

TYPE EXAMINATION CERTIFICATE – EC MODULE B

Certificate no.:
MEDB00005XS
Revision No:
2

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 Buoyant smoke signals (pyrotechnics)

with type designation(s)
JHB-4

issued to

Huahai Marine Signals Manufacturing Co., Ltd.
Haimen, 100, China

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

Regulation (EU) 2024/1975,

item No. MED/1.10. SOLAS 74 as amended, Regulation III/4, III/7, III/34 & X/3 and LSA Code I, II, III and IMO MSC.1/Circ.1629.

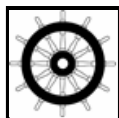
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2030-01-16**.

Issued at **Hamburg** on **2025-01-17**

DNV local unit:
Nantong

Approval Engineer:
Helge Bjørnarå



Notified Body
No.: **0098**

for **DNV SE**

Mydlak-Röder, Christine
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004, and amended by Decision No 1/2023 dated May 26th, 2023.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

“JHB-4”,
is a buoyant smoke signal, which when activated emits smoke of a highly visible colour for a period of not less than 3 min when floating in clam water.

Application/Limitation

Approved for use as Buoyant Smoke Signals (pyrotechnics).

Acceptable lifetime: Expiration date not to exceed 48 months after month of manufacture.

The design assessment is based on IMO Res. MSC.48(66) as amended by IMO Res. MSC.207(81) and IMO Res. MSC.218(82).

Production and installation testing shall be carried out according to IMO Res. MSC.81(70), Part 2, Ch.4 and in compliance with ISO 15736:2006 A.2.4.

Each product is to be supplied with its manual for installation, use and maintenance.

Type Examination documentation

Test report No. 2013056 dated 2 August 2013 from Wuhan Testing Center of Marine LSA, Wuhan, Hubei, China.

Drawing No. JHB-4-00 – JHB-4-5 dated 24 April 2013 by manufacturer.

Tests carried out

Tests are documented in accordance with recommendation on testing of Life-Saving Appliances, IMO Res. MSC.81(70), Part 1, including IMO Res. MSC.200(80), IMO Res. MSC.226(82) and IMO Res. MSC.323(89).

Marking of product

The product is to be marked in accordance with ISO 15736:2006 4.3, LSA code 1.2.2.9 and 1.2.3, the MED Mark of Conformity and USCG number if applicable (see first page).

The product should be provided with brief instructions or diagrams clearly illustrating the use printed on the casing.

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB0000735
Revision no.:
1

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 **Hand flares**

with type designation(s)
JHH-3

issued to

Huahai Marine Signals Manufacturing Co., Ltd.
Haimen, China

is found to comply with the Implementing Regulation (EU) 2025/1533 for
Item no. **MED/1.9** (Row **1 of 1**)
according to the following requirements:

SOLAS 74 Reg. III/34, IMO Res. MSC.36(63)-(1994 HSC Code) 8, IMO Res. MSC.48(66)-(LSA Code) I, IMO Res. MSC.48(66)-(LSA Code) III, IMO Res. MSC.97(73)-(2000 HSC Code) 8, IMO MSC.1/Circ.1629, SOLAS 74 Reg. III/4, SOLAS 74 Reg. X/3

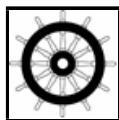
Further details of the equipment and conditions for certification are given overleaf.

Date of issue: **2025-11-11**

Expiry date: **2030-11-10**

DNV local unit:
Nantong

Approval Engineer:
Timo Linn



Notified Body
no.: **0098**



for **DNV SE**

Digitally Signed By:

Christine Mydlak-Röder

Christine Mydlak-Röder
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment, signed February 27th, 2004, and amended by Decision No 1/2023 dated May 26th, 2023.

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

"JHH-3"

is a hand flare burning with bright red colour for at least 1 minute and an average luminous intensity of minimum 15.000 candela.

Application/Limitation

Approved for use as hand flares (pyrotechnics).

