

The logo for SEPE, featuring the letters 'SEPE' in a bold, red, sans-serif font. A stylized electrical plug icon is integrated into the letter 'E'.

SEPE

PRODUCT CATALOGUE

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Company profile

WHO WE ARE

We provide and distribute the highest range of electrical, electronic, and hydraulic equipment, which offers an answer to added value solutions in the energy, hydraulic and railway industry. The main products and components that stand out are renewable energy, energy storage systems, electrical cables, transformers, generators, hydraulic equipment, railway equipment and components, among other technological solutions that our institution offers with international standards.

Why SEPE?

SEPE is committed to maintaining a high level of supply of its products and services, making strategic and worldwide renewing partnerships, and is committed to maintaining a long-term business relationship with its customers and partners, always promoting the greatest and best customer satisfaction.

Our Mission

SEPE determinedly seeks to generate innovative products and solutions that adapt to the needs of the national market and promoting strategies for the development of its technical team through the training of resources, whose objective is to improve solutions for the total satisfaction of customers and a partner with quality, credibility and responsibility, with a team involved and motivated, thus contributing to the development of the country and guaranteeing the well-being of society.



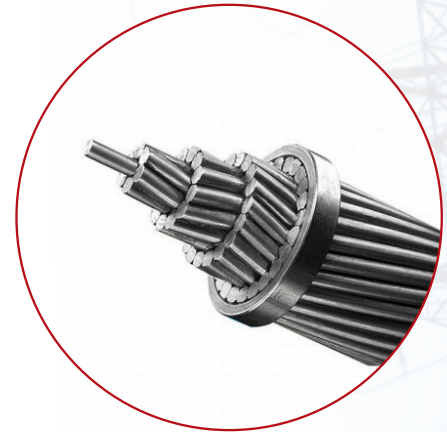
1. Power Transmission Equipment

ACSR (Aluminium Conductor Steel Reinforced)

Aluminum conductor steel reinforced (ACSR) is mainly used in some power industry and transmission lines of the industry, its structure is the use of a single layer of aluminum wire through a number of special processes to be processed. The ACSR is mainly used in some high-voltage lines. It is usually used in some overhead transmission and distribution lines.

AAC (All Aluminium Conductors)

All Aluminium Conductors (AAC) are used in low voltage overhead lines in urban areas and in high voltage substation conducting. They are also used in very cold areas due to low brittleness of aluminium in the MV lines.





AAAC (All Aluminium Alloy Conductors)

All Aluminium Alloy Conductors (AAAC) are extensively used for primary and secondary transmission in bare overhead distribution and transmission lines (11 kV to 800 kV lines) and HV substations. Also, usable in highly polluted industrial areas and coastal regions due to corrosion resistance.

Medium Voltage (MV) Cables

The applications of the medium voltage cables are power supply in inclement weather, primary power supply from mobile substation in natural disaster or unpredictable power outages, power supply for construction of substation, power distribution to isolated areas, applications ranging from 5kV up to 35kV (substations, transformers and medium voltage generator sets).



High Voltage (HV) and Extra High Voltage (EHV) Cables

A high-voltage cable (HV cable) is a cable used for electric power transmission at high voltage. A cable includes a conductor and insulation. High-voltage cables of differing types have a variety of applications in instruments, ignition systems, and alternating current (AC) and direct current (DC) power transmission. In all applications, the insulation of the cable must not deteriorate due to the high-voltage stress, ozone produced by electric discharges in air, or tracking. The cable system must prevent contact of the high-voltage conductor with other objects or persons, and must contain and control leakage current. Cable joints and terminals must be designed to control the high-voltage stress to prevent breakdown of the insulation.



Transformer

A transformer is a four-terminal device that transforms an AC input voltage into a higher or lower AC output voltage. It transforms power from a particular circuit to another with no frequency changes regardless of the voltage levels. Transformers can step voltages up or down with a very small loss of power. Connecting a step-up transformer between the generator and a transmission line allows the creation of a practical design voltage for the generator and at the same time an effective transmission line voltage.



Utility Pole

A utility pole is a column or post used to support overhead power lines and various other public utilities, such as electrical cable, fiber optic cable, and related equipment such as transformers and street lights. They also are useful for eliminating cables and wires from interfering with traffic and people since all the electrical elements are routed up the pole. This method is also an inexpensive option to keep the lines insulated from the ground.





