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 Bjørnarå

Notified Body
No.: **0098**

for **DNV SE**

Digitally Signed By:
Christine Mydlak-Röder
Location: DNV Hamburg, Germany

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

DNV·GL

Certificate No:
MEDB0000735

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

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 Hand flares (pyrotechnics)

with type designation(s)
JHH-3

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) 2020/1170,**
item No. MED/1.9. SOLAS 74 as amended, Regulation III/4, III/34 & X/3, LSA Code and 2000 HSC Code 8

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

This Certificate is valid until **2025-11-04**.

Issued at **Hamburg** on **2020-11-05**

DNV GL local station:
Nantong

Approval Engineer:
Michael Oberländer

Notified Body
No.: **0098**

for **DNV GL SE**

Gerhard Aulbert
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 GL 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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.

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Job Id: **344.1-011058-1**
Certificate No: **MEDB0000735**

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.

Type Examination documentation
The following documentation is basis for the DNV GL approval:

Documents	Date
Drawing: Hand Flare JHH-3-00	
Prototype test report by Wuhan Testing Center of Marine Life-saving Appliances /China, No.2015067	2015-08-14
Evaluation and test report in accordance with MSC/Circ.980 3.2 witnessed by DNV GL surveyor	2015-05-26 until 2015-07-23 / 2015-08-13

This certificate is replacing the previous MED certificate 42077-15 HH.

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 if applicable USCG number (see page 1).

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.:
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**

Digitally Signed By:
Christine Mydlak-Röder
Location: DNV Hamburg, Germany

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:
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.

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
Test Report: N02013058
Institut: Wuhan Testing Center of marine LSA, CNAS L5309

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 § 1.2.3Manufacturer name
- Manufacturer name
- Type identification
- Lot number
- USCG Approval Number (*See module D*)

END OF CERTIFICATE

TYPE EXAMINATION CERTIFICATE – EC MODULE B

Certificate no.:
MEDB00005XT
Revision No:
3

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 Lifebuoys self-activating smoke signals

with type designation(s)
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) 2024/1975,**
item No. MED/1.3. SOLAS 74 as amended, Regulation III/4, III/7, III/34 & X/3, LSA Code, 2000 HSC Code 8 and IMO MSC.1/Circ.1628

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 Bjørnarå

Notified Body
No.: **0098**

for **DNV SE**

Digitally Signed By:
Christine Mydlak-Röder
Location: DNV Hamburg, Germany

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

"JHLS-4",
is a lifebuoy self-activating smoke signal producing orange smoke for at least 15 minutes.

Tested with drop height: 89 m.
Design weight: 3.5 kg.

Application/Limitation

Approved for use as Lifebuoys self-activating smoke signals.

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).

The lifebuoy self-activating smoke signal is not to be stowed at a height above the waterline exceeding 89 m. Else a drop test shall be performed to verify correct working at installation heights of more than 89 metres.

A statistically adequate sample of the production shall be tested in accordance with 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 dated 30 July 2013 from GL Nantong.
Test report dated 16 November 2022 witnessed by DNV Nantong.

Technical drawing Nos. JHLS-4-00 to JHLS-4-16 from manufacturer.

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 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 body.

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 Bjørnarå

Notified Body
No.: **0098**

for **DNV SE**

Digitally Signed By:
Christine Mydlak-Röder
Location: DNV Hamburg, Germany

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.

DNV·GL

Certificate No:
MEDB0000736

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

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 Line-throwing appliances

with type designation(s)
JHTP-3

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) 2020/1170,**
item No. MED/1.11. SOLAS 74 as amended, Regulation III/4, III/18, III/34 & X/3, LSA Code and 2000 HSC Code 8

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

This Certificate is valid until **2025-11-04**.

Issued at **Hamburg** on **2020-11-05**

DNV GL local station:
Nantong

Approval Engineer:
Michael Oberländer

Notified Body
No.: **0098**

for **DNV GL SE**

Gerhard Aulbert
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 GL 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.

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Job Id: **344.1-011059-1**
Certificate No: **MEDB0000736**

Product description
"JHTP-3" is a line throwing appliance packed in a plastic stowage box containing an emission gun, 4 pcs of rocket boosters and 4 pcs of throwing lines. The minimum shooting range is 230 m.

Application/Limitation
Approved for use as Line-throwing appliances onboard ships.

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).

The unit shall be stored in a dry and safe place when not in use.

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

Expiration date shall not exceed after month of manufacture:
- 48 months for rockets
- 9 years for emission gun

Production and installation testing shall be carried out according to IMO Res.MSC.81(70) part2.

This certificate is a renewal of the previously issued DNV GL MED-B certificate 42096-15 HH.

Type Examination documentation
The following documentation is basis for the DNV GL approval:

Documents	Date
Drawing: Line Throwing Appliances JHTP-3-00	2011-06-20
Prototype test report by Wuhan Testing Center of Marine Life-saving Appliances /China, No.2015068	2015-08-14
Evaluation and test report in accordance with MSC/Circ.980 7.1 witnessed by DNV GL surveyor	2015-05-26 until 2015-07-23

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.200(80) and IMO Res. MSC.226(82), 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.

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00003Z5
Revision No:
3

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 Lifebuoys self-activating smoke signals

with type designation(s)
HS-3

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) 2023/1667,**
item No. MED/1.3. SOLAS 74 as amended, Regulation III/4, III/7, III/34 & X/3, LSA Code and 2000 HSC Code 8 and IMO MSC.1/Circ.1628

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

This Certificate is valid until **2028-10-26**.

