TYPE APPROVAL CERTIFICATE

Certificate No:
TAF000006F
Revision No:
1

This is to certify:

That the Fire-extinguishing system for protection of galley deep-fat cooking equipment

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

Issued to
Kidde-Fenwal, Inc.
Ashland, MA, USA

is found to comply with
DNV GL statutory interpretations DNVGL-SI-0364 – SOLAS interpretations
DNV GL rules for classification – Ships
DNV GL offshore standards

Application :

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

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2021-06-17**

This Certificate is valid until **2026-06-16**.
DNV local station: **Certification & Inspection Services**

Approval Engineer: **Helge Bjørnarå**

for **DNV**
Digitally Signed By: Sæle-Nilsen, Dag
Location: DNV Høvik, Norway
on behalf of
Sverre Olav Bergli
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.

Product description

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

The galley protection system shall be designed according to 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 has to be verified in each case.

Only the spray nozzles are type approved by this certificate. Other components are to be approved and/or certified case by 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 nozzle	One "F" nozzle, centrally over the vat	Two "F" nozzle, 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 Class Rules or equivalent standards acceptable to the Flag State.

The following documents are to be approved and filed by the Flag State Administration for each project:
- System arrangement plans including location and specification of cylinders, nozzles, sections valves, release stations and control arrangement.
- Specification of pipes and associated components.
- Shut down of function defined by SOLAS Ch.II-2, Reg.10, 6.4.2-5.

Installation testing:
- Pressure testing of pipe system to at least 1.5 times maximum working pressure.
- Function testing of the system.
- Other tests according to maker's manual.

Periodical testing:
- The periodical testing shall comply with instructions from flag administration, statutory interpretations and maker's maintenance manual.

Each system is to be supplied with a manual for installation, operation and maintenance according to ISO 15371:2015, Chapter 6.

Type Approval documentation

Certification in accordance with DNVGL Class Program DNVGL-CP-0338, September 2018.

Design, Installation, Operation and Maintenance Manual No. 87-122000-001 April 2009 from Kidde Fire Systems.

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

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

Tests carried out

Fire tested according to ISO 15371:2009 (test requirements same as to ISO 15371:2015).

Marking of product

The spray nozzle is to be marked with type designation whereas control unit is to be marked with name and address 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 Program DNVGL-CP-0338 Section 4.