

**EC-TYPE EXAMINATION
CERTIFICATE (MODULE B)**

Certificate No:
MEDB00001JF
Revision No:
11

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 GL AS under the authority of the Government of Norway.

This is to certify:

That the Automatically self-righting liferafts: inflatable

with type designation(s)

12DKS,12DKSN,16DKS,16DKS S30,16DKS E,16DKSN,25DKS,25DKSN,39DKS,50DKS,50DKS+VENOC,100DKS,100DKS VENOC,100 DKSU,100 DKS SBS, 150DKS,150 DKSU,12DKS S30,12DKSN S30,16DKSN S30,25DKS S30,25DKSN S30,39DKS S30,50DKS S30,100DKS S30,150DKS S30,150 DKS SBS,12DKS E,25DKS E,39DKS E,50DKS E,100DKS E,150DKS E

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) 2020/1170,**

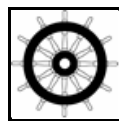
item No. MED/1.14a SOLAS 74 as ammended Reg. III/4, III/26, III/ 34 and X/3, LSA Code I, IV and 1994 HSC Code 8. 2020 HSC Code 8

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

This Certificate is valid until **2021-10-24.**

Issued at **Høvik** on **2020-10-27**

DNV GL local station:
Denmark CMC



for **DNV GL AS**

Approval Engineer:
Tessa Bieber

Notified Body
No.: **0575**

Roald Vårheim
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 GL 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



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Product description

Automatic self-righting inflatable liferaft with the following type designations:

- 12 DKS, 12 DKS_N, 16 DKS, 16 DKS_N, 25 DKS, 25 DKS_N, 39 DKS, 50 DKS, 50 DKS SBS, 50 DKS+ VENOC, 100 DKS, 100 DKS VENOC, 100DKSU, 100 DKS SBS, 150 DKS, 150 DKS_U, 150 DKS SBS
- 12 DKS S30, 12 DKS_N S30, 16 DKS S30, 16 DKS_N S30, 25 DKS S30, 25 DKS_N S30, 39 DKS S30, 50 DKS S30, 100 DKS S30, 150 DKS S30
- 12 DKS E, 16 DKS E, 25 DKS E, 39 DKS E, 50 DKS E, 100 DKS E, 150 DKS E

Liferaft designs with type designation including S30 comply also with MSC.1/Circ. 1328 (extended service intervals).

Application/Limitation

The liferafts are available with features added on to the existing type approved base raft:

S30: added to type designation e.g.12 DKS S30. Liferaft environmentally packed to allow for extended service intervals up to 30 months. The life raft is subject to an annual onboard inspection.

N: added to type designation e.g. 12 DKS_N. The liferaft is equipped with an improved "stairway" like boarding arrangement.

VENOC: added to type designation e.g. 50 DKS VENOC: The liferaft equipped with reduced SOLAS A emergency pack: 1 liter of drinking water per person is replaced by manually powered reverse osmosis desalinator according to LSA Code §4.1.5.1.19.

E: added to type designation e.g. 6 DK+ E. Environmental packed liferaft prepared for extended service intervals

U: added to type designation e.g.100 DKS_U. Liferaft used in combination with 'Undertun' MES system.

SBS: added to type designation e.g.100DKS SBS. Liferaft used in combination with 'SBS' MES system (Simple Bowsing System).

Notes to below form Capacity and installation heights: Container type designation is given as 16-xxxx, and emergency packs SOLAS A or B is given as "A" and "B". "A*" is SOLAS A emergency pack with desalter.

Listed liferaft types covers types S30, E, N and VENOC variants. Each size listed covers variations with the same capacity.

| Liferaft type | 18m | 22m | 25m | 30m | 33m | 35m | 36m | 60m | Cap. |
|--|----------------------------|-----|------------------|----------------------------|-----|-----|----------------------------|--------|------------|
| 12 DKS 12 DKS S30 12 DKS E | A 9044 A 0119 | | A 0120 A 51xx | | | | | | 12 persons |
| 12 DKS _N 12 DKS _N S30 | A 9044 A 0119 | | A 0120 | | | | | | 12 persons |
| 16 DKS 16 DKS S30 16 DKS E | | | | | | | | A 51xx | 16 persons |
| 16 DKS _N 16 DKS _N S30 | | | | | | | A 52xx | | |
| 25 DKS 25 DKS S30 25 DKS E | | | A 82xx | | | | B 0162 | A 86xx | 25 persons |
| 25 DKS _N 25 DKS _N S30 | A 0162 B 0162 B 89xx | | A 82xx | | | | A 86xx | | 25 persons |
| 39 DKS 39 DKS S30 39 DKS E | | | A* 86xx | | | | A 57xx B 54xx A 59xx | | 39 persons |
| 50 DKS 50 DKS S30 50 DKS E | A* 57xx | | | A 0142 B 75xx B 57xx | | | A 76xx A 0142 | | 51 persons |

