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TRANSFORMER PRODUCT SELECTION MANUAL

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DENGGAO ELECTRIC CO., LTD.

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Company profile

Denggao Electric Co., Ltd. was founded in 2005 and is headquartered in the Economic Development Zone of Yueqing City. After more than a decade of hard work, it has developed into a modern enterprise that integrates research and development, design, manufacturing, trade, and service without any regional boundaries.

The company takes "building a technology-based, innovative, outward oriented, and diversified strong enterprise" as its development strategy, relying on core technologies with independent intellectual property rights, focusing on exploring the field of high and low voltage electrical manufacturing. Its leading products cover (intelligent) high-voltage vacuum circuit breakers, user boundary vacuum load switches, isolation switches, fuses, intelligent high and low voltage prepaid sales terminals, intelligent distribution terminals, (prepaid) high-voltage power metering boxes, transformers, lightning arresters, composite insulators, high and low voltage complete switchgear, building electrical appliances, etc; The product is widely used in fields such as power grids, power plants, power stations, petrochemicals, metallurgy, coal, railways, transportation, communication, and urban infrastructure. As a system service provider for the State Grid and Southern Power Grid, Denggao Electric undertakes and completes a large number of major domestic engineering projects, helping China's smart grid technology lead the world.

The company adheres to the business philosophy of "quality oriented, technology driven, brand marketing, and harmonious development", continuously increases research and development investment, comprehensively promotes product technology transformation and upgrading, and has established extensive cooperative relationships with well-known domestic universities and research institutions such as the Industrial Technology Research Institute of Harbin Institute of Technology, the School of Electrical Engineering of China Agricultural University, and China Metrology University, and has achieved many pioneering scientific research results. The company has won 34 provincial-level new products in Zhejiang Province; Has been rated as a national high-tech enterprise, a postdoctoral research workstation in Zhejiang Province, an enterprise industrial design center in Zhejiang Province, a clean production enterprise in Zhejiang Province, a research and development center for high-tech enterprises in Zhejiang Province, and a specialized, refined, special, and new small and medium-sized enterprise in Zhejiang Province. The company has passed ISO9001 quality management system, ISO 14001 environmental management system, ISO 45001 occupational health and safety management system certification, ISO 27001 information security management system, and GB/T27922 after-sales service evaluation system (five stars); All products have obtained relevant certificates such as "3C" and "test reports", and have obtained 80 national authorized patents and 19 software copyrights.

Facing the future, under the historical opportunities and challenges of the country's "the Belt and Road Initiative", adhering to the corporate spirit of "integrity, innovation, responsibility, and transcendence", shouldering the corporate mission of "creating opportunities for employees, creating value for customers, and creating wealth for the society", continue to emancipate the mind, deepen enterprise reform, accelerate the pace of transformation and upgrading, and lead the overall situation with a scientific outlook on development to strive for the construction of more smart grids in China and the world.







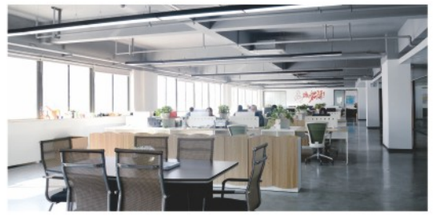
About "DengGao"

The company employs first class production equipment and manufacturing engineering, pays attentions to new products developing and manpower training, now, she has owned a complete set of researching and manufacturing technology for products.

Insisting on the goal of high quality and high accuracy, Denggao people will try their best to provide customers all over the wold with the most excellent products, and work hard to share a larger marker in the competitive electrical field.









