

company profile



is a professional original equipment manufacturer (OEM) with 21 years of expertise in power transformer production. Since our establishment, we have been committed to our philosophy of "Powering the World, Brightening Lives."

Our company is equipped with comprehensive testing instruments, specialized production equipment, heavy-duty cranes, and fully automatic vacuum drying tanks. We have cultivated a team of experienced senior engineers and technical experts, with strong independent design and R&D capabilities. This ensures our products are highly competitive in the global market. Leveraging our expertise and advanced management practices, we have achieved continuous and rapid growth.

We offer a wide range of products, including a full series of power transformers, dry-type transformers in various specifications as well as underground transformers, furnace transformers, and American/European-style compact substations. We also provide customized solutions to meet specific customer requirements, along with related products like transformer cores and high/low voltage switchgear.

Our products are sold nationwide and exported to countries including Russia, North Korea, Vietnam, Kyrgyzstan, Kazakhstan, Pakistan, Malaysia, Mongolia, Myanmar, Ghana, Zambia, Congo, and Zimbabwe. They are widely used in critical sectors such as power, telecommunications, metallurgy, coal, petroleum, chemicals, energy, and transportation.

Our products feature advanced and reliable designs, with stable quality, short lead times, and excellent after-sales service. We have earned high praise and trust from both power authorities and end-users. We are ISO 9001:2000 certified, recognized as a "AAA Credit Enterprise," and honored with the "Famous Chinese Brand" title by the China Product Quality and Brand Promotion Center.

"Survive by Quality, Develop by Reputation" is our core principle. Aligned with national strategies like the "Belt and Road Initiative, cross-regional grid interconnections, and the West-East Power Transmission Project, Hongwei Power is steadily advancing toward its goal of becoming a modern, globally competitive enterprise.



Equipment Exhibition

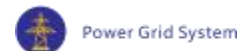
Quality is the foundation of the enterprise and the life of the enterprise. The Company always pays attention to the quality of its products and takes it as the center. We constantly change the mode of production, put quality first in the work of the entire company, and regard it as the life of the company. The Company always maintains high quality and high efficiency. Only in this way can we stand invincible in the fierce competition.



Unlimited Development of Science and Technology Innovation

We pay more attention to the process in the production process. The participation of technical experts and professionals has enabled our products to have excellent processes and potential value in the manufacturing process. Under the insistence of high-quality, high-precision goals, combined with the wisdom and hard work of Hongwei people, it continuously provides high-quality, high-performance products for global customers.





production Environment



The company is based on the "quality first, customer first" philosophy, to meet the needs of users as the basic premise, We have professional technicians and production personnel, integrating product design, development, production and sales, adopting advanced new technologies and concepts to keep our products constantly improving and always leading the industry. The Company's strong production capacity and short delivery cycle provide timely and reliable products for every customer.



Whole Process Quality Control

From the raw materials entering the factory to the cutting, lamination, winding, pouring, assembly and testing processes in the production, the Company has formulated a complete process standards and strict operating procedures, quality control throughout the entire process of product manufacturing.





HONWAY——Rooted in china, serving the world

certifications



Unremitting efforts, outstanding achievements, not afraid of difficulties, fruitful results, every bit of work, every point of harvest, every progress, every success; all the Hongwei people's efforts and sweat, tempered, and fully shape the Hongwei brand image.



FOCUS, we are different.....





Transformer series

Quality Professional wins the market

Brand Integrity wins customers



After-sales Service Commitment

Regular products in stock can be shipped the same day (to promptly meet user needs), and products ordered by customers or special-spec products are shipped on time according to contract requirements. We strictly follow the standards for production and inspection, and products are not allowed to leave the factory until they fully comply with the conditions, and we provide customers with type test reports and factory test reports issued by national authoritative inspection departments.

For products sold, if users need technical services or maintenance and repair, company actively assists users in solving problems promptly.

Before ordering, customers are provided with general product description materials: product sample materials, related qualification certificates, etc., to fully understand characteristics of our company's products.

After the technical agreement is signed, customers are provided with external appearance drawings, base drawings, and transformer installation, operation and commissioning and all attachment descriptions, data, drawings and other materials. Free training is provided for customer technicians in daily maintenance and care.

Our company's technical personnel are responsible for making explanations within the scope of their expertise for technical documents and drawings, and are responsible for answering and solving all matters proposed by users related to transformers.

We warmly welcome users send personnel to our company to participate in technical training and provide all necessary conveniences.