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| Liferaft type | 18m | 22m | 25m | 30m | 33m | 35m | 36m | 60m | Cap. |
|---|---------------------------------|--|-----|------------------|-------------------|---------|-----|-----|-------------|
| 100 DKS 100 DKS S30 100 DKS E 100 DKSU 100 DKS SBS 100 DKS VENOC 100 DKS VEMC | | A 0500 A 0501 A 0502 B 0530 B 0531 B 0532 | | A*88xx B 88xx | A 91xx | A* 97xx | | | 101 persons |
| 150 DKS 150 DKS S30 150 DKS E 150 DKSU 150 DKS SBS | A 92xx A* 95xx A 0202 | A* 98xx | | | A* 91xx B 91xx | | | | 153 persons |

Towing strain:

| Liferaft type | Towing strain 2 knots | Towing strain 3 knots |
|---------------|--------------------------|--------------------------|
| 12 DKS | 0.8 kN | 1.3 kN |
| 12 DKS N | 0.8 kN | 1.3 kN |
| 16 DKS | 0.68 kN | 1.27 kN |
| 16 DKS N | 0.7 kN | 1.4 kN |
| 25 DKS | 0.7 kN | 1.4 kN |
| 25 DKS N | 0.7 kN | 1.4 kN |
| 39 DKS | 1.57 kN | 2.65 kN |
| 50 DKS | 1.37 kN | 2.15 kN |
| 100 DKS | 1.1 kN | 2.3 kN |
| 150 DKS | 1.7 kN | 3.1 kN |

The liferaft shall be packed with a SOLAS A PACK or SOLAS B PACK.

Gas cylinders shall be of an approved type.

Components in the gas inflation system should be approved according to ISO 15738:2002.

The liferaft is intended to be installed with external weak link and a hydrostatic release unit. Float free arrangement to be checked upon installation on board.

The design assessment is based on International Life-Saving Appliances (LSA) Code, IMO Res. MSC.48(66) as amended by IMO Res. MSC.218(82) and IMO Res. MSC.293(87).

Production testing shall be carried out according to IMO Res. MSC.81(70) part 2.

With ref. to 'Tests carried out' the liferafts including type designation S30 are approved for extended service intervals up to 30 months in accordance with SOLAS Ch. III, Regulation 20.8.3 on the condition that:

- Such extended service intervals has been approved by the ships flag administration.
- The liferafts are checked onboard in accordance with SOLAS Ch. III Regulation 20.8.3.2 at intervals in accordance with SOLAS Ch. III Regulation 20.8.1.1, according to procedures issued by the manufacturer
- The liferafts shall be serviced at approved servicing stations in accordance with the recommendations in IMO Res. A.761(18) at intervals not exceeding 30 months.

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Type approval documentation

This certificate replaces MEDB00001JF Rev.9.

Drawings and parts lists as listed below:

