Distribution Transformers

We guarantee energy

Rauscher Stoecklin

by Tesar
A company of R&S

New investment near Bochnia

Our newly built plant in Krzeczów is entering an exciting new era, and represents significant investments in the production of oil transformers. Once we begin production in 2024, we will be able to provide our customers with both cast resin and oil-immersed transformers from two locations. Combined with ongoing operational and process improvements, we aim to deliver unique value and best-in-class products to our customers.

Our product portfolio:

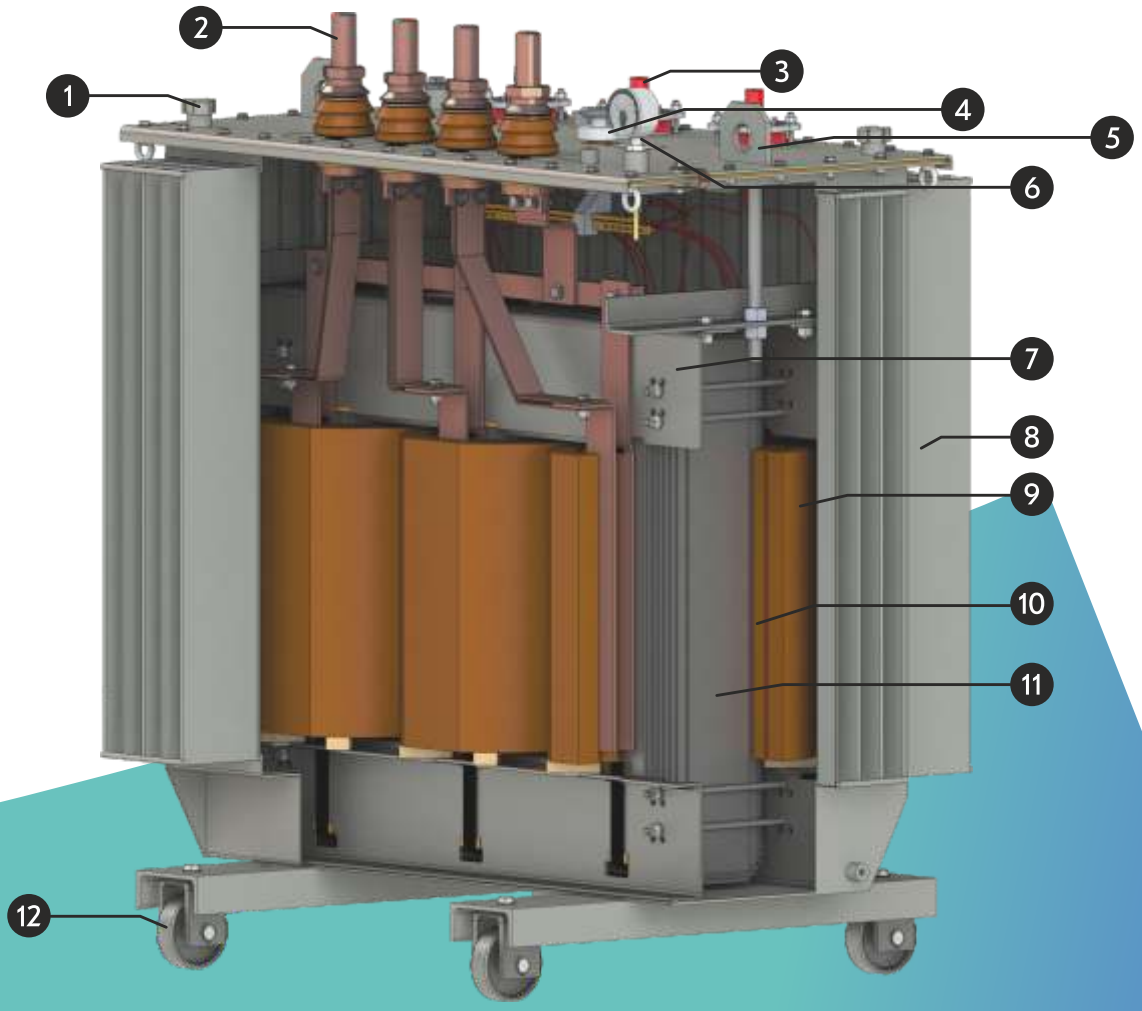
- Oil distribution transformers;
- PV oil distribution transformers;
- Oil distribution transformers for special applications.