S11 Oil Immersed Distribution Transformer



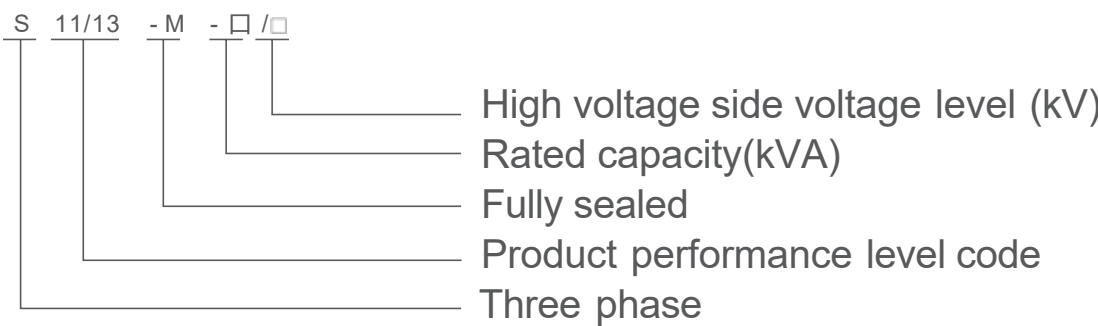
Product Description

S11 Oil Immersed Distribution Transformer Compared with ordinary oil-dipped Transformers, it cancelsthe oil storage cabinet, itscorrugated mailbox's wavy wings replace the tubing as the cooling heat-dlissipatingcomponent,its corrugated maillbox is manufactured on adedicated productionline with high-aualitycold-rolled thinsteel plates,its wavy wings can change with the volume of thetransformer oi,so thatthetransformeris isolatedfrom the atmosphere, preventing and slowing the deterioration of the oil and the moisture oftheinsulation,enhancingthe operational reliability, and maintaining maintenance without maintenance. Thesurface of the corrugated mailbox is painted with oil,rust andphosphating, and then coated with three anti-wear (rain,eakproof, anti-smoke)paints, suitable for use in metallurgical, petrochemical andother production environments.

Conditions of Use

- ◆ The altitude does not exceed 1000m;
- ◆ Ambient temperature: maximum temperature +40.C; maximum daily average temperature +30 .C; highest annual average temperature +20C;minimum temperature -25 。 C.

Model Meaning



Technical Parameter

Rated Capacity (kVA)	Voltage Combination			Connection Group Label	No-load Loss (W)	Load Loss (W)	No-load Current%	Impedance Voltage %
	High pressure (kV)	Voltage Regulation Range	Low Pressure (kV)					
30	6	±5% 或 ±2X2.5%	0.4	Yyn0 或 Dyn11	100	630/600	1.5	4
50					130	910/870	1.3	
80					180	1310/1250	1.2	
100					200	1580/1500	1.1	
125					240	1890/1800	1.1	
160					280	2310/2200	1.0	
200					340	2730/2600	1.0	
250					400	3200/3050	0.9	
315					480	3830/3650	0.9	
400					570	4520/4300	0.8	
500	10.5				680	5410/5150	0.8	
630	11				810	6200	0.6	4.5
800					980	7500	0.6	
1000					1150	10300	0.6	
1250					1360	12000	0.5	
1600					1640	14500	0.5	
2000					1940	18300	0.4	5
2500					2290	21200	0.4	

S13 Oil Immersed Distribution Transformer



Product Description

S13 Oil Immersed Distribution Transformer uses new materials, new processes, new structures, optimized design,and elaboratemanufacturing, Compared with the S11 model, its no-load loss is reduced by 25%,the no-load current is reduced by 35%, and theannual operating cost is reduced by 10.5%. The core material adopts high magnetic permeability and low loss high quality silicon steelsheet, and the structure is a pull screw to support the rigid frame structure, with good stability, low noise, strong short circuitresistance, high quality oxygen-free copper wire for winding,good electrical conductivity and low load loss.

Conditions of Use

- ◆ The altitude does not exceed 1000m;
- ◆ Ambient temperature: maximum temperature +40 C; maximum daily average temperature +30 .C; highest annual averagetemperature +20C; minimumtemperature -25C.

Product Features

- ◆ The bodyis pressed by high-strengthelectrician laminate,all leads are firmly clamped, and the supports and pads are made of high-density insulated cardboard, which improves the electric field distribution of the transformer;
- ◆ The use of corrugated Mailbox, beautiful shape,high heat dissipation efficiency. Highland reinforced casing is suitable for highaltitude areas. The series of Transformers have advanced technical performance, energy conservation, environmental protection,safety and reliability;
- ◆ The main implementation standards of the products: GB1094、 GB/T6451、 JB/T3837.

