

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00007AF

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV AS under the authority of the Government of Norway.

This is to certify:

That the Nozzles for deep fat cooking equipment fire extinguishing systems (automatic or manual type)

with type designation(s)

AMEREX COBRA Fixed fire extinguishing system for deep fat cooking equipment

Issued to

Haein Industrial Co. Ltd.
Busan, Republic of Korea

is found to comply with the requirements in the following Regulations/Standards:

Regulation (EU) 2020/1170,

item No. MED/3.43. SOLAS 74 as amended, Regulation II-2/1, II-2/10 & X/3, 2000 HSC Code 7, MSC.1/Circ.1433 and ISO 15371:2015

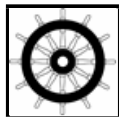
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2026-05-30**.

Issued at **Høvik** on **2021-05-31**

DNV local station:
Gimhae Station

Approval Engineer:
Helge Bjørnara



Notified Body
No.: **0575**

for **DNV AS**

Sverre Olav Bergli
Head of Notified 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-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 Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

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.

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

“AMEREX COBRA Fixed fire extinguishing system for deep fat cooking equipment”

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 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	Part no.
Agent cylinder	Model: 410 Capacity: 15.5 L	Part no. 23690
Nitrogen cartridge	With press switch Without press switch	Part no. 23939 Part no. 24524
Manual pull station	(electrical)	Part no. 24168
Extinguishing agent	COBRA wet chemical agent (1.24 kg/L)	
Discharge nozzle	Nozzle for fryer and griddle	Part no. 13729 x 2ea
Nozzle cap	High temperature cap	Part no. 12504
Piping system	5/8 inch steel pipes	

System specifications:

Vat Deep Fat Fryer	
Vertical distance from vat	760 - 1200 mm
Length of piping	4 (8 elbow, 1 union, 3 tee) - 12 m (12 elbows, 1 union, 4 tee)
Number of nozzles	2
Discharge rate	2 x 0.076 kg/s
Position of spray nozzles	Two discharge nozzles, placed centrally at the short end of the vat (angle 178°)
Max. nozzle pressure	7.3 bar
Min. agent amount	10.64 kg [2 x 0.076 kg/s x 70 s]
Max. size of vat / protected area	400 x 380 mm (W x L) or; 2 x 200 x 380 mm (W x L)

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 items are to be submitted for approval 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.
- Testing 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 Examination documentation

DESIGN, INSTALLATION, MAINTENANCE & RECHARGE MANUAL PART NO. 23853 AMEREX COBRA RESTAURANT FIRE SUPPRESSION SYSTEM dated March 2016 from Amerex Corporation.

Test Report No. R2017-0152R dated 21 August 2017 from FILK, Busan, Korea.

Drawing No. HD-CLASS-NOZZLE-00 dated 26 January 2017 from HODU Co., Ltd. (Nozzle PN13729).

HD-CLASS-GH-00 P-11 (test piping arr. for fire extinguishing test) dated 26 January 2017 from HODU Co., Ltd.
HD-CLASS-GH-00 P-12 (test piping arr. splash test) dated 26 January 2017 from HODU Co., Ltd.

Tests carried out

Tested according 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 and Mark of Conformity (see front page)