



# ESENNAR<sup>®</sup> TRANSFORMERS

An ISO 9001, ISO 14001 & ISO 45001  
Certified Company

*Technically Honest Transformers<sup>™</sup>*

**25** years of  
RELIABILITY



[www.esennar.com](http://www.esennar.com)



## About



Established in the year 2000 with a modest manufacturing range upto 33 kV Class, with the goal of going global with International standards to manufacture Transformers in the range up to 33 kV Class.

*'Quality' is not an obsession .... But a profession .... at **ESENNAR***

We do not highlight 'Quality' in our Product Characteristics because it is embedded in our processes.

### Why **ESENNAR** ?

- "World Class Manufacturing Facilities"
- Thousands of transformers are operating seamlessly across the country
- Complete in-house 3D design facility
- One of its kind fully Automated NABL Accredited Test Lab
- Guaranteed after sales service network covering entire nation
- Widely approved by all the major organizations / PSU's / Consultants & EPC's
- An ISO 9001, ISO 14001 & ISO 45001 Certified Organization
- Dust Proof, Climate Control Winding Process

Consistently growing  
**STRONGER**







Given the parameters how the Transformer looks once the assembly is completed can be simulated.

Any 3D view is possible through the Solidworks.

It can be predicted how the machine behaves under electromechanical stresses under short circuits and overloads.

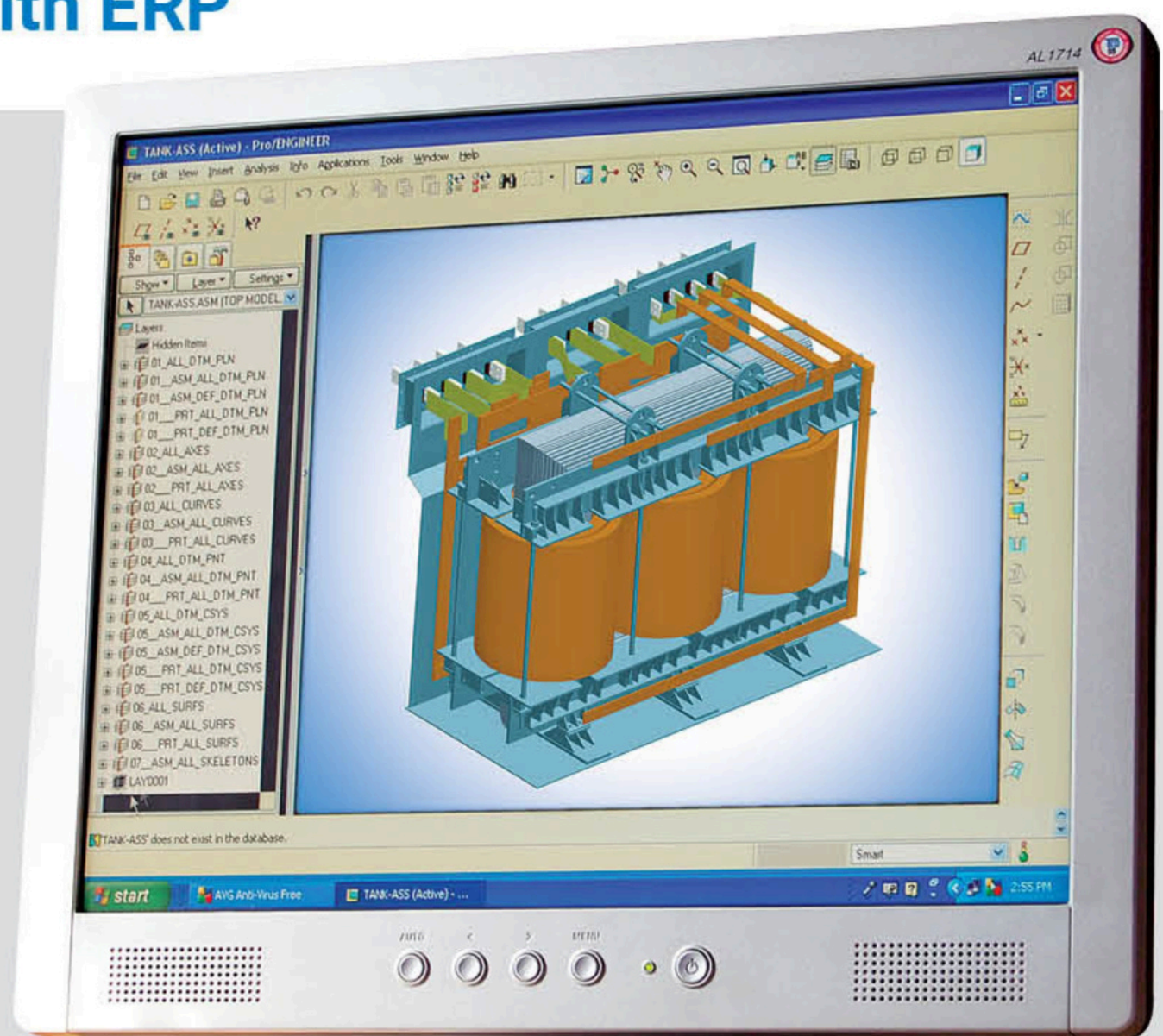
At every stage, every important activity is viewed through ERP Software – from raw material ordering to dispatch of Transformer to the customer.