| Liferaft type | Parts list no. | Drawing no. |
|------------------------------|----------------|----------------------|
| 12 DKS, 12 DKS S30 | 43000435.000 | 43000435.001/002/003 |
| 12 DKS, 12 DKS S30 | 43001825.000 | 43001825.001/002/003 |
| 12 DKS, 12 DKS S30 | 43001870.000 | 43001870.001/002/003 |
| 12 DKS, 12 DKS S30 | 43002376.000 | 43002376.001/002/003 |
| 12 DKS, 12 DKS S30, 12 DKS E | 43002448.000 | 43002448.001/002/003 |
| 16 DKS, 16 DKS S30, 16 DKS E | 43002575.000 | 43002575.001/002/003 |
| 16 DKS, 16 DKS S30 | 43002546.000 | 43002546.001/002/003 |
| 25 DKS, 25 DKS S30 | 43000334.000 | 43000334.001/002/003 |
| 25 DKS, 25 DKS S30 | 43000445.000 | 43000445.001/002/003 |
| 25 DKS Direct Boarding | 43000542.000 | 43000542.001/002/003 |
| 25 DKS, DD-MES | 43000547.000 | 43000547.001/002/003 |
| 25 DKS, 25 DKS S30 | 43001826.000 | 43001826.001/002/003 |
| 39 DKS, 39 DKS S30, 39 DKS E | 43002375.000 | 43002375.001/002/003 |
| 50 DKS LS2 | 43000621.000 | 43000621.001/002/003 |
| 50 DKS, 50 DKS S30, 50 DKS E | 43002438.000 | 43002438.001/002/003 |
| 50 DKS (35) RS | 43002444.000 | 43002444.001/002/003 |
| 50 DKS NOR NAVY | 43002447.000 | 43002447.001/002/003 |
| 50 DKS RS | 43002464.000 | 43002464.001/002/003 |
| 50 DKS SBS | 43002504.000 | 43002504.001/002/003 |
| 100 DKS Basic canopy no.1 | 42002623.000 | 42002623.000 |
| 100 DKS basic raft no.1 | 42002641.000 | 42002641.001/002/003 |
| 100 DKS basic raft no.2 | 42002693.000 | 42002693.001/002/003 |
| 100 DKS Basic canopy no.6 | 42002764.000 | 42002764.001/002/003 |
| 100 DKS Basic canopy no.2 | 42004381.000 | 42004381.001 |
| 100 DKS basic raft no.5 | 43001954.000 | 43001954.001/002/003 |
| 100 DKSU | 43002470.000 | 43002470.001/002 |
| 100 DKS SBS | 43002540.000 | 43002540.001/002/003 |
| 100 DKS VEMC | 42005812.000 | 42005812.001/002 |
| 150 DKS, 150 DKS S30 | 43001922.000 | 43001922.001-009 |
| 150 DKS | 43002482.000 | 43002482.001-009 |
| 150 DKSU | 43002454.000 | 43002454.001-009 |
| 150 DKS SBS | 43002488.000 | 43002488.000/002 |

Tests carried out

- Prototype tests and test reports in accordance with the Recommendation on Testing of Life-Saving Appliances, IMO Res. MSC.81(70) part 1, including IMO Res. MSC.226(82), MSC.295(87) and MSC.323(89), have been witnessed and evaluated and found to be in compliance.
- Tests and reports in accordance with test requirements listed in MSC.1/Circ.1328 item 5.4.2 -5.4.10 have been witnessed by DNV surveyor and evaluated and found to be in compliance (test report item 5.4.4 dd. 2009-09-01, item 5.4.6 dated 2009-10-29, item 5.4.7 dated 2009-10-28, item 5.4.8-5.4.10 dated 2009-11-02/2009-11-04).

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- Tested according to the MarED recommendation for liferaft occupancy weight increase from 75 kg to 82.5 kg: test report nos. 1027-1029, 1228, 1395, 1451, 1497, 1509, 1534, 1544, 1554, 1581-1587, 1589, 1591-1593, 1595-1603, 1605-1617, 1620, 1622, 1627-1642, 1655-1657 and 1683-1685.
- Prototype tests and test reports in accordance with IMO Res. MSC.81(70) part 1 for 39 DKS witnessed by DNV surveyor: 1484, 1485, 1620, 2043, 2080,1814,1406,1583,1631, 254a-c-d-e-f, 1584, 257b-c-d, 1585, 2078, 218, 219, 1948, 1413, 2079, 256a, 2120.
- Prototype tests and test reports in accordance with IMO Res. MSC.81(70) part 1 for 16 DKS witnessed by DNVGL surveyor: 100, 1410, 1418, 1809a, 1870, 1899, 1905a, 1905b, 1905c, 1993, 2025, 2689, 2690, 2691, 2752, 2873, 2876, 2878, 2880, 2881, 2884, 2885, 2911, 2926, 3011, 3012, 3085, 3086, 3126, 3129, 3130, 3135, 3156, 3182, 3186, 3187, 3190, 3211, 3212, 3223, 3224, 3225, 3226, 3227, 3223, 3255, 3318, 3319, 3320, 3322, 3323, 3324, 3325, 3428, 3429, 3430, 3432, 3488 (ref. CAR 16 DKS Rev.1 dated 2020-10-23)
- Test reports supporting the following design changes:

