

Presentation of Turkish Companies

*Davetiniz için teşekkürler.
Thank you for your invitation.*



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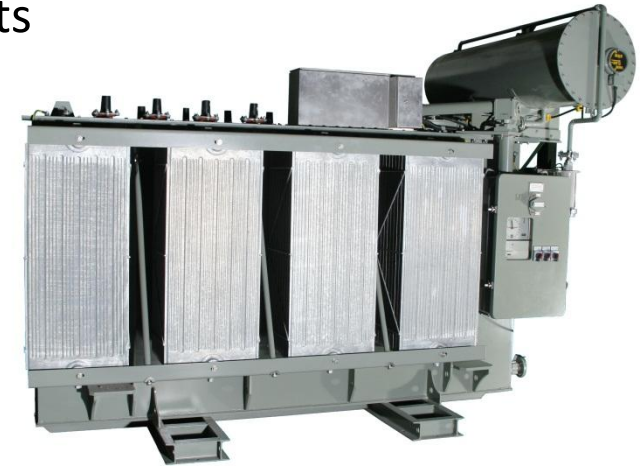
Outline

- Company Profile
- Products and Manufacturing Capabilities
- How Sönmez Trafo can be involved in ESS?
- References
- Questions

General Information

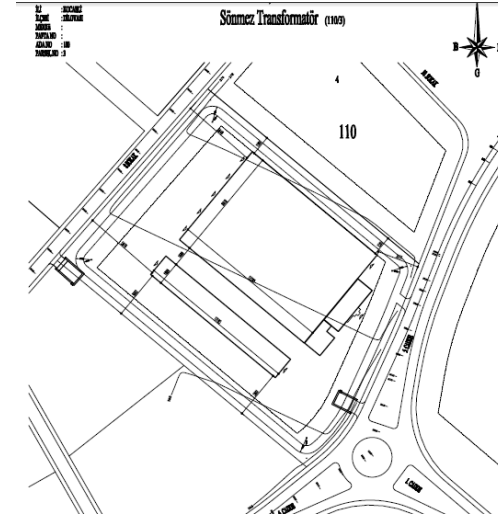
If we would like to summarize Sönmez Transformer with key words:

- Manufacturing according to customer requirements
- Experience more than 35 years
- Quality
- Reliable and Innovative products
- Diversified production
- Modern manufacturing facility 7500 m²
(New production plant on 40.000 m² land)
- 82 employees



New Production Plant Construction

- 40.000 m² land
- Modern Manufacturing facility
- 250-300 employees
- 100 kW Solar Power Generation System
- Yearly capacity: 5100 Transformers/year (estimated)
- Estimated Time of Finish: September.2016



www.sonmeztrafo.com.tr
06.10.2015

We're moving

Quality Standarts

QUALITY IS ESSENTIAL FOR US.

Sönmez Transformer company is a ISO certified company. We apply following systems:

- Quality (ISO 9001)
- Environment (ISO 14001)
- Occupational Health and Safety (OHSAS 18001)





