Innovation | Excellence | Practicality | Far-reaching

SS TRANSFORMER
A BUSINESS OF SH POWER

Providing more valuable products and service for global energy transportation.

Contents

About US

SS TRANSFORMER, a Business of SH POWER

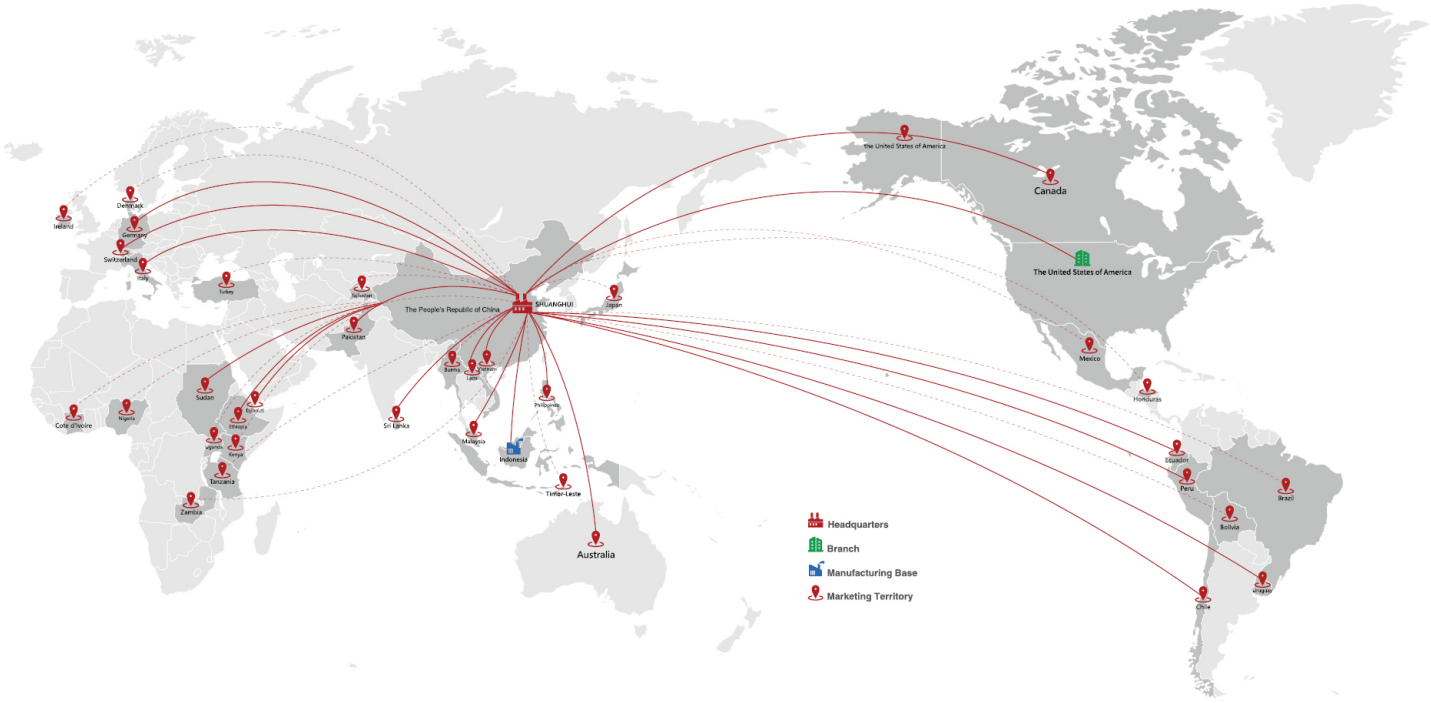
SS Transformer is located at No. 7, Guangsheng Road, Guangling Economic Development Zone, Yangzhou City, Jiangsu Province, China, covering an area of 170,000 square meters. It is a wholly-owned subsidiary of **Jiangsu Shuanghui Power Development Co., Ltd.** (hereinafter referred to as **SH Power**). **SH Power (including SS Transformer)** is committed to designing, manufacturing, and selling transformers, electrical switches, and overhead power line systems (electric power fittings and composite insulators). It is a leading manufacturer of electric power equipment and solution provider in China.

SH Power has been developed for 30 years, with over 1000+ employees worldwide and three manufacturing bases: Jiangdu District, Yangzhou City, China; Guangling District, Yangzhou City, China; and Jakarta, Indonesia. We have representative and after-sales service centers in the United States, Philippines, Peru, Malaysia, and Indonesia.

The company has been developing and expanding based on years of technology, equipment, and human resources investment. The electric power fittings and composite insulators are spreading all over China's extra-high voltage transmission line projects. The new generation of Ring Network Cabinets (environmentally friendly gas cabinets), gas-filled cabinets, air-insulated cabinets, etc., are widely used in the power grid system, new energy sources (wind power, photovoltaic, energy storage), data centers, and industrial and commercial power distribution projects; at the same time, they have also been exported to the U.S.A, Canada, Southeast Asia, and South America.

The company's main products include oil-immersed power transformers up to 220kV, single-phase overhead transformers, single-phase and three-phase pad-mounted transformers, dry-type transformers up to 35kV, amorphous alloy transformers, and a new energy converter and booster.

