

# HT TRANSFORMER

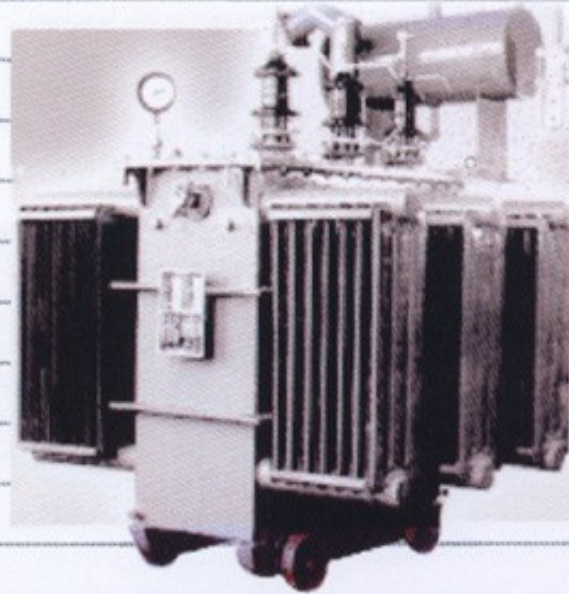
means

Peak Performance

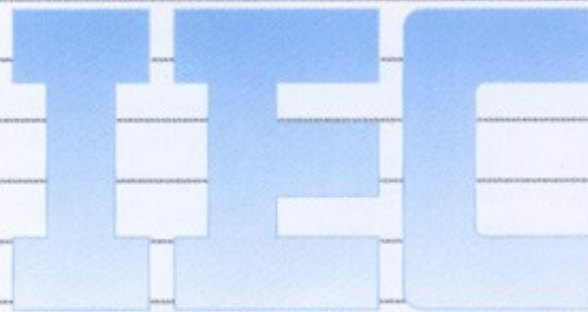
**IN POWER**



AN ISO 9001 : 2000



Quality Reliability & Precision Work



*Experience, Product Excellence Live... In Action*



**INDUSTRIAL ELECTRICAL CORPORATION**

Factory : 602, Phase IV, Behind Maruti Weigh-Bridge, GIDC Vatva, Ahmedabad-382 445. (Gujarat) INDIA.

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#### GENERAL :

The works of **IEC Transformers**, are equipped to manufacture Power and Distribution transformers for ratings upto 1500 KVA and nominal system voltage upto 11/33/66 KV. Our transformers are in service all over the country. To meet the ever growing demand we are updating our manufacturing program to increase our range of manufacture to completely self protected (CSP); dry type transformers; as per the requirements of various Electricity Boards and private customers.

The transformers are usually oil immersed, natural cooled type and suitable for indoor or outdoor installation. The transformers can be supplied either with Bare Bushings or Cable Boxes as per Customer's requirement. The manufacturing and testing at various stages strictly conforms to IS : 2026/1977. All fittings required are provided to suit customer's specific requirement.

#### DESCRIPTION-CORES :

The magnetic circuit is of a laminated iron core. The company uses laminations of special silicon sheet which gives a high resistivity (to reduce eddy current losses) and also a low hysteresis loss. Hot rolled or cold rolled grain oriented silicon steel is used for laminations. but cold rolled grain oriented steel laminations are used for cores in all 'IEC Transformers'.

#### WINDING & INSULATION ASSEMBLY :

The LV windings are made from Paper covered Copper Strips and placed nearest to the core. The HV windings are wound with Super Enameled Copper Wire or Aluminum Wire or Paper covered Round wire or paper covered Strips depending upon the rating of the transformers. The cross section of the conductor is also chosen to keep the thermal gradient in the winding to a minimum and thus increase the life of transformer.

#### TAPPING & TAPPING SWITCH :

IEC are providing off load / on load tap changer for the voltage in a supply network can be controlled by changing the ratio of transformation. This can be done by tapping the winding in order to alter the number of turns. The tap changer is provided on the high voltage winding because a fine voltage variation is obtained owing to large number of turns.



For further Details, Contact to :

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#### TERMINAL ARRANGEMENT :

The transformers are fitted with Bare Porcelain Bushings and metal parts conforming to IS specification 3347 "Dimension for Porcelain transformer Bushings. "Electricals characteristics of the bushings conform to IS 2099 "Specification for High Voltage Porcelain Bushings. Alternatively transformer are supplied, fitted with Cable Box either with Wiping type of glands suitable for paper insulated cable or compression glands suitable for PVC/XLP cables.

#### TANKS & FITTINGS :

The tanks are fabricated from MS plates and is welded construction. They are tested at a pressure of 0.35 Kg./Sq. cm. for oil leakage at joints. The tanks are provided with number of pressed radiators to dissipate the conductors and core losses rated output and they are normally welded directly to the tank. However, transformers, can be supplied with detachable radiators. The oil used for transformers to IS Specification 335-1984 "New insulating oils for transformers and switchgears.

#### PAINTINGS :

The inside of the transformer tank and frame parts are given a coating of hot transformer oil resisting paint. The transformer is given an external anti-corrosive primer coat and two finishing coats usually of admirably grey.

#### TESTING :

Prior to dispatch each and every transformer is tested for all routine tests as per IS-2026. The tests involved are :

- Ratio polarity and phase relationship.
- Measurement of insulation resistance.
- Measurement of winding resistance.
- Measurement of load losses, impedance voltage and unbalance current tests
- Measurement of no "load losses" and no "load current"
- Induced over voltage with stand test
- Separate source high voltage with stand test.
- Oil tests a) Dielectric test b) Tan Delta c) Resistivity d) Acidity
- Air pressure and vacuum test for tank with radiators.
- Type tests
  - Impulse voltage with stand test.
  - Short circuit with stand test
  - Temperature rise test (at our work)

**Radiators** : Each and every radiator is subjected to air pressure test and vacuum test.

- A pressure of 0.8 kg/cm<sup>2</sup> above atmospheric pressure is used to applied and maintain for 10 minutes to observe any leakage before it goes for painting.