EVA
Elektromekanik

PRODUCT CATALOGUE

TRANSFORMERS & METAL SHEET KIOSKS

www.evaelektromekanik.com

Switching The Future...

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Elektromekanik

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ABOUT US

EVA Elektromekanik is a young and dynamic company founded in 2017 by a team that has years of experinece. EVA Elektromekanik speacilaizes in manufacturing electric distribution products such as MV Switchgears, Concrete Substations, Metal Substations, Pre-Fabricated Substations and Mobile Substations. Also, Eva Elektromekanik manufactures energy quality products which include MV compensation Systems, LV compensation Systems and LV Distribution Panels.

Our facility is located in Kahramankazan, Ankara and it is made of an enclosed area of 4.000m² for LV Panels and MV Switchgears production, a partially enclosed area of 4.000m² for Concrete and Metal Substaions production, an opened area of 5.000m² for Mobile Substation production and an area of 1.000m² for warehousing and mechanical workshops.

MISSION

As EVA Elektromekanik, our mission is to provide high quality customer service to both national and international markets by developing and producing MV Switchgears and Compensation Systems, LV Distribution and Compensation Panels, Concrete, Metal, Pre-Fabricated and Mobile Substations.

VISION

As EVA Elektromekanik, our vision is to be a firm that provides switchgear products to customers in economical, fast, high quality and solution oriented way.

QUALITY POLICY

In line with its quality policy, EVA Elektromekanik aims to be able to supply high quality and competitive products to its customers with 100% customer satisfaction and timely delivery.

In line with this goal;

1. To ensure that our customers choose us again;
   - We are giving an importance to produce our products in a smooth and quality manner.
   - We are taking care of our customers after the sale by providing solutions service requests as soon as possible.
   - We are taking into the consideration our customers' feedback.
2. To make a difference with our superior product and service quality;
   - We are always cooperating with our suppliers in order to ensure the continuity of our quality.
   - We are constantly following the technological innovations.
   - As a solution oriented company with a high level of communication, we are giving an importance to warm relationships with our customers.

TRANSFORMERS & METAL SHEET KIOSKS

OIL IMMERSED TRANSFORMERS WITH CONSERVATOR

This type of transformers is a free breathing transformer as it is equipped with on air cushion under its cover and with a conservator tank in order to allow the oil to expand when temperature changes. Unlike the hermetic type, the oil will always be in contact with the air. Moisture is kept at a bay through the use of dehydrating salts contained in special filters (breather). The tank can be designed in a finned manner or it can be accompanied with radiators. This design applies to all powers, but especially meant for 4000kVA and above. At higher powers and to avoid the direct contact between the oil and the air, a rubber separator (rubber bag) or a nitrogen cushion is used. In addition, this type of transformer is equipped with an expansion tank or conservator mounted above the main tank. The expansion of the insulating liquid is compensated inside the conservator by the raising of the oil level. The oil found on the top area of the conservator tank will be in a direct contact with the air which in this case the contacted air must be in a dry condition to avoid any possible oxidation. To acheive that, the outside air in the conservator shall be subjected to a desiccating device containing silica-gel crystals.

Standard Features

- HV bushings according to DIN 42531 or EN 50180
- LV bushings according to DIN 42530 or EN 50386
- Off-Load and Load Tap Changer
- Tank made of corrugated walls
- Thermometer pocket
- Contact thermometer (for transformers≥630kVA)
- Buchholz Relay (upon request or ≥ 1000 kVA)
- Lifting lugs
- Rating plate
- Earthing terminals
- Hole with cap for filling with oil & Drain cock
- Bi-Directional rollers - 90°

