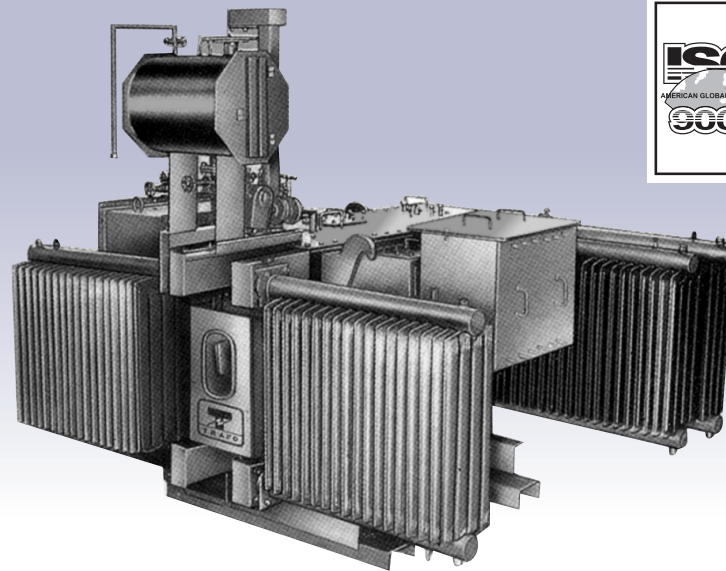


TRAFO POWER & DISTRIBUTION TRANSFORMERS



Transforming high-tech designs into practical low-loss solutions

TRAFO, A COMPANY DEDICATED TO QUALITY AND SERVICE, OFFERS POWER AND DISTRIBUTION TRANSFORMERS.

TRAFO'S MANUFACTURING FACILITIES AT MIDC PUNE, IS ONE OF THE FINEST TRANSFORMER MANUFACTURING FACILITIES IN INDIA AND IS EQUIPPED WITH ALL MODERN MANUFACTURING AND TESTING FACILITIES REQUIRED UNDER IS 2026. TRANSFORMERS WITH RATINGS FROM 10 KVA TO 10000 KVA UPTO 33 KV CLASS FALL IN OUR STANDARD MANUFACTURING RANGE. OTHER TYPES ARE ALSO MANUFACTURED ON SPECIAL ORDERS.

OUR TRANSFORMERS CONFORM TO THE LATEST IS 2026 SPECIFICATIONS.

CONSTRUCTION



CORE

The core is build up from mitred low loss cold rolled, grain oriented steel laminations.

Individual stampings are coated on both sides with an insulating material which is both oil and temperature resistant.

The Core limbs are securely bound with heavy duty fibrous glass tapes and the yokes are firmly clamped between steel channels. All cores have mitred joints.

Top and bottom clamps are secured to each other by means of tie rods which serve the dual purpose for securing the windings in place and of transferring the load from the bottom to the top clamps when the core and windings are lifted. This prevents tensile stresses being set up in the core legs which could adversely affect the iron losses.



WINDINGS

Transformer windings are designed to meet three fundamental requirements such as mechanical, thermal and electrical.

They are cylindrical in shape are assembled concentrically.

The low tension windings are of the helical type, single or multilayer, using flat copper strips, depending upon the size and current rating of the transformer.

The high tension windings consist of paper covered round conductors. For higher KVA Ratings continuous disc windings are used.

The windings are rigidly supported by precompressed board dovetailed strips and spacers.

Interlayer cooling ducts are provided to ensure proper temperature gradient between windings and oil and hence the hot spot temperature is minimised and a high life expectancy is achieved.

Insulation between layers and turns is based upon the impulse test level of the voltage class of the winding as specified in IS 2026. Completed Core coil assemblies are dried and pressed to desired dimensions prior to impregnation with transformer oil.



TRANSFORMERS

ALLSTATE
G R O U P



WINDING CONNECTIONS

Tapping and phase leads are run in multi paper covered flexible conductors in S.R.B.P tubes, the phase leads being separated from the tapping leads by adequate barriers. These tubes are rigidly braced to ensure that clearances between leads and tank sides are maintained when the transformer is fixed in position.

Low voltage leads, being of larger cross section are sufficiently robust, so supports are provided wherever necessary.