Global layout



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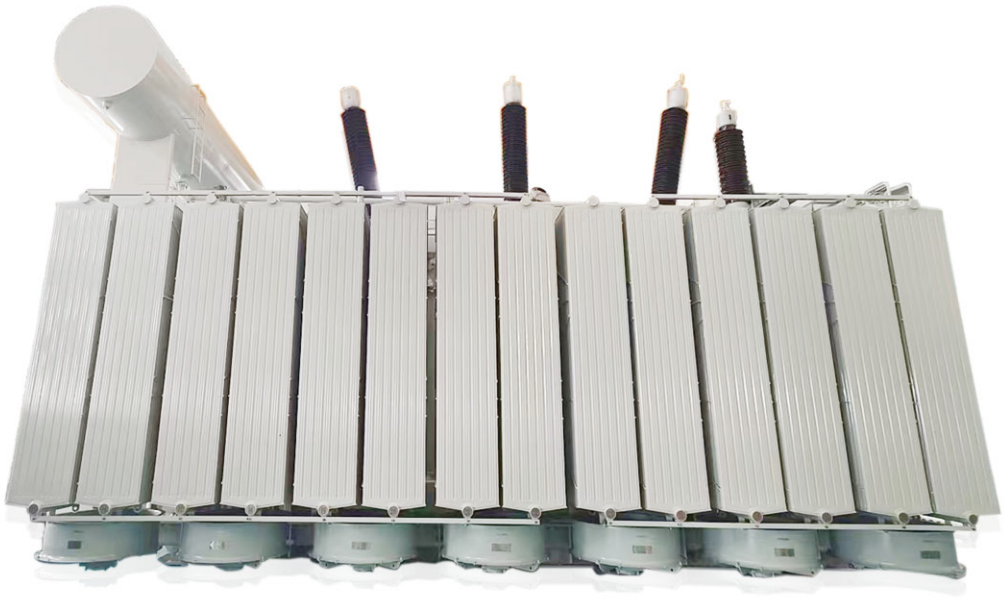
02

110~220kv Oil-immersed Power Transformers



Overview

110KV and 220kV power transformers are widely used in power generation, transmission and distribution, new energy, rail transit, and commercial and industrial projects.

Features

1.Low Loss: Utilizing our company's professional design scheme, the no-load loss is reduced by 15% compared to the national standard, and the load loss is reduced by 5%;

2.Low Noise: The noise level is reduced by 3~5dB compared to the national standard;

3.Low Partial Discharge: The factory partial discharge test value is less than 100Pc;

4.Strong Short Circuit Resistance: Passed the sudden short circuit test by the National Electrical Product Quality Inspection and Testing Center;

5.No Leakage: All sealing parts are made of acrylic one-piece molded components, using fluorescence, positive pressure and negative pressure for leak testing;

6.Strong Overload Capacity, Energy Efficient and Environmentally Friendly;

7.Reliable Operation, Easy Installation, Maintenance, and Transportation.

Our company's product, the SFZ22-240000/220, has successfully passed all routine type tests, including the short-circuit endurance capability assessment conducted by the National Electrical Product Quality Inspection and Testing Center.

We offer a versatile range of models and capacity configurations, including the S(F)Z20/22 double-winding on-load tap changer, the SS(F)Z20/22 three-winding on-load tap changer, and the S(F)20/22 double-winding no-excitation tap changer. These various specifications are designed to meet our customers' diverse customized requirements.

03

Single-phase Overhead Transformers

Overview

A single-phase overhead transformer with a rated capacity of 5 ~ 250kVA and a frequency of 60Hz, used in column overhead installation, has a small radius of low-voltage power supply, and low-voltage line loss is low. It is widely used in rural and urban power grids.

Transformer Type	Transformer Capacity (KVA)	Primary High Voltage (V)	Secondary Low Voltage (V)	Frequency (Hz)	Winding Material	Corrosion Class
Single-phase overhead transformer	5-250	2400-19920	120-600	50-60	Aluminum	C5+

Features

1. Lug bracket;

2. Lightning arrester pad;

3. Cover-mounted high-voltage porcelain bushing, with eyebolt terminal (10-100kVA) or shovelshaped terminal;

4. Low-voltage insulator made of glass fiber reinforced polyesteror ceramic (such as eyebolt and shovel shaped terminal);

5. Low-voltage neutral grounding busbar (on 10-50kVA single high-voltage bushing unit);

6. Suspension bracket;

7. Cover with polyester coating (more than 13 mils), for 15kV dielectric insulation of grounding and live parts of the fuel tank, leading to higher corrosion resistance;

8. Self-exhaust and resealing cover assembly;

9. Spacing of core/coil bolt pads: 180° ;

10. Low-voltage lead with embossed pattern;

11. Oil plug (with cover) for earth strip;

12. Tank grounding pad;

The products have been tested in strict accordance with the latest versions of applicable standards such as ANSI, NEMA, and ANSI C57.12.20. Our company will provide valid test reports.

04

Three-phase Pad-mounted Transformer

Overview

Three-phase pad-mounted transformers are installed in locked steel cabinets on concrete pads and are used in conjunction with underground distribution lines at the point of supply. One transformer can serve a large building or many homes.

Features

Rated AC frequency: 50Hz/60Hz; maximum operating voltage: 35kV; capacity: approximately 15kVA to 5000kVA;

Compact, safe and reliable structure: the transformer (main part) is enclosed with high-voltage control and protection components (e.g. high-voltage load switches and fuses) in the transformer oil tank;

Small-sized, only about 1/3 of European box transformers of the same capacity, thus covering a smaller area;

Excellent heat dissipation and strong operating capabilities under overload;

Simple configuration of high- and low-voltage units, low cost, and high economic applicability;

Fully enclosed oil tank without conservator, reducing the workload of regular maintenance and observation;

Optical fully shielded and insulated elbow arrester: it can be directly installed on the two-way sleeve joint, without occupying any area;

High voltage quality, low noise and excellent lightning protection performance, without neutral drift or tank heating;

Anti-corrosion and painted tank surface, applicable to harsh conditions, such as storms, rain, snow, and pollution-intensive areas.

05

Single-phase Pad-mounted Transformers

Overview

The basic structure of a single-phase pad-mounted transformer consists of a magnetic core, a primary coil and a secondary coil. The primary coil that is usually composed of thick wires is connected to a power supply. The secondary coil composed of thin wires supplies the output voltage after transformation. The magnetic core is often composed of silicon steel sheets for effective conduction of magnetism and reduction of power loss. The shell is for protection and heat dissipation of internal components.

Single-phase pad-mounted transformers can be configured with the rated capacity (10-50kVA) or customized according to specific needs.

Due to the compact structure, single-phase pad-mounted transformers are ideal for irrigation, oil fields and residence.

