

# EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

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 Lifeboats: Davit-launched lifeboats: partially enclosed/totally enclosed**

with type designation(s)  
**VG10.50HLB**

Issued to

**Vanguard (Nantong) F.R.P. Co., Ltd.**  
**Nantong Jiangsu, China**

is found to comply with the requirements in the following Regulations/Standards:  
Regulation **(EU) 2017/306**,  
**item No. MED/1.17a. SOLAS 74 as amended, Regulation III/4, III/21, III/31, III/34 & X/3,**  
**LSA Code, IMO MSC/Circ. 1006 & 1423, and 2000 HSC Code 8**

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

This Certificate is valid until **2022-11-28**.

Issued at **Høvik** on **2017-11-29**

DNV GL local station:  
**Shanghai CMC**

Approval Engineer:  
**Tessa Biever**



Notified Body  
No.: **0575**

for **DNV GL AS**

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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



Job Id: **344.1-006845-1**  
Certificate No: **MEDB00002HZ**

## Product description

Totally enclosed fire-protected hyperbaric lifeboat with self-contained air support system.

|                                                   |                                             |
|---------------------------------------------------|---------------------------------------------|
| Length:                                           | 10.50 m                                     |
| Breadth:                                          | 3.30 m                                      |
| Depth:                                            | 1.25 m                                      |
| Weight of boat, fully equipped:                   | 19800 kg                                    |
| Weight of boat, fully manned (100 kg/per person): | 22000 kg                                    |
| Hook manufacturer and type:                       | Vanguard, CSAFE 14, on-load                 |
| Hook SWL:                                         | 14000 kg                                    |
| Hull material:                                    | FRP                                         |
| Propulsion system:                                | Inboard engine                              |
| Engine manufacturer and type:                     | STEYR MOTORS GMBH<br>STEYR MO144M38, 106 kW |
| Bollard pull:                                     | 5.1 kN                                      |
| Hyperbaric chamber:                               |                                             |
| Manufacturer:                                     | PecoFacet Australia PTY Limited             |
| Dimensions:                                       | Internal Diameter 1750mm x Length 5600mm    |
| Weight:                                           | 5420 kg                                     |

## Application/Limitation

|                                              |                      |
|----------------------------------------------|----------------------|
| Approved engine power                        | 106 kW               |
| Maximum number of persons:                   | 18 divers and 4 crew |
| Maximum load of persons (100 kg/per person): | 2200 kg              |

- For hyperbaric evacuation this lifeboat shall also hold (or be part of) a Certificate stating conformity to the relevant IMO publications regarding Hyperbaric Escape Units (IMO Res. A.692(17)) or equivalent Class publications (DNV-RP-E403) as acceptable to the Administration.
- The lifeboat shall only be operated onboard ships with a Contingency Plan for hyperbaric evacuation developed by the shipowner and approved by the ship's Flag Administration or designated Recognized Organization.
- Lifeboat equipment and marking/instructions to be inspected after installation onboard the ship. Equipment shall comply with LSA Code and IMO Res.MSC.81(70).
- The design assessment is based on International Life-Saving Appliances (LSA) Code, IMO Res. MSC.48(66) as amended by IMO Res. MSC.207(81), IMO Res. MSC.218(82), IMO Res. MSC.272(85) and IMO Res. MSC.320(89).
- Production and installation testing shall be carried out according to IMO Res. MSC. 81(70), Part 2 as amended.

## Type Examination documentation

Basis for approval:

| Drawings                                                     | Date       |
|--------------------------------------------------------------|------------|
| General arrangement (port side), VG10.5HLB-00-01, Rev.1      | 2016-10-25 |
| General arrangement (starboard side), VG10.5HLB-00-02, Rev.1 | 2016-10-25 |
| General arrangement, VG10.5HLB-00-03, Rev.1                  | 2016-10-25 |
| Seating plan, VG10.5HLB-00-04, Rev.1                         | 2016-10-25 |

