



Company Catalogue

Transformers up to 1250 MVA - 765kV









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ABOUT BEST TRANSFORMER

Transformers are the most critical elements of the electric infrastructure; their availability and longevity have a major impact on grid consistency. For over 50 years, BEST Transformer has been playing an active role in transformer industry to deliver the most suitable high-quality products to the customers for complete life-cycle support.

BEST TRANSFORMER AT A GLANCE

| | | | | | |
|--|---|---|---|---|---|
|  Facts & Figures |  50+ Years of Experience |  1000 + Employees |  50,000 MVA Production Capacity |  170,000m² Manufacturing Area |  85+ Export Countries |
| Products | Power Transformer – Distribution Transformer – Dry Type Transformer – Special Transformer – Reactor – Arc Furnace Mobile Transformer | | | | |
| Customers | Utilities – EPCs – Industrial | | | | |

With more than 1000 employees and 50,000 MVA production capacity, we are one of the leading transformer manufacturers in the region. We offer a complete range of power and distribution transformers designed to ensure the reliability, efficiency, innovation and sustainability required in utility, industrial and commercial applications.

As of today, we are partnering with leading utilities and industrial companies around the world from Europe to Middle East, Americas, Asia and Africa, and continue to support and service them after delivery and commissioning.

BEST OFFERS RELIABLE, INNOVATIVE, EFFICIENT AND SUSTAINABLE SOLUTIONS FOR TRANSMISSION AND DISTRIBUTION SYSTEMS

| | |
|--|---|
|  <h4>Reliable</h4> <ul style="list-style-type: none"> • 50+ years' experience • In-house experts and know-how • World class references |  <h4>Efficient</h4> <ul style="list-style-type: none"> • Lowest total cost of ownership with highest performance • Optimized designs to lower the losses • Less maintenance requirement |
|  <h4>Innovative</h4> <ul style="list-style-type: none"> • Intensive R&D investments • Flexible design and production cycle • Product portfolio diversity |  <h4>Sustainable</h4> <ul style="list-style-type: none"> • Minimal environment impact manufacturing model • Reduced life cycle costs • Technology advancement |

1966

BEST BALIKESIR ELEKTROMEKANIK SANAYI TESISLERI A.S. is established

1997

Production of 80/100 MVA, 380 kV single-phase power transformers

1991
Production of 100 MVA, 154/31.5 kV oil immersed power transformer

2005
250 MVA 380 kV Auto-transformer production, successfully short-circuit withstand tested at Independent International Test Laboratory KEMA

2009

Production of 310 MVA, 380kV Generator Step-Up Transformer

2010
First R&D Center in Turkey in Energy Business

2013

Production of 167 MVA, 500 kV transformer and 120MVA, 160MVA reactor

2014
Production of world's largest arc furnace transformer 310 MVA - 128.800A per phase

2015
Production of Magnetically Controlled Shunt Reactor 180 MVA, 500 kV unit with 8-legs

2016
Production of 2 units 200 MVA, 330/161 kV Phase-shifting transformers

2018
Production of 450MVA 400/164kV Auto transformers, successfully short-circuit withstand tested at Independent International Test Laboratory KEMA All transformers of Istanbul Grand Airport and Marmaray Tunnel were supplied Most Innovative R&D Center in Turkey (awarded by TTGV)

2019
Production of 502 MVA; 400 kV Power Transformer & Production of 34 MVA; 36 kV Cast Resin Dry Type Transformer

Company Milestones

BEST MADE PRODUCTS



Power Transformers up to 1,250 MVA 765 kV

- Grid Transformers
- Auto-Transformers
- Step Up/Down Transformers
- Railway Transformers



Reactors up to 300 MVAr 550 kV

- Shunt Reactors (Fixed or Variable)
- Magnetically Controlled Shunt Reactor
- Furnace Reactors



Special Transformers up to 600 MVA 550 kV

- Arc Furnace Transformers (up to 360MVA, 36kV)
- Phase Shifters
- Rectifier Combination Transformers
- Traction Transformers



Mobile Transformers up to requirements 100 MVA 245 kV

(higher rated power and voltages available depending on the customer trailer specifications.)



