



Power Transformers

from 20MVA to Over 500MVA





**Power Transformers from 20MVA
to Over 500MVA**

Iran Transfo Industrial Group
With **More Than half century of Experience** in
The Production, Manufacture, Installation
and Commissioning of Power Transformers

2024 /2025

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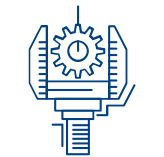
Introduction

Iran Transfo Company was established in 1966 under the license of German SIEMENS Company as a manufacturer of small, medium and large power transformers according to IEC 60076 standards. Since 1999, Iran Transfo Company developed to a group of manufacturing companies to expand his products to design and manufacture substations, transformer insulating materials, transformer bushing, transformer oil and transformer accessories. Currently, Iran Transfo includes 15 independent subsidiary companies.

The general mission of this company is to be the leader in designing, manufacturing, supplying and after-sales services of any types of transformers and its equipment in global energy markets.

The transfer of technical knowledge and advanced technology from companies such as the SIEMENS, VATECH (ELIN) and ABB and its continuous improvement together with more than half a century of successful experience in the design and production of power transformers and substations in more than 37 countries of the world, including South Africa, Ethiopia, Turkmenistan, Tajikistan, Iraq, Afghanistan, Nigeria, Yemen, Pakistan, Bangladesh, Sudan, Lebanon, Syria, Nakhchivan, Azerbaijan, Libya, Jordan, Oman, Cyprus and ... is enough to our customers to rely on Iran Transfo for its reliable and efficient power transformers.





Power Transformers

Relying on its technical knowledge and long experience in the electrical industry, Iran Transfo offers consulting services, design and production of various types of transformers, transportation, installation and commissioning, after-sales services and training to its customers.

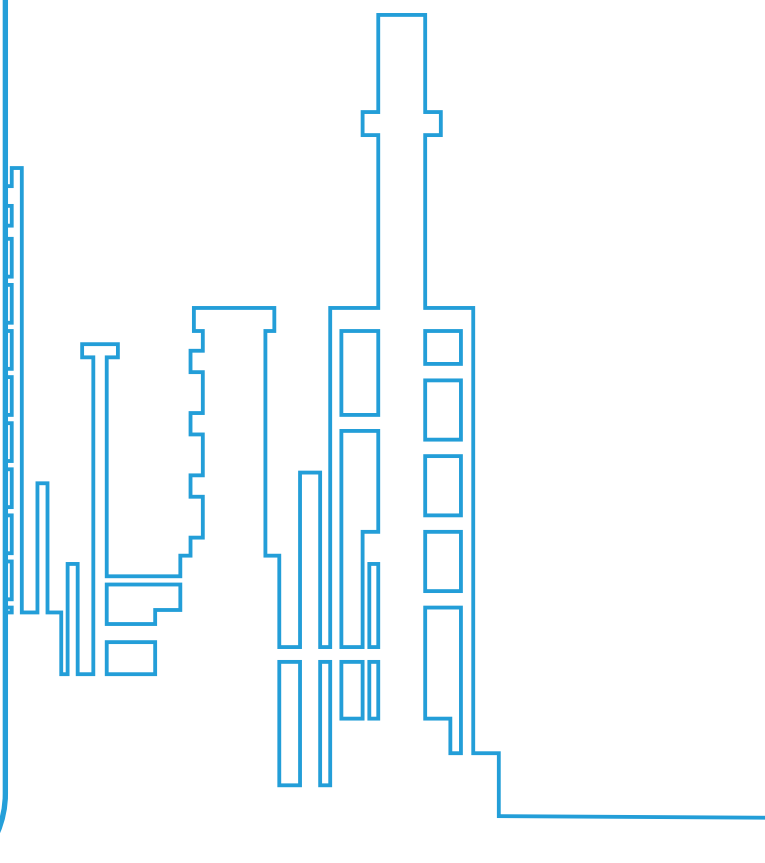
Power Transformers Include

- Generator Step-Up Transformer
- Unit Auxiliary Transformer
- Auto Transformer
- Furnace Transformer
- Phase Shifter Transformer
- Mobile Transformer
- Wind Turbine Transformer
- Rectifier Transformers
- Shunt Reactor
- Series Reactor



Design & Manufacturing Features

Utmost attention to detail and design in accordance with update manufacturing standards ensure high efficiency, long life cycle and low failure rate of our power transformers.



