



Marine & Offshore

Certificate number: 73592/A0 BV

File number: MPA2203821

Product code: 2852H

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

ELHAND TRANSFORMATORY Sp. z o.o.
LUBLINIEC - POLAND

for the type of product

AIR-COOLED TRANSFORMERS

Power Transformer

Type ET3... P<100kVA Three Phase ; ET1... P<60 kVA Single Phase

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
IEC 60076 Series

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: 17 Nov 2027

For Bureau Veritas Marine & Offshore,

At BV KATOWICE, on 17 Nov 2022,

Wojciech Lubojanski

This certificate was created electronically and is valid without signature



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 :

Model Type : Power Transformer

Technical Specifications:

Transformer Type	Rated Power kVA	Rated Voltage V	Rated Frequency Hz	Insulation Class	IP enclosure
ET3SM	50	380 // 440	50 / 60	H	IP23
ET3SM	80	440 // 230		F	IP23
ET3oM	50	400 // 400		B/F	IP23
ET3oM	20.5	480-440-400 // 230		F	IP54
ET1oM	1.3	380 // 220		B	IP00
ET1SM	1.0	390 // 24-27		B	IP23

E : Elhand (Manufacturer Symbol)

T : Transformer

1 , 3 : Number of phases

S : Not Shielded windings

o : Shielded windings

M : Maritime

2. DOCUMENTS AND DRAWINGS :

- ET3 Datasheet 0.05 - 160kVA IP00_EN
- ET1 Datasheet 0.05 - 2.5kVA IP00_EN
- Datasheet BG23 Enclosure
- Datasheet BG54 Enclosure
- Datasheet BG44 Enclosure
- ET1 Datasheet 2.5 - 100kVA IP00_EN
- ET3oM-20.5 Connection Diagram_overall dimension.

3. TEST REPORTS :

- Test Report, Transformer ET1oM- 1.3 380V=220V 50_60Hz T45B IP00, No. KTT210409.
- Test Report, Transformer ET1SM - 1.0 390V=24-27V 50_60Hz T45B IP23, No. KTT190472.
- Test Report, Transformer ET3oM- 20.5 480-440-400V=230V 50_60Hz T45F IP54, No. KTT210794.
- Test Report, Transformer ET3oM- 50 400V=400V 50Hz T45B_F IP23, No. KTT200850.
- Test Report, Transformer ET3SM- 50 380V=440V 50Hz T45H IP23, No. KTT220279.
- Test Report, Transformer ET3SM- 80 440V=230V 60Hz T45F IP23, No. KTT220149.

4. APPLICATION / LIMITATION :

BUREAU VERITAS Rules for the Classification of Steel Ships.

5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - The above types of product are to be supplied by **Elhand Transformatory Sp. zo. o.** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
- 5.3 - **Elhand Transformatory Sp. zo. o.** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
- 5.4 - **Elhand Transformatory Sp. zo. o.** has declared to Bureau Veritas the following production site:

Elhand Transformatory Sp. zo. o.
Klonowa 60
42-700 Lubiniec
POLAND

6. MARKING OF PRODUCT :

- 6.1 - Maker's name or trade mark,
- 6.2 - Serial number of the units,
- 6.3 - Equipment type number or model identification under which it was type-tested.

7. OTHERS :

It is **Elhand Transformatory Sp. zo. o.**'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.

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