



CAST RESIN TRANSFORMERS



11/0.433 kV CAST RESIN TRANSFORMER
(ENCLOSURE DOORS OPENED)
TYPE ATC12

PRODUCT RANGE

Distribution Transformers up to

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10000 KVA & 36 KV

ORGANISATIONAL CAPABILITIES

DESIGN

The design of the transformers is made with the help of most modern computer aided design i.e. CAD and coupled with manufacturing machines directly to receive input from the design department and manufacture components.

Al-Ahleia has the most modern computer operated sheet metal/fabrication machines which manufacture the components according to the drawing inputs.



CORE CONSTRUCTION

Core is constructed using steplap technology from laminations of Cold Rolled, Grain oriented, low loss electrical sheet steel conforming with the latest international standards. Laminations are cut on fully computerized core cutting machine. The core is suitably clamped on a structure so as not to give any vibrations. The clamping structure is tested 2.5 KV for 1 minute with respect to earth.

WINDINGS

Al-Ahleia Cast Resin Transformers are wound either in foil or wire. The advantage of foil construction is that the short circuit axial forces are eliminated due to the almost identical electrical lengths of LV and HV coils. State-of-the-art winding machines enable insulation and conductor materials to be wound simultaneously, resulting in a very good compact winding, capable of resisting radial short circuit forces. The HV coils are made from insulated rectangular copper conductors. Both LV and HV coils are epoxy cast under vacuum.

ENCLOSURES

Enclosures are generally manufactured from zinc coated steel sheet. For very onerous conditions these may be replaced with any other special materials. The standard finish is a polyester based powder coat. The protection categories as per relevant IP number can be provided based on customer requirement. Enclosures are made on most modern computerized metal sheet working machines.



FITTINGS

All the transformers are provided with the following fittings.

- Standard Features:
 - 1) Rating Plate.
 - 2) Lifting Lugs.
 - 3) Under Base.
 - 4) Earthing Terminals.
 - 5) Temperature Monitoring Relay.
 - 6) Jacking Pads wherever required.
 - 7) HV and LV Cable Box.
- Optional Features:
 - 1) Winding Temperature Indicator (scanning unit).
 - 2) Remote Winding Temperature Indicator.
 - 3) Uni/Bi Directional Rollers.

APPLICATIONS

The Cast Resin Transformers are suitable for indoor/outdoor applications. All air ways are smooth and unobstructed, so that even in highly polluted ambient conditions, very little maintenance is required. Since high and low voltage windings are cast under vacuum, moisture cannot penetrate and therefore no drying process is required in humid conditions even for a long period of service.

Due to the possibility of installation close to the load centre, without the attendant fire risk from flammable oil leaks inherent in oil cooling, significant economic benefits will result, if use of Al-Ahleia Cast Resin Transformers is considered at the planning stage. This will ensure that the overall costs of an installed power supply system are considerably reduced.

Al-Ahleia transformers have very low partial discharge. This will result in higher reliability.

FIRE PROTECTION

Al-Ahleia Cast Resin Transformers are fire resistant and self-extinguishing and even when exposed to direct arcing will not emit harmful gases.

Cast Resin Transformers contains no liquid to pollute ground water supplies and hence no measures are required to guard against spillage.



QUALITY

Al-Ahleia Quality Assurance system conforms to ISO 9001 : 2000 system certified by DNV.

TEST FACILITIES

Al-Ahleia has the most advanced transformer test facilities.

- Impulse Test
- Temperature Rise Test
- Capacitance & Tan Delta Test
- Partial Discharge Test
- Noise Level Test
- Measurement of Winding Resistance
- Measurement of Insulation Resistance
- Ratio Vector Group
- No Load Loss and Exciting Current
- Load Loss and Impedance Voltage
- Induced Over Voltage Test
- Power Frequency Test

EXTERNAL CERTIFICATIONS

Al-Ahleia transformers are tested for special tests like short circuit at KEMA Laboratories, Netherlands.

Temperature Rise and Impulse Test have been duly witnessed by CESI, Italy at our works.