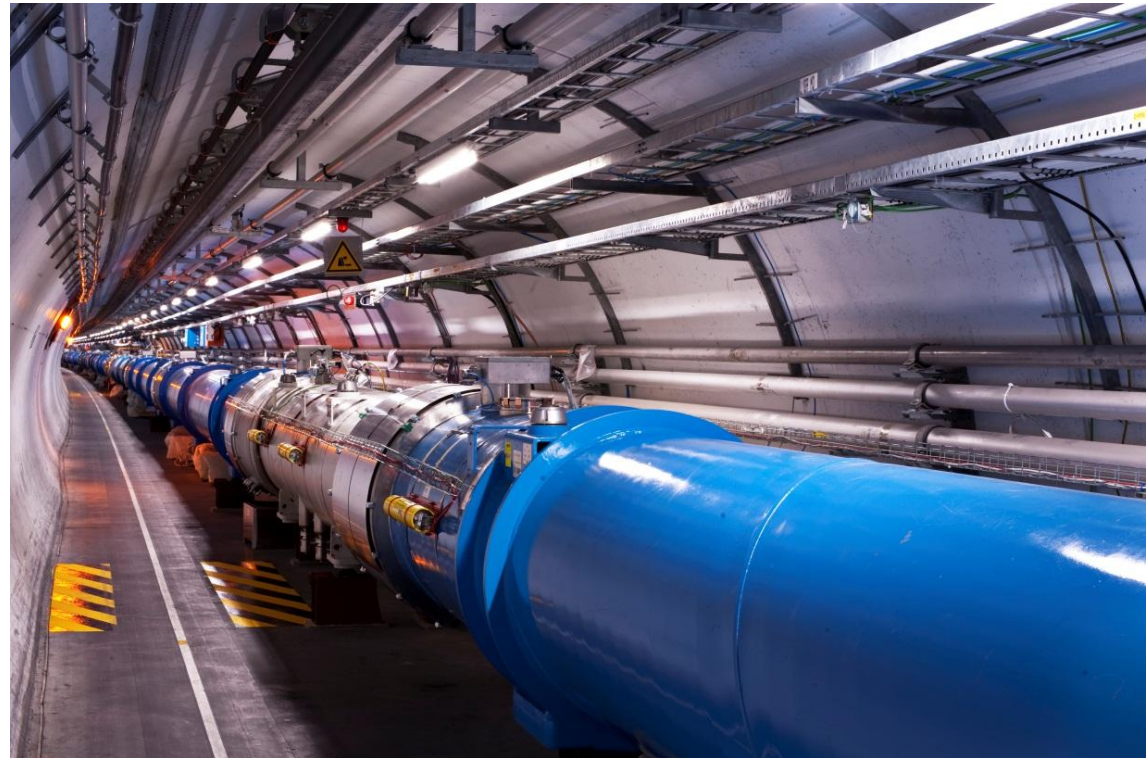
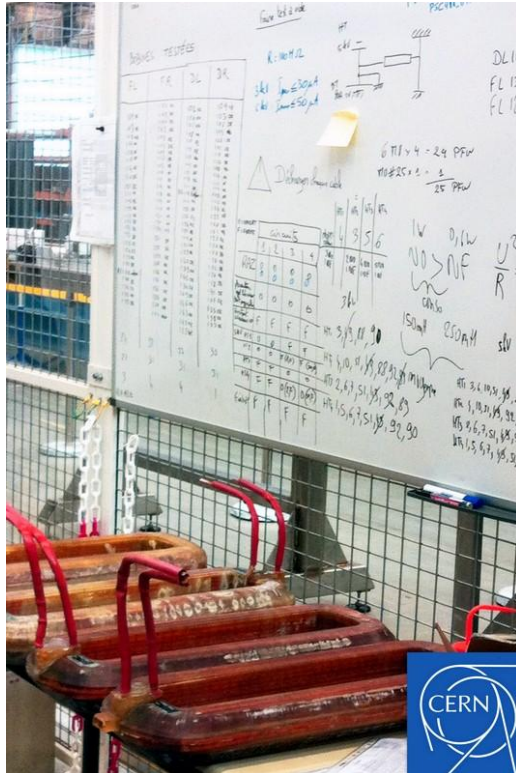
Our Product Range



- **Converter Transformers (35%)**
Rectifier, 6, 12, 18, 24 pulse applications
- **Furnace Transformers (15%)**
DC, AC, LADLE furnace
- **Reactor Applications (10%)**
Series, Motor starting, High frequency etc.
- **Power Transformers (10%)**
- **Others (25%)**
Accelerators Marine Transformers, Traction Transformers, low loss products.
- **Distribution Transformers (5%)**