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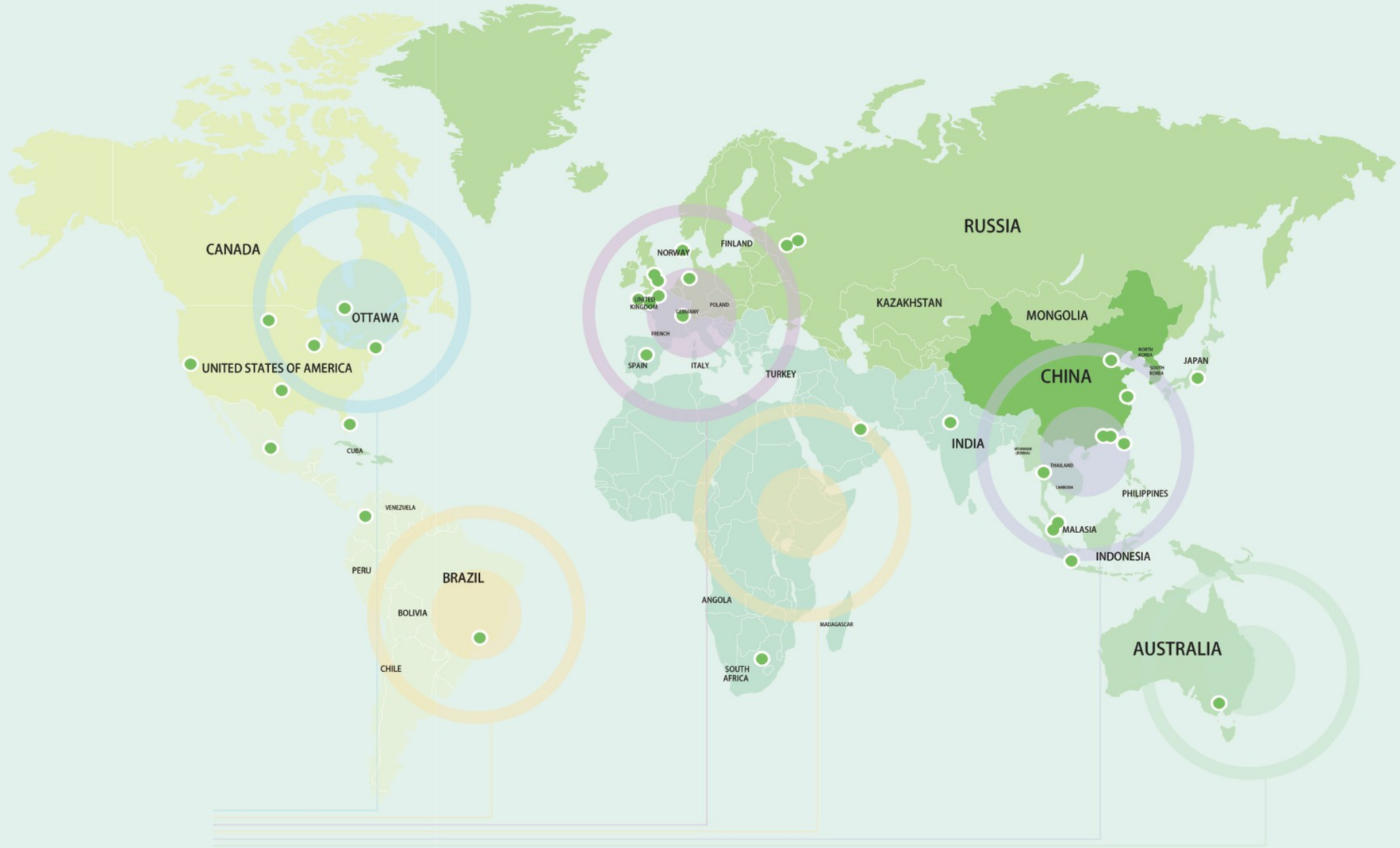
Persistent focus, excellence,
a little disrespect, the pursuit of excellence.

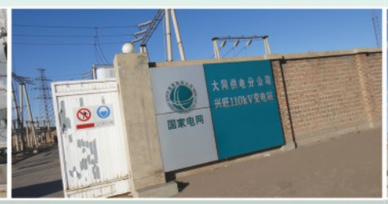
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MARKET SERVICE

Denggao Electric CO.,Ltd. has set up sound marketing system, carries out development strategy "Brand marketing and Network marketing". Denggao products are sold wellnot only in China but also in Southeast Asia countries and regions, they are enjoyed andtrusted by the customers, as well as used by national major projects.

The company vigorously implements three strategies: technological innovation, capital business, internationalization expanding, in order to make Denggao turn to high-tech industry enterprise from traditional enterprise, create internationalization enterprisethat presents globalization operation.