| Design change no. | Date | Subject | Test reports |
|-------------------|------------|---|---|
| 10274 | 2010-03-22 | Change from DKS to DKS | - |
| 10299 | 2012-02-14 | Liferaft type 50 DKS equipped for 35 persons. | Test report No.: - 1740 |
| 10314 | 2013-03-21 | New Inflation System, M-07-UM- GISSERVO | Test report Nos.: - 1858, 1859, 1895, 1897 |
| 10315 | 2013-03-21 | Change to Daniamant RL6 combi light | Test report Nos.: - 1881 ~1889 |
| 10316 | 2013-04-08 | Plastic strapping around container, replacing bursting bands | Test report Nos.: - 1887, 1888, 1901, 1902, 1903, 1904 |
| 10319 | 2013-05-13 | Installation height 35 m for 100 DKS VENOC | Test report Nos.: - 1731 |
| 10326 | 2014-03-24 | New canopy material (Rivertex 4000 PES PU coated) | Test report Nos.: - 1899, 1912, 1803, 1993, 1870, 2015 Material Technical Report 1809 A dated 2012-10-25 from SATRA Technology Centre, UK |
| 10330 | 2013-10-31 | Installation height 35 m for 100 DKS | Test report Nos.: - 2023-2024 |
| 10339 | 2014-04-01 | Plastic strapping – appendix to DC 10316 | Test report Nos.: - 1887, 1888, 1901~1904 |
| 10345 | 2014-12-01 | Replacing painter line for liferafts > 25 persons | Test report No.: - 2168 |
| 10348 | 2015-02-27 | 50 DKS downgraded (35 person@100 kg) | Test report No.: - 1740 |
| 10349 | 2015-04-22 | 50 DKS, change in location of the stabilizing pockets | Test report Nos.: - 2185, 2186 |
| 10359 | 2015-09-08 | DKSU – 100 DKS modified to fit Undertun MES | Test report No.: - 2235 |
| 10362 | 2015-10-15 | DKSU – 150 DKS modified to fit Undertun MES | Test report No.: - 2260 |
| 10371 | 2015-11-30 | 9800 container for 150 DKS A pack with desalter | Test report Nos.: - 2274, 2275 |
| 10378 | 2016-01-22 | Fabric RBND6, new boarding ramp, introducing stabilizing pockets, handles for boarding, change floor to single layer, inner and outer lifelines | Test report Nos.: - 1532, 1573, 2252~2254 |

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| 10389 | 2017-06-22 | Containers for 100 DKS B-pack. Drawing Nos.: 16008569, 16008128, 16008133, 16008131, 16008570, 16008571 | Test report Nos.: - 2507, 2508, 2509, 2514, 2515, 2516, 2522, 2607, 2608, 2609, 2610, 2611, 2612, 2725~2730 |
| 10392 | 2017-02-03 | 150 DKS: liferaft inflates outward, away from chute (when used as integrated liferaft for VEMC -MES system) | Test report Nos.: - 2532 (150 DKS reverse B- pack) |
| 10396 | 2017-03-15 | 39 DKFS packed in container 016-8601 | Test report Nos.: - 2460, 2468 |
| 10402 | 2017-01-20 | Containers for 100 DKS A-pack Drawing Nos.: 16008569, 16008128, 16008133, 16008131, 16008570, 16008571 | Test report Nos.: - 2427, 2429, 2430, 2431, 2432, 2434, 2438, 2475, 2476, 2477, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2500, 2528, 2725~2730 |
| 10419 | 2018-05-04 | Packing procedure for liferaft 100 and 150 DKS and DKR used in SBS. | Test report Nos.: - 2739, 2740, 2743, 2583, 2624, 2625, 2628, 2738, 2741, 2744, 2731, 2735, 2736, 2742 |
| 10420 | 2018-05-18 | Fabric NK300C from ContiTech | Test report Nos.: - 2595, 2596, 2667, 2733, 2734, 2673, 2674, 2688, 2682, 2683, 2767, 2768, 2675, 2676, 2677, 2678, 2668, 2669, 2686, 2687, 2692, 2685, 2693, 2684, 2752, 2689, 2690, 2691 Additional buoyancy material (NK300C) supported by the following test reports: Prototype test in accordance with IMO Res. MSC.81(70), Part 1: - weft distortion dated 2017- 12-18, - Test report no. 2747: Coating Adhesion dated 2018-04-13 - Test report no. 2749: Oil resistance dated 2018-04-13 - Test report no. 2750: Blocking resistance 2018-04- 13 - Laboratory test report no 1530100000 rev. 13 dated 2018-03-05 for NK300C by Contitech Laboratory Northeim, Germany witnessed by DNVGL surveyor - DNV GL verification statement N141GV0D dated 2018-03-15 |
| 10421 | 2018-04-23 | 100 DKS SBS liferaft with slide entrance (identical to 150 DKS) Drawing no. 43002540.000 (3 sheets) dated 2018-02-06 | Test report Nos.: - 781, 2753, 2754, 2755, 2756 |