Features

- Reliable operation and low noise, without moving parts.
- Extensive applications due to voltage conversion.
- Long service life because of no mechanical contact.
- High efficiency in power transmission from one to another circuit.

Transformer Type	Transformer Capacity (KVA)	Primary High Voltage (V)	Secondary Low Voltage (V)	Frequency (Hz)	Winding Material	Anti-corrosion Grade
Single-phase pad-mounted transformers	5-250	2400-34500	120-600	50-60	Aluminum	C5+

06

Amorphous Three-dimensional Rolled Iron Core Transformers

Overview

Encouraged by the national energy conservation and environmental protection policy, amorphous alloy transformers are broadly applied in the power distribution field. Continuing progress in technology has stimulated the fast development of amorphous alloy three-dimensional wound core transformers as new popular products in the power distribution field. Instead of the flat wound core structure in a conventional amorphous alloy transformer, our company employs the three-dimensional wound core structure in combination with low-loss alloy belts to produce amorphous alloy three-dimensional wound core transformers. Therefore, our products are characterized by high-strength core, strong resistance to short circuit, even temperature rise, low noise, three-phase balance, low no-load current, reduced consumption of material and energy and low flux leakage.

The amorphous three-dimensional wound core is an assembly of three single identical frames. After assembly, the three-dimensional structure of equilateral triangles is stable with high mechanical strength, consistent three-phase stress, improved resistance against short circuit.

Under the same conditions, amorphous three-dimensional wound core transformers feature lower noise, greater resistance to local short circuit, smaller size and weight, and lower production and operating costs. Therefore, amorphous alloy three-dimensional wound core transformers have a broad prospect of application and significant social and economic value.

Main features of an amorphous three-dimensional wound core oil-immersed transformer:

1、Strong core

The closed structure of the integrated core with tightly wound amorphous belt is firm and stable, not liable to produce chips during operation.During maintenance of the transformer, the core can be reused;

2、Strong resistance to short circuit, three-phase balance, low noise;

3、Uniform temperature rise during heating, circular coil section, even oil or air passages;

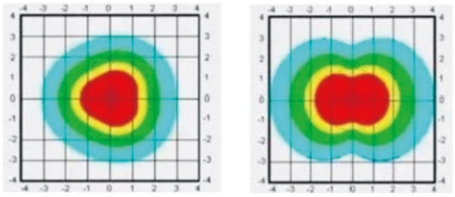
4、Less material consumption, with the yoke cross section half of the core cross section;

5、Low no-load loss, low no-load current, reduction of the total core weight with structural and technological change, continuous winding of belt, seamless core, low air gap loss, largely reduced magnetic resistance, significantly lower no-load current that is 60%~80% lower than the national standard on average;

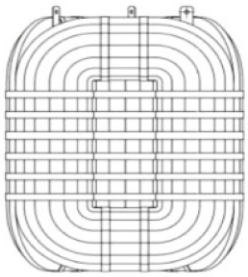
6、Low leakage flux

The compact three-dimensional wound core and symmetrical coil structure reduce the leakage flux in the stray magnetic field to half that of a conventionally structured transformer, thereby lessening the magnetic radiation.

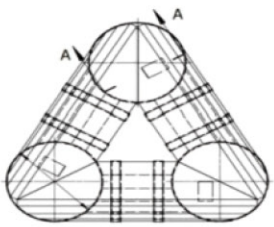
Real picture of an amorphous three-dimensional wound core



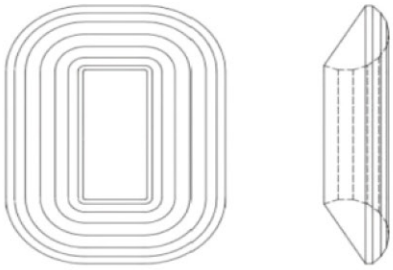
Structural diagram of amorphous three-dimensional wound core



Front view



Top view



Single-frame core graph

Performance parameters

Rated capacity	kVA	500	630	1000	1250	1600	2000	2500
High-voltage side voltage	kV	6,6.3,6.6, 10, 10.5,11,11.5						
High-voltage tapping range	%	±5,±2×2.5						
Low-voltage side voltage	kV	0.315,0.34,0.36,0.4,0.50,0.69,0.80						
Connection symbol		Dyn11, Yyn0, Yd						
No-load loss	kW	0.19	0.25	0.36	0.425	0.5	0. 55	0.67
Load loss	kW75° C	4.38	5.02	8.34	9.72	11.75	14.0	16.23
No-load current	%	0.2						0.15
Short-circuit impedance	%	4.5-5						

Application

Model	Energy efficiency criteria	Capacity range	Voltage level	Application
Amorphous alloy three-dimensional wound core transformer	NX1/NX2	100kVA-630kVA	10kV	Power distribution market
Amorphous alloy three-dimensional wound core transformer	NX1/NX2	2000kVA-3450kVA	33kV、35kV、37kV、38. 5kV	Photovoltaic and wind power markets

The amorphous alloy three-dimensional wound core transformer has many advantages, and is much superior to the conventional amorphous transformer in terms of environment-friendliness, material saving and grid-connected operating stability. It is a new development in the transformer market. As a “Champion of the Environment” up to its name, the amorphous alloy three-dimensional wound core transformer is gaining more popularity in the current social environment where the country pursues the carbon peaking and carbon neutrality goals, and advocates a “green, environment-friendly and low-carbon” lifestyle.

07

SC(B)H15
Amorphous Drytype Transformers

Overview

The amorphous alloy dry-type transformer is currently the most advanced energy-efficient dry-type transformer. With low no-load loss, good resistance to dampness, and resistance to cracking, it is oil-free, maintenance-free, flame-retardant, and capable of self-extinguishing. It can be used as a replacement for any common dry-type transformer in any place, including high-rise buildings, business centers, subways, airports, stations, industrial and mining enterprises and power plants. It is particularly suitable for places with high requirements for protection against combustion, explosion and fire.

