



TRANSFORMER SUBSTATIONS

A Sustainable
Future...



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About Us

Our company designs, offers solutions, sells and markets electrical and mechanical products such as Medium Voltage Switching Products, Medium Voltage Substations (Transformer Module), Mobile Substations, Current Transformers, Medium Voltage Fuse Disconnectors with its experience and high quality understanding.

We offer complete turnkey installation services for the generation of electrical energy from renewable energy sources. For the most suitable energy system solution; we offer engineering, feasibility, project design, implementation, commissioning and maintenance and repair activities.

Our Vision

'Light up the world, add value to the future.'

To provide the world's best products and services with a passion for innovation and optimal operation in line with the vision of becoming the company of the future in the field of electric power generation from renewable energy sources, transmission and distribution of electric energy in the world.

As a company, we will welcome challenges and opportunities.

Our Mission

To inspire the industry and the world with innovative products and designs that adhere to national and international standards, customer-oriented, add value to all stakeholders, sensitive to energy efficiency and carbon emissions.

Concrete Kiosks

MV/LV Concrete Distribution and Transformer Centers are designed and manufactured according to the relevant specifications. Concrete Distribution and Transformer Centers consists three sections: HV switching units section, MV distribution transformer section, LV distribution panel section. Each section has independent doors and ventilation shutters.

Monoblock concrete substations and distribution centers are compact, environmentally friendly, aesthetic and reliable centers designed to isolate metal enclosed switchgears, transformers and LV panels from harsh environmental conditions. Monoblock concrete transformer and distribution centers, which do not require any additional assembly, are produced in accordance with all international standards and in different colors and sizes according to customer request, have also certified their reliability by internationally accredited laboratories.



Areas of Use

- Solar Power Plants (SPP), Wind Power Plants (WPP)
- Substations
- Industrial Plants
- Industrial Zones
- Water Pumping Stations
- Power Plants
- Medium Voltage Distribution Systems
- Generator Cabins



Advantages

- Very flexible division and door positions
- Low operating costs
- Long-term use
- Suitable for relocation
- Easy and Fast Assembly
- Environmentally compatible in structure and appearance
- Resistant to climatic conditions
- Customized design according to needs



Structural Features

Concrete Distribution and Transformer Centers consist of three main sections separated from each other.

1. Low voltage distribution panel section
2. Transformer section
3. HV switching units section

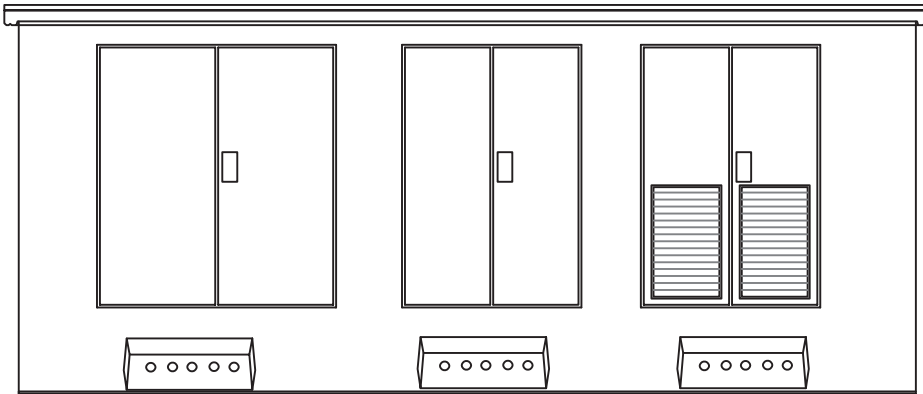
During producing concrete centers, IEC 60529 standard is taken into consideration in terms of access to energized sections and resistance to dust and water in moving sections. C35 quality concrete is used in concrete centers according to TS500 standard. Concrete centers are designed in a water-repellent structure. Ventilation panels on the walls of the center are manufactured in accordance with IP 23D protection degree.

Concrete Distribution and Transformer Centers can be safely transported by the lifting bars on the four corners. The sections are separated from each other by intermediate walls made of concrete.