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| 10422 | 2018-05-25 | Signal Lamp - in box with spare bulb and battery | Test report Nos.: - 2456, 2458, 2464, 2466 |
| 10424 | 2018-07-06 | 16 DKS with average load of 110 kg per person | Test report Nos.: - 2764, 2775, 2776, 2766, 2774, 2255, 2077, 1685, 2785, 2765, 659, 1596, 1640, Canopy closure test (no rep no - dated 1997-11-20), 682, Weaklink test - Hammer certificate includes weaklink test, Damage test (no rep no - dated 1998-02-05), 2253, 2762, 2759, 2760, 2761, 1947, 2253, 225, 2116+2120, 1043, 2596, 2667, Buoyancy of float free liferafts (no rep no - dated 1998-02-04) |
| 10434 | 2018-10-08 | Alternative hardener 'Desmodur RFE' | Test report Nos.: - 2834 (3x over pressure test) - 2828, 2829, 2830, 2831, 2833 (seam strength tests) |
| 10437 | 2018-12-10 | Alternative hardener 'Beyond' | Test report Nos.: - 2905, 2914, 2915 (3 x overpressure test) - 2880, 2881, 2882, 2883, 2884, 2885 (seam strength test) |
| 10443 | 2019-04-23 | Improved painter system for liferafts with capacity of 26 and more | Test report Nos.: - 3088, 3087, 2952, 2953 |
| 10438 | 2019-04-23 | Alternative hardener 'TM-93' | Test report Nos.: - 2868, 2869, 2870, 2871, 2872, 2873, 2876, 2877, 2878, 2988, 2989, 2990, 3017, 3019 |
| 10450 | 2019-04-12 | Add container 9500 and 0202 to 18m for 150 DKS liferafts | Test report No.: - 1535, 1536, 1538, 1539 Drawing No.: - 16001051 Rev.03 dated 2017-01-20 (150 DKS Container VEDC 2.2/2.3 - (Raft 2 016-0202)) - 16001552 Rev.02 dated 2017-01-20 (150 DKS A desalter container VEDC 2.3 Raft 1 (016-9500)) |
| 10451 | 2019-04-23 | Painter system with alternative hardener 'TM-93' and 'Beyond' | Test report No.: - 3085, 3086 |
| 10472a | 2020-07-29 | Additional variant of S30 add. liferaft 100- and 150 DKS. | Test report Nos.: - 3405 - A0504 Drawing Nos.: - ENG-20034227 - ENG-20034752 - ENG-20035264 |
| 10157 | 2003-10-24 | 25 DKS A-pack in 82xx container. | Test report Nos.: - 454 Drawing No.: - 42000683 |
| 10467 | 2020-07-03 | 39 DKS A-pack in 59xx container | Test report Nos.: - 3386, 3387, 3370, 3373, |

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| | | | 3396, 3397 Drawing Nos.: - 42004500 |
| 10468 | 2020-07-03 | 50 DKS A-pack with desalter in 57xx container | Test report Nos.: - 3367, 3368, 3371, 3374, 3398, 3399 Drawing Nos.: - 42000795 |
| 10469 | 2020-07-02 | 150 DKS A-pack with desalter in 98xx container. | Test report Nos.: - 3388, 3389 Drawing Nos.: - 16007767 |
| 10470 | 2020-07-03 | 12 DKS A-pack in 51xx container | Test report Nos.: - 2379, 2380 Drawing Nos.: - 42000161 |
| 10471 | 2020-07-02 | 50 DKS A-pack in 0142 container | Test report Nos.: - 1986, 1987 Drawing Nos.: - 42000127 |
| 10475 | 2020-08-06 | Drop height of 91xx container | Test report Nos.: - 1026, 3355, 3356, 3405 Drawing Nos.: - ENG-20048442 - ENG-20035264 |
| 10477 | 2020-09-22 | 50 DKS liferaft - alternative canopy with center entrance | Test report Nos.: - 3310, 3311, 3458, 3459, 3460, 3491, 3524 Drawing Nos.: - 43002504.000/001/002/003 |
| 10480 | 2020-09-22 | 100 DKS VEMC inflation | Test report Nos.: - 3445, 3446, 3455, 3456, 3466, 3467, 3468, 3469, 3470, 3490, 3507, 3508, 3513, 3525. Drawing Nos.: - 42005812.000/001/002 |

Marking of product

The product is to be indelibly marked with name and address of manufacturer, type designation, dimensions, date of manufacture and the MED Mark of Conformity (see first page). The marking shall comply with the LSA Code Ch. 4.2.6 and 4.2.7.