DNV·GL

Certificate No:
MEDB0000393

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

with type designation(s)
VG 5.7 F/C

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
item No. MED/1.18. SOLAS 1974 as amended, Reg. III/4, III/21, III/31, III/34 & X/3, LSA Code, 2000 HSC Code 8 and IMO MSC/Circ.1006

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

This Certificate is valid until **2018-09-03**.

Issued at **Høvik** on **2018-01-15**

DNV GL local station:
Nantong

Approval Engineer:
Piotr Orzechowski

Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body

NORWEGIAN ACCREDITATION PROD 019

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

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Product description

The VG 5.7 F/C is a totally enclosed lifeboat which is totally self righting and is available as a:

a. Totally Enclosed Lifeboat/Rescueboat
b. Totally Enclosed Fire Protected Lifeboat/Rescueboat with self contained air support system

Length over all:	5.70 m
Breadth over all:	2.30 m
Depth, fully loaded:	1.15 m
Weight of boat, fully equipped 82.5/98 kg (tanker version):	2611 / 2594 kg
Weight of boat, fully equipped 82.5/98 kg (cargo version):	2273 / 2256 kg
Weight of boat, fully manned 82.5/98 kg (tanker version):	5086 / 5044 kg
Weight of boat, fully manned 82.5/98 kg (cargo version):	4748 / 4706 kg
Hook manufacturer and type:	Vanguard Nantong, Csafe5, onload
Hook SWL	5000 kg
Hull material:	GRP
Propulsion system:	Inboard engine
Engine manufacturer and type:	(1) 380J-3 –Zhenjiang Siyang (2) Nanni- N3.30 (3) Bukh A/S, DV29
Bollard pull:	(1) 2.5 / 2.8 kN (2) 2.8 kN (3) 2.9 kN

Application/Limitation

Approved engine power:	(1) 19.7 kW (2) 21.3 kW (3) 21.3 kW
Maximum number of persons lifeboat (82,5 kg/98 kg per person	30 / 25
Maximum load of persons with 82,5 kg/98 kg per person	2475 / 2450 kg
Maximum number of persons rescue boat (82,5 kg/98 kg per person):	6
Maximum load of persons with 82.5 kg/98 kg per person:	495 kg/ 588 kg

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 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:

Drawing list stamped "Type Examined"(see next page)	2013-08-16
Prototype test report	2013-05- 23/24
Prototype test reports due to additional engine BUKH DV29 witnessed by DNV GL surveyor.	2018-01-03/04
Air supply test report dated	2018-01-04
Fire test for VG 8.5F lifeboat	2008-12-08
Laminate strength test, Shanghai R&D center, report no. 2013-02-0088, testdate: 2013-02-02 /2013-03-12	2013-04-11
Fire test IMO MSC/Circ. 1006, Shanghai R&D center, report no. 2013-02-M002, testdate: 2013-03-08	2013-04-11
Window watertight testing report	2013-07-05
Impact test, The marine environment engineering and reliability laboratory Shanghai, report no. S233-XPZ-2013	2013-06-02

Drawing list:

Drawing no.	**Title**
VG5.7F/C-01	The catalogue pof drawings for approval
VG5.7F/C-02	Operation & maintenance manual
VG5.7F/C-03	List of equipments
VG5.7F/C-04(82.5KG/P)	Calculation sheet for weight centre gravity
VG5.7F/C-04(98KG/P)	Calculation sheet for weight centre gravity
VG5.7F/C-05(82.5KG/P)	Capsize stability calculation sheet for tot.enclosed condition
VG5.7F/C-05(98KG/P)	Capsize stability calculation sheet for tot.enclosed condition
VG5.7F/C-06(82.5KG/P)	Capsize stability calculation sheet for flooding condition
VG5.7F/C-06(98KG/P)	Capsize stability calculationsheet for flooding condition
VG57F/C -07	Calculation sheet for lifeboat lift hook
VG5.7F/C-08	Statical hydraulic curve for the main body
VG5.7F/C-09	Statical hydraulic curve for the canopy
VG5.7F/C-10	Calculation sheet for internal buoyance appliance
VG5.7F/C-11	Scantlings strength calculation sheet of abs rules
VG5.7F-12	Calculation for air supply system
VG5.7F/C-13	Calculation for axle strength
VG5.7F/C-14	Hull and canopy building technology
VG5.7F/C–15	Lifeboat installation technology
VG5.7F/C-16	Test program
VG5.7F/C-17	General arrangement
VG5.7F/C-18	Lines plan
VG5.7F/C-19	Structure figure
VG5.7F/C-20	Buoyant tank arrangement plan
VG57F/C-21	Engine, shafting and propeller arrangement plan
VG5.7F/C-22	Exhaust system
VG5.7F/C-23	Shafting plan
VG5.7F/C-24	Engine cooling system
VG5.7F/C-25	Fuel tank
VG5.7F/C-26	Battery box
VG5.7F/C-27	Steering system
VG5.7F/C-28	Release mechanism arrangement plan
VG5.7F/C-29	Hook device
VG5.7F/C-30	Painter release device
VG5.7F/C-31	Electrical diagram

VG57F/C-32	Electrical plan
VG5.7F-33	Water spray device plan
VG5.7F-34	Air supply support system
VG5.7F/C-35	Door, window, hatch & hook/skate arrangement plan
VG5.7F-36	HK50. Operation and maintenance manual
VG5.7F/C-37	Propeller
VG5.7F/C-38	Seat and safety belt arrangement plan
VG5.7F/C-39	Door window hatch arrangement plan
VG5.7F/C-40	Case, cabinet & drain valve plans
VG5.7F/C-41	Stretcher
VG5.7F/C-42	Boat name plate

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 the mark of conformity (see page 1).
List of lifeboat/rescue boat equipment to be posted in the boat.