Model and Meaning

S C (B) H □ – □ / □

- Voltage level (kV)
- Rated capacity (kVA)
- Product performance level
- Amorphous alloy coil
- Foil coil
- Cast resin type
- Three-phase transformer

Technical Parameters

Technical parameter table of SCBH15 amorphous alloy dry-type transformer

Rated capacity (kVA)	Voltage combination			Connection symbol	No-load loss (W)	Load loss (W) 120° C	Short-circuit impedance (%)
	High voltage (kV)	High-voltage tapping range	Low voltage (kV)				
100	6 6.3 6.6 10 10.5 11 22 33 35 37 38.5	±2×2.5% ±3×2.5%	0.4 0.48 0.55 0.63 0.69 0.8 1.14	Dyn11 Yyn0	130	1570	4.0
160					170	2130	
200					200	2530	
250					230	2760	
315					280	3470	
400					310	3990	
500					360	4880	
630					420	5880	
800					480	6960	6.0
1000					550	8130	
1250					650	9690	
1600					760	11730	

Note: Connection symbol Yyno is applicable to a transformer with the capacity ⩽ 100kVA. For special specifications or non-standard products (beyond those provided in the above table), technical parameters are to be determined by the supplier and the purchaser through consultation.

08

10kV Oil-immersed Enclosed Distribution Transformer

Overview

The product is subject to GB/T1094 Power transformers, GB/T6451 Technical parameters and requirements for oil-immersed power transformers and GB20052 Minimum allowable values of energy efficiency and the energy efficiency grades for power transformers.

For the core of the three-phase oil-immersed power transformer, 27QG120、27QG100、23RK085、18R060 or other cold-rolled silicon steel sheets are used. In actual production, the core used may not be lower than the drawing requirement.

The product is of a fully-enclosed corrugated steel tank structure, with the transformer oil isolated from surrounding air, so that the transformer oil will not absorb water from air to reduce the dielectric strength. That aside, by preventing entry of oxygen into the tank, aging of the insulating material can be avoided, thereby prolonging the service life and promoting the social benefits of the product.

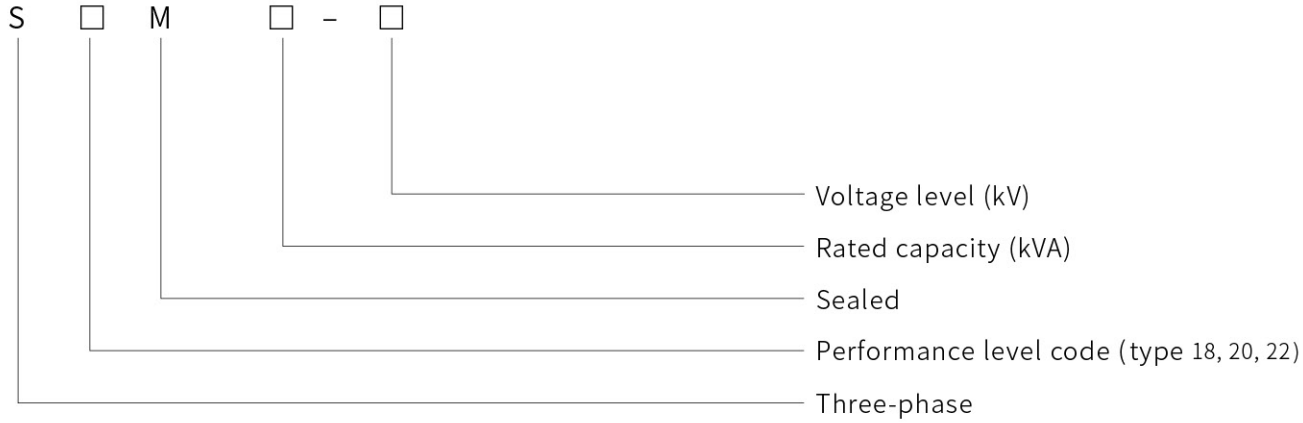
Features

Long service life: The transformer tank is of a fully closed structure, with the tank and tank edge connected by bolts or welded to prevent exposure of the transformer oil to air, thereby prolonging the service life.

High operating reliability: Parts and components related to the tank seal are improved to enhance their reliability, and technology is improved to ensure reliability of the seal.

Occupancy of a small land area: Transformer tanks of the S-M series are provided with corrugated plate radiators. When the oil temperature changes, the corrugated plates expand or contract to play the same function as a conservator tank. The corrugated plate tank looks good and occupies a small land area.

