



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. F-18991
This Certificate consists of 3 pages

This is to certify that the
**Fire-extinguishing system for protection of galley deep-fat
cooking equipment**

with type designation(s)
Nobel K-5 Fire Suppression System

Manufactured by
Nobel Fire Systems Ltd
HEYWOOD OL10 1ND, United Kingdom

is found to comply with
Det Norske Veritas' Interpretation of SOLAS 1974 Convention as Amended
Det Norske Veritas' Rules for Classification of Ships

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

Place and date
Høvik, 2009-03-24

for DET NORSKE VERITAS AS

Petter Langnes
Head of Section



Local Office
DNV Ellesmere Port

This Certificate is valid until
2012-12-31

Helge Bjørnara
Surveyor

Notice: 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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: F-18991
File No.: 474.48
Case No.: 262.1-007108

Product description

“Nobel K-5 Fire Suppression System”
comprised of a stainless steel cylinder (4.9 litres) containing Nobel-K wet chemical suppressant (4.45 litres), a gas generator, a burst disc, stainless steel piping and a nozzle.

The galley protection system should be designed according to new SOLAS II-2/10.6.4.1-5. This certificate addresses only item 10.6.4.1. Compliance with the shut down function has to be verified in each case.

Application/Limitation

The system is composed of the following main components:

Part	Drawing	Description, material...
Cylinder	P/A3/797/272-DL-IL	Stainless steel 316L
Gas Generator	P/A3/797/130	Electrical
Burst Disc and Filter Unit	P/A3/797/277-DL-IL	Stainless steel
Restrictor	P/A4/797/278	Stainless steel
Piping		15 mm stainless steel 304L
Nozzle and Cover	P/A3/797/267-IL	Stainless steel, nozzle type “BIM 11”
Suppressant		“Nobel-K Wet Chemical Liquid”

The spray head is to be installed according to the following specifications:

System specifications	
Vertical distance from vat	1.0 - 1.2 m
Length of piping	1 – 10 m (max. 6 elbows)
Position of spray head	One centrally over the protected area
Max. area protected	565 x 500 mm
Assembly Dwg.	P/A3/797/KSL01
Operating pressure	Max. 13 bar

System components are to be certified or inspected in accordance with DNV Rules.

The following items are to be submitted for approval for each project:

- System arrangement plans including location of nozzle, section, release stations and control circuitry/arrangement
- Specification of pipes, pressurised cylinder, generator and associated components
- Shut down of function defined by SOLAS 2000 II-2/10.6.4.2-5.
- Manual containing operating and maintenance instructions





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Installation testing:

Pressure testing of pipe system to at least 1.5 times maximum working pressure. Testing according to maker's manual.

Periodical testing:

Periodical control and inspection to be in accordance with makers manual.

Type Approval documentation

Certification in accordance with Certification Note 1.2, Type Approval, December 1996.

Retention survey report from DNV Ellesmere Port dated 22 January 2009.

Test report no. TR/03/183/Rev 1 dated 9 March 2006 from Advantica Technologies Ltd., Loughborough, Leicestershire, UK and "Noble K-5 Fire Suppression System" technical file and appendix 1-6 from Noble fire systems Ltd., UK.

Tested according to ISO 15371:2000.

Marking of product

Main components in the system are to be marked with name of manufacturer and type designation.

Certificate retention survey

Det Norske Veritas' surveyor is to be given permission to perform Certification Retention Surveys at any time during the validity period of this certificate. The arrangement is to be in accordance with procedure described in item 4.3, Certification Note No. 1.2.

END OF CERTIFICATE



21