

# EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:  
**MEDB0000867**

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 Echo-sounding equipment**

with type designation(s)  
**F-2000 / SAM 4620 / E-2**

issued to

**Japan Marina Co., Ltd.**  
**Tokyo, Japan**

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

Regulation (EU) 2023/1667,

**item No. MED/4.6. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.224(VII), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.74(69), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87)**

Manufacturers authorised representative

**Wärtsilä Voyage GmbH**  
**Hamburg, Germany**

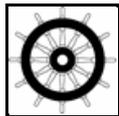
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2029-05-19**.

Issued at **Hamburg** on **2024-05-20**

DNV local unit:  
**Yokohama**

Approval Engineer:  
**Jörg Rebel**



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

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

The echo-sounding equipment with type designations F-2000 or SAM 4620 or E-2 for CONSILIUM consists of following components:

| Description              | Type designation                                      | Software version          | Remark                         |
|--------------------------|---|---------------------------|--------------------------------|
| Main unit                | F-2000  | 2.00 Rev. 1.12 and higher | Trade name for JMC             |
|                          | SAM 4620  |                           | Trade name for Wärtsilä Voyage |
|                          | E-2   |                           | Trade name for CONSILIUM       |
| Echo-sounding transducer | Radarsonic 570-50                                     |                           | 50 kHz                         |
|                          | ELAC LSE 297  |                           | 50 kHz                         |
|                          | ELAC LSE 313  |                           | 200 kHz                        |
|                          | TOKIN TGM 60-50-20L                                   |                           | 50 kHz                         |
|                          | TOKIN TGM 50-200-10L                                  |                           | 200 kHz                        |
|                          | TOKIN TGM 80-200-20L                                  |                           | 200 kHz                        |
| Optional digital display | Plath UDR   |                           |                                |
|                          | Skipper IR 301  |                           |                                |
|                          | Atlas 9205 T / ELAC DAZ 25 / DEBEG 4650 T / FILIA 522 |                           | Several trade names            |
|                          | SAM 4900  |                           |                                |
| Opt. AC Power Adapter    | AC-2000   |                           |                                |

### Application/Limitation

None

### Type Examination documentation

| DNV No | Document ID                | Rev.        | Description   |
|--------|----------------------------|-------------|---|
| 24     | BSH/454.ESE/002/00002      | 2024-01-25  | Report: BSH, Tests according to IEC 62288 (2021)  |
| 23     | BSH/454.ESE/JMC F-2000/4-b | 2022-03-22  | Report: BSH, Acoustic tests according to IEC 60945, 11.1  |
| 22     | BSH/454.ESE/003/0005       | 2024-02-06  | Report: BSH, Tests according to IEC 62923-1/-2  |
| 17     | UM-F2000                   | 4 (2024-04) | Manual: Operating, maintenance & installation instructions for navigation echo sounder model F-2000                                 |
| 14     | 486                        | 2006-08-10  | Certificate: BSH, Compass Safe Distance test according to IEC 60945, 11.2   |
| 11     | BSH-F2000-TA-01            | 2006-08-10  | Report: JMC, Waiver for corrosion test according to IEC 60945, 8.12.1   |
| 10     | BL 9233 T 559              | 2006-03-13  | Report: Atlas Elektronik, Environmental tests for F-2000 / SAM 4620 according to IEC 60945, 8.2 to 8.4, 8.7                         |
| 7      | BSH/454.ESE/JMC F-2000/2   | 2020-04-15  | Report: BSH, Presentation tests according to IEC 62288 (2014)   |
| 5      | 05188.027.06               | 2006-02-09  | Report: MTN, EMC tests for F-2000 according to IEC 60945, 9 and 10  |
| 3      | 05308.139.06               | 2006-07-24  | Report: MTN, EMC tests for F-2000 according to IEC 60945, 9.2, 10.3, 10.5 and 10.6  |
| 2      | BSH/4543/001/4062790/15    | 2015-09-16  | Report: BSH, Performance tests for SAM 4620/ Consilium E2 with TGM 50-200-10L according to ISO 9875 (2000)                          |
| 1      | 4612/4060208/06            | 2006-07-10  | Report: BSH, Performance and interface tests for F-2000 with 570-50, LSE 297 and LSE 313 according to ISO 9875 (2000) and IEC 61162 |

### Tests carried out

- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Interface testing: IEC 61162-1 (2016) and IEC 61162-2 (1998)
- Presentation testing: IEC 62288 (2021)
- Bridge alert management testing: IEC 62923-1 (2018) and IEC 62923-2 (2018)
- Performance testing: ISO 9875 (2000) incl. Corrigendum 1 (2006)

### **Marking of product**

According to IEC 60945, Sect.4.9:

The product to be marked with following information, where practicable:

- Identification of the manufacturer,
- Equipment type number or model identification under which it was type tested,
- Serial number of the unit,
- Compass safe distance.

Alternatively, the marking may be presented on a display at equipment start-up, and in case of fixed equipment compass safe distance may be given in the equipment manual.

END OF CERTIFICATE