

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00007HV

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Open reversible liferaft

with type designation(s)
AOR-150

Issued to

Ningbo Neptune Life-Saving Equipment Co., Ltd.
Ningbo, 130, China

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

Regulation (EU) 2021/1158,

item No. MED/1.39. SOLAS 74 as amended, Regulation III/4 & X/3, LSA Code and 2000 HSC Code 8, IMO MSC.1/Circ.1328.

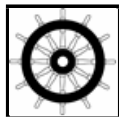
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2027-03-14**.

Issued at **Hamburg** on **2022-03-15**

DNV local station:
Ningbo FIS

Approval Engineer:
Michael Oberländer



Notified Body
No.: **0098**

for DNV SE

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Christine Mydlak-Roeder
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 SE 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

“AOR-150” is an open-reversible inflatable liferaft of a throw-over-board type, for max. 150 persons.

Trade name: SEA-AIR

The liferaft design is complying with the HSC Code 2000 (MSC.97(73)) Annex 11.

Application/Limitation

Max. Stowage Height: 10 m

Type	Persons (82.5kg)	Weight [kg] HSC Pack	Required bollard pull [kN]	
			(2 kn)	(3kn)
AOR-150	150	458	3.6	4.4

- Liferafts are to be serviced annually, provided where in any case this is impracticable, the administration may extend this to a period by one month. They shall be serviced at approved service stations which are authorized by the manufacturer.
- Open reversible liferafts shall only be used as specified in HSC Code 8.10.2
- The liferaft shall be packed with an HSC emergency 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.
- Production tests are to be conducted in accordance with IMO Res. MSC.81(70), Part 2 and recorded by the manufacturer in compliance with the approved Production Quality Assurance System for Module D of the Marine Equipment Directive 2014/90/EU as amended.

The liferafts of type “AOR-150”, having a mass of more than 185 kg, is not suitable for side-to-side transfer and has to be stowed for launching directly from the stowed position under unfavourable conditions of trim and list.

Type Examination documentation

Technical drawings / documents:

AOR-150 Blueprint HSR-R150-DR/2021, A/0

AOR-150 Calculation book HSR-R150-DI/2021, A/0

AOR-150 List of accessories

Tests carried out

Test reports: In accordance with MSC.1/Circ.1630 Sec.4.1 dated 2021-10-08, witnessed by DNV

Material tests: Wuhan Testing Center of Marine Life-saving Appliances / China, No. 2015182 dated 2015-12-01 until 2015-12-18.

Prototype tests and test reports in accordance with HSC Code 2000 (MSC.97(73)) Annex 11 and the relevant parts of Recommendations 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 found to be in compliance.

The following tests of IMO Res. MSC.81(70), part 1 have been omitted in accordance with 2000 HSC Code Annex 11 paragraph 7:

- 5.5 Mooring out test
- 5.8 Closing arrangement test
- 5.12 Canopy closure test
- 5.16 Lifting components strength test
- 5.17.2 Righting test
- 5.17.10 Davit-launched inflatable liferafts – strength test
- 5.17.11 Cold overload test
- 5.17.12 Lowering abrasion test
- 5.18 Self-righting test
- 5.20 Wind velocity test

Marking of product



Job Id: **344.1-011629-1**
Certificate No: **MEDB00007HV**

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 page 1). The marking shall be according to HSC Code 2000 Annex 11, item 4.2 and 5.