

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB00002S1
Revision no.:
3

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 equivalent water-mist fire extinguishing systems for machinery spaces and cargo pump rooms**

with type designation(s)

"VID Fire-Kill K6 Pacific Fine Water Spray" (ceiling), "VID Fire-Kill K6 North Sea Fine Water Spray" (ceiling), "VID Fire-Kill K6 Mediterranean Fine Water Spray" (ceiling), "VID Fire-Kill K1 Biscay Water Mist" (bilge), "VID Fire-Kill F1 Tampa Fine Water Spray" (bilge), "VID Fire-Kill B1 Hudson" (bilge) and "VID Fire-Kill B1 Bengal (bilge)"

issued to

Vid Fire-Kill ApS
Svendborg, Denmark

is found to comply with the Implementing Regulation (EU) 2025/1533 for
Item no. **MED/3.39 (Row 1 of 1)**

according to the following requirements:

IMO Res. MSC.36(63)-(1994 HSC Code) 7, IMO Res. MSC.97(73)-(2000 HSC Code) 7, IMO MSC.1/Circ.1313, IMO MSC.1/Circ.1458, SOLAS 74 Reg. II-2/10, SOLAS 74 Reg. X/3, IMO Res. MSC.98(73)-(FSS Code) 7

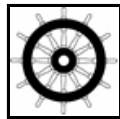
Further details of the equipment and conditions for certification are given overleaf.

Date of issue: **2026-02-04**

Expiry date: **2027-10-30**

DNV local unit:
Denmark CMC

Approval Engineer:
Tessa Bieber



Notified Body
no.: **0575**



for **DNV AS**

Digitally Signed By:

Christine Mydlak-Röder

Christine Mydlak-Röder
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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 USD 300 000.

Product description

"VID Fire-Kill K6 Pacific Fine Water Spray" (ceiling), "VID Fire-Kill K6 North Sea Fine Water Spray" (ceiling), "VID Fire-Kill K6 Mediterranean Fine Water Spray" (ceiling), "VID Fire-Kill K1 Biscay Water Mist" (bilge), "VID Fire-Kill F1 Tampa Fine Water Spray" (bilge), "VID Fire-Kill B1 Hudson" (bilge) and "VID Fire-Kill B1 Bengal (bilge)", is a dry pipe water mist system, composed of nozzles, stainless steel piping, section valves, strainers and electrically driven pumps.

The system is to be designed in accordance with the "Principal Requirements for the System" in IMO MSC/Circ.1165.

Only the nozzles are type approved by this certificate. Pipes, couplings, valves and other systems components are subject to case-by-case approval.

Application/Limitation

Approved for use as fixed fire extinguishing system for machinery spaces and cargo pump rooms.

See appendix for nozzle installation regarding the following specifications with one layer of ceiling mounted nozzles (including nozzles under every platform) and a bilge system.

For all applications:

- A. The pumps (or pump unit) shall be delivered with product certificate, whereas other system components are to be certified or inspected in accordance with Class Rules (or equivalent standard as specified by the Flag Administration).
- B. Redundant pump arrangement is to be approved on a case-by-case basis.
- C. All nozzles, including F1 and K1 with 100% clogging test, can be used with sea water and galvanized pipes, except for nozzles K6 and B1 for which only water complying with maker's specification shall be used in the system. This includes testing and flushing operations.
- D. Pipes, couplings and other components are regarded as "Class III" piping.
- E. The pump unit and section valves shall be installed in a room having ambient temperature between 4 °C and 45 °C.

The following items are to be approved and filed by the Flag Administration for each project:

- a. System arrangement plans including routing of pipes, location of nozzles, section valves, release stations, pump unit with back-up capacity and water supply.
- b. Documentation of power supply and control system.
- c. Specification of pipes, section valves, electrical motors, pumps and associated components.
- d. Pressure drop calculations and water mist capacity calculations.
- e. Design, installation, operation and maintenance manual.