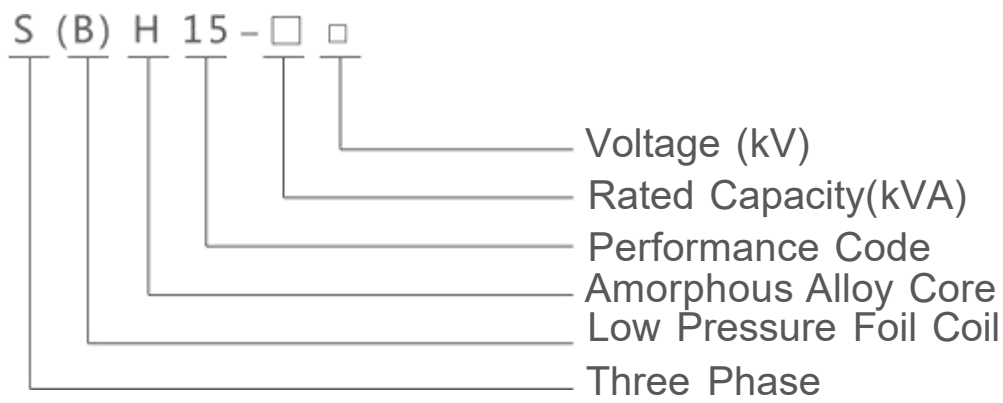
Technical Parameter

Rated Capacity (kVA)	Voltage Combination			Connection Group Label	No-load Loss (W)	Load Loss (W)	No-load current%	Impedance Voltage %
	High pressure (kV)	Voltage Regulation Range	Low Pressure (kV)					
30	6 6.3 6.6 10 10.5 11	± 5% 或 ± 2 × 2.5%	0.4	Yyn0 或 Dyn11	80	600	1.8	4.0
50					100	870	1.6	
80					130	1250	1.5	
100					150	1500	1.4	
125					170	1800	1.4	
160					200	2200	1.3	
200					240	2600	1.2	
250					290	3050	1.1	
315					340	3650	1.1	
400					410	4300	1.0	
500					480	5150	1.0	
630					570	6200	0.9	
800					700	7500	0.8	
1000					830	10300	0.8	
1250					970	12000	0.7	
1600					1170	14500	0.6	
							4.5	

SH15- (M) Amorphous Alloy Distribution Transformer



sn Model Meaning



so Technical parameter

Rated Capacity (kVA)	Voltage Combination			Connection group	NO-load LOSS (w)	Load Loss (W)	No-load Current%	Impedance Voltage %
	High pressure (kV)	Voltage Regulation Range	Low Pressure (kV)					
30	6	±5 或 ±2*2.5	0.4	Dyn11	33	600	1.7	4
50					43	870	1.3	
63					50	1040	1.2	
80					60	1250	1.1	
100					75	1500	1.0	
125					85	1800	0.9	6
160					100	2200	0.7	
200					120	2600	0.7	
250					140	3050	0.7	
315					170	3650	0.5	
400					200	4300	0.5	5
500					240	5150	0.5	
630					320	6200	0.3	
800					380	7500	0.3	
1000					450	10300	0.3	
1250					530	12000	0.2	5
1600					630	14500	0.2	
2000					750	17400	0.2	
2500					900	20200	0.2	

sn Product Description

The amorphous alloy distribution Transformer is referred to as the Amorphous Transformer (AMDT) and amorphous transformers are SH10-SH16. Since the amorphous alloy is not a crystal structure, the loss is very low. Since the amorphous alloy is not a crystal structure and the loss is very low, the iron core of the SH15 type 6-10kV amorphous Transformer adopts a new type of amorphous alloy material, and the low-pressure winding is a copper foil structure. It is currently a transformer with good energy saving effect. Its empty load loss is only 1/4 - 1/5 of the current Transformer, especially for users with low load rates.

Power transformer



Product Description

This MVA-class power transformer suits power grids and large industrial projects. It uses high-quality silicon steel core and copper windings for low loss and stable operation. Fully sealed structure ensures great insulation and heat dissipation. Custom voltage and capacity are available for heavy-load use. It features strong environmental adaptability for long-term continuous operation. Strict testing guarantees reliable performance across various working conditions.

High Voltage Large Capacity Transformer



Product Features

Ideal for power transmission stations and major energy projects. Premium materials cut energy consumption and enhance operational safety. Optimized structure delivers outstanding heat resistance and insulation. Multiple specifications can be tailored to diverse operational demands. Built to withstand harsh surroundings for round-the-clock service. Comprehensive inspections ensure consistent and durable performance.

Single-phase transformere



Product Description

Single-phase oil-immersed transformers use insulating oil for insulation and heat dissipation. Compact, stable, low-noise, dust and moisture resistant. With good insulation & heat dissipation, easy installation, high cost performance and strong short-time overload capacity. Ideal for household power distribution, outdoor lighting, small equipment and remote low-voltage lines, with customized specifications available.

sn Main Purpose

Single-phase transformer is mainly applied to household power supply, rural power distribution and small-scale electrical equipment. It converts and distributes alternating current to provide stable power support for various low-power electrical facilities.

