



Certificate No:
TAF00001NT

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Fire-extinguishing system for protection of galley extract ducts

with type designation(s)
KJ FireOff Nozzle MK-1

Issued to

Knaack & Jahn Schiffbau GmbH
Hamburg, Germany

is found to comply with

DNV rules for classification – Offshore units

DNV offshore standards

DNV statutory interpretations DNV-SI-0364 – SOLAS interpretations, Edition July 2021

Application :

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

Issued at **Hamburg** on **2022-01-21**

This Certificate is valid until **2027-01-20**.

for **DNV**

DNV local station: **Hamburg – CMC North/East**

Approval Engineer: **Frank Poetsch**

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Olaf Drews
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.

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.



Form code: TA 251

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Product description

"KJ FireOff Nozzle MK-1"

is a low pressure water mist system, composed of spray heads, stainless steel piping, section valves and supply component(s).

The galley duct protection system should be designed according to new SOLAS Ch. II-2/10, 6.4.1-5. This certificate addresses only item 6.4.1.

The spray heads are manufactured by the VID Fire-Kill ApS, Svendborg, Denmark.

Application/Limitation

The spray heads are to be installed in according to the following specifications:

Duct protection	
Maximum protection length of each spray head:	0.5 m
Number of spray heads:	Twelve per 6 m pipe (nozzle spacing every 0.5 m)
Position of spray head:	Upper corner for square ducts (nozzle pointing 64° downwards, from vertical duct side) and upper side in round ducts (nozzle pointing downwards)
Maximum size of square ducts: ¹⁾	0.6 x 0.3 m (W x H)
Maximum size of round ducts: ¹⁾	Ø 0.57 m
Normal operating pressure:	6 bar
Spray heads type:	KJ FireOff Nozzle MK-1
Notes:	
1) Larger ducts can be accepted case by case (reduced nozzle spacing)	

Spray head information			
Spray head	k-factor ($Q = k \times p^{1/2}$)	Flow rate	Drawing no.
KJ FireOff Nozzle MK-1 (per 6 m N-pipe) ²⁾	10.8 lpm/bar ^{1/2}	26.45 lpm at 6 bar	100303-807A
KJ FireOff Nozzle MK-1 (per micro nozzle) ²⁾	0.9 lpm/bar ^{1/2}	2.2 lpm at 6 bar	100303-807A
Notes:			
2) Spray heads are to be made of stainless steel "SS AISI 303" and have a normal operating pressure of 6 bar.			

For all applications:

- The pumps shall be delivered with product certificate, whereas other system components are to be inspected in accordance with Class Rules (or equivalent standard as specified by the Flag Administration);
- Pipes, couplings and other components are regarded as "Class III" piping.
- The pump unit and section valves shall be installed in a room having ambient temperature between +4 °C and +45 °C.
- Only stainless-steel piping, or equivalent corrosion resistant pipes, is to be applied (to avoid clogging of sprinklers). Primary water supply shall be fresh water of potable quality.

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

- System arrangement plans including location of spray heads, section valves, release stations and cylinders.
- Capacity of pressure vessel system.
- Specification of pipes, pump, and associated components.
- Shut down of function defined by SOLAS II-2/10.6.4.2-5.
- Manual containing operating and maintenance instructions.

Installation testing:

- Pressure testing of water pipe system to at least 1,5 times maximum working pressure.
- Other tests according to makers manual.

Periodical testing:

- Periodical control and inspection to be in accordance with maker's manual.

Type Approval documentation

Tests carried out



Job Id: **262.1-013836-7**
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Tested according to ISO 15371:2009 and satisfying ISO 15371:2015. Component testing in accordance with MSC/Circ.1165.

Marking of product

The nozzles are to be marked with manufacturer name and address, type designation and Mark of Conformity (see first page) whereas other main components are to be marked with name of manufacturer.

Periodical assessment

Periodical assessments for type approvals with a validity period of five years will be required after two years (+/- 90 days) and after 3.5 years (+/- 90 days). The arrangement is to be in accordance with procedure described in Class Programme DNV-CP-0338 (2021), Section 4.