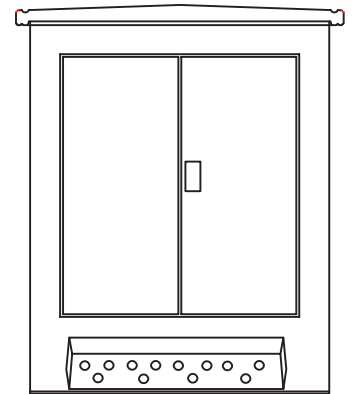
Product Types

Transformer Substations			
Product Type	Length	Width	Height
MBK-2.550	2550	2500	3530
MBK-3.200	3200	2500	3530
MBK-3.800	3800	2500	3530
MBK-4.350	4350	2500	3530
MBK-5.450	5450	2500	3530
MBK-6.000	6000	2500	3530
MBK-6.500	6500	2500	3530
MBK-7.500	7500	2500	3530

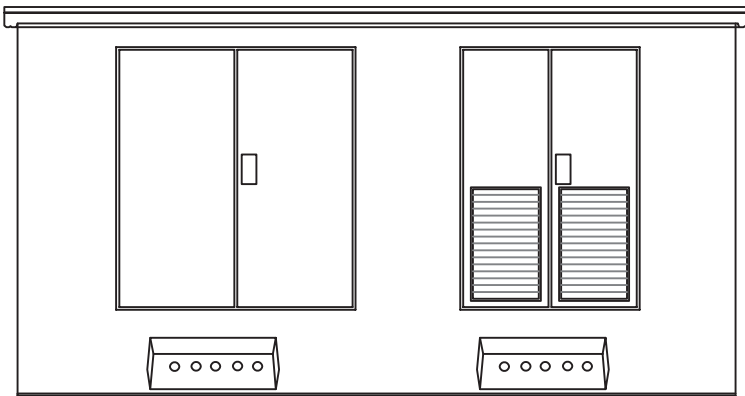




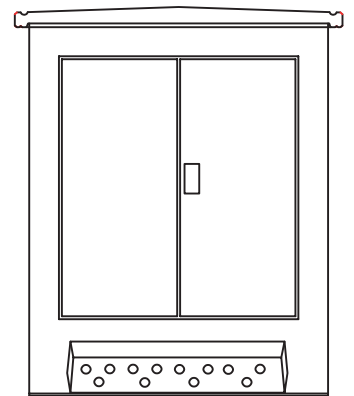
FRONT VIEW



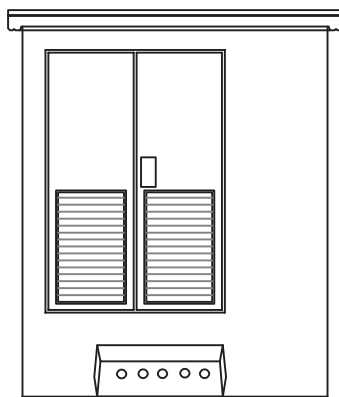
SIDE VIEW



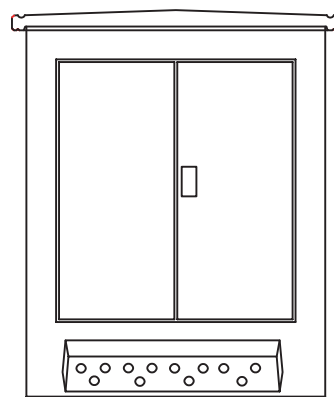
FRONT VIEW



SIDE VIEW



FRONT VIEW



SIDE VIEW

Relevant Standards

IEC 62271-202	TS EN 62271-202	HV/LV prefabricated transformer centers
IEC 62271-200	TS EN 62271-200	HV Switching and control scheme
IEC 60529	TS 3033	Classification of the degree of protection of enclosures
IEC 60787	TS IEC 60787	Application guide for the selection of HV fuses for transformer protection
	TS 822	Galvanized flat and corrugated sheets
EN ISO 1461	TS 914 EN ISO 1461	Hot-dip galvanized coatings on materials made of iron and steel
EN ISO 1460	TS EN ISO 1460	Metallic coatings - hot-dip galvanized coatings on ferrous materials