Precise Core Manufacture Ensures Low Losses and Minimal No-Load Noise

The iron core forms the central element of a power transformer. In Iran Transfo High-grade, cold-rolled and laser-treated metal sheets with thicknesses of 0.3 mm or less are precision-cut with computer-controlled machines, to ensure compliance with even the smallest tolerances. Then every individual sheet manually or automated assembles into the core. The “step-lap” technique ensures superior flux distribution at the joints, resulting in exceptionally low no-load losses and minimal noise. Iran Transfo is one of the few transformer manufacturers able to assess material losses during the cutting of core metal sheets. This way, Iran Transfo can verify the quality of the material and ensure the quality is up to the standard that customer expects.

Windings with High Mechanical Strength and Long Operational Reliability

Transformer windings are subject to continuously high electrical and mechanical loads. Disk and cylindrical coils with transposed conductors of copper wire guarantee high mechanical strength and long operational reliability. Disk coils for high voltages consist of continuously wound coils. The continuous winding keeps soldering points to a minimum. Precise control systems ensure constant contact pressure and winding tension while experienced coil winders monitor every working step. Multi-layer windings for low voltages consist of concentrically superimposed cylindrical coils separated by axial oil ducts.

Safe Adjusting of Voltage to System Conditions

Iran Transfo`s transformers allow you to safely adapt the voltage to grid conditions. It can either be changed in the de-energized state by means of a de-energized tap changer or adjusted in steps under load using on-load tap changers. On-load tap changers and optionally de-energized tap changers are fitted with a motorized drive and can be controlled either locally or remotely.

The Tank – Light, Structurally Sound, and Leak-Proof

High-grade, quality-assured tanks define the appearance of our transformers. This protective shell accommodates the core-and-winding assembly and the insulating oil. Together these often weigh several hundred tons. therefore, The tank should not add too much extra weight to the transformer, but at the same time it has to be structurally sound and leak-proof, and must withstand mechanical stresses. First-class corrosion protection is therefore a basic requirement for long tank life.