Product Features

- ◆ It has stable voltage regulation performance and excellent power transmission capacity.
- ◆ It adopts high-quality silicon steel sheet and premium windings with compact overall design.
- ◆ It features low no-load loss, low noise and high operating efficiency during long-term operation.
- ◆ It is resistant to overload, short circuit and overvoltage. It is also rainproof, corrosion-resistant and temperature-resistant for strong environmental adaptability.
- ◆ The fully sealed oil-immersed structure and superior insulation ensure safe and stable operation outdoors and in residential areas.
- ◆ It delivers reliable voltage stabilization and reduces power loss. Suitable for residential and small industrial power supply, it supports long-term continuous operation.
- ◆ Manufactured with standardized procedures and strict factory tests, it ensures stable quality and long service life.



Pad-mounted Transformer



Product Description

Pad-mounted Transformer features high integration and compact design for urban distribution. Built with high-quality silicon steel core and premium windings, it delivers stable, efficient performance. Standardized manufacturing and strict quality inspections ensure reliable power supply and long service life.

American Type Box Transformer



Product Features

Fully sealed with solid insulation, safe to operate.
Compact size, flexible for loop and terminal power supply.
Dual fuse protection cuts operational costs.
Anti-corrosion cabinet adapts to harsh environments.
Dyn11 connection ensures stable performance and good lightning resistance.
Low noise and low power loss.

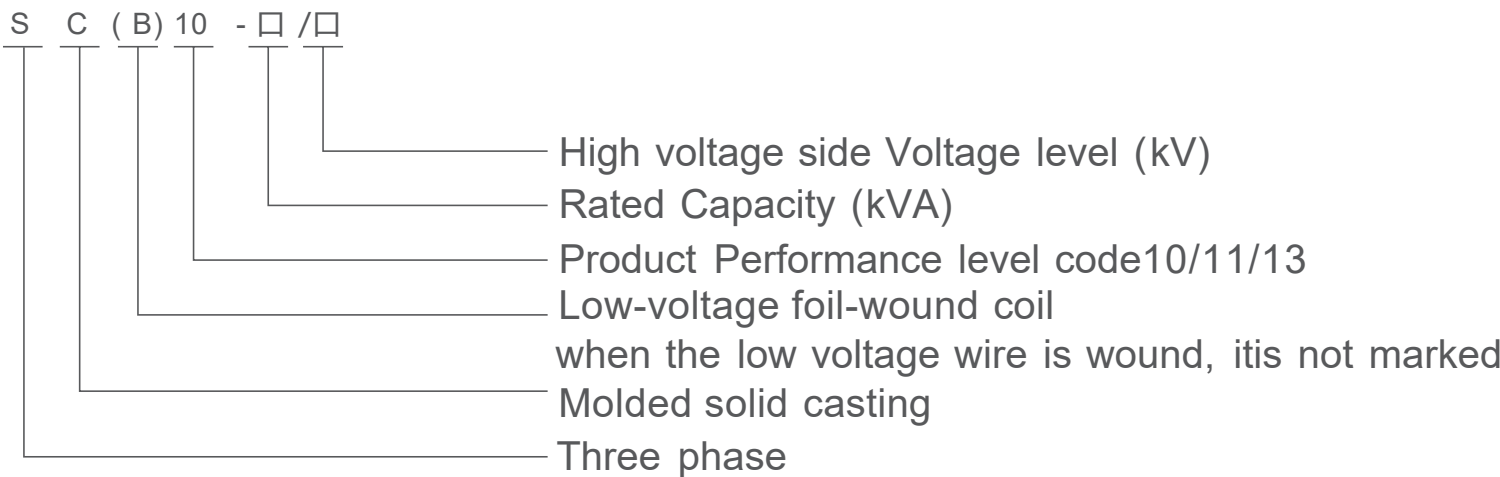
SCB10F Insulated Dry Distribution Transformer



Product Description

SCB10F Insulated Dry Distribution Transformer uses epoxy resin as an insulating material. The high-voltage coil is produced by wire winding, and the low-pressure coil is produced by foil winding. The epoxy resin is poured in a vacuum and solidified to form a high-strength glass steel structure. The epoxy resin dry Transformer has the characteristics of good electrical performance, strong lightning shock resistance, strong short-circuit resistance, high mechanical strength, low local discharge power, and high reliability. The temperature display controller can be installed to display and control the operating temperature of the transformer coil to ensure the normal service life of the Transformer.

Model Meaning



Product Features

- ◆ Safe, fire-resistant, non-polluting, can be installed directly in the load center;
- ◆ Maintenance-free, easy to install, and low overall operating costs;
- ◆ It has good moisture-proof performance and can operate normally under 100% humidity. It can be put into operation without pre-drying after shutdown.

