



DISTRIBUTION & POWER TRANSFORMERS TECHNOLOGY

YILDIRIM
TRANSFORMERS TECHNOLOGY

The Republic of IRAQ
The Ministry of Industry and Minerals
Yıldırım Transformer Industry



TRANSFORMER REPAIR, MAINTENANCE & MANUFACTURING

JANUARY 2020 ANKARA/TURKEY





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YILDIRIM TRANSFORMATÖR SANAYİ VE TİCARET LTD ŞTİ., from the day of its establishment, has always adopted the fundamental philosophy of driving toward better through the use of mental, science and technology elements. Vibrant senior management, the dynamism of the young staff and their production capabilities, backed by robust engineering information, help YILDIRIM TRANSFORMATÖR LTD ŞTİ. make a difference in the industry every day.

Yıldırım TRANSFORMATÖR product portfolio, oil-lubricated power and distribution transformers up to 2500KVA in the voltage class of 36kV are exported across four continents to more than forty countries, mainly Turkmenistan, Jordan, Nigeria, Iraq, Egypt.

Yıldırım TRANSFORMATÖR, ISO 9001:2008 Quality Management System performs production within the framework of ISO 14001:2004 Environmental Management System.

We manufacture transformers for many industries as well as electrical distribution organizations to match our customer demand. Some of them include oil chemistry plants, cement plants, iron steel plants, infrastructure facilities, renewable energy projects. Our transformers are used in almost every city in Turkey, in forty-four countries, and in many fields.

Every product is meticulously prepared and controlled from its design to its shipment with our staff and their accessories. We act with awareness of our responsibilities to the environment in all our productions and try to contribute to the protection of our environment and nature by using products with reduced losses.

Our references are the assurance of our commitments. We would be honoured to serve you.

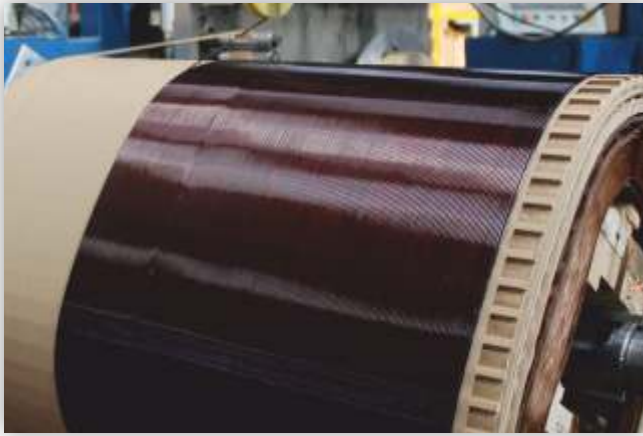
Message of the CEO
The Best Transformer is Forever.

Ümit KARACA, MBA
CEO

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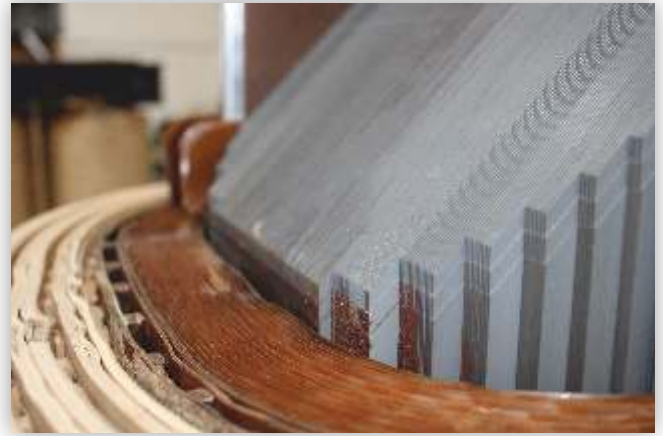
We are the BEST



Windings

They are wound in modern winding machines. Distribution Transformers Windings: The low voltage winding conductor is copper or aluminium. Layer insulation in sheet windings is provided with thermally improved resin paper (DPP). The High Voltage winding conductor is copper or aluminium. Windings are enamelled coated round copper or aluminium wire, insulated paper coated flat copper or aluminium wire. Layer windings are wound with computer-controlled fully automatic machines, layer insulation is created in wedge form with strip-shaped electrical insulation papers (electrical craft, thermally improved craft and resin thermal paper).

This layer insulation structure increases the strength of the winding against excessive voltage pulses and this method leads to the production of solid coils with excellent properties. Power Transformers Windings: The low voltage and high voltage winding conductor is copper. Windings are wound using insulated paper coated copper wire as fold winding, continuous disk winding, helical winding or screw winding depending on transformer power.



Transformer Core

The transformer core is manufactured from cold drawn and crystals oriented, siliceous sheet. It is composed of ZDHK, MOH, M1, M2, M3, M4 and M5 quality electrical silica sheets depending on the unloaded losses requested by the customer. These metal sheets are sliced with zero burrs and lengthened as desired with modern sized cutting machines. It is possible to create the cores in all shapes as step-pap, overlap, 90°cut forms, with and without perforations.

Active part and cap

The core coil and cap assembly are formed in a manner that shall withstand the foreseen short circuit mechanical forces. In standard transformers, the active part including the cap is fastened to the boiler with bolts; there are also active part applications fastened directly to the boiler; depending on the customer request, transformers are also manufactured in this application. All fasteners on the cap and HV bushing arcing horns are made of specially coated material that may be stainless or corrosion-resistant. Cap top arrangement is created according to insulators, hood, accessories, customer requests and specifications.