Assembly: Excellence from The First to The Last Step

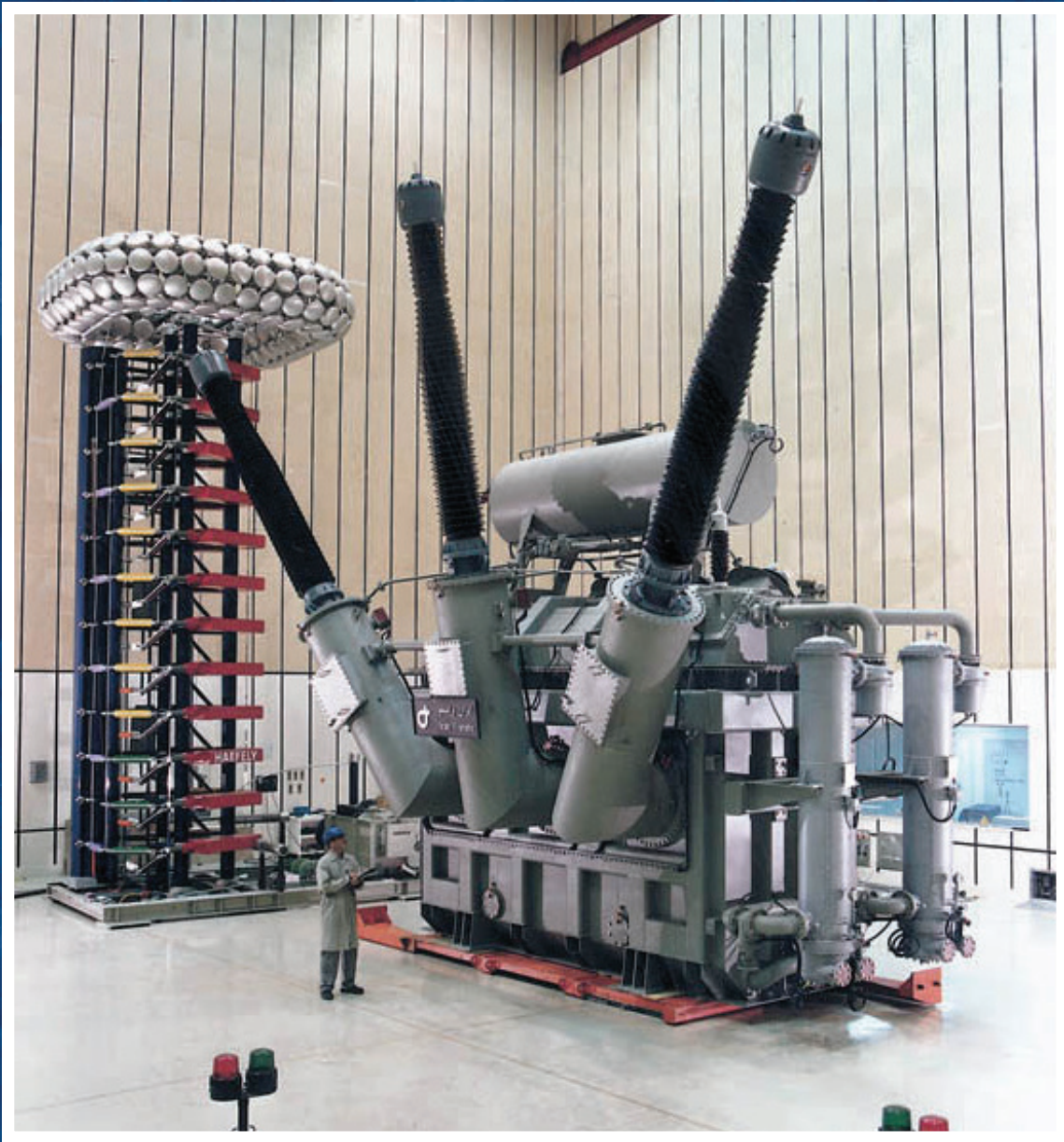
The active part of the transformer consists of core, windings, tap changer and connecting cables. Special attention is paid to the mechanical stability of the windings. A joint press ring for all windings on a core limb minimizes axial shear forces. The active part dries under vacuum at 130°C. After drying, all bolted connections on the core-and-coil assembly, which is still at a temperature of over 100 °C are tested and secured, and the assembly is installed in the tank as quickly as possible.

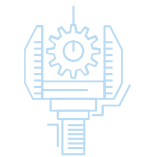
For increased life expectancy, the transformer is filled with insulating oil without delay so that the insulating parts absorb no moisture from the ambient air.

Cooling

During the operation of the transformer, it is critical to control its temperature. Based on the environmental conditions of the installation site and the specifications of each transformer, as well as the customers, needs, different cooling method is required. Iran Transfo provides various methods such as ONAN / ONAF / ODAF / OFWF to cool and control the temperature of transformers.





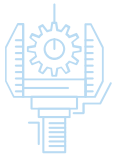


Test

High Voltage laboratories and material laboratory of Iran Transfo are one of the modern and up-to-date labs in the world that have been audited by international institutions and compliance with all the requirements of the ISO/IEC 17025 standard has been accredited by them. All routine, type and special tests of transformers (except the short circuit test) can be performed according to IEC 60076 standard in Iran Transfo's High Voltage Laboratory.

Quality Assurance

Since the quality of products is the most important principle in Iran Transfo, all the processes of supply of materials and equipment, production of transformers are continuously inspected and controlled by the experts of the quality department. To commit to quality without compromise, Iran Transfo's comprehensive quality management system complies with the ISO 9001 standard. This strict quality management system, along with modern testing equipment and experienced personnel, guarantees the efficiency and quality of transformers.