Model and meaning



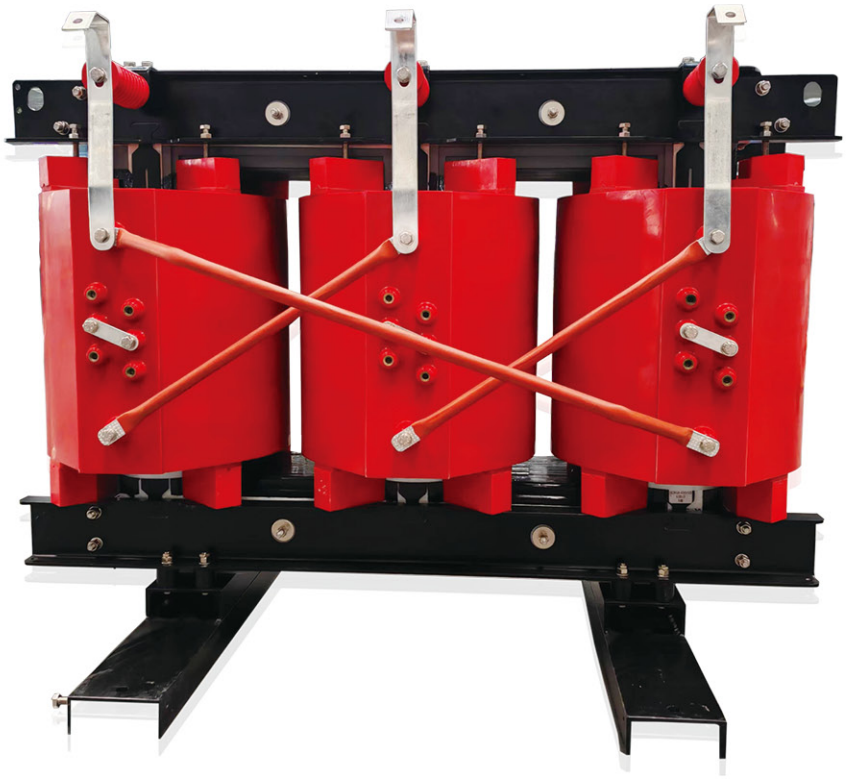
Technical Parameters

S22-M-30-2500/6-10 excitation-free voltage regulating distribution transformer

Rated capacity (kVA)	Voltage combination			Connection symbol	No-load loss (W)	Load loss (W) 120° C	Short-circuit impedance (%)
	High voltage(kV)	High-voltage tapping range	Low voltage(kV)				
30	6 6.3 10 10.5 11	±2×2.5% ±5%	0.4	Dyn11 Yzn11 Yyn0	65	455/430	4.0
50					80	655/625	
63					90	785/745	
80					105	945/900	
100					120	1140/1080	
125					135	1360/1295	
160					160	1665/1585	
200					190	1970/1870	
250					230	2300/2195	
315					270	2760/2630	
400					330	3250/3095	
500					385	3900/3710	
630				Dyn11 Yyn0	460	4460	4.5
800					560	5400	
1000					665	7415	
1250					780	8640	
1600					940	10440	
2000					1085	13180	5
2500					1280	15270	

09

10kV
SC(B) Series Dry Type Transformers



Overview

The SC(B)Series Epoxy Resin Cast Dry-Type Power Transformer is designed for three-phase 10kV/6.3kV power grids,converting primary and secondary side voltages.This series complies withinternational/national standards including IEC 60076,GB/T 10228,GB 1094,and GB 20052. Equippedwith a temperature controller for real-time monitoring of the transformer's thermal status,it featureshigh-temperature alarm and over-temperature trip outputs to ensure continuous safe operation.

Features

1.Low loss,low partial discharge level,minimal noise,and strong heat dissipation capacity.
2.SCB series products exceed national standards in performance parameters.
3.Safe,fire-resistant,pollution-free,and suitable for direct installation at load centers.
4.Maintenance-free,easy to install,and low overall operational cost.
5.High reliability.
6.Strong seismic resistance.
7.Moisture-proof and corrosion-resistant.

Technical Parameters

Technical data sheet of SC(B)14-100~2500/10 dry-type transformer

High voltage:10(10.5，11，6.6，6.3，6)kV　　Connection group:Dyn11orYyn0
Low voltage:0.4kV　　High-voltage tapping range: ±2x2.5%

Model	Impedance Uk (%)	No-load loss Po (W)	Load loss (120°C) Pk(W))	No-load current 1o(%)	Sound pressure level Lpa(AN)dB
SC（B）14-100/10	4	270	1415	0.7	42
SC（B）14-125/10	4	320	1665	0.7	42
SC（B）14-160/10	4	365	1915	0.7	42
SC（B）14-200/10	4	420	2275	0.7	43
SC（B）14-250/10	4	490	2485	0.7	43
SC（B）14-315/10	4	600	3125	0.7	45
SC（B）14-400/10	4	665	3590	0.7	45
SC（B）14-500/10	4	790	4390	0.6	46
SC（B）14-630/10	4	910	5290	0.6	46
SC（B）14-630/10	6	885	5365	0.6	46
SC（B）14-800/10	6	1035	6265	0.4	49
SC（B）14-1000/10	6	1205	7315	0.4	50
SC（B）14-1250/10	6	1420	8720	0.4	51
SC（B）14-1600/10	6	1665	10555	0.3	51
SC（B）14-2000/10	6	2075	13005	0.3	52
SC（B）14-2500/10	6	2450	15445	0.3	53
SC（B）14-1600/10	8	1665	10555	0.3	51
SC（B）14-2000/10	8	2075	13005	0.3	52
SC（B）14-2500/10	8	2450	15445	0.3	53

Technical data sheet of SC(B)18-100~2500/10 dry-type transformer

High voltage: 10(10.5，11，6.6，6.3，6)kV　　Connection group: Yd11, YNd11 or Dyn11
Low voltage: 0.4kV　　High-voltage tapping range: ±2x2.5%

Model	Impedance Uk (%)	No-load loss Po (W)	Load loss (120°C) Pk(W))	No-load current 1o(%)	Sound pressure level Lpa(AN)dB
SC（B）18-100/10	4	230	1415	0.7	42
SC（B）18-125/10	4	270	1665	0.7	42
SC（B）18-160/10	4	310	1915	0.7	42
SC（B）18-200/10	4	360	2275	0.7	43
SC（B）18-250/10	4	415	2485	0.7	43
SC（B）18-315/10	4	510	3125	0.7	45
SC（B）18-400/10	4	570	3590	0.7	45
SC（B）18-500/10	4	670	4390	0.6	46
SC（B）18-630/10	4	775	5290	0.6	46
SC（B）18-630/10	6	750	5365	0.6	46
SC（B）18-800/10	6	875	6265	0.4	49
SC（B）18-1000/10	6	1020	7315	0.4	50
SC（B）18-1250/10	6	1205	8720	0.4	51
SC（B）18-1600/10	6	1415	10555	0.3	51
SC（B）18-2000/10	6	1760	13005	0.3	52
SC（B）18-2500/10	6	2080	15445	0.3	53
SC（B）18-1600/10	8	1415	10555	0.3	51
SC（B）18-2000/10	8	1760	13005	0.3	52
SC（B）18-2500/10	8	2080	15445	0.3	53

10

20kV and 35kV SC(B) Series Dry Type Transformers

Overview

This series of products are used to transform grid power of 20kV or 35kV directly to 400V distribution power or 10kV transmission power for supply to users. With significant advantages, they are employed in increasingly more projects. Major advantages include:

1. Reduced land occupancy in construction of multi-stage substation projects produces significant social benefits.

2. Requiring less investment in construction contributes to higher economic efficiency.

3. The 10kV transmission and transformation procedure is omitted, having significantly reduced the operation and maintenance cost.