Boiler

Transformer boilers and caps are manufactured from medium hardened steel. In Distribution Transformers, boiler surfaces also consist of wave wall panels fulfilling coolant function. The pan part of the tank is joined by boiling walls and frame. It is also possible to use radiator groups with various slices as cooling surfaces. Generally, removable radiator groups are used in Power Transformers.

It is also possible to use wave wall panels as coolant surfaces in transformers up to 4000 KVA. Each boiler whose welding is completed is taken to pressure test before being painted. If there are welding leakage points, they are detected and leakages are eliminated. Each boiler and cap whose workmanship is completed is subjected to sandblasting process. The standard sandblasting procedure applied complies with the DIN norm.

If the customer has a special request or specification value related to sandblasting, this can be provided. It is possible to cover the boilers with hot-dip galvanized method when desired. IEC 144 STD depending on customer request. Suitable protective box made of sheet metal can close bushings on the cover or cable boxes can be mounted on transformer side surfaces in accordance with BS2562.



Painting, Drying and Lubrication

Boilers whose production is completed are painted with spray method. The standard painting consists of a primer and two coats of final paint. The total film thickness is not less than 105μ . The standard transformer colour is RAL7033, called cement grey. It is possible to paint in different structures (such as zinc coating), different thickness and different colour codes depending on the customer's request.



Hermetic Type Transformers

Voltage levels: 1kV-6.3kV-15.8kV-34.5kV

Oil-type distribution transformers are manufactured with up to 36 kV high voltage level in 25-2500 KVA POWER RANGE three- or single-phase, lubrication, natural-cooled (ONAN), idle stage changer or automatic stage changer under load, both externally and internally. Hermetic oil type distribution transformers are manufactured with the principles of oil filling under vacuum and balancing oil pressure and atmospheric pressure at the desired temperature and refrigeration oil not coming into contact with the atmosphere.

Hermetic oil type distribution transformers have lower heights compared to the transformers with expansion tank. For this reason, it can be used in smaller areas.

As oil does not come into contact with the atmosphere in hermetic transformers, it does not require an oil change at certain periods as in transformers with expansion tank.

Expansion Storage Type Transformers

Voltage levels: 1kV-6.3kV-15.8kV-34.5kV

Expansion tank transformers are the same as the core and coil structure and hermetic transformers.

As the transformers with expansion tank are open to the atmosphere, air exchange is ensured by taking the humidity of the air thanks to the oil pressure changing due to thermal effects and the silica gel (air dryer) in the transformer tank.



Maintenance, Repair & Services

It offers transformer repair and maintenance services in our factory and engineering and on-site maintenance services outside the factory. These services are provided without compromising our quality with our expert staff and test team.

Our company can provide on-site maintenance and repair service to transformers with various power and voltages.



Transformer Repair

Our company provides transformer repair maintenance and repair services at our factory.

- Renewal of coils and windings
- Renewal of the Isolation oil
- Renewal & repair of core
- Boiler, cap and tank repair
- Paint, vacuum and drying operations are performed at our factory.



On-site Maintenance

The maintenance and repair of transformers in your facilities or mains are carried out on-site with our technical team.

- Transformer tests
- Oil treatment
- Replacement of gasket, packing, etc.
- Elimination of oil leaks
- General transformer clean-up
- Transformer painting is operations are performed at our factory.



Laboratory

At our factory, we perform our testing in the laboratory environment with our experienced teams.

- Measuring Winding Resistance.
- Measuring the voltage reversal ratio and measuring the phase difference.
- Measuring short-circuit impedance and loss of load.
- Measuring the loss and current without load.
- Voltage test applied.
- Induced voltage AA test.
- Measuring Insulation resistance.
- Insulating liquids - determination of the pitting voltage at the power frequency.

ASSETS OF YILDIRIM TRANSFORMER COMPANY

MACHINERY AND EQUIPMENT LIST OF THE COMPANY	UNIT
DYESTUFF MACHINE	1
PROTECTIVE GAS WELDING MACHINE	1
PLASMA CUTTER	1
COMPRESSOR	1
BAND SAWING MACHINE	1
NUTRUNNER	1
OXY-ACETYLENE WELDING KIT	1
PRESSURE WASHER	1
HORIZONTAL CIRCULAR SAW	1
PORTABLE WELDING MACHINE	1
ASSAY BALANCE	1
LYOPHILISATION FURNACE	1
ELECTRICITY TRANSFORMER TEST ROOM	1
ELECTRICAL BOBBIN WINDING MACHINE	2
UNIT OF OIL OUTLET UNDERPRESSURE	1
OIL TANK	1
ARGON TIG WELDING MACHINE	1
ADDITIONAL BOBBIN WINDING MACHINE	2
FOIL WINDING MACHINE	1
OIL TREATMENT MACHINE (1 TON PER HOUR)	1
DC RESISTANCE MEASURING DEVICE	1
OIL PUNCTURE TEST DEVICE	1
SEMI-MANUFACTURED MATERIALS	1
MANUFACTURED (TRANSFORMERS FOR SALES)	1
GENERATOR	1







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