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|                                                                                                                                          |                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Buoyancy arrangement, VG10.5HLB-03, Rev.1                                                                                                | 2016-10-25                                           |
| Spray system, VG10.5HLB-04-0, Rev.1                                                                                                      | 2016-10-25                                           |
| Door, window, hatch, hook, skate arrangement plan, VG10.5HLB-05-0, Rev.1                                                                 | 2016-10-25                                           |
| Structure figure- Lines plan, VG10.5HLB-01, Rev.3                                                                                        | 2016-12-25                                           |
| Structure figure- Lines plan, VG10.5HLB-02, Rev.2                                                                                        | 2016-12-07                                           |
| Structure figure- Lines plan, VG10.5HLB-04, Rev.2                                                                                        | 2016-12-07                                           |
| Propeller arrangement, VG10.5HLB-35, Rev.3                                                                                               | 2016-10-25                                           |
| Power system, VG10.5HLB-35, Rev.5                                                                                                        | 2017-01-17                                           |
| Electrical diagram, VG10.5HLB-00DYL, Rev.5                                                                                               | 2017-11-17                                           |
| Emergency air supply system, VG10.5HLB-07-0, Rev.1                                                                                       | 2016-10-25                                           |
| Steering system, VG10.5HLB-09-0, Rev.1                                                                                                   | 2016-10-25                                           |
| Release mechanism, VG10.5HLB-06-0, Rev.4                                                                                                 | 2016-10-25                                           |
| Hook device, VG10.5HLB-HD, Rev.0                                                                                                         | 2016-09-01                                           |
| Painter release device, VG10.5HLB-10-0, Rev.0                                                                                            | 2016-09-01                                           |
| Reflective tape, VG10.5HLB-34, Rev.1                                                                                                     | 2016-10-25                                           |
| <b>Calculations</b>                                                                                                                      | <b>Date</b>                                          |
| Strength calculation sheet for hook, VG10.5HLB-36, Rev.1                                                                                 | 2016-10-25                                           |
| Single point lifting arrangement, VG10.5HLB-SPLA, Rev.1                                                                                  | 2016-10-25                                           |
| Calculation strength (hull), VG10.5HLB-00JS5, Rev.0                                                                                      | 2016-09-01                                           |
| Calculation buoyancy, VG10.5HLB-00JS4, Rev.1                                                                                             | 2016-10-25                                           |
| Calculation for air supply, VG10.5HLB-00JS9, Rev.0                                                                                       | 2016-09-01                                           |
| Calculation towing eye, VG10.5HLB-TE, Rev.1                                                                                              | 2016-10-25                                           |
| Calculation sheet for weight center gravity, VG10.5HLB-00JS1, Rev.1                                                                      | 2016-10-25                                           |
| Capsize stability calculation sheet for totally enclosed condition, VG10.5HLB-00JS2, Rev.1                                               | 2016-10-25                                           |
| Capsize stability calculation sheet for totally flooded condition, VG10.5HLB-00JS3, Rev.1                                                | 2016-10-25                                           |
| <b>Reports</b>                                                                                                                           | <b>Date</b>                                          |
| Prototype test witnessed by DNV GL                                                                                                       | 2017-05-02<br>2017-04-13<br>2017-04-14<br>2017-04-17 |
| Impact test, test report no. S213-XPZ-2017                                                                                               | 2017-04-17                                           |
| Fuel system test report iaw ISO10088                                                                                                     | 2017-04-07                                           |
| Air hoses and hose assemblies test                                                                                                       | 2016-11-21                                           |
| Laminate strength test, test report no. 2016-12-0975 dated 2017-04-11 from Shanghai R&D Center for Polymer Materials, Shanghai, China    | 2017-04-11                                           |
| Fire retardent test iaw IMO MSC/Circ. 1006, test report no. 2016-12-M005 from Shanghai R&D Center for Polymer Materials, Shanghai, China | 2017-04-11                                           |
| <b>Other</b>                                                                                                                             | <b>Date</b>                                          |
| Operation and maintenance manual, VG10.5HLB-00SM1, Rev.2                                                                                 | 2016-12-07                                           |
| Equipment list, VG10.5HLB-00SJ, Rev.1                                                                                                    | 2016-10-25                                           |
| FRP lifeboats hull and canopy building technology, VG10.5HLB-00GY1, Rev.1                                                                | 2016-10-25                                           |

## Tests carried out

Tests are documented in accordance with recommendation on testing of Lifesaving Appliances, IMO Res. MSC.81(70) part 1, as amended by IMO Res. MSC.226(82), IMO Res. MSC.274(85), IMO Res. MSC.321(89), IMO Res. MSC.323(89) and IMO MSC./Circ.1006.

## Marking of product

The product is to be indelibly marked with name and address of manufacturer, boat model and serial number, month and year of manufacturer, number of persons approved for and operational restrictions, if any, according to LSA code item 4.4.1.2, and bear the mark of conformity (see page 1)

List of lifeboat equipment to be posted in the boat.



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