Other documents:

- Gas cylinders, gas pumps, any pipes above DN 50 mm, valves and couplings above DN 100 mm are to be delivered with product certificates (or standards considered by the Flag Administration to be equivalent).
- Documentation for other components (according to EN 3.1B and EN 2.2, as applicable) shall be submitted to the site representative of the Flag Administration.

Installation testing:

- System to be cleaned in accordance with routines outlined in makers installation manual.
- Water to be sampled from the water supply tank, the pump unit and from a representative number of sections and tested for the relevant contaminations identified by maker's specification
- All sections should be tested with full flow of water through the nozzles.
- Manual release of all section valves and start of pumps shall be carried out.
- Alarms inside protected space and at a manned control stations and switchover to emergency power shall be tested.
- Foam proportioner shall be tested according to approval.
- Other tests as required by class rules (pressure testing of piping, etc.) and according to maker's manual shall be carried out.

Periodical testing:

- The periodical testing shall comply with instructions from flag administration, statutory interpretations and maker's maintenance manual.
- At least one section should each year be tested with full flow through the nozzles (not the same section each year).

Please see Appendix: Application/Limitation

Type Examination documentation



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Please see Appendix: Type Examination Documentation

Tests carried out

Fire performance test in accordance with IMO MSC/Circ.1165.

Component test in accordance with IMO MSC/Circ.1165 and IMO MSC.1/Circ.1269.

Marking of product

The nozzles are to be marked with type designation and Mark of Conformity (see first page) whereas the pump unit is to be marked with name of manufacturer and type designation.

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Type Examination documentation

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Document No.	Rev.	Title
250203-364		Component test for nozzle K9 Bengal-ENV iaw IMO MSC./Circ. 1165
141201-01-09-K6	09	DIOM 1165 TF
241022-359		Machinery space bilge test of pendant low-pressure water mist nozzle K9 Bengal-ENV iaw IMO MSC./Circ. 1165
240613-350		Fire testing of low-pressure water mist nozzle B1 Bengal Bilge with the use of foam iaw IMO MSC./Circ.1165
241218-362		Machinery space test of pendent VID FIRE-KILL low-pressure water mist nozzle K6 iaw IMO MSC./Circ.1165
090109-02		Component test report nozzle B1 iaw IMO MSC./Circ. 1165
110315-52		Fire test report for K6 nozzle iaw IMO MSC./Circ. 1165
110414-1		Component test report for K6 nozzle iaw IMO MSC./Circ. 1165
110414-2		Component test report for K6 nozzle iaw IMO MSC./Circ. 1165
110630-55		Fire test report for K6 nozzle iaw IMO MSC./Circ. 1165
111025-59		Fire test report for K1 nozzle iaw IMO MSC./Circ. 1165
120308-65		Fire test report for F1 nozzle iaw IMO MSC./Circ. 1165
140229-136		Fire test report for B1 nozzle iaw IMO MSC./Circ. 1165
141028-148		Component test report for B1 and K6 nozzles iaw IMO MSC./Circ. 1165
71205-016		Fire test report for B1 nozzle iaw IMO MSC./Circ. 1165
170620-204		Fire test report for K6 nozzle iaw IMO MSC./Circ. 1165
71203-478	E	Drawing B1 nozzle
120216-1043		Drawing F1 nozzle
250522-371		Clogging test nozzle K1 iaw IMO MSC./Circ. 1165
250603-373		Clogging test nozzle F1 iaw IMO MSC./Circ. 1165
241119-6011	B	Drawing for nozzle K9 - Bilge Assembly - from manufacturer.
100303-807	E	Drawing for nozzle K1 - Assembly - from manufacturer.
100714-836	G	Drawing for nozzle K6 - Assembly - from manufacturer.