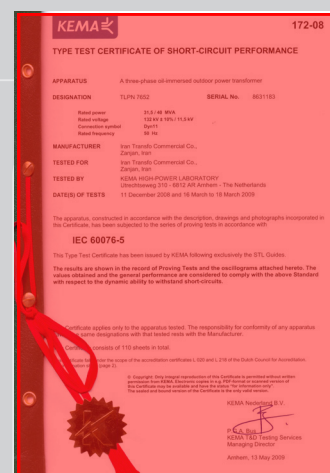
Certificates

To keep up in the course of quality, and in addition to ISO 9001 and ISO/IEC 17025 standards, efforts have been made for obtaining other standards such as environment (ISO 14001), and safety (ISO 45001).

In addition to the above standards, samples of Iran Transfo products are tested at independent laboratories. The followings are examples of the short Circuit tested items at KEMA lab:

- 40/31.5MVA, 11.5/132kV Transformer
- 26/20MVA, 11.5/132kV Transformer

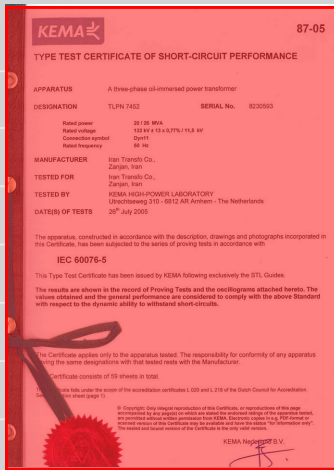
Certificates



31.5/40MVA, 132/11.5kV Power Transformer
Type and Short-Circuit Tests
KEMA Lab.



ISO 9001



20/26MVA, 132/11.5kV Power Transformer
Type and Short-Circuit Tests
KEMA Lab.



International Five Star for Quality



ISO 14001



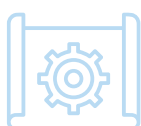
ISO 45001



Research & Development

Knowledge and innovation are the main core of Iran Transfo. We are always trying to push the boundaries of possibility and expand knowledge. Our dedicated special workforce and facilities to research allow us to pursue practical research-related projects. preparing the necessary foundations for the participation of universities and start-ups, industrial partners and investment opportunities will increase our ability to achieve research goals and accelerate the establishment of innovation in Iran Transfo.





Guarantee and After Sales Services

Our power transformers come with an industry leading 18 months' warranty from dispatch time or one year from the time of installation, which can be extended based on the customer's needs.

Iran Transfo provides a complete chain of services to customers, including: technical consulting, installation and commissioning of transformers and shunt reactors, pre-commissioning tests of transformers on site, transformer life cycle measurement, troubleshooting and repair of customer transformers up to 500MVA and 500kV, reconstruction and upgrading of HV substations and training.

Global Experience

Experience in +26 countries for over 58 years, we are a global energy solution.

Our mission is to empower utilities, industries and infrastructure sectors to optimize their transformer assets. We do this by ensuring high reliability and performance, reducing life-cycle costs, and minimizing environmental impact. Our solutions are designed to provide a robust response to the demands of the current energy climate, balancing operational efficiency with a commitment to environmental sustainability.

Competence and advantages like excellent quality, reasonable prices, professional and widespread network of after-sales services helped Iran Transfo Company to become a substantial exporter of transformers and accessories to the Asian and African countries and exported to the following countries as well.



- Afghanistan
- Armenia
- Azerbaijan
- Bahrain
- Bangladesh
- Cyprus
- Ethiopia
- Iraq
- Jordan
- Kenya
- Kuwait
- Lebanon
- Libya
- Niger
- Nigeria
- Oman
- Pakistan
- Qatar
- Saudi Arabia
- South Africa
- Syria
- Tajikistan
- Turkmenistan
- UAE
- Venezuela
- Yemen