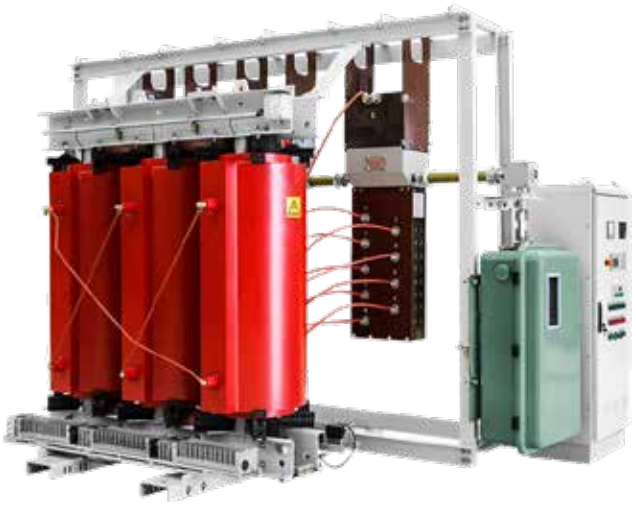
OIL IMMERSED HERMETICALLY SEALED TRANSFORMERS

This type of transformers is the most widely used in the world. These transformers are normally manufactured with a sealed tank equipped with fins that allow the oil expanding when temperature changes. The tightness of the tank is up to 0.5 Bar. In this transformer type, the oil does not come into contact with the air and hence its electrical properties are not compromised and that ensurs a long life span of the transformer. For powers exceeding 3150kVA and for transformers equipped with radiators, the transformer can still be considered as hermetically sealed by means of a nitrogen cushion. For this type of transformers the expansion of the insulating liquid is compensated by the elastic deformation of the oil-cooling radiators attached to the tank. The protection against internal faults is ensured by means of a DGPT device such as: Gas Detection, Internal Over Pressure and Oil Over Temperature.

Standard Features

- HV bushings according to DIN 42531 or EN 50180
- LV bushings according to DIN 42530 or EN 50386
- Off-Load and Load Tap Changer
- Tank made of corrugated walls
- Thermometer pocket
- Contact thermometer (for transformers≥630kVA)
- Safety valve
- Lifting lugs
- Rating plate
- Earthing terminals
- Filling plug & Drain cock
- Bi-Directional rollers - 90°

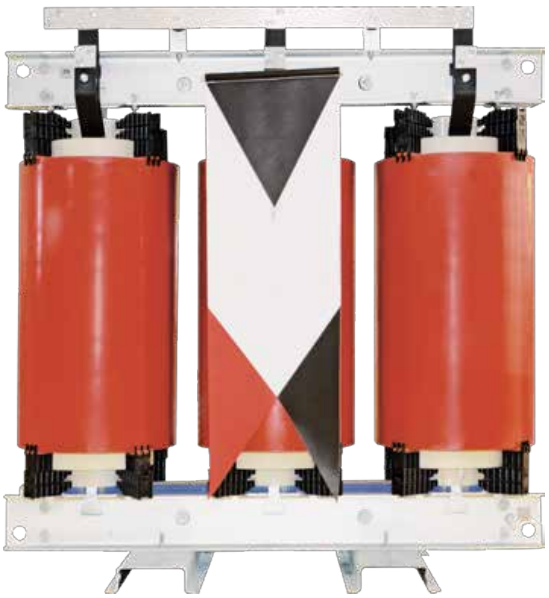
DRY TYPE (CAST RESIN) TRANSFORMERS



Cast Resin or Dry Type Transformers have at least one of the two windings embedded on an autoclave mould at vacuum values close to zero with epoxy resin.The other winding can also be casted in H class. Cast Resin Transformers have reached a high degree of reliability thanks to the technological advances in the recent years. These transformes are manufactured in accordance with E2, C2, F1 standards but also E3 (IEC60076-16) and C4 (GOST-R) standards can be used in the presence of high humidity, high pollution rate and low installation temperatures up to -60°C. For that, the problems related to the risks of fire and emissions of toxic and harmful substances in case of fire are avoided. As they are entirely built with insulating, flame retardant and self-extinguishing materials, they are completely free from all restrictions that should normally be applied to flammable equipment with a danger of spreading fire.

Main Characteristics

Power Rating	:from 50kVA up to 2500kVA
Voltage Level	: from 1,1kV up to 36kV
Frequency	: 50 or 60Hz
Vector Group	:
Number Of Windings	:Single phase or three phase transformers with possibility of star and/or delta connections in any of its windings Possibility to manufacture transformers with primary + secondary, double secondary and any other type according to requirements of customer.
Cooling	: according to EN/IEC 60076 AN and AF



STANDARD ACCESSORIES

- Earthing Terminals
- Low Voltage Bushings
- Off Load Tap Changer
- Safety Valve
- Terminal Box
- Filling Tap
- Conservator (if not hermetic)
- Buchholz Relay
- Lifting Lugs
- Thermometer pocket
- Medium Voltage Windings
- Bi-Directional Rollers
- Magnetic Core
- Oil discharge and extraction valve
- Low Voltage Windings
- Clamps
- Oil level indicator (if not hermetic)
- Medium Voltage Bushings
- Silica Gel Breather (if not hermetic)
- Tank with Corrugated Wall
- Plug-in connectors (upon request)
- Earthing point on tank
- Name plate
- Jacking Pods

ACCESSORIES UPON REQUEST

- DGPT2 or RIS or DMCR (if hermetic)
- LV Extension Bars
- Safety Valve with Contacts
- Winding Temprerature Indicator
- Cable Box (MV / LV)
- Oil Level Indicator with Contacts (ifnothermetic)
- PT100 sensors for oil temperature control (PTO)
- Others (Contact Us)

METAL SHEET DISTRIBUTION & TRANSFORMER SUBSTATIONS (SHEET STEEL KIOSKS)

EVA-MS Metal Sheet Stations (Sheet Steel Kiosks) are produced in compliance with EN 62271-202 standards.Its sturdy structure consists of a 3 mm steel sheet accompanied by an insulating material that makes its design unique. Despite the standardisation at certain types and sizes, it can be produced with very different specifications and sizes according the requirements of the project and customers.