2. Power Distribution Equipment

Transformer

It step up the level of voltage at generation side before transmission and distribution.

In distribution side, for commercial or domestic use of electricity, the transformer steps down the level of voltage. The Current Transformer and Potential Transformer are used for impedance matching.



Insulator

Insulators are used in electrical equipment to support and separate electrical conductors without allowing current through themselves. They provide robust, light-weight support for pantographs, busbars and other high voltage electric equipment on locomotives, multiple units and high-speed trains.

Switchgear

One of the basic functions of switchgear is protection, which is interruption of short-circuit and overload fault currents while maintaining service to unaffected circuits. Switchgear also provides isolation of circuits from power supplies. Switchgear is also used to enhance system availability by allowing more than one source to feed a load. Typically, switchgear in substations are located on both the high- and low-voltage sides of large power transformers. The switchgear on the low-voltage side of the transformers may be located in a building, with medium-voltage circuit breakers for distribution circuits, along with metering, control, and protection equipment. For industrial applications, a transformer and switchgear line-up may be combined in one housing.



Low Voltage (LV) Cables

The insulation materials used for the power low voltage cables are PVC, XLPE and HFFR / LSOH. Power LV cables are used in many applications including infrastructures, automation, lighting, sound and security, video surveillance and fire alarm.



Aerial Bundled Cables (ABC)

Aerial Bundled Conductor (ABC) cables can be used to replace bare conductor cables in overhead distribution systems. It is ideal for use in urban areas with congested power distribution and narrow lanes and by-lanes. It provides a higher level of safety in difficult terrain including forest areas, coastal areas, and hilly areas.



Polyvinyl Chloride (PVC)

Polyvinyl Chloride (PVC) insulated and sheathed cables are used in a wide variety of applications from fixed wiring to flexible installations. As PVC is a thermoplastic polymer, PVC properties make it suitable for applications where the cables may be exposed to high or low temperatures (including use of arctic-grade PVC for extreme low conditions), or where protection against UV light is required to avoid degradation. PVC insulation is frequently used owing to its good insulating properties but low corona resistance, and is best suited for low and medium voltage cables and low frequency insulation requirements.



Three Phase Smart Energy Meter

The three phase smart meter is designed for the accurate metering of commercial and residential customers. The communication module is exchangeable, supporting Power Line Carrier (PLC), Radio Frequency (RF) and General Packet Radio Services (GPRS). The meter can be used in STS compliant prepayment mode or post-payment mode with or without communication module.

Single Phase Energy Meter


Single phase energy meters are most commonly used as Alternating Current meters in domestic and industrial installations. These energy meters measure electric power in kilo-watthours. These induction motor energy meters are designed for single phase electric circuits.



Electricity Meter Box

A meter box is a device that houses an electrical meter. An electricity meter box provides a secure waterproof container for electrical equipment. There are different styles of meter boxes depending on one's preferences.





3. Electricity Generation

Generator

A generator is a device that converts motive power (mechanical energy) into electrical power for use in external circuit. Sources of mechanical energy include steam turbines, gas turbines, water turbines, internal combustion engines and even hand cranks. A generator converts mechanical energy to electricity for transmission and distribution over power lines to domestic, commercial, and industrial customers. Generators also produce the electrical power required for automobiles, aircraft, ships, and trains.



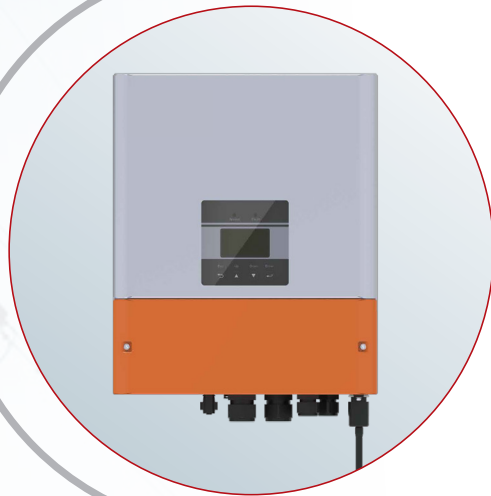


4. Energy Storage Solution



Storage Solution

The Storage Solution consists of battery management system (BMS), 5KW - 1MW power conversion system (CPS), center control system, temperature control system and fire extinguishing system. Our PCS is a flexible and dynamic system which meets all of our customer's needs. The 1MW PCS is comprised of two inverters, each rated 500KW. When coupled with storage energy, the ESS can charge the storage device from utility source or discharge the storage device to the utility source. Our ESS can operate independently, supplying power to a load that is not connected to the grid. Alternatively, the ESS can also operate as a UPS to provide a dependable back-up power.