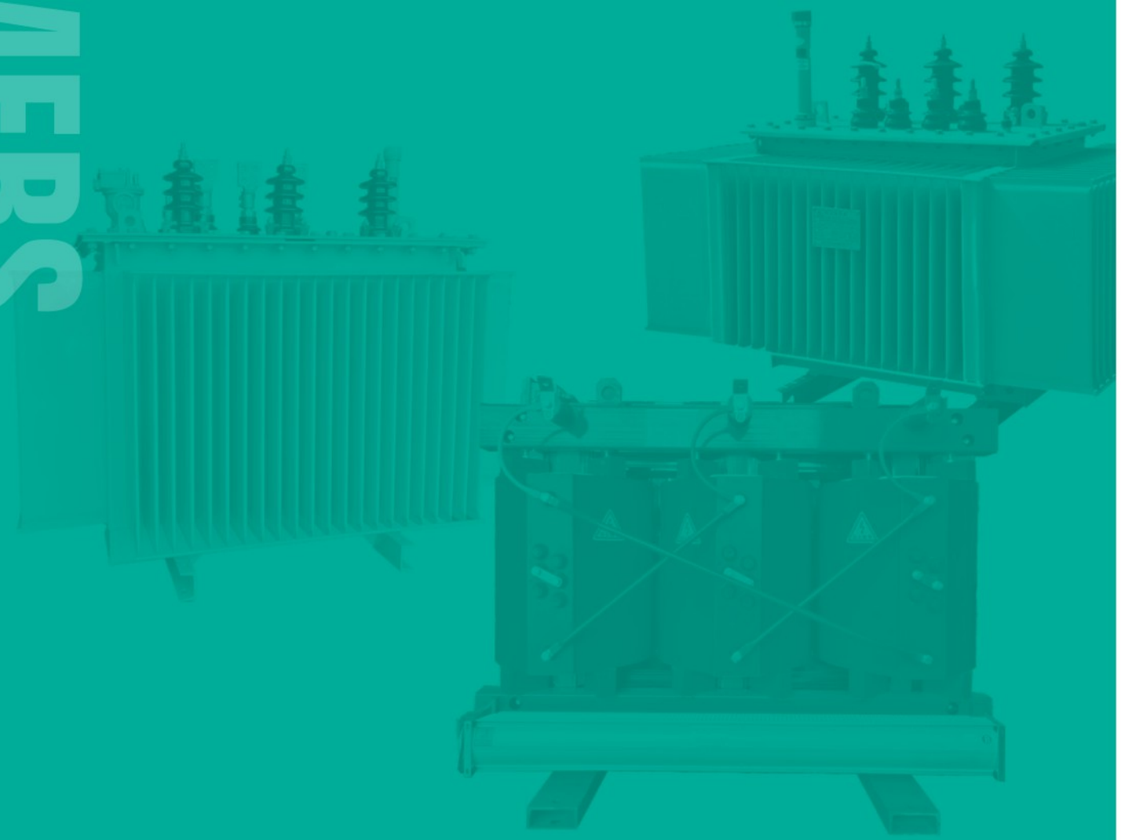









TRANSFORMERS



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S11, S13 Type

6-10kV Oil-immersed
Distribution Transformer



Overview

The three-phase oi-immersed distribution transformer produced by our company adopts a new type of insulation structure to improve the short-circuit resistance. The core is made of high quality cold rolled silicon steel sheet. The high voltage winding are made of high quality oxygen free copper wire, and the multi-ayer cylinder structure is adopted. All fasteners are specially treated. The product has the characteristics of high efficiency low loss, can save a lot of power consumption and operating costs, social benefits are significant is the national promotion of high-tech products.

Model meaning

S	13	–	M	□	/	10
Three-phase	Performance level code		Fully sealed type	Rated capacity (kVA)		High voltage side voltage level (kV)

Structural features

◇ Iron core: The iron core is suitable for cold rolled silicon steel sheet with high permeability grain orientation. The core is a core, full oblique joint overlapping core, the core column is a multi-step circular cross section, the yoke and the core are equal cross section.

