



CAST RESIN TRANSFORMERS

TTR ECO+P ⚡ SERIES

TRANSFORMING THE FUTURE





TTR ECO+P Z SERIES

The innovative design of cast resin transformers



The new TTR ECO+P Z SERIES cast resin transformers fully comply with the new eco-compatible design rules according to IEC Standard 60076-11, Standard EU Regulation No. 548/2014 and 2019/1783 and are designed focusing on the sustainability (guaranteeing a significant reduction in energy consumption, promoting significant economic savings and the reduction of CO₂ equivalent emissions into the atmosphere).



APPLICABILITY

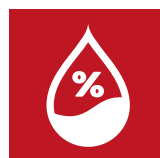
Rating powers: **from 100 kVA to 3150 kVA**
 Voltage classes: **up 24 kV**

Applicable to higher rating powers and voltages, upon request.



SAFETY AND CERTIFICATIONS

SEA cast resin transformers manufacturing processes uses materials that make the windings maintenance-free, moisture-resistant and self-extinguishing. No toxic gases are produced, not even under the effect of the electric arcing. Our manufacturing process is periodically certified by tests performed at external laboratories.



E4



C5



F1

ECO-FRIENDLY

The best performing materials combined with an innovative design for high energy efficiency.

Respect for the environment: fully comply with the new eco-compatible design rules and promoting significant savings.

Modular design: suitable for using new generation materials to contribute to a reduction of equivalent CO₂ emissions into the atmosphere.

Ease to disposal-recycling: use of ~95% recyclable materials, allowing an important step forward to preserve our environment.



THE WINNING SOLUTION FOR THE SUSTAINABILITY COMBINING ENERGY EFFICIENCY AND ENVIRONMENTAL COMPLIANCE



INNOVATIVE TECHNICAL FEATURES

- New structure with “lateral metal frame”
- Removal of “internal rods” on the magnetic core
- Simplified core insulation
- Optimized core design
- Removal of any weld in the metal part structure
- Eyebolts integrated into the metal part structure
- Earthing plate integrated into the lower metal part structure
- Reduced installation size
- Reduced environmental footprint



KEY ADVANTAGES

- Efficiency of production process according to 5.0 Industry
- Reduction of waste during the magnetic steel sheet cutting
- Reduction of the vibrations which means very low noise levels
- Better circulation of the cooling air
- Reduction of the adding losses
- Reduction of hot spots
- Higher efficiency levels
- Under control material efficiency
- Improved accessibility for any maintenance control and easier cleaning
- Better logistics and optimized design
- State-of-the-art technology
- Possibility to use the lateral rods for fixing the auxiliary service cables
- Interchangeability of the bars for the connection cables
- Versatility of the lower metal part structure for the accessories positioning
- Optimized dimensions and terminals arrangement for critical situation of space
- Versatility of lower metal parts structure center distance for forklift
- Better stability of the entire windings structure



- Minimizing the risk of damage during handling by the protection of the lateral frame
- Increased full system reliability
- Cost effective solution
- High performances with low weights
- Reduction of equivalent CO₂ emissions into atmosphere



OUR TARGETS



Performance and Overload



Silence



Sustainability ECO+POWER



Economy during the operations



Compactness



Reliability

The know-how and experience since 1959 in the casting process allow that partial discharge value is always below 5 pC, significantly better than required by the standard, that means higher life expectancy of the transformer.

RANGE OF ACCESSORIES

We offer accessories and tailored solutions suitable for your individual needs. In their standard version, the cast resin transformers are supplied with IP00 protection degree, with the following accessories:

- 4 bidirectional wheels
- 2 ground sockets
- 1 rating plate
- 4 lifting hooks
- 4 connection for haulage
- Switching terminal board on the MV side
- Threaded pins equipped with bolt for MT terminal connection

The following additional accessories are available:

- Electrostatic screen between primary and secondary winding
- Dial thermometer for central column temperature monitoring
- Resistance Temperature Detectors PT 100 in LV windings
- Resistance Temperature Detectors PT 100 on the core PTC thermal probes on LV windings
- Relay contacts for alarm and tripping to be combined with PTC
- Digital thermometer control unit with: visual check of the monitored temperatures, additional contact for the operation of electric fans, 240 VAC-24 VDC supply voltage, alarm and tripping contacts
- Auxiliary service terminal board, protected type
- Plexiglas protection of the switching strip
- Set of electric fans for air forced cooling
- Plug-in connections/bushings, "ELASTIMOLD" type or similar on MV terminals (fixed or mobile part)
- Antivibration pads
- Protection boxes



Other Special Technical Arrangements can be evaluated upon request:

Taylor made connection arrangements to simplify the installation are optionally available with connection on the HV or LV side, top, or bottom.

On-load tap changers can be installed in order to meet the customer's various needs.

It is available a full range of **Special Protection Boxes** and, upon request, modified housing design with all degrees of protection up to IP66.

The possibility of a complete range of products suitable for extreme **corrosiveness ambient** through special surface treatments.

Special design structure for seismic zones or for using in applications with high level vibrations.

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