Sönmez Trafo manufactures for



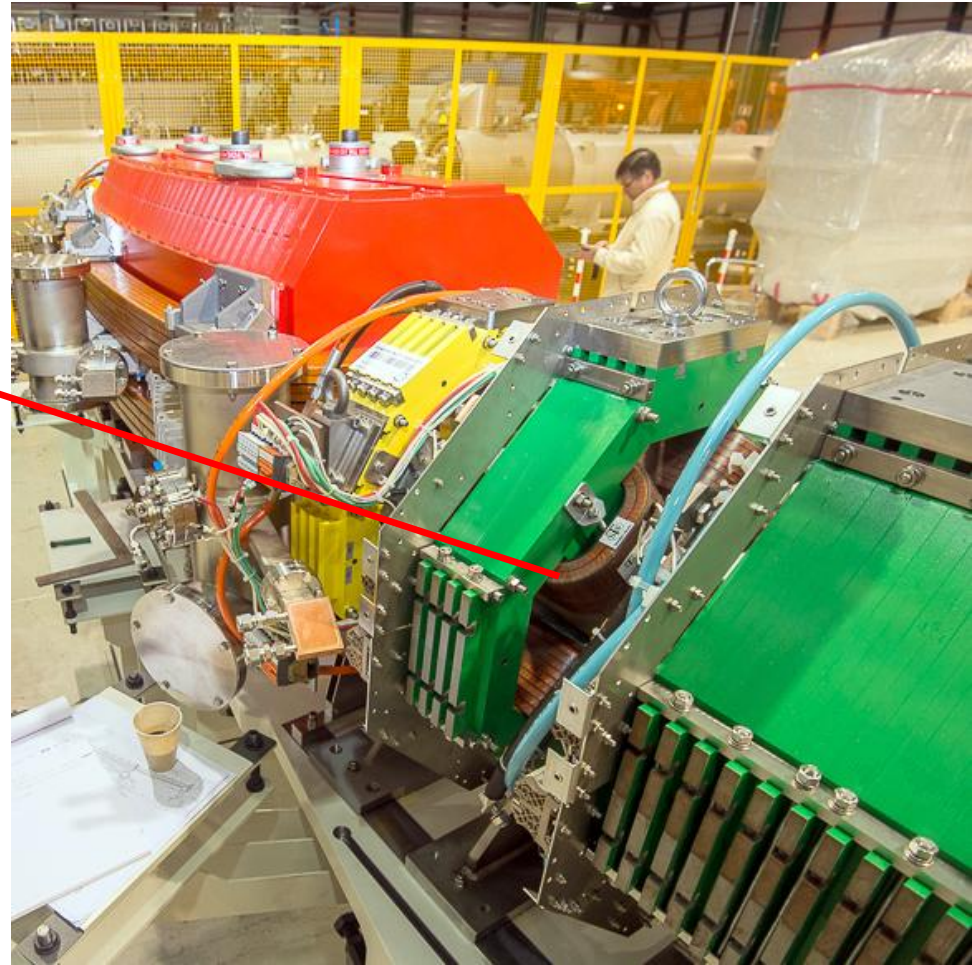
Accelerators

Sönmez Trafo manufactures for

*Supply of all quadropoles
magnet coils for SESAME project*

140 unit of QF Magnet coils

140 unit of QD Magnet coils



SESAME, synchrotron light source



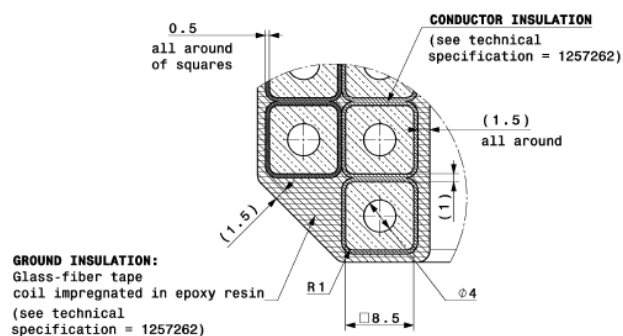
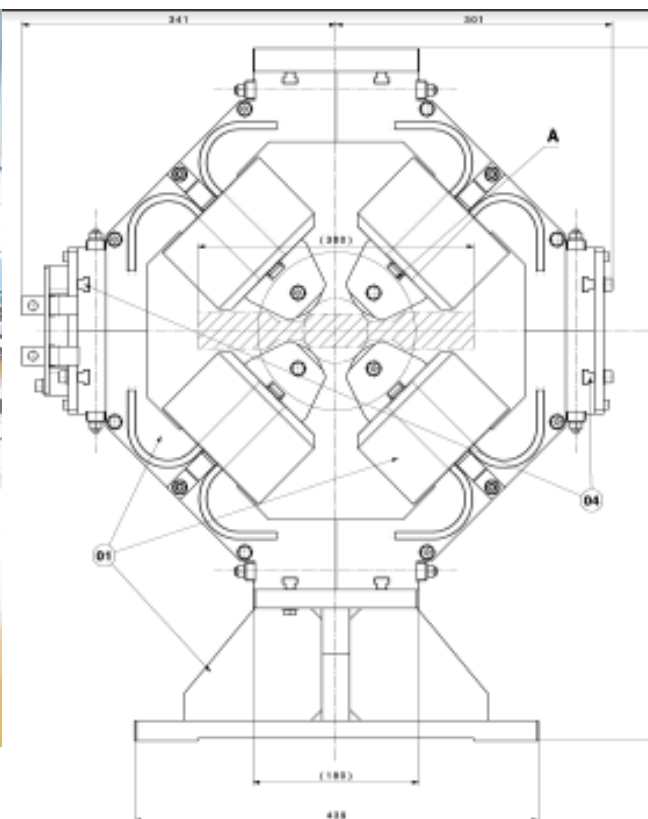
Involved Intuitions:

- Elettra light source
- INFN
- CERN

CERN is responsible for the magnets of the SESAME storage ring and their powering scheme, under a project largely funded by the European Commission ([FP7 CESSAMag](#)- CERN-EC Support for SESAME Magnets).