Acceptable lifetime: expiration date not to exceed 48 months after month of manufacture.

The design assessment is based on IMO Res. MSC.48(66) as amended by IMO Res. MSC.207(81) and IMO Res. MSC.218(82).

A statistically adequate sample of the production shall be tested in accordance with IMO Res. MSC.81(70), Part 2, Ch.4.

Each product is to be supplied with its manual for installation, use and maintenance.

Type Examination documentation

Document No.	Rev.	Title
JHH-3-00		Drawing Hand Flare JHH-3-00 from manufacturer.
2015067		Prototype test report dated 14 August 2015 from Wuhan Testing Center of Marine Life-saving Appliances

Tests carried out

Tests are documented in accordance with recommendation on testing of Lifesaving Appliances, IMO Res. MSC.81(70), Part 1, including IMO Res. MSC.200(80), IMO Res. MSC.226(82) and ISO 15736:2006.

Marking of product

The product is to be marked with name and address of manufacturer, type designation, date of manufacture, date of expiry, operational restrictions, Mark of Conformity and USCG number if applicable (see first page).

The product should be provided with brief instructions or diagrams clearly illustrating the use printed on the casing.

TYPE EXAMINATION CERTIFICATE – EC MODULE B

Certificate no.:
MEDB00005XU
Revision No:
2

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 **Line-throwing appliances**

with type designation(s)
JHT-4

issued to

Huahai Marine Signals Manufacturing Co., Ltd.
Haimen, 100, China

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

Regulation (EU) 2024/1975,

item No. MED/1.11. SOLAS 74 as amended, Regulation III/4, III/18, III/34 & X/3, LSA Code, 2000 HSC Code 8 and IMO MSC.1/Circ.1633.

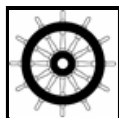
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2029-12-19**.

Issued at **Hamburg** on **2024-12-20**

DNV local unit:
Nantong

Approval Engineer:
Helge Bjørnara



Notified Body
No.: **0098**

for **DNV SE**

Mydlak-Röder, Christine
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004, and amended by Decision No 1/2023 dated May 26th, 2023.

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

“JHT-4”,
is a line throwing appliance. The hand-held unit is composed of a rectangular plastic container with handle and is containing a steel cased projectile with cartridge, the release mechanism and a 270 m long and 5 mm thick nylon line.

Design weight: 3.1 kg.

Application/Limitation

Approved for use as Line-throwing appliances onboard ships.

Acceptable lifetime: Expiration date not to exceed 48 months after month of manufacture.

The design assessment is based on IMO Res. MSC.48(66) as amended by IMO Res. MSC.207(81) and IMO Res. MSC.218(82).

Production and installation testing shall be carried out according to IMO Res. MSC.81(70), Part 2, Ch.4 and in compliance with ISO 15736:2006 A.2.5.

Each product is to be supplied with its manual for installation, use and maintenance.

Type Examination documentation

Prototype test witnessed by GL Nantong dated 30 July 2013.

Drawing Nos. JHT-4-00 to JHT-4-21 dated 24 April 2013 from manufacturer.

Tests carried out

Tests are documented in accordance with recommendation on testing of Life-Saving Appliances, IMO Res. MSC.81(70), Part 1, including IMO Res. MSC.200(80), IMO Res. MSC.226(82) and ISO 15736:2006.

Marking of product

The product is to be marked in accordance with ISO 15736:2006 4.3, LSA Code Ch.1.2.2.9 and 1.2.3, the MED Mark of Conformity and USCG number if applicable (see first page).

The product should be provided with brief instructions or diagrams clearly illustrating the use printed on the casing.

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB000065W
Revision No:
1

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

This is to certify:

That the Position indicating lights for life-saving appliances: (b) for lifebuoys

with type designation(s)

JHL-4 Lifebuoy Self-Igniting Light (combining self-activating smoke signal (MOB) JHLS-4)

Issued to

Huahai Marine Signals Manufacturing Co., Ltd.
Haimen, 100, China

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

Regulation (EU) 2022/1157,

item No. MED/1.2b. SOLAS 74 as amended, Regulation III/4, III/7, III/22, III/32, III/34 & X/3, LSA Code, 2000 HSC Code 8

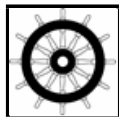
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2027-09-25**.