Our production site in Krzeczów, Poland

Transformer Design

Distribution transformer design

1. Oil level indicator
2. LV connections
3. Medium-voltage plug-in bushings
4. Medium-voltage tap changer
5. Lifting eyes
6. Thermometer with trailing pointer
7. Iron core clamping angle
8. Tank
9. Medium-voltage winding
10. Low-voltage winding
11. Magnetic core
12. Castors for longitudinal and lateral travel



Design of an oil-filled distribution transformer

Main Features

Features of our distribution transformers

- Rated power ranging from 100 - 3150 kVA, 50 Hz;
- Operating voltage up to 24 kV;
- Maximum losses in accordance with EU 548/2014 (Ecodesign) and subsequent amendments;
- Regulation of the primary voltage ± 2 × 2.5% or according to customer specifications;
- Maximum ambient temperature 40°C, annual average 20°C;
- Maximum heating: copper 65 K, oil on top 60 K, natural air cooling ONAN;
- Maximum installation altitude 1,000 meters above sea level;
- Medium-voltage bushings: plug-in bushings for outer cone system terminal or with porcelain bushings for indoor or outdoor installation;
- Low-voltage bushings: porcelain bushings with or without flat connection plate;
- Compact and lightweight design;
- Routine testing according to IEC;
- Grounded shield between high-voltage/ low-voltage windings for non-sinusoidal load available on request.

Designs

Your Specification – Your Transformer

Hermetically sealed transformers

Transformers with hermetically sealed tanks are standard in international markets. The unit is fully hermetically sealed, thus preventing direct contact of the cooling liquid with the air and further reducing maintenance costs thanks to the higher oil quality. The oil expansion is absorbed by the cooling shafts and therefore subjects the tank to an additional mechanical load. In order to limit the pressure, hermetically sealed transformers require lower shafts, which results in a higher oil volume. As a result, the dimensions and weights increase accordingly.

Test Methods

Our test facility

Testing

All transformers undergo standardized routine testing and a test report is drawn up at our test facility. It contains the following points:

- Measurement of the winding resistances;
- Measurement of transformer ratio and determination of the vector group;
- Test with applied voltage;
- Test with induced voltage;
- Measurement of no-load currents and no-load losses;
- Measurement of winding losses and short-circuit voltage.

Type and special testing

Type tests and special testing are also performed in our test facility or an external test facility on customer request:

- Noise measurement;
- Temperature rise measurement;
- Surge voltage test;
- Oil analyses;
- Lightinig impulse test.

Our transformer test facility

Our Accessories

Customized solutions

Additional accessories and options

Tesar Polska offers the following customized solutions:

- Special dimensions;
- Special altitude requirements;
- Measures for seismic safety;
- Additional monitoring devices (PT100, RIS, etc.);
- Overpressure valve;
- On-load tap changer.

Please do not hesitate to tell us about your individual requirements.

Stand-alone oil retention vat

Stand-alone oil retention vats are made of lightweight aluminum and are supplied separately. The stand-alone design offers various advantages. They can be subsequently placed under every transformer and installed separately in the station. Narrow doors no longer present a problem. All stand-alone oil troughs can be connected on the longitudinal or narrow side or completely sealed. With the EASY design, the transformer must only be lifted a few millimeters and can thus be rolled into the trough.

Contact dial thermometer

- In stainless steel;
- Protection class IP 54;
- Measuring range 0 – 120° C;
- Accuracy class 1.5;
- Screw connection G1;
- With trailing pointer;
- With trailing pointer and switching output (2 microswitches).