Main Parameters of Quadrupoles @2,5 GeV

	QF	QD
Number of magnets	32	32
Field gradient [T/m]	16.5	-7.6
Aperture radius [mm]	35	
Field at pole tip [T]	0.58	0.27
Magnetic length [mm]	308	135
Current [A]	238	195
Number of turns (per pole)	34	19
Conductor size [mm]	8.5 × 8.5, Ø 4	
Current density [A/mm ²]	4.0	3.3
Resistance (total) [mΩ]	38	12
Inductance (total) [mH]	21	3
Power [kW]	2.1	0.4
Water temperature rise [°C]	5	5
Pressure drop [bar]	5.0	5.0
Flow rate / magnet [l/min]	6.1	1.4

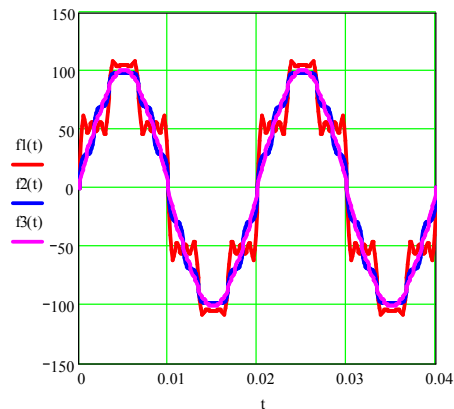


Converter Transformers

*Sönmez transformer supplies
converter transformers for:*

6 Pulse Applications
12 Pulse Applications
18 Pulse Applications
24 Pulse Applications
36 Pulse Applications
48 Pulse Applications

....



Paper



Drivers



Electrolysis



Heavy-Industry

Converter Transformers

*5 MVA Mobile Transformer for Active Power Filter
National Power Quality Project*



Power Transformers



The core is constructed using thin sheets of cold-rolled grain-oriented magnetic silicon steel insulated on both sides. Conventional grain-oriented steel (CGO steel) is used for transformers with normal no-load loss characteristics, while transformers with reduced no-load losses are built using higher-quality HiB steel (usually laser treated).

Low voltage windings are usually made of copper or aluminium sheet conductor (foil). The benefit of this is that any high voltage ampere-turn asymmetry which might occur is compensated automatically by an appropriate internal current distribution in the low voltage foil.

Power Transformers



10 MVA Power Transformer in Lithuania

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Dry Type Transformers



Dry Type Transformers



*2100 kVA Dry Type Converter Transformer
with IP 55 enclosure*



The
University
Of
Sheffield.



*4100 kVA Dry Type Converter Transformer
IP 23 enclosure*



Marine Transformers



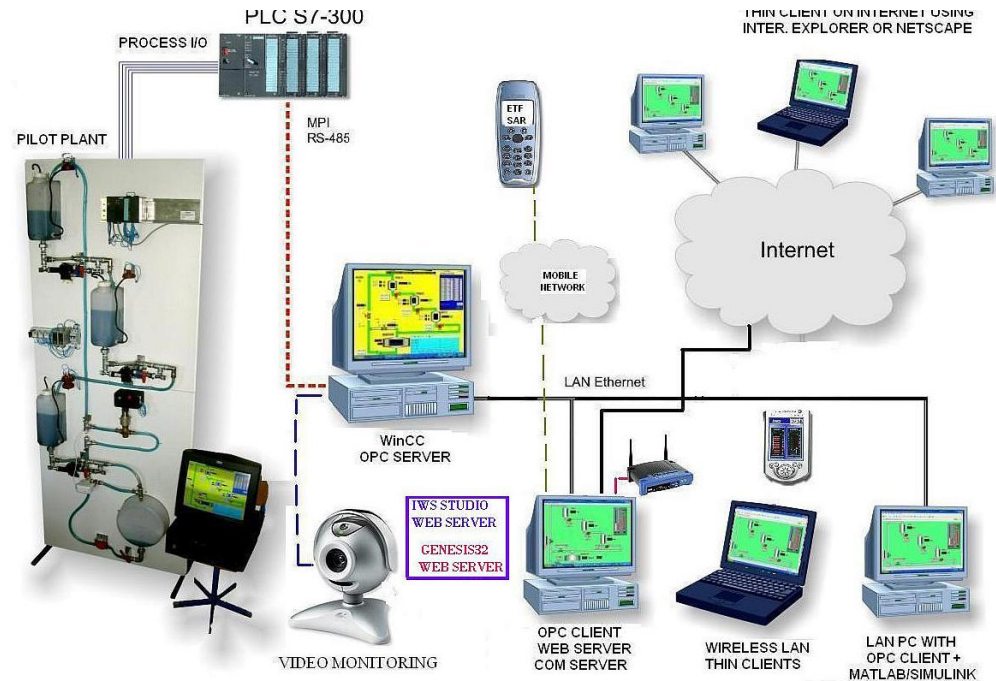
**Power(Converter)
&
Distribution(Service)
Applications**