Issued at **Hamburg** on **2022-09-26**

DNV local station:
Nantong

Approval Engineer:
Didier Girardin



Notified Body
No.: **0098**

for **DNV SE**

Christine Mydlak-Roeder
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004, and amended by Decision No 1/2018 dated February 18th, 2019.

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.





Job Id: **344.1-010074-2**
Certificate No: **MEDB000065W**
Revision No: **1**

Product description

Position-indicating lights for life-saving appliances for lifebuoys

Product name/type: JHL-4

Application/Limitation

Instruction for maintenance and operation manual to be provided with each delivery

Type Examination documentation

Tests carried out

- IMO Resolution MSC.81(70) as amended
- IEC 60945:2002 incl. IEC 60945 Corr. 1:2008,
- ISO 24408: 2005.

Marking of product

According to Article 10 of the Council Directive (MED) and including information required by the LSA

Code § 1.2.2.9 and § 1.2.3 Manufacturer name

- Manufacturer name
- Type identification
- Lot number
- USCG Approval Number (*See module D*)

END OF CERTIFICATE

TYPE EXAMINATION CERTIFICATE – EC MODULE B

Certificate no.:
MEDB00005XN
Revision No:
2

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 Rocket parachute flares (pyrotechnics)

with type designation(s)
JHR-4

issued to

Huahai Marine Signals Manufacturing Co., Ltd.
Haimen, 100, China

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

Regulation (EU) 2024/1975,

**item No. MED/1.8. SOLAS 74 as amended, Regulation III/4, III/6, III/34 & X/3, LSA Code, 2000 HSC Code 8 and
IMO MSC.1/Circ.1629**

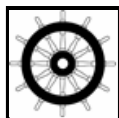
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2030-01-16**.

Issued at **Hamburg** on **2025-01-17**

DNV local unit:
Nantong

Approval Engineer:
Helge Bjørnara



Notified Body
No.: **0098**

for **DNV SE**

Mydlak-Röder, Christine
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004, and amended by Decision No 1/2023 dated May 26th, 2023.

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

“JHR-4”,

is a rocket parachute flare, which when fired vertically reaches an altitude of not less than 300 m. At or near the top of its trajectory, the rocket is ejecting a bright red flare with a burning time of not less than 40 seconds and with an average luminous intensity of minimum 30.000 candela.

Application/Limitation

Approved for use as Rocket Parachute Flares (pyrotechnics).

Acceptable lifetime: Expiration date not to exceed 48 months after month of manufacture.

The design assessment is based on IMO Res. MSC.48(66) as amended by IMO Res. MSC.207(81) and IMO Res. MSC.218(82).

Production and installation testing shall be carried out according to IMO Res. MSC.81(70), Part 2, Ch.4 and in compliance with ISO 15736:2006 A.2.4.

Each product is to be supplied with its manual for installation, use and maintenance.

Type Examination documentation

Test report No. 2013054 dated 2 August 2013 from Wuhan Testing Center of Marine LSA, Wuhan, Hubei, China.

Drawing No. JHR-4-00 – JHR-4-20 dated 24 April 2013 from manufacturer.

Tests carried out

Tests are documented in accordance with recommendation on testing of Life-Saving Appliances, IMO Res. MSC.81(70), Part 1, including IMO Res. MSC.200(80), IMO Res. MSC.226(82) and IMO Res. MSC.323(89).

Marking of product

The product is to be marked in accordance with ISO 15736:2006 4.3, LSA code 1.2.2.9 and 1.2.3, the MED Mark of Conformity and USCG number if applicable (see first page).

The product should be provided with brief instructions or diagrams clearly illustrating the use printed on the casing.