Technical Parameter

Rated Capacity (kVA)	voltage combination			Connection Group Label	No-load Loss (W)	Load loss (W)	No-load current%	Impedance voltage%
	High pressure (kV)	Voltage Regulation Range	Low Pressure (kV)					
30	6	± 5% 或 ± 2X2.5%	0.4	Yyn0 或 Dyn11	190	710	2.0	4
50					270	1000	2.0	
80					370	1380	1.5	
100					400	1570	1.5	
125					470	1850	1.3	
160					540	2130	1.3	
200					620	2530	1.1	
250					720	2760	1.1	
315					880	3470	1.0	
400					980	3990	1.0	
500	10.5	± 2X2.5%	0.4	Yyn0 或 Dyn11	1160	4880	1.0	6
630					1300	5960	0.85	
800					1520	6960	0.85	
1000					1770	8130	0.85	
1250					2090	9690	0.85	
1600					2450	11700	0.85	
2000					3050	14400	0.7	
2500					3600	17100	0.7	



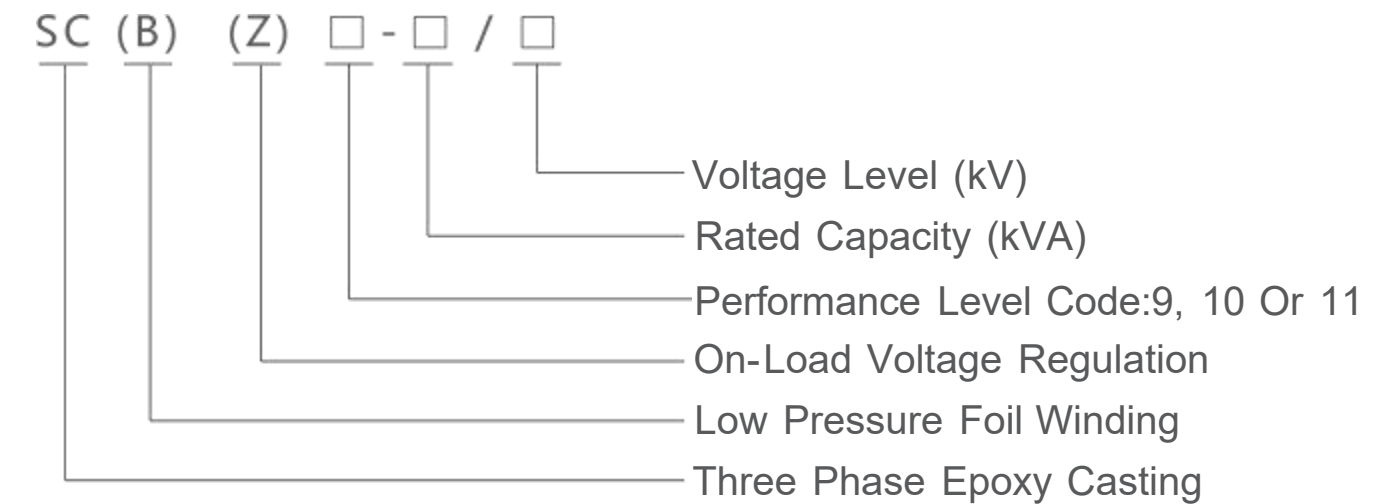
SCB11, 13F Insulated Dry Distribution Transformer



Product Description

SCB'11,13F Insulated Dry Distribution Transformer uses thin layer epoxy resin pouring to seal the dry Transformer with high-and-low-pressure winding. The design is reasonable,the process is advanced, the local discharge power is small, the noise is low, and it has flame retardant, self-extinguishing, moisture-proof,heat dissipation is good, and maintainability., non-polluting and other characteristics, The surface of the iron core and clamp is specially treated with protective resin and has a beautiful appearance, The low-pressure foil is wound, and the high pressure adopts a segmented multi-layer cylindrical structure to make it evenly distributed, with small magnetic leakage,high mechanical strength, and strong short-circuit resistance.

Model Meaning



Product Features

- ◆ The high-pressure winding adopts lacquer copper wire, and the low-pressure winding uses foil winding.
- ◆ The high-pressure winding is filled with fiberglass felt and poured with unfilled imported epoxy resin in the vacuum state, After curing, it forms a solid whole, with high mechanical strength, no partial discharge, and high reliability.
- ◆ Fire-retardant, explosion-proof, non-polluting environment, environmentally friendly, can be installed in the load center;
- ◆ The coil does not absorb moisture, and the iron core and clamp can be operated in 100 % relative humidity and other harsh environments after special processing. Intermittent operation does not require desiccation treatment;
- ◆ High anti-short circuit, high level of lightning shock, high overload ability;
- ◆ The inner and outer resin insulation layer of the coils is thin and has good heat dissipation performance, The cooling method generally uses air natural cooling (AN). Air cooling system (AF) can be configured for Transformers of any protection grade;
- ◆ Small size, light weight, small space, easy to install.