4. Transmission at high voltage and low current instead of low voltage and high current reduces line loss and the line operation cost.

5. 35kV is directly connected to a power consumption center to effectively improve the reliability of power supply.

Features

The SCB series 35kV excitation-free voltage regulating dry-type transformers manufactured by our company are products of low loss, conforming to requirements of GB/T1094.11, GB/T10228 and IEC60076.11. These products have the following characteristics:

1. High performance and low loss;

2. Use of high-quality silicon steel plates to effectively reduce noise, magnetic flux density, and magnetostriction of the silicon plates during operation.

3. Optimized high-voltage coil structure with better interlayer voltage and capacity distribution, having greatly enhanced the resistance of the products to atomospheric and operating over-voltage while improving the electric field distribution to further reduce the partial discharge of the products.

4. Configurable temperature control system and air-cooling device which can be automatically started when the load is too high to enhance the overload capacity of the equipment.

Technical Parameters

Technical data sheet of SC(B)10-200~2500/20 dry-type transformer

High voltage:20(22,24)kV
Low voltage:0.4kV

Connection group: Dyn11 or Yyn0
Insulation level: L1 125 AC 50/ L1 AC3

High-voltage tapping range: ±2x2.5%

Model	Impedance, Uk (%)	No-load loss, Po (W)	Load loss (120℃) Pk(W)	No-load current, 1o(%)	Sound pressure level, Lpa(AN)dB
SC（B）10-200/20	6	655	2940	1.4	47
SC（B）10-250/20	6	775	3420	1.2	47
SC（B）10-315/20	6	870	4080	1.2	48
SC（B）10-400/20	6	1030	4840	1.0	48
SC（B）10-500/20	6	1210	5790	1.0	50
SC（B）10-630/20	6	1370	6840	0.9	50
SC（B）10-800/20	6	1570	8260	0.9	51
SC（B）10-1000/20	6	1860	9780	0.8	52
SC（B）10-1250/20	6	2140	11500	0.8	52
SC（B）10-1600/20	6	2150	13800	0.8	53
SC（B）10-2000/20	6	2190	16300	0.6	53
SC（B）10-2500/20	6	2480	19300	0.6	54

Technical data sheet of SC11-800~25000/35 dry-type transformer

High voltage:35(38.5，37.5，36.5，33)kV
Low voltage: 11(10.5，6.3，6.0，3.15，1.14，0.8，0.69，0.63，0.55，0.48，0.4)kV

Connection group: Yd11, YNd11 or Dyn11
High-voltage tapping range: ±2x2.5%

Model	Impedance Uk (%)	No-load loss Po (W)	Load loss (120℃) Pk(W)	No-load current 1o(%)
SC11-800/35	6	2020	9400	0.85
SC11-1000/35	6	2400	10900	0.85
SC11-1250/35	6	2810	12900	0.75
SC11-1600/35	6	3320	15400	0.75
SC11-2000/35	7	3800	18200	0.65
SC11-2500/35	7	4370	21800	0.65
SC11-3150/35	8	5425	24500	0.65
SC11-4000/35	8	6310	29400	0.6
SC11-5000/35	8	7530	34900	0.55
SC11-6300/35	8	8910	40800	0.55
SC11-8000/35	9	10100	46000	0.45
SC11-10000/35	9	11600	55500	0.45
SC11-12500/35	9	14100	64600	0.35
SC11-16000/35	9	17300	76000	0.35
SC11-20000/35	10	20600	85500	0.3
SC11-25000/35	10	24300	101000	0.3

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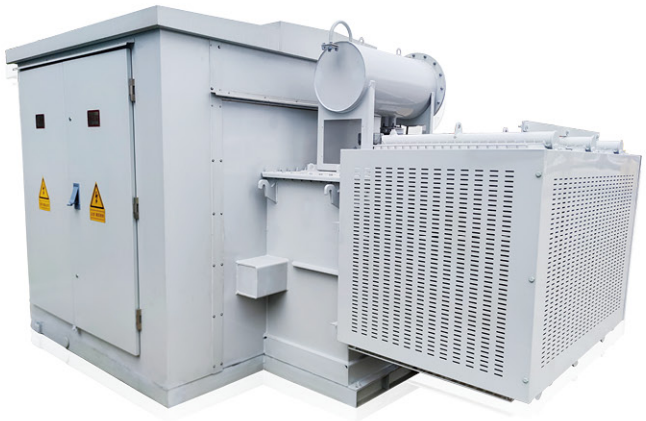
New Energy (Chinese Standard) Box Transformers



Overview

New energy (Chinese type) box transformer, or "Chinese transformer" for short. In many large photovoltaic and wind power projects, such as 35kV photovoltaic power generation projects, it is common to use such combined box transformers. Different from the two types of imported complete equipment, American and European transformers, Chinese box transformers have optimized design based on their characteristics and advantages to become more suitable for photovoltaic power generation plants.

Different from European transformers, Chinese box transformers have no transformer chambers, so that they occupy less land area; meanwhile, the incoming and outgoing line pattern of American transformers is adopted, having saved much copper material. Therefore, Chinese box transformers have less overall equipment cost than European transformers, requiring lower investment by users.

Use of busbar for connection between a high voltage switch and the transformer solves the safety problem present with cable connection.

Different compartments are designed for placement of the high voltage knife switch, the arc extinguishing chamber and the fuse, so that it is not required to shut down the whole line when replacing the fuse or the arc extinguishing chamber, and a single fan can be maintained without the need to stop other fans.

The Chinese box transformer is similar to American transformers in that it has the radiation fins installed in an exposed manner for fully natural ventilation. This reduces much electric energy loss and can also avoid over-temperature tripping that is likely to occur when fans fail to work properly in case of forced ventilation. By enclosing all live components inside, the box transformer also realizes dust-proofness.