After completing all mechanical and electrical installations and after performing the necessary tests. These substations will be dispatched along with the medium voltage switchgears, transformers, low voltage distribution panels and DC systems to the field in order to start operating the substation with minimal efforts and under the best possible conditions. Moreover, additional services for the substation is provided when needed.

APPLICATION AREAS

- Energy Transmission and Distribution Centers
- Hydroelectric Power Plants
- Solar Energy Plants
- Diesel and Natural Gas Power Plants
- Transformer Substations
- Cement Factories
- Auto Industry
- Petroleum and Chemical Industry
- Iron and Steel Industry
- Rolling Mills
- Pipelines
- Shipyards
- Emergency Situation and Stand-by Power Plants
- Ore Mines
- Railway Substations

EVA-MS METAL SHEET STATIONS (SHEET STEEL KIOSKS) ARE DESIGNED ECOFRIENDLY, COMPACT, AESTHETIC AND RELIABLE IN ORDER TO ISOLATE SWITCHGEAR EQUIPMENTS, TRANSFORMERS AND LV PANELS FROM TOUGH ENVIRONMENTAL CONDITIONS

GENERAL CHARACTERISTICS

- Frame's and roof's thickness are 3 mm, 2 mm respectively and the doors can be produced from galvanized sheet steel or aluminium.
- Ease of transportation due to its light weight.
- It provides a flexibile design with different sizes and designs according to customers' requirements.
- Steel sheets are coated with zinc at a high temperature to avoid the steel from rusting.
- In addition to the standard natural ventilation, additional ventilation in the form of fans and air conditioners could be added when needed.
- Painted with electrostatic powder.
- The used protection class is IP23. Contact us for different requirements.
- Equipped with the necessary internal electrical and grounding systems.
- Could be insulated against heat and cold weathers.

ITS ADVANTAGES

- Strong frame structure,
- The ability to design and manufacture it in different sizes and types and for various applications
- Meets all the substation requirements
- Very short assembling duration,
- Ease of transport and positioning due to its light weight and compact design.
- Compatible with all kinds of different weather conditions.
- It can be produced in a way that it can be equipped with all kinds of medium voltage switchgear, low voltage panel, distribution transformer and other switch products.

GENERAL TYPES

EVA-MS Metal Sheet Stations (Sheet Steel Kiosks) are produced in 2 different types as Distribution Centre and Transformer Centre according to the intended use.

DISTRIBUTION CENTERS:

This type has the medium voltage switchgears (with a capacity ranging from 1 to 40.5 kV), low voltage distribution panels, command and control panels, signalisation system which will be supplied together or separately.

Generally they consist of a single compartment and the number can be increased according to the project.

TRANSFORMER SUBSTATIONS

This type has the medium voltage switchgears (with a capacity ranging from 1 to 40.5 kV), low voltage distribution panels, command and control panels, signalisation system which will be supplied together or separately.

Generally they consist of three compartments and their numbers can be increased according to the project.

These compartments are;

Medium Voltage Switching Compartment : Includes the switchgears up to 40.5 kV.
Transformer Compartment : Includes the distribution transformers up to 2000 kVA.
Low Voltage Compartment : Includes the low voltage distribution, control and command panels.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MOBILE TRANSFORMER SUBSTATIONS

EVA-MS Metal Sheet mobile substations are substations consisting of portable medium voltage and low voltage compartments in addition to the transformer compartment that reaches a capacity up to 4000 kVA. These compartments can be carried on a portable vehicle and transported from one place to another either on a trailer or on a wagon or something similar according to the nature of the pitch, project yard and clients' requirements.

This type of substations is manufactured by taking into account the required specifications, related standards and our previous experiences seeking to meet the customer's requirements after performing the required study and analysis of the field and the transport mechanism adequately.

In addition to equipping these substations with all the mechanisms necessary to operate at a fixed station that includes the mechanical and electrical connections, the movable structure of these substations provides it with ease of assembly and disassembly adding to it an extra advantage.

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