

500kV Power Substation

This 500kV power substation is designed for high-voltage power transmission, ensuring efficient electricity distribution. It integrates advanced monitoring and control systems for real-time operation and diagnostics, enhancing grid stability and minimizing downtime.



Overview

Advanced 500kV High-Capacity Substation

This 500kV power substation represents a cutting-edge high-capacity solution designed for efficient and reliable high-voltage power transmission. As a pilot station for three-dimensional information design, it integrates advanced monitoring, control systems, and automated data transfer to ensure grid stability. The system is engineered to meet stringent performance standards, facilitating the delivery of electricity to meet growing industrial energy demands.

Technical Specifications

Rated Capacity

1000 kVA

Transformer Capacity

500 kV

Voltage Level

Core Components

High-Voltage Transformers, Switchgear, Control Systems, Protective Devices, Surge Protection, Grounding Systems, Fire Suppression

Design & Engineering

Design Methodology

- Full three-dimensional (3D) information design
- Automatic electronic transfer of engineering data
- Automated extraction of flat cross-section diagrams
- Automatic Equipment and Materials Table generation
- Terminal block diagram to installation drawing automation

Safety & Analysis

Automated Safety Analysis

- Short-circuit current calculation
- Security clearance checking
- Lightning protection analysis
- Cable laying and inventory design upgrade

Operational Features

System Capabilities

Real-time Operation • Advanced Diagnostics • Grid Stability Enhancement • Minimized Downtime