



Marine & Offshore

Certificate number: 26884/B1 BV

File number: ACE5/852/1

Product code: 2852I

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 transformers
 ET3SM-100, -160 & -250

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: 27 Dec 2022

For Bureau Veritas Marine & Offshore,

At BV KATOWICE, on 19 Jan 2018,

Wojciech Lubojanski



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:

Air-cooled three-phase power transformers,

Type	Rated power [KVA]	Voltage [V]	Phase	Vector Group	Frequency [Hz]	Insulation class	Protection degree
ET3SM-100	100	400/230	3	Dyn5	50/60	F	IP23
ET3SM-100	100	400/230	3	Dyn11	50/60	F	IP23
ET3SM-160	160	600/230	3	Dyn5	50/60	F	IP23
ET3SM-250	250	600/400	3	Dyn5	50/60	F	IP23

2. DOCUMENTS AND DRAWINGS:

- ET3SM-100 (Dyn 5)

PRODUCT SPECIFICATION: KTT091161-K-1/2, KTT091161-M-1/1, KTT091161-R-1/3, KTT091161-Z-1/1, KTT091161-W-1/2 & KTT091161-W-2/2 dated 27/05/2010

Service and operation manual: 04317/2011 dated 23/01/2012

- ET3SM-100 (Dyn 11)

PRODUCT SPECIFICATION: KTT080651-K-1/2, KTT080651-M-1/1, KTT080651-R-1/3, KTT080651-Z-1/1, KTT080651-W-1/2 & KTT080651-W-2/2 dated 17/03/2008

Service and operation manual: 04676/2008 dated 23/01/2012

- ET3SM-160

PRODUCT SPECIFICATION: KTT101351-K-1/2, KTT101351-M-1/1, KTT101351-R-1/3, KTT101351-Z-1/1, KTT101351-W-1/2 & KTT101351-W-2/2 dated 09/12/2010

Service and operation manual: 17022/2010 dated 23/01/2012

- ET3SM-250

PRODUCT SPECIFICATION: KTT111063-K-1/2, KTT111063-M-1/1, KTT111063-R-1/3, KTT111063-Z-1/1 & KTT111063-W-1/3 dated 10/10/2011

Service and operation manual: 21323/2011 dated 23/01/2012

3. TEST REPORTS:

TRANSFORMER TEST CHART

- ET3SM-100 (Dyn 5): EX/0010/2011/05 dated 03/03/2011

- ET3SM-100 (Dyn 11): EX/0044/2008/01 dated 03/04/2008

- ET3SM-160: PL/1664/2010/01 dated 17/12/2010

- ET3SM-250: EX/0230/2011/01 dated 10/11/2011

4. APPLICATION / LIMITATION:

BUREAU VERITAS Rules for the Classification of Steel Ships.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The AIR-COOLED TRANSFORMERS are to be supplied by **ELHAND TRANSFORMATORY Sp. z o.o.** 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, **ELHAND TRANSFORMATORY Sp. z o.o.** has declared to Bureau Veritas the following production site(s):

ELHAND TRANSFORMATORY Sp. z o.o.
Klonowa 60
42-700 Lubliniec
Poland

6. MARKING OF PRODUCT:

- Maker's name or trade mark

- Serial number of the units

- Equipment type number or model identification under which it was type-tested

- \ or @ conformity marking, as relevant

7. OTHERS:

7.1 - It is **ELHAND TRANSFORMATORY Sp. z o.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.

7.2 - This certificate supersedes the Type Approval Certificate No. 26884/B0 BV issued on 27 Dec 2017 by the Society.

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