Marine Transformers

Transformers are electrical machines which are used in marine industry for many years.

Can transformers controlled by computers on the deck of vessel?



Marine Transformers

PC controlled marine transformer with
IP 56 transformer which will be
operated on deck of research vessel.

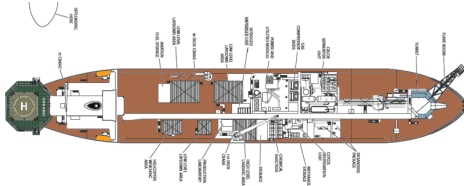
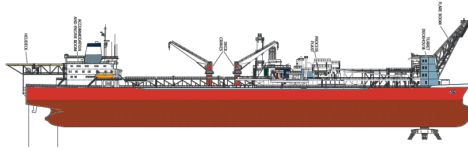


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Marine Transformers



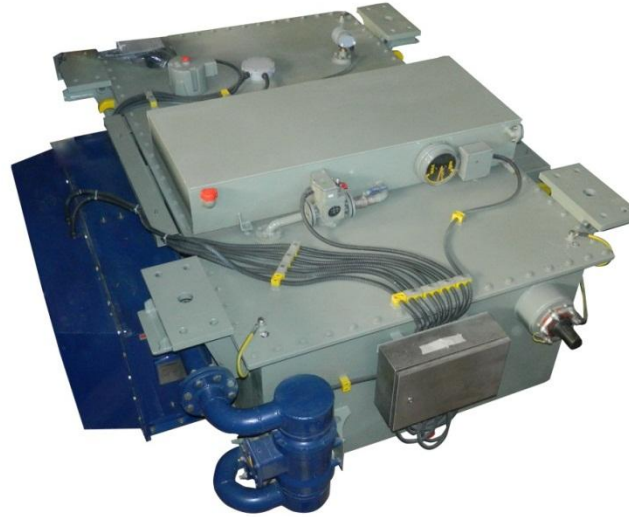
LNG Barge Project



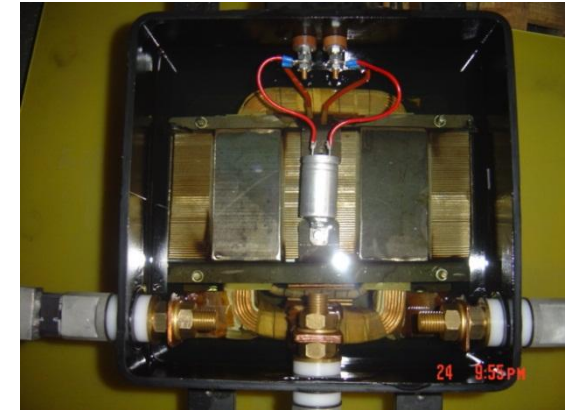
*Supply of all transformers for
Turkish Navy Projects
(Moship 1, Moship 2,
Kuryed1,Kuryed2 Sismik Research)*