Operational continuity and compatibility of processes ensured through software simulation.

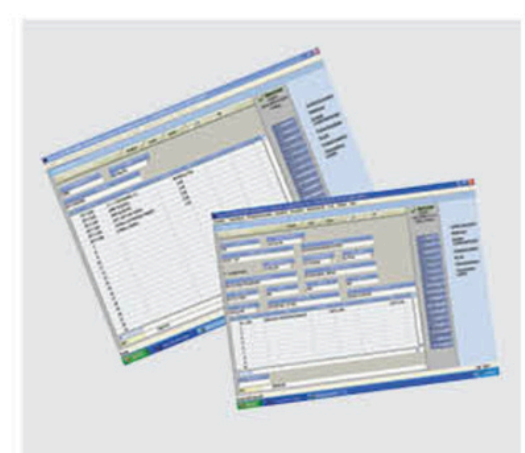
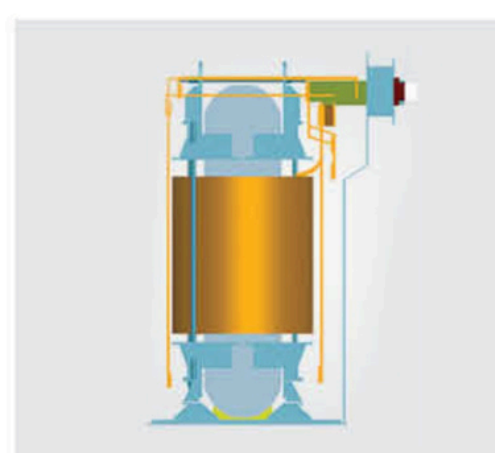
## Design Automation with ERP

### Product Range

- Oil Cooled Transformers upto 20000 kVA of 33 kV class
- Dry type Transformers upto 5MVA, 33kV class
- BIS approved upto 2500 kVA of 33kV class with OLTC (**BIS License No.: CM/L-6300051389**)
- Sealed/Non-Sealed
- Inverter duty Multiwinding Transformers
- Furnace Transformers
- Rectifier Transformers



3D Drawings generated by Software



Solidworks generated 3 Dimensional Drawings

ERP



# Core Building

Received core material is tested for magnetic losses to ensure its grade and conformity to our order.