Some of Our Projects

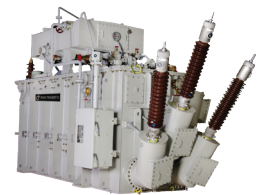
Arc Furnace Transformer Projects

| Product | Customer | Country |
|----------------------------|--------------------------------|---------|
| 178 MVA, 33/0.756-1.253kV | Butia Iranian Steel Company | Iran |
| 120 MVA, 33/1.3-1.7-0.63kV | Khorasan Steel Complex Company | Iran |
| 50 MVA, 20/0.8-0.4kV | Esfarayen Industrial Complex | Iran |
| 30 MVA, 30.5/0.406kV | Mobarakeh Steel Company | Iran |



Mobile Transformers Projects

| Product | Customer | Country |
|---------------------|--|---------|
| 31.5 MVA, 33/11.5kV | General Company of Middle Electricity Distribution of Iraq | Iraq |
| 30 MVA, 132/63/20kV | Yazd Regional Electric Company | Iran |
| 25 MVA, 132/11.5kV | | Iraq |



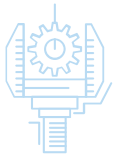
Phase Shifter Transformer Projects

| Product | Customer | Country |
|--------------------|-----------------------------------|---------|
| 17.4 MVA, 20/0.7kV | Etminan Bakhsh Production Company | Iran |



Power Transformer Projects

| Product | Customer | Country |
|-----------------------|-------------------------------------|--------------|
| 500 MVA, 400/230/20kV | Tehran Regional Electric Company | Iran |
| 315 MVA, 400/230/20kV | FARS | Iran |
| 250 MVA, 220/132/11kV | NTDC | Pakistan |
| 200 MVA, 400/66/20kV | NEIRIZ | Iran |
| 200 MVA, 400/230/20kV | TOOS Substation | Iran |
| 200 MVA, 400/220/20kV | High Voltage Electric Networks CJSC | Armenia |
| 45 MVA, 88/11kV | City Power | South Africa |
| 40 MVA, 88/11kV | ESKOM | South Africa |
| 40 MVA, 132/11.5kV | WAPDA | Pakistan |
| 32 MVA, 88/11kV | TANA Power Plant | Kenya |



Shunt Reactor Projects

| Product | Customer | Country |
|----------------|-------------------------------------|---------|
| 50 MVAr, 400kV | High Voltage Electric Networks CJSC | Armenia |
| 50 MVAr, 400kV | Zanjan Regional Electric Company | Iran |



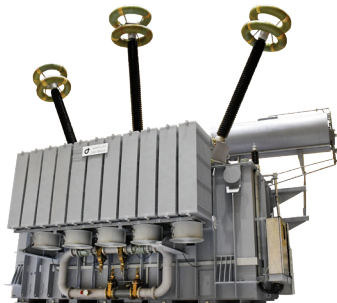
Silent Transformer

| Product | Customer | Country |
|-------------------------|--------------------------------------|---------|
| 50 MVA, 63/20kV (45db) | Mazandaran Regional Electric Company | Iran |
| 50 MVA, 132/20kV (52db) | Kerman Regional Electric Company | Iran |
| 40 MVA, 63/20kV (40db) | Gilan Regional Electric Company | Iran |



Step-Up Transformer Projects

| Product | Customer | Country |
|--------------------------|-------------------------|------------|
| 410 MVA, 21/420kV (ODAF) | MAPNA | Iran |
| 400MVA, 15.75/420kV | HIRBODAN | Iran |
| 230MVA, 15.75/245kV | MAPNA | Iran |
| 385 MVA, 21/420kV (ODAF) | MAPNA | Iran |
| 200 MVA, 15.7/420kV | KARKHE Hydropower Plant | Iran |
| 160 MVA, 13.8/410kV | KARKHE Hydropower Plant | Iran |
| 125 MVA, 230/13.8kV | SANGTUDA Power Plant | Tajikistan |
| 100 MVA, 15.7/420kV | KAROON Hydropower Plant | Iran |



Power Transformer 500 MVA

Voltage Rating: 400/230/20 KV | Power Rating: 500MVA

| Weight | Height | width | length |
|-----------|----------|---------|----------|
| 335000 kg | 10100 mm | 9000 mm | 13600 mm |





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