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The nozzles are to be installed to the following specifications with one layer of ceiling mounted nozzles (including nozzles under every platform) and a bilge system:

Volume and height of protected spaces (K6 Pacific)	
Maximum ceiling height of protected space ¹⁾ :	10.0 m
Maximum volume of protected space ²⁾ :	3842 m ³
Notes:	
1) Standard casings need in general not to be considered when assessing this height limitation.	
2) Net volume can be increased to 7222,2 m ³ based on IMO MSC.1/Circ.1385 as average time to extinguishment for the three fires with the longest extinguishing times is less than 11:13 minutes. This volume shall include bilges, casings, etc	

Volume and height of protected spaces (K6 North Sea)	
Maximum ceiling height of protected space ¹⁾ :	10.0 m
Maximum volume of protected space ²⁾ :	2862 m ³
Notes:	
1) Standard casings need in general not to be considered when assessing this height limitation.	
2) Net volume can be increased to 5024 m ³ based on IMO MSC.1/Circ.1385 as average time to extinguishment for the three fires with the longest extinguishing times is less than 11:13 minutes. This volume shall include bilges, casings, etc.	

Volume and height of protected spaces (K6 Mediterranean)	
Maximum ceiling height of protected space ¹⁾ :	5.0 m
Maximum volume of protected space ²⁾ :	500 m ³
Notes:	
1) Standard casings need in general not to be considered when assessing this height limitation.	
2) Net volume can be increased to 1000 m ³ based on IMO MSC.1/Circ.1385 as average time to extinguishment for the three fires with the longest extinguishing times is less than 10 minutes. This volume shall include bilges, casings, etc.	

Ceiling mounted nozzles (K6 Pacific)	
Maximum horizontal spacing:	3.0 x 3.0 m
Maximum distance to bulkhead:	1.5 m
Maximum coverage area per nozzle (average):	9.0 m ²
Maximum ceiling height of nozzles:	10.0 m
Minimum pressure at nozzles:	9.0 bar
Nozzle type:	VID F-K K6
Nozzle orientation:	Downwards
Nozzles shall normally be installed approximately 0.1 - 0.2 m below deck. Where the nozzles are located less than 3 m above the protected object, a narrower nozzle spacing than 3 x 3 m or the use of nozzles intended for lower installation height should be considered.	
Arrangement to be approved case-by-case.	
A separate system for the bilges, approved according to IMO MSC/Circ.1165, is to be provided.	
Casings and areas under platforms and other similar obstruction shall be protected by additional nozzles.	
Nozzles are to be uniformly distributed throughout the space.	

Ceiling mounted nozzles (K6 North Sea)	
Maximum horizontal spacing:	3.0 x 3.0 m
Maximum distance to bulkhead:	1.5 m
Maximum coverage area per nozzle (average):	9.0 m ²
Maximum ceiling height of nozzles:	10.0 m
Minimum pressure at nozzles:	9.0 bar
Nozzle type:	VID F-K K6
Nozzle orientation:	Downwards
Nozzles shall normally be installed approximately 0.1 - 0.2 m below deck. Where the nozzles are located less than 3 m above the protected object, a narrower nozzle spacing than 3 x 3 m or the use of nozzles intended for lower installation height should be considered.	
Arrangement to be approved case-by-case.	
A separate system for the bilges, approved according to IMO MSC/Circ.1165, is to be provided.	
Casings and areas under platforms and other similar obstruction shall be protected by additional nozzles.	
Nozzles are to be uniformly distributed throughout the space.	

Ceiling mounted nozzles (K6 Mediterranean)	
Maximum horizontal spacing:	4.0 x 4.0 m
Maximum distance to bulkhead:	2.0 m
Maximum coverage area per nozzle (average):	16.0 m ²
Maximum ceiling height of nozzles:	5.0 m
Minimum pressure at nozzles:	8.0 bar
Nozzle type:	VID F-K K6
Nozzle orientation:	Downwards
Nozzles shall normally be installed approximately 0.1 - 0.2 m below deck. Where the nozzles are located less than 3 m above the protected object, a narrower nozzle spacing than 4 x 4 m or the use of nozzles intended for lower installation height should be considered. Arrangement to be approved case-by-case.	
A separate system for the bilges, approved according to IMO MSC/Circ.1165, is to be provided.	
Casings and areas under platforms and other similar obstruction shall be protected by additional nozzles.	
Nozzles are to be uniformly distributed throughout the space.	

