



TYPE APPROVAL CERTIFICATE

Polish Register of Shipping certifies that the undernoted product type

1-PHASE AND 3-PHASE DRY TRANSFORMERS

**ET1SM, ET3SM
ET1oM, ET3oM
(power from 0,05 up to 160 kVA)**

manufactured by

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

is approved as complying with the requirements of the

PRS Rules and is suitable for use on board of ships classified by PRS
or in appliances with PRS certificates.

Certificate No. **TE/1071/880017/23**

Expiry date **2028-04-03**

Issued at

Gdańsk, 2023-04-04



C/020/57

[Handwritten Signature]
Signature

Polski Rejestr Statków S.A.
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Continued overleaf

Product description:

1-phase and 3-phase dry type (air-cooled) power transformers intended for installation in closed compartments (typically engine room or electrical equipment compartments) and assembled directly on the floor with usage of brackets and screws.

Type designation details:

ET1SM-xx, ET3SM-xx: ET – basic type; 1/3 – one or three phase; S – power transformers; M – marine type; xx – power in kVA.

ET1oM-xx, ET3oM-xx: ET – basic type; 1/3 – one or three phase; o – power transformers safety design (primary and secondary windings are screened); M – marine type; xx – power in kVA.

Technical data:

Primary voltage: up to 1000 V.

Secondary voltage: up to 1000 V.

Power range: from 0,05 up to 160 kVA.

Frequency: 50 or 60 Hz.

Enclosure protection degree: IP00 / IP23 / IP44 / IP54.

Max. permissible ambient temperature: up to +50 °C (above +45 °C power derating applies).

Windings conductor material: Cu, Al.

Insulation class: F, H.

Mounting type: vertical only.

Cooling: AN (natural cooling).

Electrical cables connection: from the bottom or from one side through cable glands.

Basis of approval

1. The technical documentation approved by PRS on 2023-03-31.
2. The Quality Management System Certificate (ISO9001) No. PL012999/P issued by Bureau Veritas.
3. The inspection of the production process and quality control system carried out on 2023-03-14/15.
4. Tests carried out in PRS Surveyor presence on 2023-03-14/15.
5. PRS Survey Report No. SZC/PW/6/23 issued on 2023-03-17.
6. The previous PRS Type Approval Certificate No. TE/2175/880017/18.

Additional conditions and remarks:

1. Each product is to be marked with: manufacturer name, type, power [kVA], serial number, max. ambient temperature (permissible), enclosure protection degree (IP), insulation class.
2. The condition for maintain validity of this Certificate is to maintain validity of a.m. ISO9001 Certificate.

Notes

- 1 The approval is valid only when the product is used in accordance with the manufacturer's conditions.
- 2 Changes of product design and materials which influence product quality are to be agreed with PRS.
- 3 Type Approval Certificate will be cancelled in the case of dissatisfactory service results, modifications made in the product structure or materials without PRS' consent, not advising PRS of the manufacturer's name change.

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