Cast Resin Dry Type Transformers up to 40 MVA 72,5 kV

- Distribution and Power Transformers
- Rectifier Transformers
- Earthing Transformers
- Reactor



Oil immersed distribution transformers up to 20 MVA 72,5 kV

- Distribution Transformers
- Rectifier Transformers
- Earthing Transformers

BEST MANUFACTURING

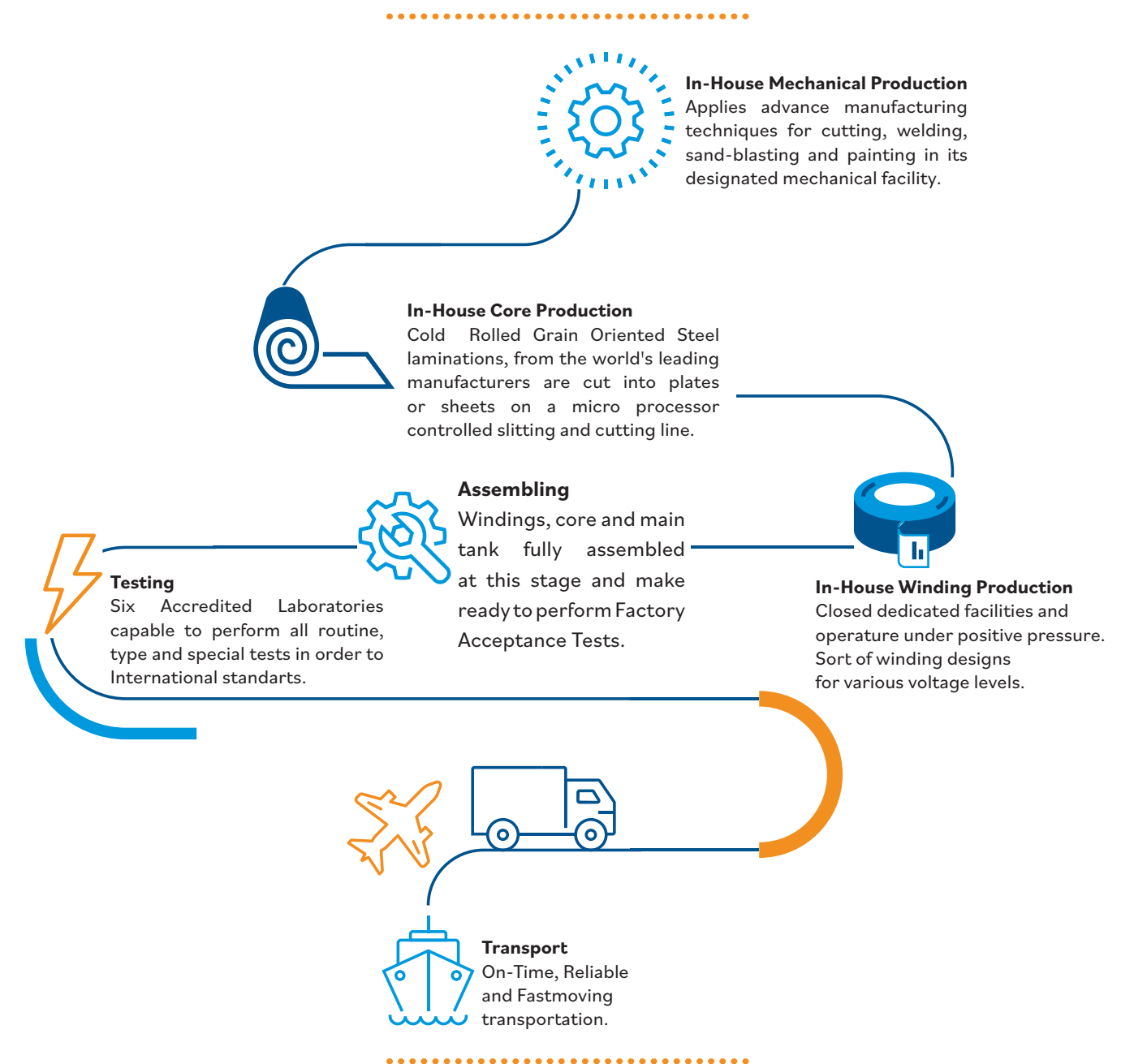


The Definitive Solutions in All Applications

BEST Transformers always find the most appropriate solution to the National Utilities in any cases. Efficiency and stability are the major priorities for a grid system of a country. Whether on low voltage or high voltage levels, plus without any limitation in power level up to 1,250 MVA, BEST Engineering Team creates definitive solution with the assistance of deep experiences and high engineering skills in compliance with customer requirements.