Bilge nozzles (K1 Biscay)	
Maximum horizontal spacing:	1.7 x 0.5 m
Maximum distance to bulkhead:	0.85 m
Maximum coverage area per nozzle (average):	0.43 m ²
Height of nozzle above tank top/floor level:	0.37 - 0.45 m ¹⁾
Minimum operation pressure at nozzles:	11.0 bar
Nozzle type:	VID F-K K1
Nozzle orientation:	Horizontal ²⁾
Notes:	
1) The bilge plate was located at 0.75 m in the fire test. Installations on vessels with bilges and nozzle higher or lower than these figures will be considered case by case.	
2) Spacing between nozzles pointing the same direction is 0.5 m along the distribution pipe and 1.7 m between distribution pipes. Nozzles of two adjacent rows shall be installed pointing against each other. The nozzles along a row (distribution pipe) are installed with alternating pointing directions, thus with half spacing between them (0.25 m). The manufacturer's prefabricated N-pipe should be used as distribution pipe (consisting of a PN16 Stainless Steel pipe with prefabricated holes and threading for mounting of the K1 nozzles).	

Bilge nozzles (F1 Tampa)	
Maximum horizontal spacing:	1.75 x 0.75 m
Maximum distance to bulkhead:	0.85 m
Maximum coverage area per nozzle (average):	0.66 m ²
Height of nozzle above tank top/floor level:	0.35 - 0.37 m ¹⁾
Minimum operation pressure at nozzles:	11.0 bar
Nozzle type:	VID F-K F1
Nozzle orientation:	Horizontal ²⁾
Notes:	
1) The bilge plate was located at 1.1 m in the fire test. Installations on vessels with bilges and nozzle higher or lower than these figures will be considered case by case.	
2) Spacing between nozzles pointing the same direction is 0.75 m along the distribution pipe and 1.75 m between distribution pipes. Nozzles of two adjacent rows shall be installed pointing against each other. The nozzles along a row (distribution pipe) are installed with alternating pointing directions, thus with half spacing between them (0.375 m). The manufacturer's prefabricated N-pipe should be used as distribution pipe (consisting of a PN16 Stainless Steel pipe with prefabricated holes and threading for mounting of the F1 nozzles).	

Bilge nozzles (B1 Hudson)	
Maximum horizontal spacing:	1.5 x 4.0 m
Maximum coverage area per nozzle (average):	3.0 m ²
Height of nozzle above tank top/floor level:	0.30 - 0.60 m ¹⁾
Minimum operation pressure at nozzles:	10.5 bar
Nozzle type:	VID F-K B1
Nozzle orientation:	Horizontal ²⁾
Notes:	
<ol style="list-style-type: none"> 1) The bilge plate was located at 1.0 m in the fire test. Installations on vessels with bilges and nozzle higher or lower than these figures will be considered case by case. 2) Spacing between nozzles pointing the same direction is 1.5 m along the distribution pipe and 4.0 m between distribution pipes. Nozzles of two adjacent rows shall be installed pointing against each other. 3) Approved STHAMEX AFFF foam concentrate (or equivalent) is to be applied with 1% admixture to water after 7 minutes of activating the system. 	