Issued at **Hamburg** on **2023-10-27**

DNV local unit:
Nantong

Approval Engineer:
Helge Bjørnarå

Notified Body
No.: **0098**

for **DNV GL 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 1/2023 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 GL 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

"HS-3",
lifebuoy self-activating smoke signal producing orange smoke for at least 15 minutes.

Tested with drop height: 45 m
Design weight: 1.8 kg

Application/Limitation

Approved for use as lifebuoy self-activating smoke signal.

Acceptable lifetime: Expiration date not to exceed 36 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).

The lifebuoy self-activating smoke signal is not to be stowed at a height above the waterline exceeding 45 m. Else a drop test shall be performed to verify correct working at installation heights of more than 45 metres.

Production and installation testing shall be carried out according to IMO Res. MSC.81(70), Pt. 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

Prototype test witnessed by GL Nantong dated 22 December 2011.

Drawing No. HS-3-00 – HS-3-08 dated 10 January 2011 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.

QS CERTIFICATE OF ASSESSMENT – EC MODULE D

Certificate no.:
MEDD00001RM
Revision no.:
7

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 Quality System for the products

with type designation(s) as specified in the Appendix to this Certificate

issued to

Huahai Marine Signals Manufacturing Co., Ltd.

Haimen, **China**

is found to comply with the applicable requirements.
The quality system has been assessed with respect to the procedure of conformity assessment described in Annex II, Module D in the directive 2014/90/EU and regulation (EU) 2024/1975.

Date of issue: **2025-02-26**

Expiry date: **2029-12-19**

DNV local unit:
Nantong

Approval Engineer:
Helge Bjørnarå

Notified Body
No.: **0098**

for **DNV SE**

Digitally Signed By:
Christine Mydlak-Röder

Christine Mydlak-Röder
Head of Notified Body

The manufacturer is allowed to affix the U.S. Coast Guard approval number(s) as stated in the appendix attached hereto and 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.

0098/yyyy

0098: Notified Body number undertaking quality surveillance
yyyy: The year in which the mark is affixed

The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate authorizes the manufacturer in conjunction with the valid EC Type Examination (Module B) Certificate(s) of the equipment listed before to affix the Mark of Conformity (wheelmark) to the product described herein.
This certificate loses its validity if the manufacturer makes any changes to the approved quality system which have not been notified to and agreed with the notified body named on this certificate. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
The Manufacturer has to apply for periodical audits to verify the maintenance and application of the quality system every 12 months.

The reference to Module B certificate(s) relate to the revision of the certificate valid at the time of issue of this Module D/E certificate. This module D/E certificate is valid for later revisions of the referenced DNV Module B certificate(s) until their expiration date or within the validity dates of this Module D/E certificate, whichever is less. A new Module B certificate will be required when a modification of a product covered by a Module B certificate is of such extent that a new conformity assessment is required by Directive 2014/90/EU. For Non-DNV Module B certificates, only the revision stated in this Module D/E certificate is regarded valid.

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.

Item no. MED/1.9 Hand flares (pyrotechnics)

Type designation	EC Type-Examination Certificate no.	Expiry date	Notified Body no.	USCG approval number	Places of production
JHH-3	MEDB0000735	2025-11-04	0098	160.121/EC0098/MEDB0000735	1

Item no. MED/1.11 Line-throwing appliances

Type designation	EC Type-Examination Certificate no.	Expiry date	Notified Body no.	USCG approval number	Places of production
JHT-4	MEDB00005XU	2029-12-19	0098	160.040/EC0098/MEDB00005XU	1,1
JHTP-3	MEDB0000736	2025-11-04	0098	160.040/EC0098/MEDB0000736	1

Item no. MED/1.3 Lifebuoys self-activating smoke signals

Type designation	EC Type-Examination Certificate no.	Expiry date	Notified Body no.	USCG approval number	Places of production
HS-3	MEDB00003Z5	2028-10-26	0098	160.157/EC0098/MEDB00003Z5	1
JHLS-4	MEDB00005XT	2029-12-19	0098	160.157/EC0098/MEDB00005XT	1

Item no. MED/1.2b Position indicating lights for life-saving appliances: (b) for lifebuoys

Type designation	EC Type-Examination Certificate no.	Expiry date	Notified Body no.	USCG approval number	Places of production
JHL-4 Lifebuoy Self-Igniting Light (combining self-activating smoke signal (MOB) JHLS-4)	MEDB000065W	2027-09-25	0098	161.110/EC0098/MEDB000065W	1

Item no. MED/1.8 Rocket parachute flares (pyrotechnics)

Type designation	EC Type-Examination Certificate no.	Expiry date	Notified Body no.	USCG approval number	Places of production
JHR-4	MEDB00005XN	2030-01-16	0098	160.136/EC0098/MEDB00005XN	1

Item no. MED/1.10 Buoyant smoke signals (pyrotechnics)

Type designation	EC Type-Examination Certificate no.	Expiry date	Notified Body no.	USCG approval number	Places of production
JHB-4	MEDB00005XS	2030-01-16	0098	160.122/EC0098/MEDB00005XS	1

Places of production

1 Huahai Marine Signals Manufacturing Co., Ltd., Ruijiang Road, China