

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00006B4

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 Marine evacuation systems

with type designation(s)

Viking Evacuation Dual Slide - VEDS 3A.1 and VEDS 3B.1

Issued to

Viking Life-Saving Equipment A/S
Esbjerg V, Denmark

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

Regulation (EU) 2021/1158,

item No. MED/1.27. SOLAS 74 as amended, Reg. III/4, III/15, III/26, III/34 & X/3, LSA Code and 2000 HSC Code 8.

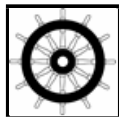
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2026-10-11**.

Issued at **Høvik** on **2021-10-12**

DNV local station:
Denmark CMC

Approval Engineer:
Tessa Biever



Notified Body
No.: **0575**

for **DNV AS**

Sverre Olav Bergli
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005, and amended by Decision No 1/2019 dated February 22nd, 2019.



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

Viking Evacuation Dual Slide - VEDS 3A.1 and VEDS 3B.1

The VEDS is a fully gravity based MES and is equipped with 3 x 150 DKS integrated liferafts with extended service interval, a dual vertical helix slide and a load bowsing system. Evacuation takes place directly into one of the integrated 150 DKS liferafts.

System specifications:

- Enclosed housing with two evacuation doors and hatches for deployment and service
- Build-in float free arrangement
- Gravity based deployment and controlled descent of equipment
- Load bowsing system
- Full trim and list flexibility
- Counter system for effective and safe evacuation

The VEDS is available in the following configurations:

Type	Integrated liferaft types	Weight of sledge with liferafts [kg]	Installation height [m]	Max. capacity [persons]
VEDS 3A.1	3x 150 DKS S30* A-pack (with desalter)	4.300	5-22	908
VEDS 3B.1	3x 150 DKS S30* B-pack	3.850		908

*S30: liferafts are complying with IMO MSC.1/Circ.1328 for extended service interval 30 months.

For further details and material specification see document "VEDS Type Variants" listed under the examination documentation.

Application/Limitation

The VEDS 3A.1 and VEDS 3B.1 are approved for the installation height 5-22 meter.

Integrated and associated liferafts shall have separate MED Approval and be wheel marked.

Gas cylinders and components in the pressure gas systems shall be of an approved type.

Components in the gas inflation system shall be approved according to ISO 15738:2019.

The following is to be submitted to the Flag Administration in each case, either by the yard, owner or equipment manufacturer:

- Plan showing the MES system fully deployed on the specific vessel in side-view and cross-sectional view under required unfavourable conditions of trim and list as the type approval does not cover the requirements to installation covered by LSA Code Ch. 6.2.2.1.4 and SOLAS Ch. III. Details shall be shown.
- Plan showing the arrangement of the MES on board any vessel, including the passageway and embarkation areas, to ensure that the flow rate as stated above can be maintained throughout the total evacuation of the number of persons for which the MES is certified for.

It shall be verified that the ship on which the MES is installed is equipped with a sufficient number of rescue boats to satisfactory marshal and support the bowsing and tow away, as applicable, of all the associated life rafts within the times allowed for embarkation as per SOLAS Ch.III/Reg. 21.1.3 and 31.1.5.

The on-board arrangements and installation of this MES is not part of the design appraisal or certificate and to be of the satisfaction of the Flag Administration.

Installation tests to be carried out in accordance with IMO Res. MSC.81(70), Part 2, item 7 and to be documented by the manufacturer. This does not preclude any further testing to additional requirements of the Flag Administration or those acting on their behalf.

Inflatable components or sections of the marine evacuation systems are to be service at intervals not exceeding twelve months by a person suitably qualified and authorized by the manufacturer.

Any electrical, pressurized and hydraulic components are only assessed as integrated parts of the VEDS 3A.1 and VEDS 3B.1 but are not assessed individually. The electrical, pressurized and hydraulic components shall be designed to codes of practice to the satisfaction of the Flag Administration having regards to their locations and maximum ambient temperatures expected in service.

A full set of manuals and associated documents are to be provided onboard for use on all operations involved in the inspections, maintenance and resetting of the MES and associated equipment.