INSULATION AND IMPREGNATION

The principal components of insulation are pre-fabricated from precompressed board / permali sheets. All items subjected to compression in services are preshrunk and the slight recovery in dimensions after preshrinkage is compensated for by providing means of compressing the winding during final drying of the completed transformer. The oil used for impregnation complies with IS 335 and every consignment of oil received at works is tested before entry is permitted into the storage tanks.



SHORT CIRCUIT STRENGTH

In order to prevent deformation when subjected to short circuit forces, solid block end insulation, backed by substantial supporting frames, is utilised. The axial end thrust under fault conditions, is minimised by ensuring that design dimensions are closely adhered to during manufacture. Transformers designed and constructed in this way are capable of withstanding the effects of short circuit testing.



TAPPINGS

For the range of transformers covered in this Catalogue, tappings are provided on the H.T. windings at a range of +5.0% to -5.0% on H.V. For H.V. Variation. Other tapping ranges can be supplied on request. Tap selection is effected by means of an off circuit tapping switch, operated by an external handle. Tapping leads are brought away from the coils by means of paper insulated conductors. They are arranged in such a manner that the ampere turn balance between H.T. and L.T. is maintained throughout the tapping range.



TERMINATIONS

All bushings are of high quality porcelain or Epoxy conforming to ISS 2099.



TANKS

All tanks are made from mild steel which is electrically welded. The design of the tank is such that the base, cover and wall thicknesses are related to the size and weight of the finished product. The core - coil assembly is fixed to the tank in such a way that damage will not result during transport.

All tanks are oil pressure tested to a pressure of 0.4 At. Plus the weight of oil contained.

The interior of the tank is painted with oil & heat resistant paint. Zinc chromate red oxide primer is applied to the exterior, before applying two coats of weather proof outdoor type synthetic enamel paint of shade IS:631.

Transformer tank and all other fabricated items are thoroughly cleaned before painting.



STANDARD TESTS

The following tests will be carried out on all Transformers. The numbers shown do not necessarily indicate the sequence in which the tests will be carried out. All tests will be in accordance with the latest revision of IS 2026.

1. Measurement of resistances of all windings at normal tap position of each unit.
2. Ratio tests on all tap connections.
3. Polarity and Vector group tests at normal tap.
4. No load loss at rated voltage and frequency at normal tap.
5. Excitation current measurement at rated voltage and frequency at normal tap.
6. Impedance and load loss measurement at rated current, at normal tap of each unit.
7. Separate Source High Voltage withstand test.
8. Induced over voltage withstand test.
9. Measurement of insulation resistances of windings.
10. Breakdown voltage of transformer oil in the tank.

The design and manufacture of our transformers are subject to constant improvement and review, and the particulars given in this Catalogue may vary in details with the equipment supplied.

Manufactured by :



TRAFO ELECTRICS PVT. LTD.

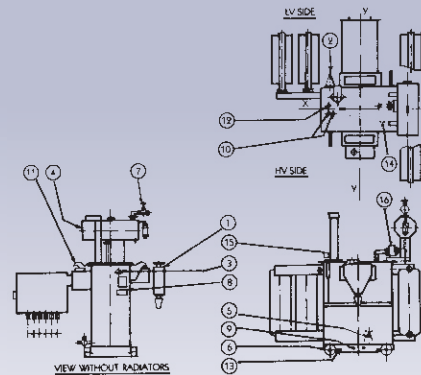
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TYPICAL TRANSFORMER OUTLINE



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|--|---|
| 1. H.V. Cable Box/outdoor bushings. | 9. 2-Earthing Terminals. |
| 2. LV Cable box/outdoor bushings. | 10. Thermometer Pockets. |
| 3. Tapping Switch Handle with position indicator and Locking Device. | 11. Lifting Lugs for complete transformer. |
| 4. Plain Oil Level Gauge. | 12. Air Release plug. |
| 5. Drain Valve with Plug. | 13. Pulling Lugs. |
| 6. Plain Rollers. | 14. Cover Lifting Lugs. |
| 7. Filter Valve with plug. | 15. 4" Dial type Thermometer with MRP & RSD. |
| 8. Rating, Diagram and name plate. | 16. Double Float Buchholz Relay with Alarm & Trip Contacts. |

* Optional Fittings