity: 5 L
Cylinder for WHDR-260	Part no. 87-120002-001 Expellant gas: Nitrogen Capacity: 10 L
System release	Manual activation and/or automatic mechanical activation (fusible-link or thermo-bulb links) and/or automatic electrical activation
Extinguishing agent	Kidde APC Wet Agent
Nozzle	Type "F"
Piping system	15 mm steel pipes

System specifications:

	WHDR-125 (single fryer)	**WHDR-260 (2 fryers)**
Vertical distance from vat	762 to 1270 mm	762 to 1270 mm
Max. length of piping	7,9 m	18,4 m
Max. number of Elbows and Tees	15 elbows, 0 Tees	24 elbows, 1 Tee
Position of spray head	One "F" nozzle, centrally over the vat	Two "F" nozzles, one centrally over each vat
Max. size of vat / protected area	495 x 641 mm	495 x 641 mm (each vat)
Cylinder operating pressure	Max. 13 bar	Max. 13 bar

System components, such as pipes and pipe connections as well as welding of pipes are to be certified or inspected in accordance with DNV GL Rules or equivalent standards acceptable to the Flag State.

<u>The following items are to be submitted for approval for each project:</u>

- System arrangement plans including location of nozzle, section, release stations and control circuitry/arrangement.
- Specification of pipes, pressurised cylinder and associated components.

<u>Installation testing:</u>

- Pressure testing of pipe system to at least 1.5 times maximum working pressure.
- Function testing of the system.

Testing according to maker's manual.

<u>Periodical testing:</u>
Periodical control and inspection to be in accordance with makers manual.

Type Examination documentation

Test Report No. PEO10011A dated 2015-10-15 from DBI, Denmark.

Drawing No. 87-120012-001 Rev AC (Nozzle).

Manual P/N 87-122000-001 April 2009 from Kidde Fire Systems.

Tests carried out

Tested according to ISO 15371:2009.

Marking of product

The spray nozzle is to be marked with type designation whereas control unit is to be marked with name of manufacturer and type designation and Mark of Conformity.