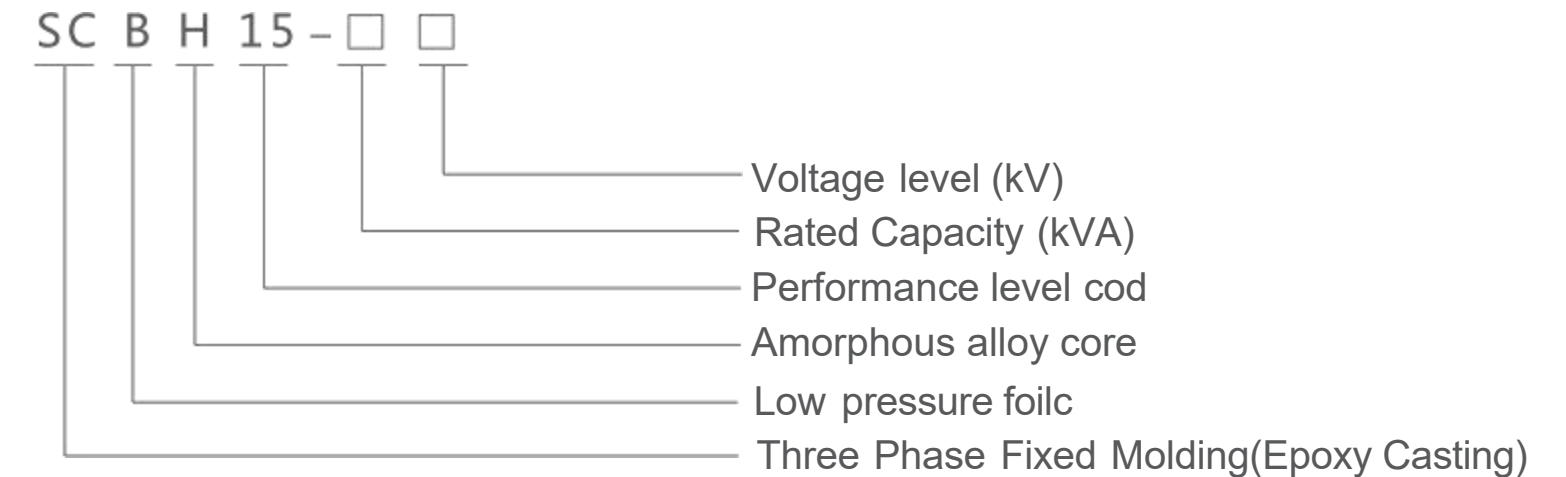
SCBH Amorphous Alloy Core Dry Distribution Transformer



Product Description

SCBH Amorphous Alloy Core Dry Distribution Transformer is a new type of energy-saving distribution Transformer with low loss. This product combines the technical advantages of the traditional epoxy pouring dry Transformer of amorphous alloy Transformer and adopts a new structural form. The SCBH series of amorphous alloy dry Transformers have the outstanding characteristics of low loss, especially empty load loss, which is 70% lower than that of conventional 10 series dry Transformers. The product also has the advantages of compact structure, beautiful shape, low noise, low temperature rise, strong overload ability, stable electrical performance, and convenient maintenance.

Model Meaning



Product Features

- ◆ Low energy consumption: soft magnetic guide material with isotropy-amorphous alloy, low magnetization power, high resistivity, low Eddy current loss. The hollow loss and empty current of the iron core made of amorphous alloy material are very low, only 1/3 of the Silicon steel sheet. The empty load loss of the Transformer is 75 % lower than the specified value of GB/T10228. It can greatly reduce the running cost and save energy.
- ◆ Strong corrosion resistance: Amorphous alloy core is fully sealed by resin and high-temperature resistant silicone gel to effectively prevent corrosion and amorphous alloy debris from falling off, thus effectively protecting the coil of the iron core;
- ◆ Low noise: In order to reduce the operating noise of the product, reasonable working magnetic density is selected in the product design, iron core and coil structure are improved during product processing, special noise reduction materials are used, and the noise of amorphous alloy dry Transformer products is far lower than that of international JB/T10088 requirements.

35kV Dry Type Transformer



Product Description

35kV Dry Type Transformer is safe, flame retardant, fire resistant and non-polluting, and can be installed directly in the load center. No maintenance, easy installation. It has good moisture-proof performance and can be put into operation without pre-drying after shutdown. It has low loss, low local discharge power, and low noise, and can be operated 120% rated load under forced air-cooling conditions. It is equipped with a perfect temperature protection control system to provide reliable guarantee for the safe operation of the Transformer. The reliability index of this product has reached the advanced level in China.