With all these unique structural advantages, the Chinese box transformer can surely find its place in photovoltaic and other similar projects. Compared with European box transformers, the Chinese box transformer occupies less land area, and is more environment-friend and cost-effective.

Technical Parameters

Common transformer capacity

Rated capacity (kVA)	Voltage combination		Connection symbol	Short-circuit impedance(%)
	High voltage(kV)	Low voltage(kV)		
1000	35×2±2.5% 37×2±2.5% 38.5×2±2.5%	0.4 0.48 0.55 0.63 0.69 0.8 1.14	Yd11 Dy11	6.5 / 7 / 8 / 9
1250				
1600				
2000				
2200				
2500				
3150				
3450				
5500				
6300				
6900				
10000				
125000				

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New Energy Boost Converter

Overview

The new energy power conversion-booster integrated equipment is an optimized integration of a medium-voltage large power energy storage current transformer, a swithgear and a booster transformer. Featuring single-set large power, simple application, high flexibility in selection of the installation site, convenient operation and maintenance, the system can realize direct connection of 10/35kV to a power grid, requiring less design work of the complex high-voltage system with a shortened system design period and reduced system design cost. The equipment includes an oil-type transformer, PCS high and low-voltage switchgear cabinet, etc., with the voltage level of 6kV~35kV and capacity ranging between 0.5MW~6.6MW.

Product functions

1. The inverter and converter integrated design makes it convenient for transportation, installation, operation and maintenance; by integrating a local controller, it realizes centralized control over scheduling and online troubleshooting.

2. By integrating the efficient three level topology of an energy storage inverter, it can achieve forced air cooling at the maximum converter efficiency of 99%, 110% long-term overload capacity and no capacity reduction at 50℃ .

3. Suitable for many energy storage application scenarios, such as peak-load shifting, frequency and peak regulation, connection of auxiliary new energy to grid, etc., it has PO, VF, VSG and SVG, among other functions, and support off-grid operation and “black-start”.

Features

1. Energy storage PCS + booster transformer integrated design makes installation, operation and maintenance easy.

2. It has a wide range of DC working voltage, and can work with full load at up to 1,500V.

3. It supports battery charging and discharging management, and can be used in combination with EMS and BMS to realize multi-level protection of the system.

4.It allows quick power scheduling, off-grid operation and “black-start”, with high adaptability to power grid.

5.It has PQ, VF, SVG and other functions, and supports high- and low-voltage ride-through.

Technical Parameters

YB-40.5 inverter-booster integrated equipment

S.N.	Item	Parameters
1	Rated capacity (kVA)	500 630 1000 1250 1600 2000 2500 3125 4000 5000 6300
2	Voltage at the high-voltage output side (kV)	35～38.5/AC
3	DC voltage at the low-voltage input side (V)	DC1000/DC1500
4	Rated output power (kW)	500 630 1000 1250 1600 2000 2500 3125 4000 5000 6300
5	Boost isolation mode	Dry-type transformer/oil-immersed transformer/combined transformer
6	High-voltage side switch form	Circuit breaker + measurement and control protection Vacuum load break switch + fuse protection Oil-immersed load break switch + inserted fuse protection
7	AC low-voltage side switch form	Inverter integrated frame circuit breaker (ACB)
8	DC low-voltage side switch form	DC circuit breaker with plastic shell

Advanced Production and Testing Equipment

Qiyuan CNC Automated Slitting Line >>>

> It mainly works to slit silicon steel plates, ranking first among similar equipment nationwide in terms of width precision and low loss

Automated Strip Storage for Iron Core >>>

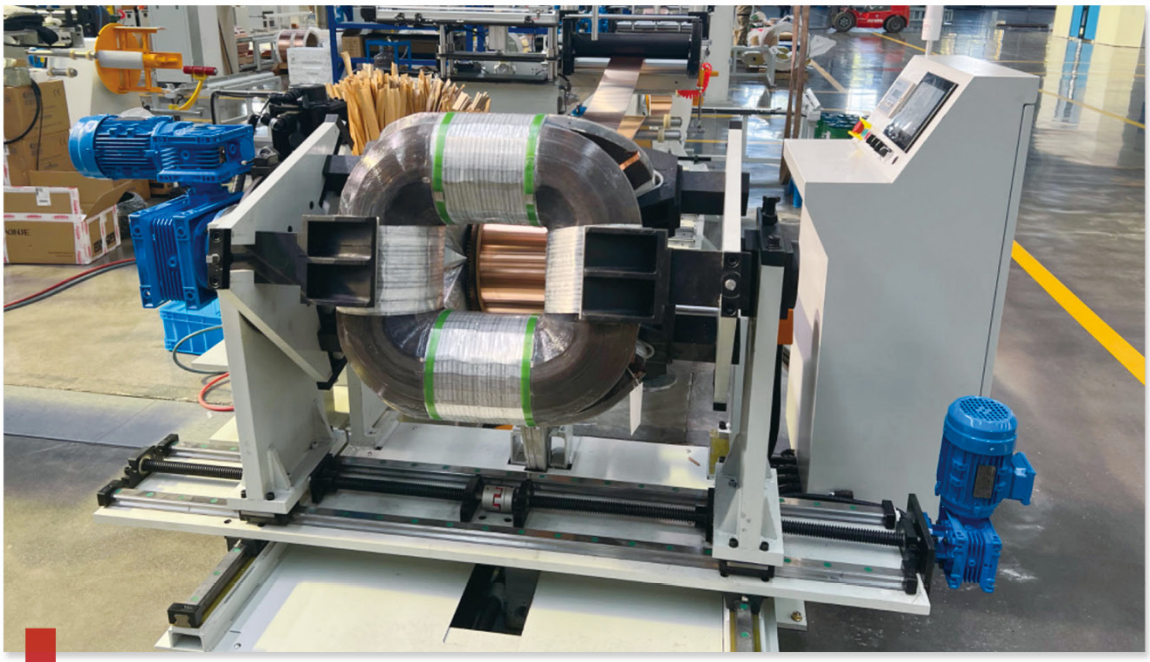
> It can realize information-based automated inbound and outbound operation of silicon steel plates after slitting, and automatic loading and unloading in a precise and fast manner, so that a reduced number of workers is needed.