◇ Winding : The winding are made of corrugated oil channel, no paint dipping process, tight belt binding rolling, and the winding are concentric coils. The high voltage winding have taps that require high voltage connection and are led to the tap switch, is installed on the box cover, and the tap voltage can be changed after the power supply is cut off.

◇ Safety protection device

A. 800-2000kVA transformer equipped with gas relay.

B. 800-2000kVA transformer equipped with pressure release valve.

◇ Oil temperature measuring device

A. The transformer is equipped with a glass thermometer tube seat, which is located at the top of the oil tank and extends into the oil120 ± 10mm.

B. 1000-2000kVA transformer equipped with outdoor signal thermometer.

◇ Transformer oil tank and accessories

A. Transformer is generally not supplied to the trolley, and the welding position of the bracket at the bottom of the box should comply with the provisions of GB6451-1999.

B. The lower wall of the oil tank is provided with an oil sample valve, and the lower part of the transformer oil tank is provided with an oil drain valve large enough.

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Scope of application

S11-M-30~2000/10, S13-M-30~2000/10 fully sealed oi-immersed transformers are suitable for power systems with AC 50Hz and rated working voltage of 10kv or below, as distribution transformers in petroleum, metallurgy, chemical industry, textile, light industry and other enterprises and places with large dust.

Technical parameters

◇ S11 Type 6-10kV oil-immersed distribution transformer

Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)		No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss		
30	6 6.3 10 10.5 11	±5% or ±2×2.5%	0.4	Yyn0 or Dyn11	100	630/600	1.5	4.0
50					130	910/870	1.3	
63					150	1090/1040	1.2	
80					180	1310/1250	1.2	
100					200	1580/1500	1.1	
125					240	1890/1800	1.1	
160					280	2310/2200	1.1	
200					340	2730/2600	1.0	
250					400	3200/3050	1.0	
315					480	3830/3650	0.9	
400					570	4520/4300	0.9	
500					680	5410/5150	0.8	
630					810	6200	0.8	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	5.0
2500					2290	21200	0.4	

◇ S13 Type 6-10kV oil-immersed distribution transformer

Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)		No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss		
30	6 6.3 10 10.5	±5% or ±2×2.5%	0.4	Yyn0 or Dyn11	80	630/600	1.5	4.0
50					100	910/870	1.3	
63					110	1090/1040	1.2	
80					130	1310/1250	1.2	
100					150	1580/1500	1.1	
125					170	1890/1800	1.1	
160					200	2310/2200	1.1	
200					240	2730/2600	1.0	
250					290	3200/3050	1.0	
315					340	3830/3650	0.9	
400					410	4520/4300	0.9	
500					480	5410/5150	0.8	
630					570	6200	0.8	4.5
800					700	7500	0.6	
1000					830	10300	0.6	
1250					970	12000	0.5	
1600					1170	14500	0.5	
2000					1550	18300	0.4	5.0
2500					1830	21200	0.4	

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S20 Type
6-10kV Oil-immersed
Distribution Transformer



Overview

On the basis of traditional structure and technology, S20 oil-immersed transformer has made many improvements, such as the use of spiral coil with longitudinal oil passage, internal heat dissipation is better. The effective support of coil end face is improved, and the ability to resist short circuit current is stronger. It is an oil-immersed transformer with energy efficiency grade 2.
In the production process of the new energy-saving transformer, high-orientatior silicon steel sheet is used as the core material, and high-conductivity oxygen-free copper is used as the coil material. No-load loss can be reduced by more than 10% load loss can be reduced by more than 20%. More in line with the national concept of energy saving and emission reduction, in the operation of the power grid, can make the economic benefits of energy-saving transformers greater.

Model meaning

S	20	-	M	□	/	10
Three-phase	Performance level code		Fully sealed type	Rated capacity (kVA)		High voltage side voltage level (kV)

Scope of application

S20-30~2500/10 oil-immersed transformer is suitable for the power system with AC 50Hz and rated working voltage of 10kV and below, as the transformer for small and medium-sized substations and industrial and mining enterprises, institutions power distribution and lighting load.

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Structural features

◇ **Reduce no-load loss**
The five grade silicon steel sheet joint with excellent performance is adopted to improve the core structure and process and reduce the process coefficient. Do not stack magnetic yoke silicon steel sheet, do not use paint, shear burr should be controlled below 0.02mm.