AC Coupled Inverter

AC coupled storage solution is one of the most cost-effective solar and battery storage solutions in the market. By adding the AC coupled storage solution an existing on grid system, one can store extra solar power from a home solar system into batteries during the day - and use it later when necessary. The system enables energy-efficient retrofits of existing PV systems, thereby providing the lowest lifetime energy costs for refurbished customers.



5. Renewable Equipment

Photovoltaic Module

Photovoltaic cells use sunlight as a source of energy and generate direct current electricity. There are many practical applications for the use of solar panels or photovoltaics. It can first be used in agriculture as a power source for irrigation. In health care solar panels can be used to refrigerate medical supplies. It can also be used for infrastructure. PV modules are used in photovoltaic systems and include a large variety of electric devices.



Photovoltaic Module Mounting Structure

Mounting structures are the backbone of a solar power plant as they provide support to modules. These support structures raise solar panels at appropriate angles to ensure that they receive maximum solar irradiation. Without these, solar panels are not able to capture the required quantum of solar radiation for optimum solar generation. Proper alignment and arrangement of mounting structures are one of the key indicators of engineering, procurement and construction (EPC) contractors' competency.



6. Water Meter Equipment

Smart Water Meter



Smart water refers to a network of smart water meters and intelligent infrastructure deployed as part of an advanced metering infrastructure (AMI) system. It provides continuous and historical data, while improving system intelligence, visibility, automation and control to help water utilities optimize their water network. Smart water metering systems are available for utilities of all types, regardless of population, location, city size or existing infrastructure. Smart water metering systems are comprised of meters, endpoints, a data collection system and system management. Water meters measure water flow 24/7. The accompanying endpoints collect the flow data and securely transmit it to the data collection system at routine intervals. Within the smart water data collection system, utilities can monitor their network to identify leaks, address issues and bill customers more accurately.

NB-IoT Water Meter

NB-IoT Smart Water Meter is a stand-alone battery-powered solution with NB-IoT connectivity designed as accurate water consumption monitor with embedded analytics as well as a leak detector. NB-IoT Smart Water Meter solution includes a physical device and a mobile application. Mobile application with user-friendly interface allows an installer to configure the device according to desired functionality and to get data.



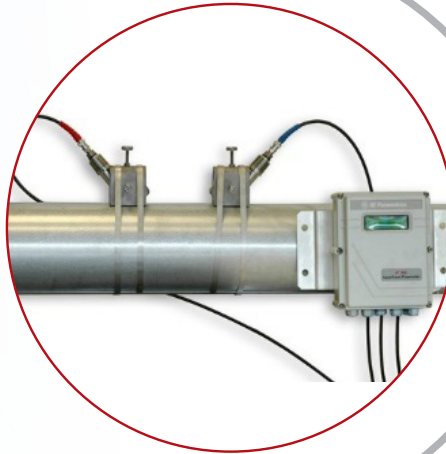
GPRS Water Meter

A technology which automatically collects metering data and transfers that data to a central database for analysis, History and Record purposes. Detailed water usage data can be collected continuously at regular intervals and can be read remotely via an automated process, with the usage data sent to the utility's management and uniform water distribution & analysis. The GPRS Wireless Remote data logger uses a GPRS enabled SIM card to communicate with the server.

Industrial and Domestic Ultrasonic Water Meter

Ultrasonic water meters are commonly applied to measure the velocity of water that allow ultrasonic waves to pass.

Ultrasonic water meters use sound waves to determine the velocity of a fluid flowing in a pipe.



Industrial Electromagnetic Water Meter

The electromagnetic water meter is specially designed for the water supply enterprise and is designed for the water industry. It can optimize the water supply and ensure accurate water trade measurement and settlement. The water meter is used in a highly polluted environment, conforms to the water meter environment, all-pass structure, zero pressure loss, no wear; ultra-large range ratio, small flow sensitivity and large flow measurement are far superior to other water meters.