Product Features

- ◆ The coils wound with copper wire or foil, reinforced with glass fiber, epoxy resin is not fired with vacuum drying and dehumidifying. The epoxy resin can be integrally casted under the condition of vacuum drying, degassing and dehumidification without filler, high mechanical strength, short circuit resistance and strong impact resistance;
- ◆ The first and end of the high-pressure winding and the middle splice are pre-buried with copper embedded parts, and the steel is good, easy to adjust the file, and the beauty is neat;
- ◆ The iron core is made of high-quality grain orientation cold rolled Silicon steel sheets, 45 degrees full inclined multi-step joints, The surface is covered with a resin insulating coating, which is resistant to moisture, rust and noise.
- ◆ The elastic parts are clamped between the iron core, clamp and coil, so that the coils are in a stable compression state to reduce noise;
- ◆ The Transformer is designed according to self-cooling, and a longitudinal ventilation channel is reserved inside the wall of the high (low) pressure coil tube for overall pouring. It can be equipped with a forced air-cooling device (cooling fan). After adopting a forced air-cooling device, the output capacity can be increased by 50%;
- ◆ Equipped with a thermostat, a platinum resistor (Pt100) is placed in the pre-embedded hole at the top of the low voltage coil. In order to monitor the temperature rise of the transformer winding, automatically stop the cooling fan and equipped with fault alarm, overtemperature alarm and overtemperature jump function, provide reliable overload protection device for the dry Transformer, thus improving the safety of the dry Transformer operation.

YB" (or ZBW) Type Prefabricated Substation (European Box Change)

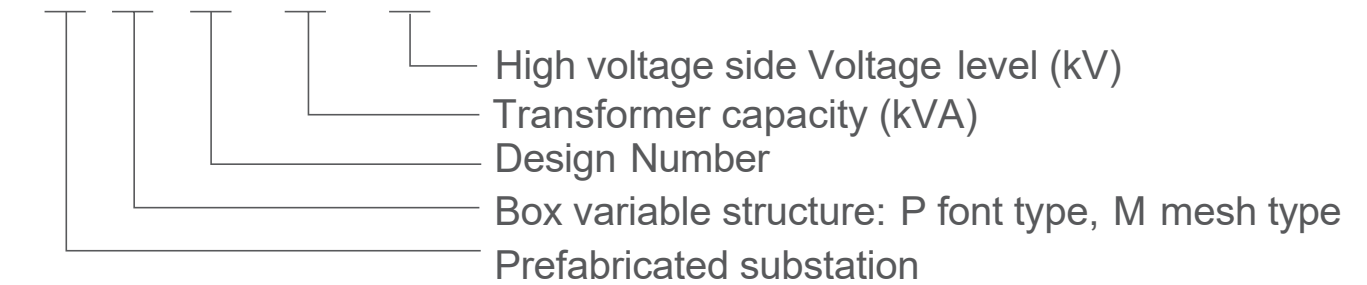


Product Description

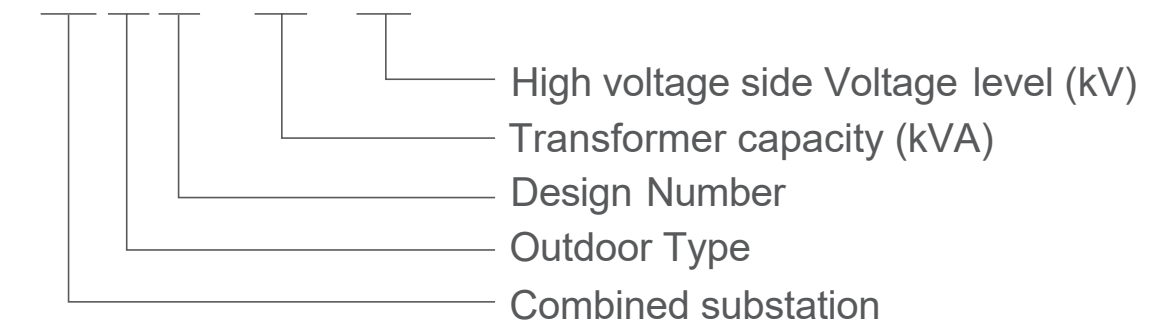
YB"(or ZBW) Type Prefabricated Substation (European Box Change) is a combination of high-voltage electrical equipment, Transformers, and low-voltage electrical equipment in to compact single-set equipment for use in urban high-rise buildings, urban and rural buildings, residential areas, high-tech development zones, small and medium-sized factories, mines, oilfields, and temporary construction of electricity. It is used for receiving and distributing electrical energy in power distribution system.