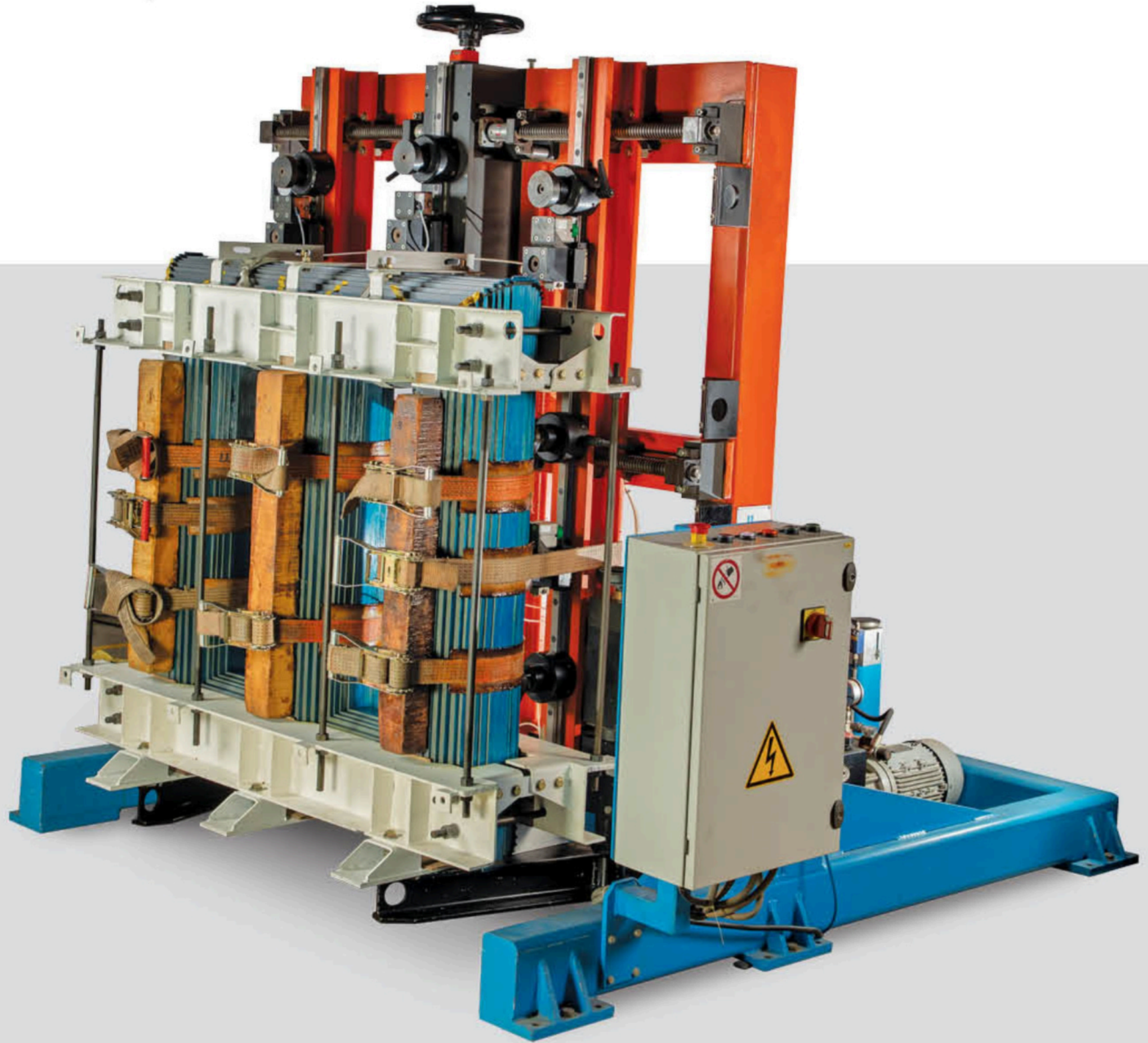
Core loss meter is the simple equipment giving enormous confidence to the manufacturer.

