



Marine & Offshore

Certificate number: 13810/D0 BV

File number: ACC 173/03

Product code: 6505I

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Skipper Electronics AS

Oslo - NORWAY

for the type of product

SEACOCKS / THROUGH-HULL FITTINGS

Bottom transducer tank ETNST & Combo tank ETNSTC for echo sounder

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 03 Apr 2025

For Bureau Veritas Marine & Offshore,

At BV OSLO, on 03 Apr 2020,

Rune MARSTEIN

Rune Marstein



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Bottom transducer tank ETNST & Combo tank ETNSTC for echo sounder

1.1 Bottom transducer tank ETNST

Diameter 219 mm

Height 281 mm

Weight 30 kg

1.2 Transducer Combo Tank ETNSTC

Diameter 219,1 mm

Height 298,5 mm

1.3 Material specification

St.52.3N

When other choices of materials are used per manufacturer's recommendations, the BV agreement is to be obtained

2. DOCUMENTS AND DRAWINGS

2.1 Bottom transducer tank ETNST

- Drawing N° TB-2002 Rev.01 dated 25/01/2005

- Installation manual N° DM-BETNST-SA Rev.1750 dated 20/12/2017

2.2 Transducer Combo Tank ETNSTC

- Drawing N° TC-2002 Rev.05 dated 09/04/2013

- Sensors drawings N° TC-EML Rev.01; TC-DL Rev.01

- Transducers drawings N° TC-0200 Rev.01; TC-0050 Rev.01; TC-ICE Rev.01; TC-0710 Rev.01; TC-2438 Rev.01

- Installation and welding guidance for transducer tank TB 3001

- Mounting of transducer TB 3003

- Cable pipe for transducer tank TB 3004

- Installation manuals N° DM-BETNSTC-SA Rev.1750 dated 25/03/2019 & N° DM-BETNSTCI-LF Rev.1319

No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.

3. TEST REPORTS

Not applicable.

4. APPLICATION / LIMITATION

4.1 May be used as bottom transducer tank for echo sounder.

4.2 The transducer element and associated components are to be of approved type.

4.3 SKIPPER Electronics AS has to inform its clients about proper methods of arrangement, fitting and general maintenance of the products.

4.4 The mounting to the hull is to be approved for each application on board ships.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be supplied by **Skipper Electronics AS** in compliance with the type and the requirements described in this certificate.

5.2 This type of product is within the category IBV of BUREAU VERITAS Rule Note NR320.

5.3 BV product certificate is required.

5.4 - For information, **Skipper Electronics AS** has declared to Bureau Veritas the following production site:
Dreie-service Mek. Verksted A/S: Industriveien 5, 1483 Skytta (Norway)

6. MARKING OF PRODUCT

The products shall be marked with:

- Manufacturer's name or logo

- Type designation

7. OTHERS

It is **Skipper Electronics AS**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

This certificate supersedes the Type Approval Certificate No. 13810/C0 BV issued by the Society.

***** END OF CERTIFICATE *****