EN ISO 2409	TS EN ISO 2409	Paints and varnishes - Cross cutting test
EN ISO 4628/3	TS EN ISO 4628-3	Paints and varnishes - Assessment of deterioration of paint coatings - assessment of the degree of corrosion
	TS EN 206-1	Concrete Section: 1 Properties, performance, manufacturing and conformity
EN 206-1	TS 3367	Low Voltage Switchgear and control gear groups Section: 1
IEC 60439-1	TS 708	Concrete steel bars
IEC 60068-2-11	TS 2093 EN 60068-2-11	Salt fog experiment
IEC 60076-1	TS 267 EN 60076-1	Power transformers
IEC61442	TSE EN 61442	Test methods for auxiliary equipment of power cables with rated voltages from 6 kV to 36 kV
IEC61442	TS HD 629.1 52	Test specifications for auxiliary equipment used in power cables with rated voltages from 3.6/6 kV to 20.8/36kV

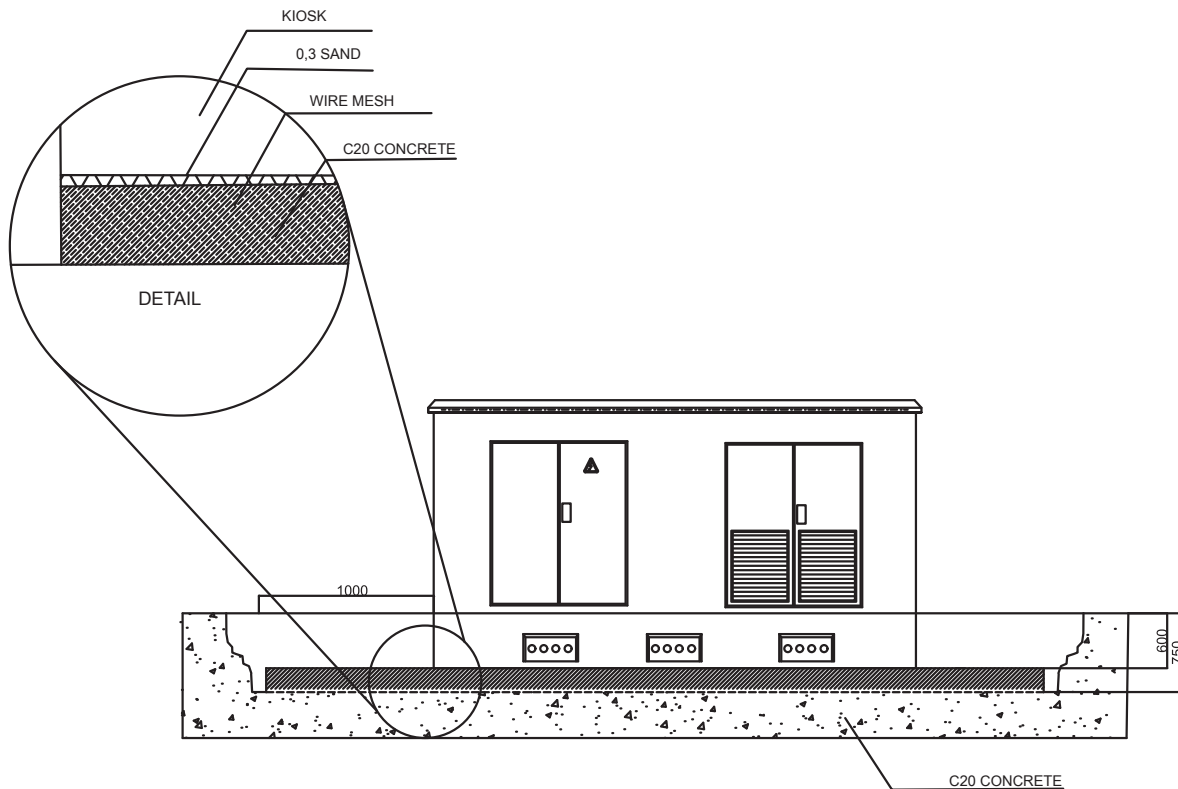
Technical Features

Type	MBK
Rated Voltage (kV)	36
Enclosure Class (IEC 62271-202)	10
Internal Arc Resistance (according to Reach A and Reach B)	16 kA – 1 sn
Standard	IEC 62271-202
Maximum rated power (kVA)	1600
Protection Class	IP 23D