Op-Ex Manufacturing

BEST Transformer is the only capable manufacturer to proceed with inhouse facilities such as transformer tank production factory manufacturing all related mechanical parts like turrets, conservators and flitch plates, core production factory where the mother coils are slit, cut and stacked together and winding workshop where all types of winding can be produced on the vertical and horizontal machines. These basic steps of manufacturing of all stages in one facility provide a better overview of on time delivery, BEST quality level and solution constraint. By the advantage of inhouse manufacturing, BEST Transformer has always been in a fully confident position towards their customers.



The 50,000+ MVA annual manufacturing capacity and the support of 1,000+ employee are the one of the major reasons for becoming the biggest national manufacturer. 24 hours/3 shifts continues working time, separated special divisions and harmony between working groups are combined with BEST Ethics every day and night.

TESTING

We are one of the manufacturers with extensive testing capacity. Today, we can carry out electrical and functional tests at our fully owned 6 test laboratories in accordance with the requirements of recognised standards such as IEC, IEEE, GOST and NEMA. In addition to routine tests, we also execute specific tests such as temperature rise tests, impulse voltage tests and noise measurements. The capability of our testing laboratories is up to 1,250 MVA and 765 kV.

With today's digitalization requirements, we also undertake online testing via live remote witnessing system where our customers can attend the testing virtually.

When required, short circuit withstand test may also be applied to our transformers at international accredited test laboratories such as KEMA or CESI. Until now, we have an extensive transformer list in different power and voltage levels which are all passed the short circuit withstand tests in above mentioned laboratories. Every different transformer in this list is an ornament for BEST Transformers' history and future.

List of Short key Circuit Type Tested Transformers

- 450 MVA, 400 kV - Autotransformer
- 250 MVA, 400 kV - Autotransformer
- 125 MVA, 400 kV
- 100 MVA, 154 kV
- 62,5 MVA, 154 kV
- 25 MVA, 33 kV



QUALITY AND PERFORMANCE

Quality and performance are essential parts of our company philosophy. Every single transformer is unique, designed according to individual factors such as voltage, power rating, climate, network topography, noise level, and many other criteria. Our team is dedicated to deliver the highest quality and performant products to our customers.

Our manufacturing facilities are certified by quality management systems, such as ISO 9001 and OHSAS 18001, among others.

An integrated management system for quality, occupational health and safety as well as environmental management is undertaken to ensure compliance with legal and environmental requirements.



RESEARCH AND DEVELOPMENT

Research and development activities play an important role in our succession, therefore we devote a considerable amount of time and resources to R&D investments. In 2019, our R&D expenditures reached 3% of our turnover, far above the European average of 2%.

Most of our R&D activities aim to improve the utilisation of our in-house developed integrated design software for optimised designs, develop new products to minimise environmental impacts, increase performance and ensure long term durability.

Our R&D team comprise of 70 members, continuously cooperates with local and international technology institutions and universities for creating and developing new, unique and special solutions.

With this enthusiasm and perseverance, our R&D Center was awarded as “Leading R&D Center in Energy Sector” in 2014.



SERVICE

We continue to support you and service your transformers after delivery and commissioning with our service team, accessible 24/7 from all around the world. Our service portfolio allows our customers to maximise the return on transformer investment by ensuring a high reliability and efficiency, reducing life cycle costs and ensuring optimized performance.

In addition to installation and commission services, our professionals provide maintenance and repair services for our owned transformers and those of other manufacturers. We aim to play a major role in increasing the service life of our transformers via long term service engagements. We also provide on-site product and technical trainings for our customers.