Type examination documentation

The following documentation is basis for the DNV approval:

Drawings	Date
Drawing No. A-507024 Rev.8 - Sledge frame VEDS	2021-09-23
Drawing No. A-507085 Rev.5 – Launching Unit Sledge frame VEDS	2020-06-11
Drawing No. A-506120 Rev.4 – Dual slide box Dual Chute VEDS (2 sheets)	2020-08-11
Drawing No. A-507054 Rev.4 – VEDS Top Assembly	2021-02-26
Drawing No. A-507075 Rev.8 – VEDS Frame Assembly with release system VEDS (4 sheets)	2021-09-29
Drawing No. ENG-20088379 Rev.1 – Stowed position	2021-06-18
Drawing No. ENG-20087620 Rev.0 – Launching sequence VEDS	2021-05-27
Drawing No. ENG-20088396 Rev.0 – Deployed position	2021-05-27
Drawing No. ENG-20089244 Rev.0 – Trim and List	2021-05-27
Drawing No. ENG-20108032 Rev.0 – Float free sequence VEDS	2021-09-28
Drawing No. ENG-20088681 Rev.0 – Bowsing scenarios	2021-05-27
Drawing No. A-507241 Rev.0 – VEDS GRP Cover Assembly	2021-04-21
Drawing No. ENG-20052916 Rev.1 – AB section Helix Chute	2021-02-06
Drawing No. ENG-20052918 Rev.1 – Top Section Helix Chute	2021-02-06
Drawing No. ENG-20028915 Rev.1 – Container Assembly VEDS rafts	2021-09-24
Drawing No. ENG-01493095 Rev.1 – Top Container for raft 1 VEDS	2021-05-17
Drawing No. 20000210 – Center container for raft 2 VEDS	2021-01-20
Drawing No. ENG-20018468 – Bottom container for raft 3 VEDS	2020-03-09
Drawing No. ENG-20087758 Rev.0 – GA Helix	2021-03-09
Drawing No. ENG-20096844 – Single Raw Slide Helix VEDS	2021-06-23
Drawing No. ENG-20018396 Rev.4 – Tilt unit with short bowsing arms VEDS	2021-06-02
Calculations	Date
CAL-1044 Rev.0 – VEDS Strength Calculation – frame, hinge and bowsing arm	2021-01-18
Test reports	Date
Prototype test reports in accordance with IMO MSC.81(70) § 12.1 (materials):	
- Test report No. SPC0207183/1135 from SATRA Technology Centre, UK	2012-11-01
- Test report No. SHSL1211254037TX from SGS-CSTC, Shanghai, China	2012-11-12
Prototype test reports in accordance with IMO MSC.81(70) § 12.2 (marine evacuation system container):	
- Test report No. 3833	2021-06-16
- Test report No. 3606	2020-11-02
- Test report No. 3854-2	2021-07-29
- Test report No. 3839	2021-06-22
- Test report No. 3834	2021-06-16
- Test report No. 3783	2021-04-13
- Test report No. 3854-1	2021-07-29
Prototype test reports in accordance with IMO MSC.81(70) § 12.3 (marine evacuation passage):	
- Test report No. 3526	2020-11-11
- Test report No. 3607	2020-11-02
- Test report No. 3854-3	2021-07-29
- Test report No. 3562	2020-11-11
- Test report No. 3528	2020-10-19
Prototype test reports in accordance with IMO MSC.81(70) § 12.5 (associated liferafts):	
- Test report No. 3837	2021-06-18
- Test report No. 3880	2021-09-24
- Test report No. 3836	2021-06-18
Prototype test reports in accordance with IMO MSC.81(70), § 12.6 (performance):	
- Test report No. 3835	2021-06-18
- Test report No. 3631	2021-02-15

- Test report No. 3632	2021-02-15
- Test report No. 3633	2021-02-15
- Test report No. 3634	2021-02-15
- Test report No. 3328	2020-03-10
- Test report No. 3326	2020-03-10
- Test report No. 3901	2021-10-08
Prototype test report – LSA code 6.2.2.1.8 (MES function under conditions of icing)	2021-05-25
- Test report No. 3809	
Other	Date
Description VEDS Type variants, Rev.2	2021-09-24
VEDS Operation Manual	June 2021

Tests carried out

Test documentation in accordance with recommendation on testing of Lifesaving Appliances, IMO Res. MSC 81(70), part 1.

Marking

The product is to be indelibly marked with name and address of manufacturer, type designation, dimensions and date of manufacture, the MED Mark of Conformity and USCG Approval Number (see first page).

The marking for the MES container and marine evacuation system shall be according to LSA Code, item 6.2.4 and 6.2.5.