CNC Foil Winding Machine >>>

> Efficient and automated production of foil windings

Advanced Production and Testing Equipment

Triangle Wound Core Coil Winding Machine >>>



> It can effectively produce foil coils that meet the specifications, and ensure the quality and stability of each product

Automatic Core Lamination System >>>

> It can realize automatic outbound operation of column storage and automatic lamination with high efficiency, reducing loss of silicon steel resulted from handling and manual lamination

Advanced Production and Testing Equipment

Intelligent Testing Center >>>

Vacuum Oil Injection Line >>>

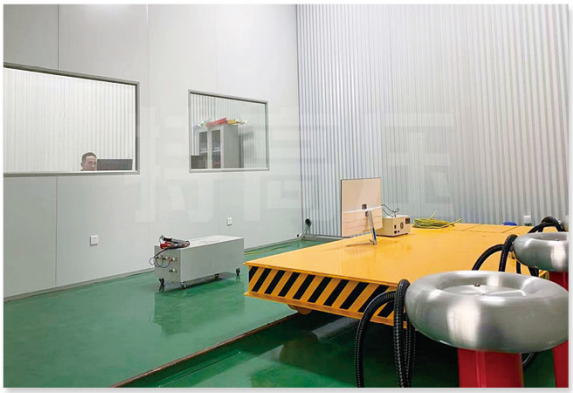
Hot Air Circulation Vacuum Drying Equipment >>>

Three-Dimensional Raw Material Storage >>>

Static Mixing and Pouring Equipment >>>

Advanced Production and Testing Equipment

Partial Discharge Laboratory >>>



Automatic Comprehensive Test Bench >>>

4,000kV Lightning Impact and Interception Generator >>>

400kV Lightning Impact and Interception Generator >>>

100kV Power Frequency Withstand Voltage Generator >>>

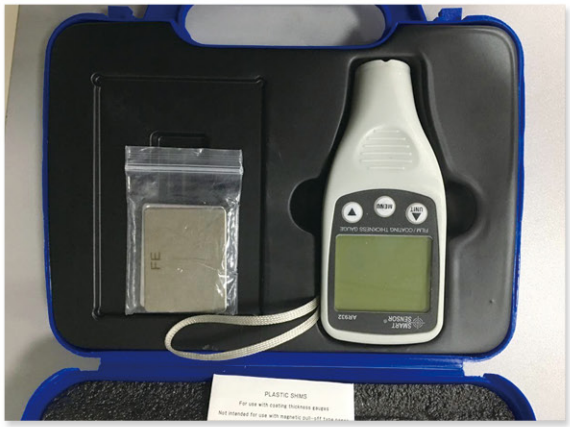
Advanced Production and Testing Equipment

Ground Resistance Tester >>>

DC Resistance Tester >>>

Insulation Resistance Tester >>>

Film Thickness Tester >>>

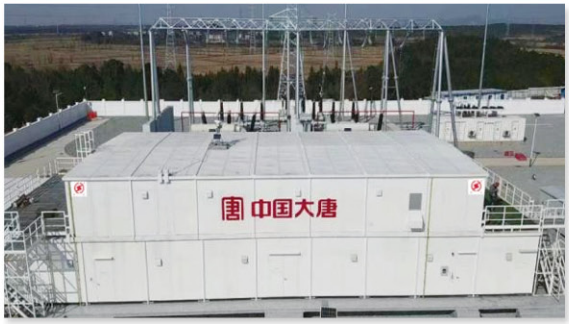


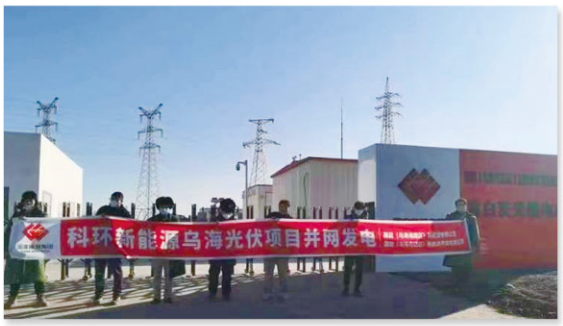
Testing and Detection Technology

All products are subject to strict control during the production process and quality assurance procedure. They have undergone stringent tests and inspections in accordance with national standards and customers' customization requirements before delivery. Those tests and inspections include partial discharge test, lightning resistance test, noise test, etc. Advanced testing and detection equipment and perfect testing system have assured the high quality of the products.

Qualifications

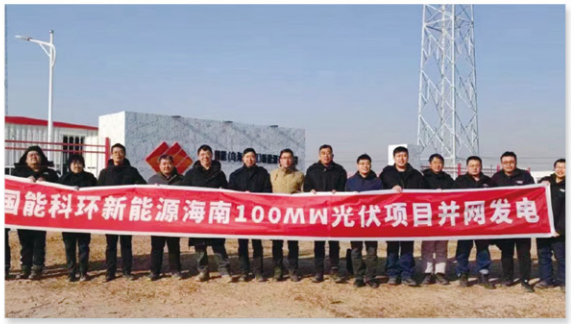
Classic Engineering





Hanggin Banner 200MW Project in Inner Mongolia

Xiasheng Centralized Wind Power Generation Project in Ninghe Dongjituo Town, Tianjin



Hainan 100MW Project

Customers and Applications

30 Years’ Commitment To The Electric Power Field
Forging Ahead By Pursuing Green Development
Based On Digital And Intelligent Technologies

S S T R A N S F O R M E R
A BUSINESS OF SH POWER

Address : No.7 Guangsheng Road, Guangling Economic Development Zone,
Yangzhou City, Jiangsu Province, China
Tel : 86-514-80330588
Website : www.shpowerglobal.com