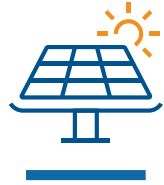
Our services portfolio includes:

- Erection & Commissioning
- Spare parts
- Maintenance & site service
- Repairment
- Training (on site & factory)
- Improvement of efficiency
- Customer claim evaluation



SUSTAINABILITY

Consider for a moment that children must inherit the world and its environment as we adults leave it for them. The ethical and right thing to do, given the real and present hazards facing our world from climate change, is to get a plan for managing the challenge by accepting it as our own and leave our kids with a sustainable future.



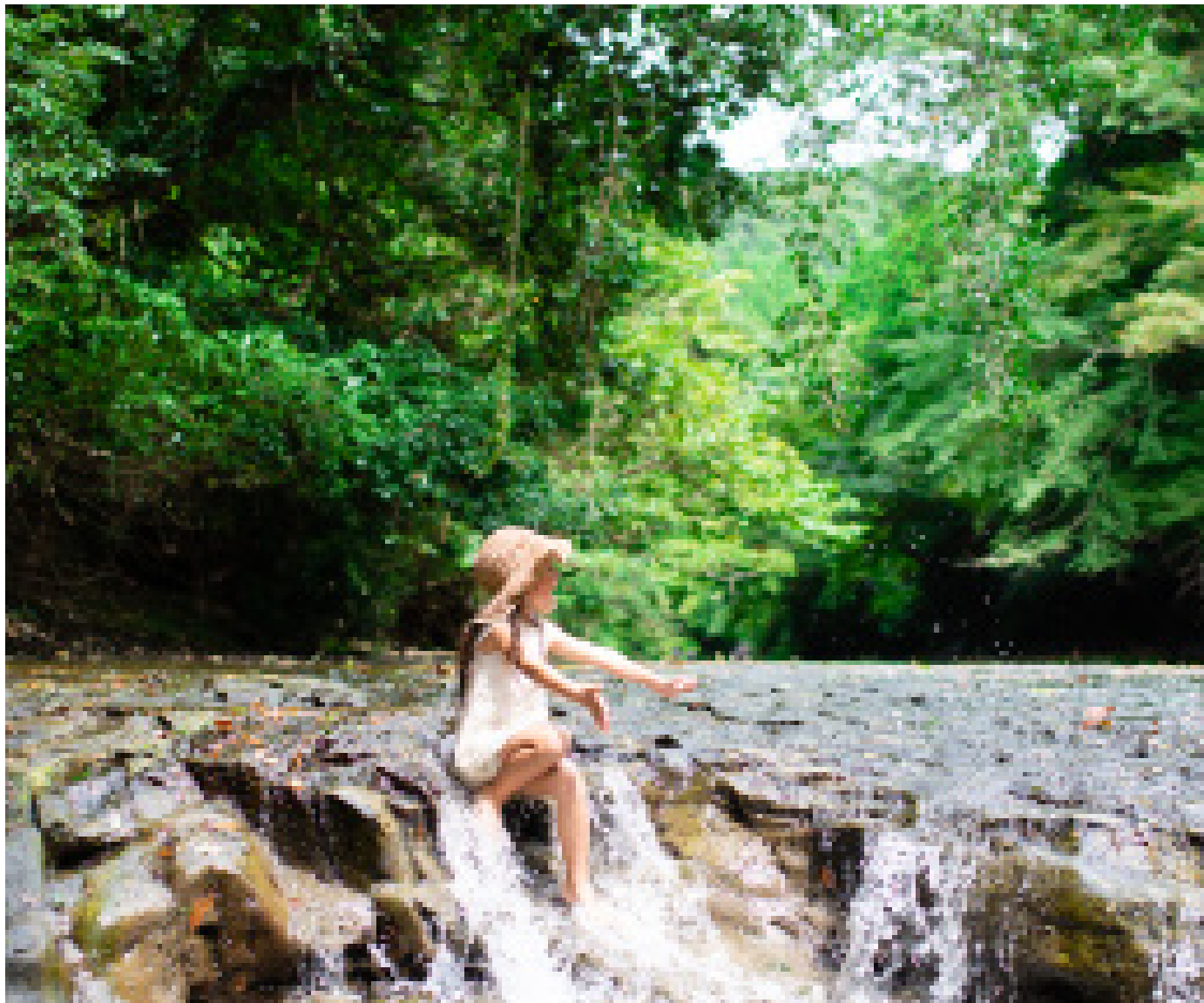
Prioritize energy efficiency and develop a power sector based largely on renewable sources