7. Railway Equipment



Rail track

The rail track is the element of the superstructure that makes up the running surface. The rail track is the element that allows the rolling stock to be transported on wheels. The norm for receiving the rail tracks being adopted is the UIC (International Union of Railways).

1. Rail track classification:

1.1 As for the length of the rail.

- The most commonly used standard rail track currently has a length of 18m.

1.2 Regarding the weight of the rail track.

- The rail tracks are classified by their weight per meter (kg / m). The number that identifies the weight per linear meter

Fixing Accessories

Fixing accessories are elements that have the function of securing the rail track to the sleepers. The e-clip 20 used is an elastic fastening element, which allows the rails to be fixed in an easier way. Through folding and distortion, the rail clip can exert pressure on the rail track, which prevents longitudinal movement of the rail track, either by temperature changes or by vibration.



Rail Pad

Rail pads, originally called sole plates, are elastic polyurethane mats mounted between the steel rail tracks and rail sleepers to protect the upper part of the sleeper from wear and impact. Rail pads can reduce fatigue cracks in concrete sleepers, which are believed to be driven by the impact and vibration of the passing train.



Insulator

In general, rail track insulators are tapered at each end to improve stability and reduce torsion along the rail tracks. According to practice, steel rail tracks installed with mooring plates are better able to maintain their position, which helps to standardize the track gauge along its length.



Cast-in shoulder

The cast-in shoulder are generally used to absorb the load of rail transport and to distribute to the sleepers offering proven savings.



Carriage

The carriage is the non-motorized railway vehicle intended for the transport of passengers.



8. Railway Maintenance Equipment



Electric Vehicle for Maneuvering

Electric vehicle for maneuvering is a rail-road vehicle whose propulsion comes from an electric motor, compact, simple to operate, whose purpose is to perform maneuvers in the workshop, and can be extremely essential with respect to work on moving rolling stock without the need for allocating a maneuvering locomotive for this, this equipment is operated remotely over distances up to 400m, as well as with an operator directly, it has the capacity to tow up to 750T and a range of 10h according to its specifications.

Portable Wheel Lathe

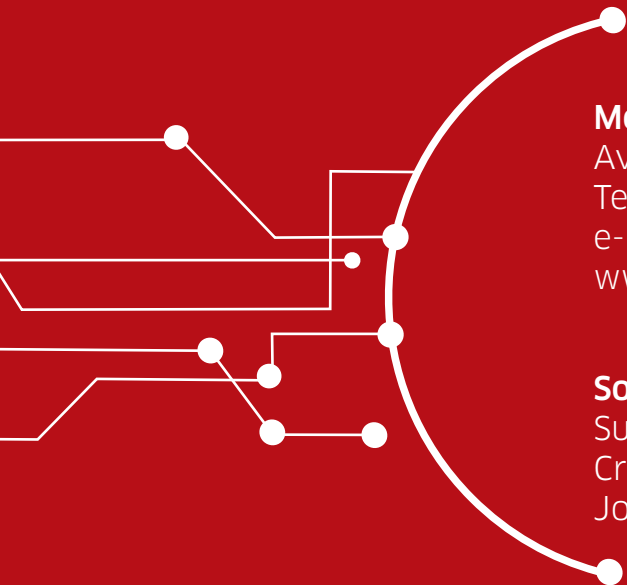
A portable computerized numerical control lathe for the rectification of wheelsets guarantees an efficient operation and with great precision in the realization of wheels rectification of the rolling material without necessarily having to remove the wheelsets, guaranteeing greater availability of the equipment, especially with regard to locomotives whose intervention process on the wheels requires more time, also saving maintenance costs, and can be applied to the axle load of 10 to 40 tons of locomotives.



Vehicle for Battery-powered Rail Failure Detection

This equipment is used to accurately detect a variety of defects and damages and the main types of defects include: Cross-section of the rail head caused by fatigue, crack in the holes of the rail for joint screws and horizontal crack in the mandible, horizontal crack of the core of the rail, longitudinal crack, transverse slit of the rail tab, etc. It should be noted that the battery-powered fault detection car must have 04 seats (four) and 150Km of autonomy, as well as the non-powered failure detection car (without batteries).





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