We conduct core loss test which is comprehensive after the completed core assembly and the

performance can be predicted as a part of verification of design calculations.

Core lift table enables us to safe handle the precision core assembly and to avoid injuries to workmen as safety is believed to lead for quality and process efficacy is achieved.

Core Tilting Table



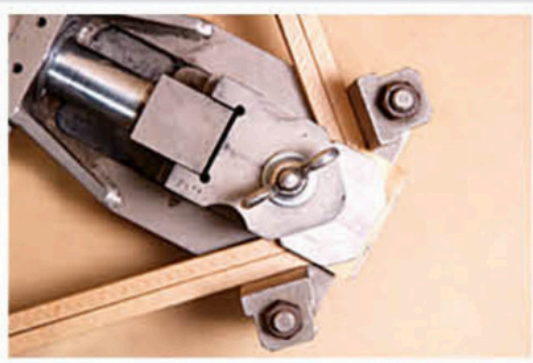
Core Loss Test



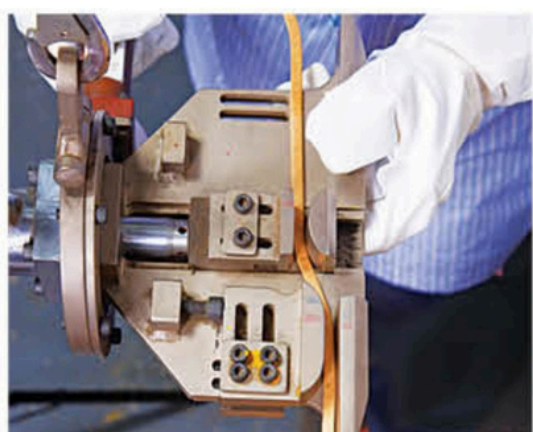
# Dust Free Winding



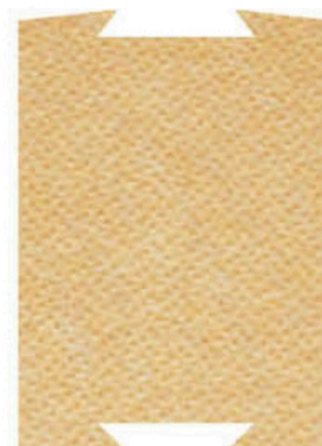
**Collapsible Former –**  
Helps in cutting short of winding time.