Settlement and Installation

Preparation and Field Installation of Concrete Distribution and Substations

- Ground excavation is made.
- Ground is prepared for deck concrete. Earthing network is made.
- At least 15 cm high deck concrete is poured on the ground. C20 concrete is poured over minimum Q131 x131 mesh steel reinforcement for deck concrete.
- The concrete surface is covered with 0.3 sand in height of 3-4 cm.
- The concrete pavilion is carefully lowered onto the sand-covered deck concrete in accordance with the instructions.
- The grounding connection of the concrete corner is made with the previously made protection grounding.
- Landscaping of the Concrete Distribution and Transformer Center is done.



Sheet Metal Kiosk

MSK Series Sheet Metal Kiosks are transformer and distribution centers manufactured from galvanized and electrostatic powder coated sheet metal in desired dimensions for all application areas. It is a complete package ready for energization, including distribution transformer, medium voltage switchgear, low voltage panels, interconnections and auxiliary equipment. Medifor offers customized solutions with various configurations such as different sizes, body types, layouts and components according to the customer's needs.

Sheet Metal Power Centers are manufactured according to EN-62271-202 standard. The sheet metal kiosks (substation), which can be used in all climatic conditions, meet the medium voltage low voltage (MV/LV), distribution center needs of electricity distribution companies and private projects.

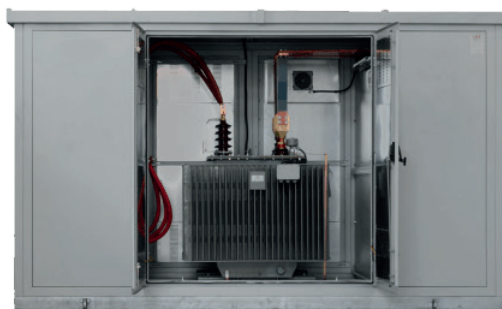
Advantages

RMU power centers have a light structure in terms of size and weight. Therefore, it can be preferred due to its prefabricated feature. In addition to easy transportation and installation, it also adapts to weather conditions at an average level.

- It offers easy installation and transportation features.
- It may cost more than concrete structures.
- It is widely used due to its prefabricated feature.
- Provides ease of use in RMU systems.
- Made of corrosion resistant metal.
- It offers lifting and lowering feature with crane.
- 220V AC heater system is available.
- 220V lighting systems are available.



LV Side



Transformer Side



RMU Side

Mobile Substations

Mobile Substations 36 kV

Mobile substations are HV/LV mobile substations that convert energy into low voltage by connecting to the 36 kV HV electrical network. Mobile substations can be designed up to 1600 kVA. Mobile substations are used in applications such as long-lasting failures in existing substations, substation renovation operations and maintenance in existing substations, meeting the emergency energy needs of organizations such as hospitals and health centers where electricity is needed in the fastest way after a disaster, and operating the equipment used for rescue purposes in search and rescue areas and field lighting. The Mobile Substation consists of three parts.

- High Voltage Switching Section
- Transformer Section
- Low Voltage Section



Mobile Substations 154 kV

Mobile substations are HV/HV mobile substations that convert high voltage (110kV-132 kV-154kV-245kV) from transmission lines to 6.3kV-10.5kV-17.5kV-17.5kV-20kV-34.5kV-40.5kV integrated into the network. Up to 60 MVA mobile transformer distribution centers that can be installed on a mobile platform are produced to meet the temporary, emergency and additional power requirements of the facilities. The mobile substation consists of four parts.

- HV Switching Section (110kV-154kV-245kV)
- Transformer Section
- HV Switching Section (6.3kV-10.5kV-17.5kV-20kV-34.5kV-40.5kV)
- Protection and Control Section









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