Traction Transformers

**Power(Converter)
&
Signalisation
&
Service**



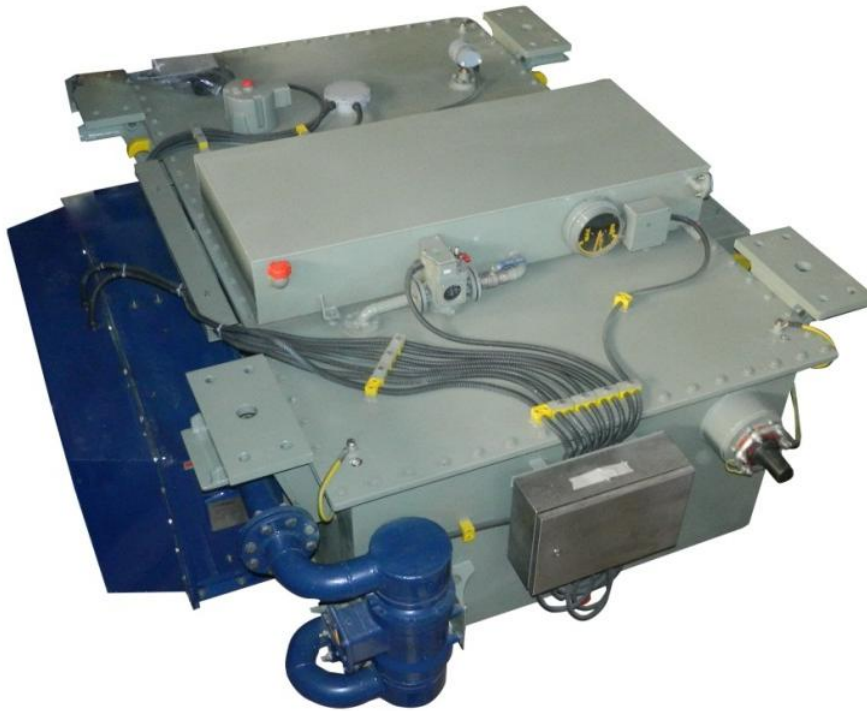
Locomotive Transformer



Signalisation Transformer



Traction Transformers



E1000 National Locomotive Project



TÜLOMSAŞ
Türkiye Lokomotif ve Motor Sanayii A.Ş.

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Renewable Energy Solutions

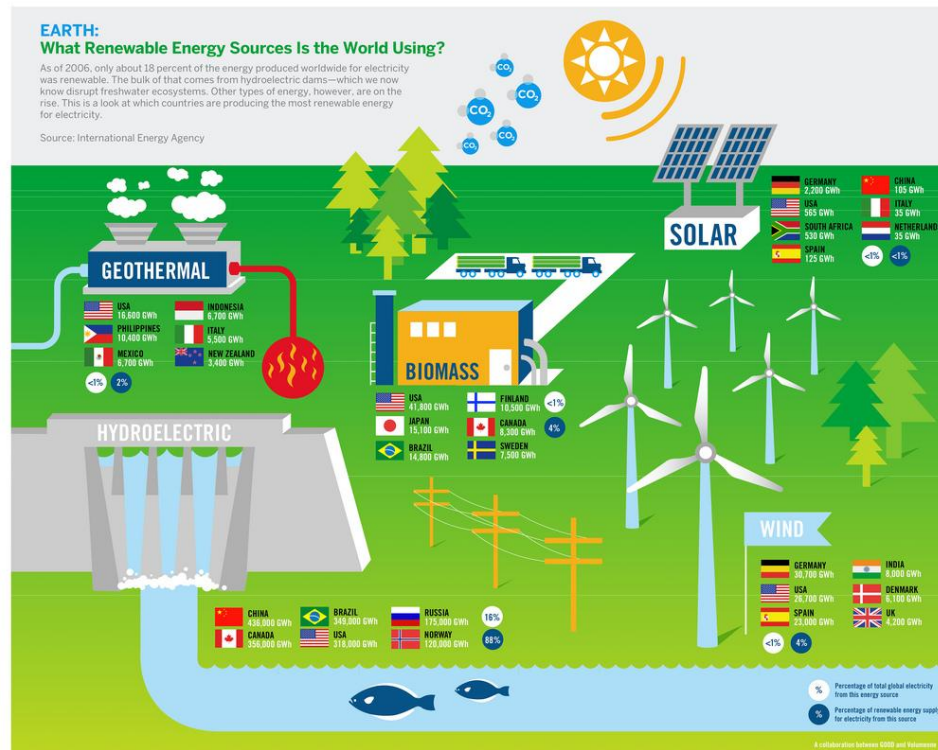
We supply transformers for renewable energy solutions.



Renewable Energy



STS interested all kinds of renewable energy sources.