Bilge nozzles (B1 Bengal)	
Maximum horizontal spacing:	1.5 x 4.0 m
Maximum coverage area per nozzle (average):	3.0 m ²
Height of nozzle above tank top/floor level:	0.30 - 0.50 m ¹⁾
Minimum operation pressure at nozzles:	6 bar
Nozzle type:	VID F-K B1
Nozzle orientation:	Horizontal ²⁾
Notes:	
<ol style="list-style-type: none"> 1) The bilge plate was located at 1.1 m in the fire test. Installations on vessels with bilges and nozzle higher or lower than these figures will be considered case-by-case. 2) Spacing between nozzles pointing the same direction is 1.5 m along the distribution pipe and 4.0 m between distribution pipes. Nozzles of two adjacent rows shall be installed pointing against each other. 3) Approved FOMTEC AFFF foam concentrate (or equivalent) is to be applied with 1% admixture to water after system activation. 	

Bilge nozzles (B1 Bengal ENV)	
Maximum horizontal spacing:	1.5 x 4.0 m
Maximum coverage area per nozzle (average):	3.0 m ²
Height of nozzle above tank top/floor level:	0.30 - 0.50 m ¹⁾
Minimum operation pressure at nozzles:	10 bar
Nozzle type:	VID F-K B1
Nozzle orientation:	Horizontal ²⁾
Notes:	
<ol style="list-style-type: none"> 1) The bilge plate was located at 1.2 m in the fire test. Installations on vessels with bilges and nozzle higher or lower than these figures will be considered case-by-case. 2) Spacing between nozzles pointing the same direction is 1.5 m along the distribution pipe and 4.0 m between distribution pipes. Nozzles of two adjacent rows shall be installed pointing against each other. 3) Approved Sthamex Marine 3% F20 foam concentrate or equivalent (PFAS free foam liquid) is to be applied with 3% admixture to water after system activation. 	

Bilge nozzles (K9 Bengal-ENV)	
Maximum horizontal spacing:	2.5 x 2.5 m
Maximum coverage area per nozzle (average):	6.25 m ²
Height of nozzle above tank top/floor level:	0.40 - 0.50 m ¹⁾
Minimum operation pressure at nozzles:	8 bar
Nozzle type:	VID F-K K9
Nozzle orientation:	Downwards ²⁾
Notes:	
<ol style="list-style-type: none"> 1) The bilge plate was located at 1.25 m in the fire test. Installations on vessels with bilges and nozzle higher or lower than these figures will be considered case-by-case. 2) Spacing between nozzles is 2.5 m along the distribution pipe and 2.5 m between distribution pipes. The nozzles are installed in a pendent position, uniformly distributed throughout the space. 3) Approved Sthamex Marine 3% F20 foam concentrate or equivalent (PFAS free foam liquid) is to be applied with 3% admixture to water after system activation. 	

Nozzle information:

Nozzle type	Application	k-factor [lpm/bar ^{1/2}]	Flow [lpm]	Operating pressure [bar]	Drawing No.
VID F-K K6 ¹⁾	Ceiling	5.6	15.8	8.0	100714-836
VID F-K K6 ¹⁾	Ceiling	5.6	16.8	9.0	100714-836
VID F-K K1 ²⁾	Bilge	0.9	3.0	11.0	100303-807
VID F-K F1 ²⁾	Bilge	1.1	3.6	11.0	120216-1043
VID F-K B1 ³⁾	Bilge	2.8	9.1	10.5	71203-478
VID F-K B1 ³⁾	Bilge	2.8	6.9	6.0	71203-478
VID F-K K9 ⁴⁾	Bilge	8.7	24.6	8.0	241119-6011

- 1) The nozzle is made of Naval brass + NiSn / AISI 316 and have a maximum rated pressure of 16 bar.
- 2) The nozzle is made of Naval brass + NiSn / AISI 316 / AISI 303 housing and have a maximum rated pressure of 16 bar.
- 3) The nozzle is made of Naval brass / AISI 316 and have a maximum rated pressure of 16 bar.
- 4) The nozzle is made of Stainless steel and have a maximum rated pressure of 16 bar.