**90° Start Bend Tool –**  
Easy bending operation on conductors with out cracked surfaces.



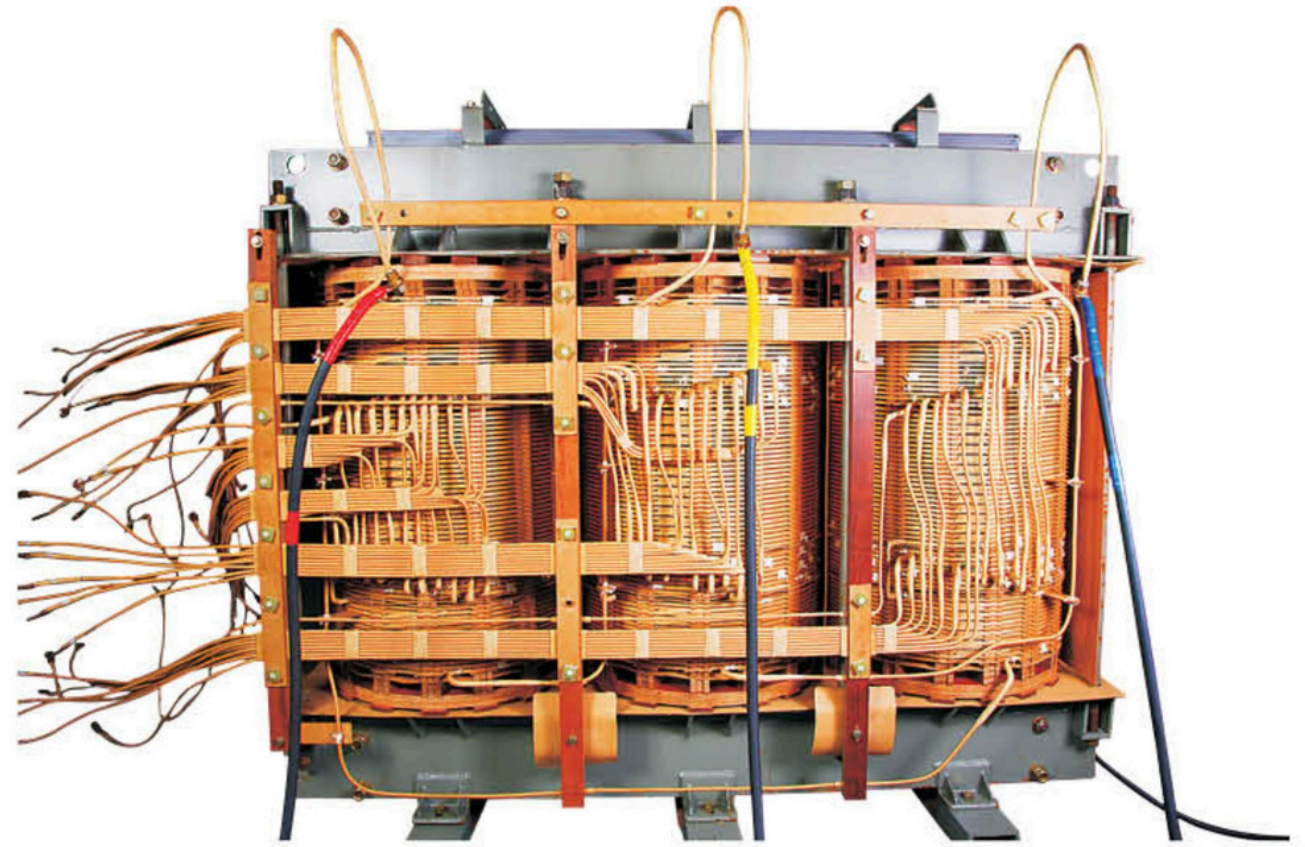
**S Bend Tool –**  
Intricate S or Z bends can be done easily and smoothly.



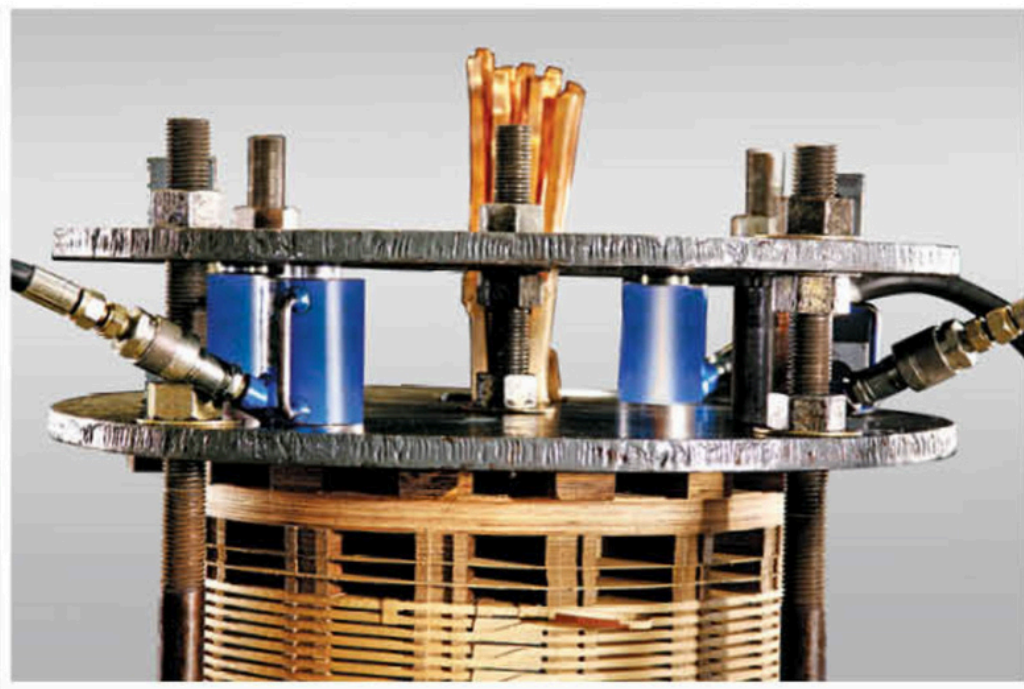
**Machined Components –**  
Machined components reduce the risk of mismatch, improve the reliability, engineering methodology and assembling- leading to better short circuit withstandability of transformer.