Magnetic Core Reactors



One
or
Three
Phase

- Harmonic Filter Reactors
- Neutral Earthing Reactors
- Choke
- Inrush Limiting Reactors
- Shunt Reactors
- Starting Reactors
- Line/Load Reactors



Sönmez Trafo manufactures air core reactors for



Energy Quality Systems

Air Core Reactors

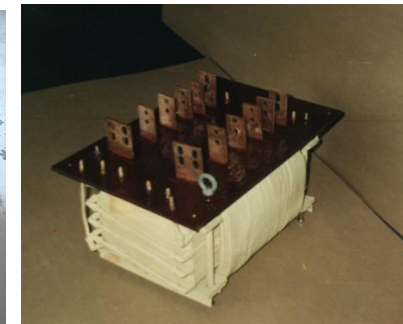
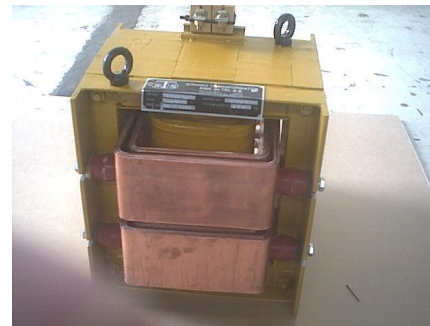
We have manufactured 12 units of Air Core Reactors for Static VAR compensation (SVC).



High Frequency Reactors



- Up to 2 kHz
- Water Cooling
- Special Design



Presentation of Turkish Companies

How Sönmez Trafo can be involved in ESS?

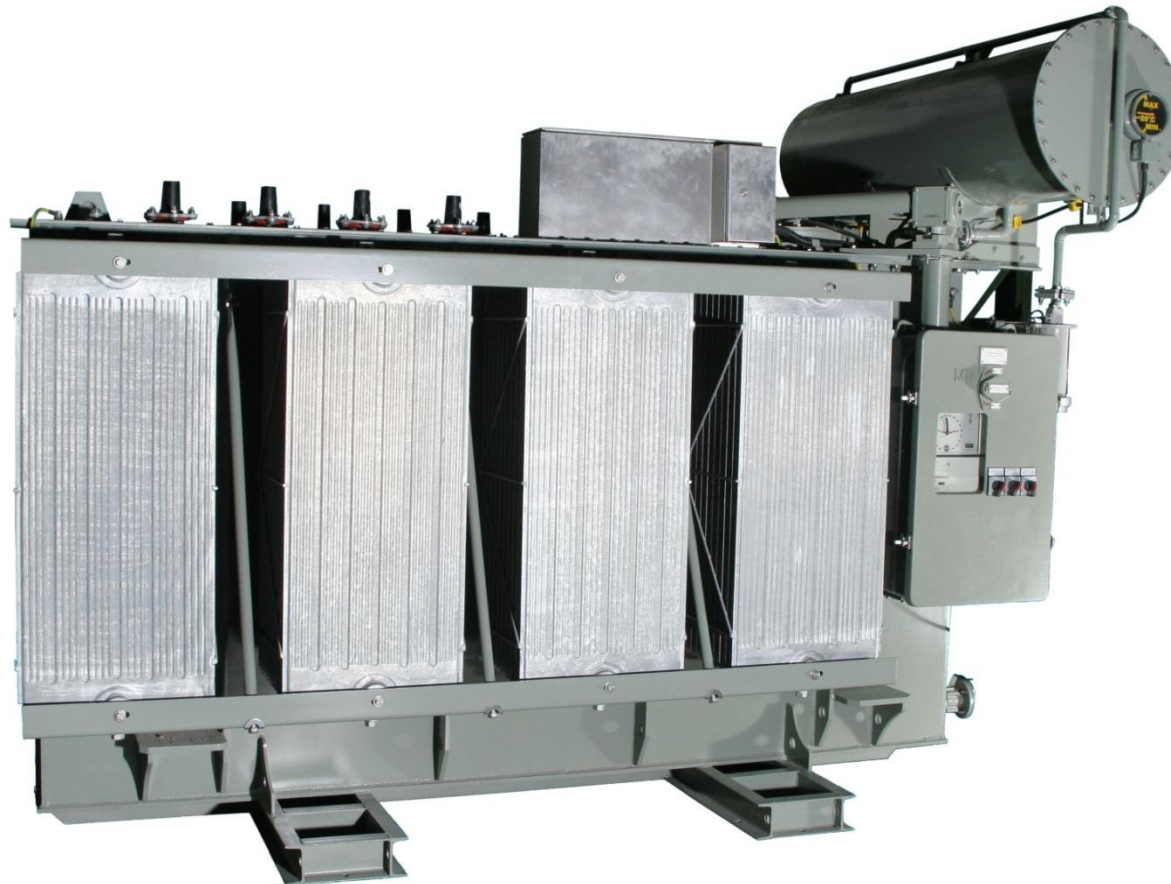
- Converter Transformers for Frequency Converters and Drives
- Power Transformers
- Magnets and coils for the accelerators
- Energy Quality Systems
- Transformers for hazardous areas
- Customized transformers and test transformers

