TYPE EXAMINATION CERTIFICATE – EC MODULE B

Certificate no.:
MEDB000097K

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 Automatically self-righting liferafts: inflatable

with type designation(s)
FZZ-6/-10/-15/-20/-25/-30/-35/-50/-65

issued to
Shanghai Fang Zhan fire Technology Co., Ltd.
Shanghai, **China**

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2024/1975,**
item No. MED/1.14a SOLAS 74 as amended Reg. III/4, III/26, III/ 34 and X/3, LSA Code I, IV and 1994 HSC Code 8. 2020 HSC Code 8, IMO Res. MSC.481(102), IMO MSC/Circ.809, IMO MSC/Circ.811, IMO MSC.1/Circ.1630.

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

This Certificate is valid until **2029-05-02**.

Issued at **Hamburg** on **2025-01-02**

DNV local unit:
Shanghai

Approval Engineer:
Michael Oberländer

Notified Body
No.: **0098**

for **DNV SE**

Mydlak-Röder, Christine
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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 USD 300 000.

Product description

FZZ-6, FZZ-10, FZZ-15, FZZ-20, FZZ-25, FZZ-30, FZZ-35, FZZ-50, FZZ-65 are throw over board, automatically self-righting, inflatable liferafts.
All these liferaft designs are complying with the LSA-Code as amended, including MSC.293(87).

Application/Limitation

Max. Stowage Height: 50 m

Type	Persons (82.5 kg each)	Weight [kg] SOLAS A	SOLAS B	Required bollard pull [kN] (2 kn)	(3kn)
FZZ-6	6	85	70	0,38	0,52
FZZ-10	10	113	85	0,65	0,85
FZZ-15	15	141	108	0,90	1,15
FZZ-20	20	184	140	1,05	1,30
FZZ-25	25	210	157	1,10	1,70
FZZ-30	30	302	240	1,20	1,70
FZZ-35	35	320	250	1,30	1,90
FZZ-50	50	438	336	1,40	2,35
FZZ-65	65	514	335	1,90	2,40

- The liferafts 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 15738:2019.
- 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 liferafts are to be serviced annually, provided where in any case this is impractical, the administration may extend this to a period of 17 months. They shall be serviced at approved service stations which are authorized by the manufacturer.
- Production tests are to be conducted in accordance with IMO Resolution MSC.81(70) Part 2 and recorded by the manufacturer in accordance with the approved Production Quality Assurance system for Module D of the Marine Equipment Directive 2014/90/EC as amended.
- The liferaft KHZ-25 (SOLAS A pack) and KHZ-30/35/50/65 (SOLAS A and B pack) have a mass above 185 kg and may not be used for positions where side to side transfer is necessary.

Type Examination documentation

Drawings:
-KHZ-6-0000, KHZ-10-0000, KHZ-15-0000, KHZ-20-0000, KHZ-25-0000, KHZ-30-00, KHZ-35-00, KHZ-50-00 and KHZ-65-00
-Technical file with ref. 14-042425
- Operations Manual
Liferaft design is identical to the products of Shanghai Youlong Rubber certified with MEDB000028C Rev.4.

Tests carried out

Prototype tests and test reports in accordance with the Recommendations on Testing of Life-Saving Appliances, IMO Res. MSC.81(70)Part 1, including IMO Res. MSC.218(82), MSC.226(82), MSC.295(87) and MSC.323(89), have been witnessed and found to be in compliance.
Test reports:
Germanischer Lloyd Shanghai:

- 62842 SHA of 2002-01-22 and 2002-02-05, 2006-12-25, 2007-04-06, 2008-07-21, 11653 SHA of 2010-05-14, GL SHA of 2011-07-11.
- For model KHZ-50: 80623 SHA dated 2003-12-21, 10993, 11680 SHA 09 and 11653 SHA dated 2010-05-14 and GL SHA dated 2011-07-11 and 2013-11-13
- Drop test for stowage height of 50m was witnessed by DNV GL Shanghai on 2017-01-17. Additional test for inclusion of the sizes KHZ-30/35/65 were conducted between 2017-07-11 and 2017-08-29 and witnessed by DNV GL Shanghai.

- New towing test carried our 2019-02-15 and witnessed by DNV GL Shanghai.
- Evaluation and test report dated 2024-07-30 until 2024-08-16 by DNV Shanghai

Material tests:

- Shanghai Monitoring and Inspection Center for Rubber Products Quality No. W(X)2012-230
- Wuhan Testing Center of Marine Life-Saving Appliances, No. 2014048

Marking of product

The product is to be indelibly marked with the name and address of the manufacturer, type designation, date of manufacture and the MED Mark of Conformity (see page 1). The marking shall comply with the LSA Code (IMO Res.MSC.48(66)) item 4.2.6.3 and 4.2.7.