Model Meaning

YB □ □ - □ / □



ZBW □ □ - □ / □



Product Features

- ◆ This product is made by connecting high voltage distribution device, Transformer and low voltage distribution device. It is divided into three functional compartments, namely high-pressure rooms, Transformer rooms and low-pressure rooms, which can be used for front or head type structures. The high-voltage room has complete functions. The high-voltage room consists of a power supply system consisting of a ring grid cabinet. It can be arranged into a ring network power supply, terminal power supply, dual power supply and other power supply methods, and can also be equipped with high-voltage measurement elements.
- ◆ The transformer room is equipped with an automatic forced air-cooling system and lighting system. The low-voltage room can use a panel or cabinet type structure to form a user's power supply plan according to user requirements. It has power distribution, lighting distribution, reactive power compensation, and power measurement. Meet the different requirements of users, and facilitate the user's power supply management and improve the quality of power supply.

YBM-12 Type Buried substation



Product Description

YBM-12 Type Buried substation consists of an underground combination Transformer, a fully insulated fully sealed compact high-voltage cabinet, an outdoor low-pressure cabinet, and a low-pressure protective shell with a light box. It is a complete set of underground Transformer distribution equipment that has been pre-assembled in the factory. According to the needs of users, the lamp box, cable branch box, and lamp box high voltage measurement can also be added. The ground buried box change is mainly used to replace the traditional civil form substation, European box change, American box change, and realize the new power generation and distribution functions. Power product.

Main Purpose

The YBM-12 buried substation is widely used in the construction and transformation of urban small-scale substation, industrial and mining substations and mobile operation substations. It is easy to penetrate into the load center, reduce the power supply radius, improve the end voltage quality, and is especially suitable for urban power grid transformation.

Product Features

- ◆ The buried box can be integrated with the local environment and designed into various landscapes to enhance visual effects;
- ◆ The buried box has a small area and the traditional box has a small surface area of more than 70%;
- ◆ Transformers play a certain screen function, effectively reduce noise and electromagnetic radiation;
- ◆ The buried box Transformer room is equipped with special channels: ventilation, heat dissipation, Transformer pressure release, and maintenance channels;
- ◆ Equipped with automatic drainage and alarm, automatic exhaust cooling system;
- ◆ Equipped with mechanical and electrical interlocking devices to ensure five anti-interlocking, to prevent the possibility of physical danger caused by live entry;
- ◆ The 10kV high voltage cabinet and the 0.4kV low voltage cabinet are all equipped with separate compartments, and have independent ventilation and heat dissipation channels and ventilation and heat dissipation system.

partial projectcase



PetroChina Gansu Province Company



Xinjiang Bayi Iron and Steel Group Xinjiang East Power Supply Bureau



Urumqi Chinese Medicine Hospital



Gansu Lushan Cement Co., Ltd.



Jingning County Cement Group Co., Ltd.



partial projectcase



Lanzhou Hay Environmental Protection Building Material Co., Ltd.



XiaheAnduo Cement Co., Ltd.



Handan Wanxing Industrial Co., Ltd.



Shanxi Jinhai Pump Technology Co., Ltd.



Shijiazhuang Tianyu Magnesium Co., Ltd.



Handan Jiutong Stainless Steel Products Co., Ltd.

service Area



Commercial Real Estate Distribution Project

Dry Transformer refers to a transformer with iron core and winding that is not impregnated in insulating oil. It is cooled by air convection, etc.. It has the characteristics of non-ignition, flame retardant, fireproof, explosion protection, and environmental protection. It is safe and reliable to use, simple to install and maintain. It can be widely used in high-rise buildings, subways, railway stations, airports, hospitals, petrochemical companies and mines.



Transformer Distribution Engineering

Customers can also choose more personalized service content such as preventive tests, package materials maintenance, and easily enjoy a higher degree of worry-free management services, making electricity more safe, faster, and more convenient.

Target: Special Transformer users.

Service Content: Daily Inspection, Power Stop Operation, Accident Repair, Fault Repair, Power Outage Maintenance, Submit Monthly Operation Report.



service Area



Subway Power Distribution Project

When the power distribution room is located in the basement of the building, it is necessary to facilitate the transportation of the equipment or to pre-position the equipment. To avoid the final equipment into the country, the already built electrical door must be removed and widened before the equipment can be moved in. The configuration of the electric room must be based on the requirements of the design drawings, and can not be properly filled. Electrical equipment must under go handover testing.



Station, Dock Distribution Project

When the power distribution room is located in the basement of the building, it is necessary to facilitate the transportation of the equipment or to pre-position the equipment. To avoid the final equipment into the country, the already built electrical door must be removed and widened before the equipment can be moved in. The configuration of the electric room must be based on the requirements of the design drawings, and can not be properly filled. Electrical equipment must undergo handover testing.