Sönmez Trafo manufactures for



Substations and grids

4000 kVA Power Transformer (Sweden)



Manufactured for: **VATTENFALL** 

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4 MVA Auto-Transformer with OLTC (Estonia)

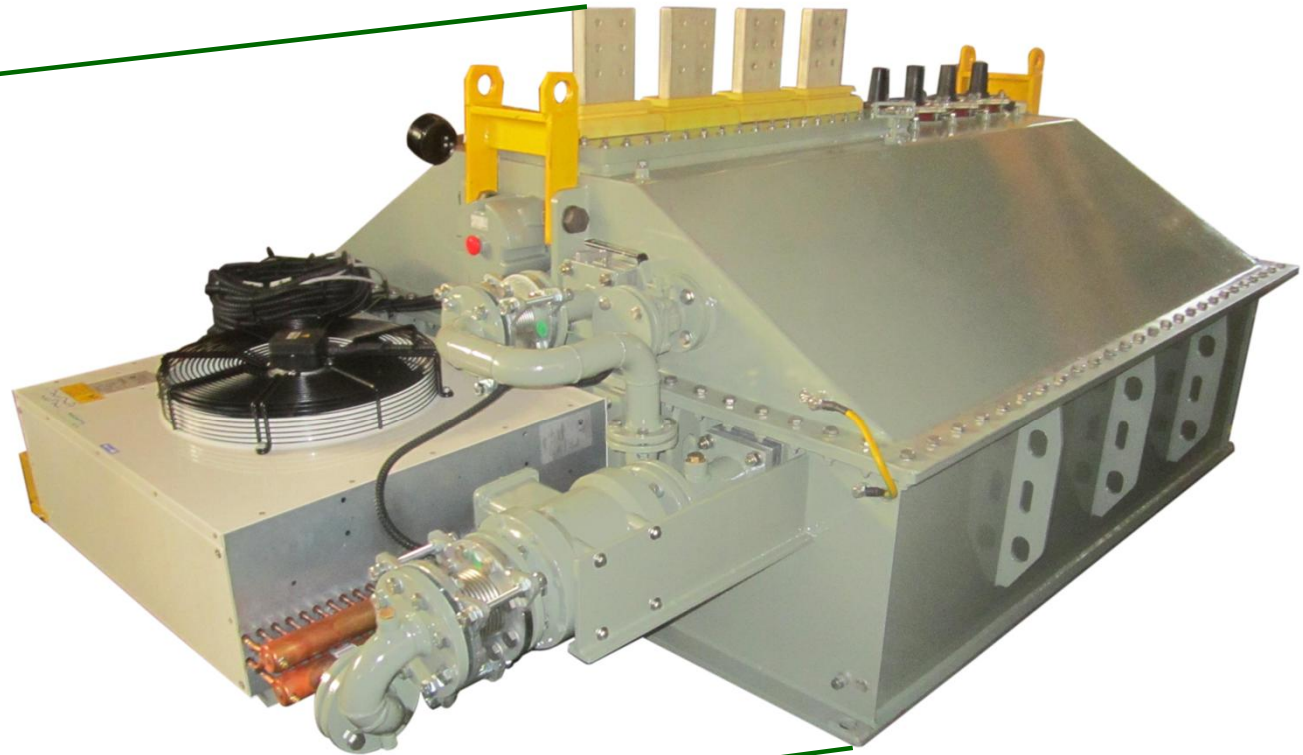


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Custom Design Transformers

5000 kVA, 13,8 kV / 480 V, 60 Hz, Oil Immersed Transformer

1200 mm
Height



Custom Design Transformers



500 kVA 11kV-77 kV / 480 V
Multi-tap Transformer

Custom Design Transformers

100+100 kVA Scott Transformer for **أرامكو السعودية**
Saudi Aramco



Transformer with Motorized Tap changer (USA)



Manufactured for:



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13545 kVA OFWF Transformer (Germany)



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Converter Transformer (Saudi Arabia)



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SÖNMEZ TRAFO

Some of Our Customers



TÜBİTAK



أرامكو السعودية
Saudi Aramco



QAPCO
QATAR PETROCHEMICAL COMPANY



VATTENFALL



PETROBRAS

سابك
SABIC



SIEMENS



Presentation of Turkish Companies

Thank you for your attention.

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