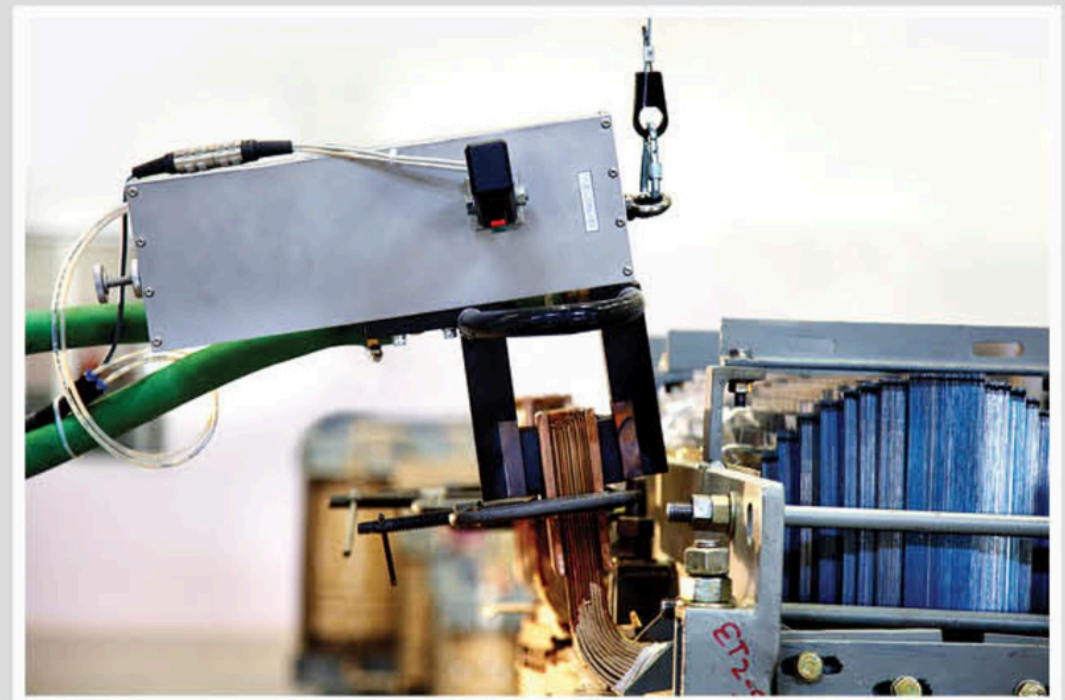
# Assembly



Load losses and Impedance test before tanking



Coil tightening to designed pressure with hydraulic system



Brazing Machine

Pre stressing of coils to CBIP recommendations with hydraulic system – smooth and uniform.

No \_ burrs due to Hydraulic cutting, punching and bending,  
No\_ undulation ...simple and effective technology to reduce losses.

Our processes not only reduce customer's losses but manufacturing time too.



## Tanking



Vacuum Oven run by programmed logic dries out the insulated coils and assemblies.