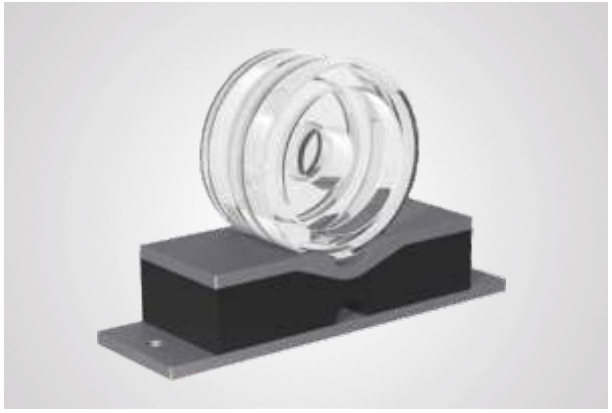
Flags connections

According to DIN 42530

- DT630 hole 1 × Ø 14 mm;
- DT1000 hole 2 × Ø 14 mm;
- DT2000 hole 3 × Ø 14 mm;
- DT3150 hole 4 × Ø 14 mm.

Castors

- According to EN 50216-4 with frame, switchable for longitudinal and transverse travel;
- Wheel lock can be fixed with M12 screws;
- Wheel lock for nylon or cast iron castors, Ø 125×40 mm.



Vibrastop & wheel locks

Vibrastop:

- For transformers from 500 up to 2,500 kg;
- For transformers from 2,500 up to 12,000 kg.

Earthquake protection

Take appropriate measures to ensure earthquake protection if the transformer is to be operated in earthquake zones.

Oil level indicator

Transformers can be equipped with an oil level indicator withfloat. If remote monitoring is required, a version with a magneticcontact (reed contact) is available.
If the oil level indicator shows MIN, the transformer must betaken out of service and the cause of the loss of coolant mustbe remedied.

Certified Quality

We insist on the highest quality standards both for our company as well as our products. Our transformers are distinguished by production quality confirmed by tests in our laboratory. We have a certificate issued by a PCA accredited unit confirming that our products can be used in the power industry.

Tesar tools/measuring instruments are continuously calibrated. Relevant calibration certificates are available upon request. Management, quality, environmental protection systems are certified in accordance with ISO 9001, ISO 14001, J.S. Hamilton Poland Sp. z o.o.

J.S. Hamilton Poland Sp. z o.o.
Certification Body
ul. Wyzwolenia 14
41-103 Siemianowice Śląskie

AC 145

CERTIFICATE OF CONFORMITY
No. JSHP/89/CZ/2023

Issue 0

(2) Name and address of the manufacturer:

Tesar Polska Sp. z o.o.
ul. Skarbowa 34
32-005 Niepołomice, Poland

(3) Product name:

3-phase liquid-immersed transformers from 100 kVA to 3150 kVA
in voltage classes up to 24 kV

Type:

TRO-...

(4) This certificate applies only to the evaluation, examination and tests of the represented product type on the basis of a certification program type 1a – PR-1a (acc. to PN-EN ISO/IEC 17067).

(5) This certificate can be used as a basis to declare that the following manufactured copies of products comply with the requirements specified in the certificate.

(6) Assessment, list of documents and test reports, that are the basis for issuing this certificate, have been included in a confidential product assessment report No. JSHP/RW/91/CZ/23/AP.

(7) This certificate can be distributed only in an unchanged format. Partial reproduction and distribution of this certificate is prohibited.

(8) This certificate is valid from 15.11.2023 to 14.11.2026.

HAMILTON

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CERTIFICATE
No. 4800005

This is to certify the Environmental Management System of

Tesar Polska Sp. z o. o.
ul. Skarbowa 34
32-005 Niepołomice
Poland

has been assessed and found to be in compliance with the Standard

ISO 14001:2015

applicable to

Sales and production of resin transformers, medium voltage current and voltage transformers.

The certificate has been issued under No. **4800005** for the registration period from 20 October 2023 to 19 October 2026.
The first certificate date of issue is 08 June 20203.

CERTIFICATE
No. 488924

This is to certify the Quality Management System

Tesar Polska Sp. z o. o.
ul. Skarbowa 34
32-005 Niepołomice
Poland

has been assessed and found to be in compliance with the Standard

ISO 9001:2015

applicable to

Production of resin transformers.
Production of measuring and protection transformers.
Sales of power transformers.
Sales of measuring and protection transformers.

The certificate has been issued under No. **488924** for the registration period from 03 June 2022 to 02 June 2025.
The first certificate date of issue is 03 June 2013.

Approved by

Printed by

validity code 2FBC954C-2CC
Check the validity of this certificate using this code at www.ll-c.info

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