Secure & Reliable Energy Supply

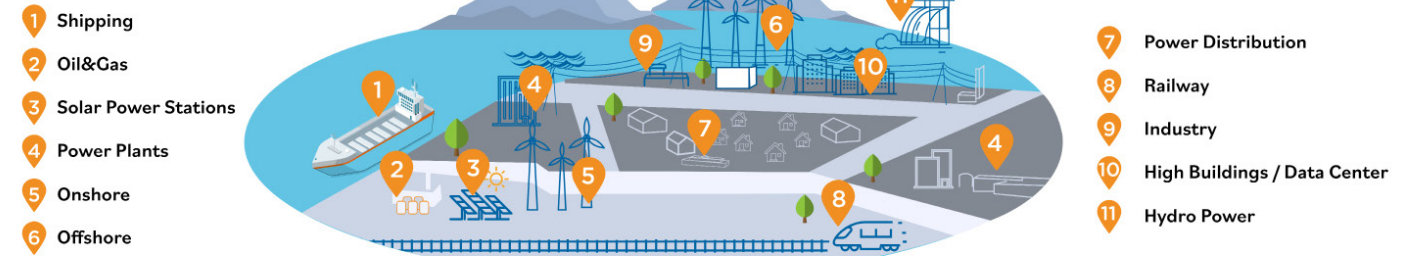


Fully Integrated Digital Solutions



Interconnect Energy Systems

and better link/integrate renewable words to be separated to the grid



Sustainability is one of our essential corporate values which reflects our responsibility towards people and environment. We manage our economic, social, environmental and ethical codes towards innovative transformer solutions, customer-focused approach, employment responsibility and environmental protection. Therefore, we commit ourselves via 3 main pillars for a better world.



United Nations Global Compact

Global Compact is a call to companies to align strategies and operations with universal principles on human rights, labour, environment and anti-corruption, and take actions that advance societal goals. In 2019, we have signed the United Nations Global Compact which is shaping our vision for the future with its ten principles regarding human rights, working conditions, environment and fight against corruption.



Eco-Friendly Manufacturing

We seek to minimize our environmental footprint by applying environmental management systems. In order to support global climate change and attain low emission rates, we apply recycling at factory, we use energy efficiency solutions to lower the electricity consumption and we develop innovative products to reduce environmental impacts of the grid.

Corporate Social Responsibility

We support Türk Eğitim Vakfı projects to ensure equal educational opportunities for students with limited financial capacity. Turkish Education Foundation (Türk Eğitim Vakfı, TEV), a non-governmental organization run for the benefit of the public, founded with the aim of ensuring that successful but financially disadvantaged young people have access to an education.

REFERENCES

*World discovers energy in **BEST** way!*



In 6 Continents and 85+ Countries

Worldwide References from

Utilities, EPCs and Industries



HEADQUARTER&FACTORY

Organize San. Bölgesi
7.cadde No:1 10100
BALIKESİR/TURKEY
T: +90 266 281 10 70
F: +90 266 281 10 02

İSTANBUL OFFICE

Cumhuriyet Cad. Kervansaray Apt.
No: 52/1 Harbiye 34367
İSTANBUL/TURKEY
T: +90 212 291 01 30
F: +90 212 291 09 19

ANKARA OFFICE

TEPE İŞ MERKEZİ – Mustafa Kemal Mah.
Tepe İş Merkezi B Blok No:126-127
Eskişehir Yolu Çankaya ANKARA/TURKEY
06510
T: +90 312 219 22 37
F: +90 312 219 22 57

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 besttransformer

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www.besttransformer.com
sales@besttransformer.com

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