While Tanking, Ultra high vacuum filter machine supports oil and paper media to reach balanced moisture status uniformly without degradation and detriment. Oil is filled under vacuum.

Soft handling of assemblies while tanking enhances life of transformer with out fouls and injuries.

Tandelta test gives the DNA Print of the transformer's life activity and is a non destructive test. It is indirectly an efficacy test of the entire manufacturing process at **ESENNAR**.

Tandelta test under PLC operated Vacuum Oven

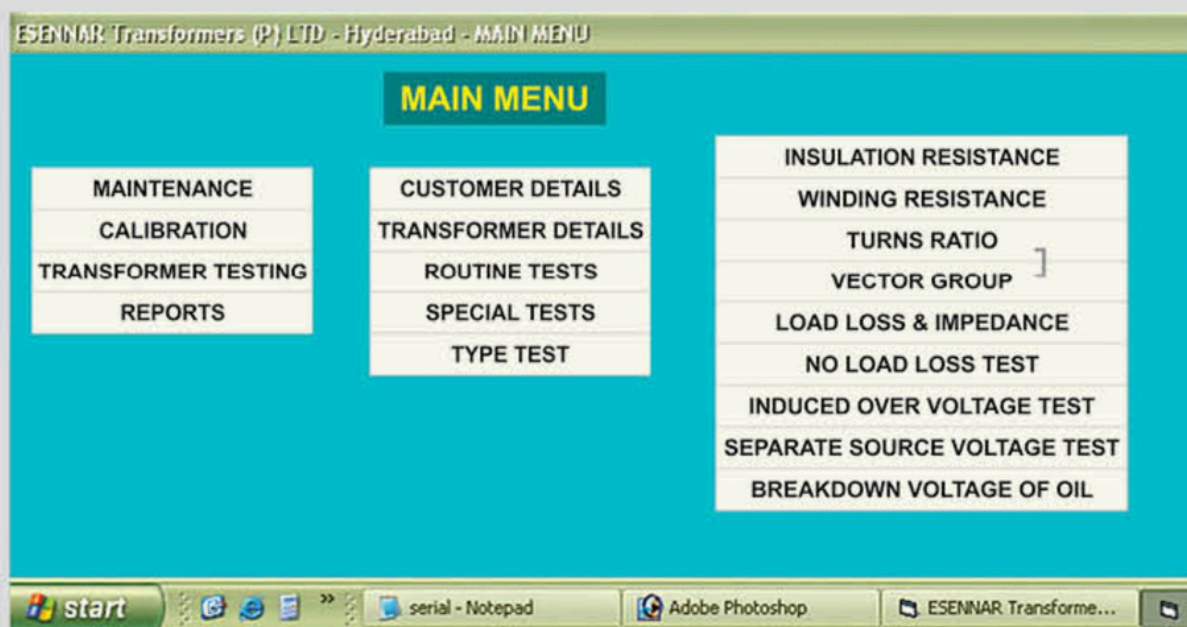




# Computerized Fully Automatic Testing



## NABL Accredited Laboratory



Authentic recording of essential parameters and readings on Internationally validated test equipment on par with World's leading electrical equipment manufacturers.



Adding wings  
to **POWER**





Specialized Painting Process



Dust Free Production Bay



Safe Storage of Finished Goods

If you cannot spare your time to witness tests at our works, we enable you at your office. We wish you to witness without fail to have confidence before using the Transformer.

We can provide online witness of tests conducted at our works.

***Tell us where you want, what you want, when you want!***

***The data can be transmitted to your desk. No Hurry! Do it Leisure...***



## Final Product



Hermitically sealed (KNAN) Transformer supplied to Australia.



Dry type Transformer





Compact Substation Transformer



Pad Mounted (KNAN) Transformer  
supplied to USA





Oil Cooled Transformer Unit



Cast Resin Unit



Fabrication Unit

## ALL INDIA NETWORK

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