◇ **Reduce the load loss**
The conductivity is improved by using conductors drawn by anaerobic copper rods with higher conductivity than electrolytic copper. Reduce the current density appropriately and improve the insulation structure. Use half oil circuit, prefabricated insulation materials, complete set of winding. self-adhesive wire and self-adhesive paper to reduce the insulation volume, increase the winding filing coefficient, reduce the winding size and reduce the load loss.

◇ **Reduce the loss of other components**
Improve the core structure: improve the structure, control the winding magnetic leakage during the design process, adjust the balance of ampere-turns to reduce the loss of impurities in the tank and other structural parts. Waveform oil tank and seat radiator are adopted to improve heat dissipation efficiency.

Technical parameters

Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)			No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss			
						Dyn11/Yzn11	Yyn0		
30	6 6.3 10	±5% or ±2×2.5%	0.4	Yyn0 Dyn11 Yzn11	70	505	480	1.5	4.0
50					90	730	695	1.3	
63					100	870	830	1.2	
80					115	1050	1000	1.2	
100					135	1265	1200	1.1	
125					150	1510	1440	1.1	
160					180	1850	1760	1.1	
200					215	2185	2080	1.0	
250					260	2560	2440	1.0	
315					305	3065	2920	0.9	
400					370	3615	3440	0.9	
500					430	4330	4120	0.8	
630					510	4960		0.8	4.5
800					630	6000		0.6	
1000					745	8240		0.6	
1250					870	9600		0.5	
1600					1050	11600		0.5	
2000					1225	14640		0.4	5.0
2500					1440	14840		0.4	

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S22 Type
6-10kV Oil-immersed
Distribution Transformer



Overview

The S22 oil-immersed transformer produced by our company is an energy-saving transformer, and the energy efficiency grade has reached level 1. The capacity covers 30kVA-2500kVA, which has obvious advantages in no-load loss and load loss.
Through the optimization and innovative design of core and coil structure, various losses caused by core, winding and oil can be effectively reduced to achieve the purpose of reducing no-load loss and noise. The no-load loss is 20% lower than the level 3 energy efficiency transformer, the load lo is 30% lower than the level 3 energy efficiency transformer, the noise level is 20% lower than the current national standard JB/T 10088-2004, the product performance level has reached the domestic advanced level, is the national energy saving transformer.

Model meaning

S	22	-	M	□	/	10
Three-phase	Performance level code		Fully sealed type	Rated capacity (kVA)		High voltage side voltage level (kV)

Scope of application

S22-30~2500/10 oil-immersed transformer is suitable for the power system with AC 50Hz and rated working voltage of 10kV and below, as the transformer for small and medium-sized substations and industrial and mining enterprises, institutions power distribution and lighting load.

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Structural features

◇ **Reduce no-load loss**
The five grade silicon steel sheet joint with excellent performance is adopted to improve the core structure and process and reduce the process coefficient. Do not stack magnetic yoke silicon steel sheet, do not use paint, shear burr should be controlled below 0.02mm.

◇ **Reduce the load loss**
The conductivity is improved by using conductors drawn by anaerobic copper rods with higher conductivity than electrolytic copper. Reduce the current density appropriately and improve the insulation structure. Use half oil circuit, prefabricated insulation materials, complete set of winding. self-adhesive wire and self-adhesive paper to reduce the insulation volume, increase the winding filing coefficient, reduce the winding size and reduce the load loss.

◇ **Reduce the loss of other components**
Improve the core structure: improve the structure, control the winding magnetic leakage during the design process, adjust the balance of ampere-turns to reduce the loss of impurities in the tank and other structural parts. Waveform oil tank and seat radiator are adopted to improve heat dissipation efficiency.

Technical parameters

Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)			No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss			
						Dyn11/Yzn11	Yyn0		
30	6 6.3 10	±5% or ±2×2.5%	0.4	Yyn0 Dyn11 Yzn11	70	455	430	1.5	4.0
50					90	655	625	1.3	
63					100	785	745	1.2	
80					115	945	900	1.2	
100					135	1140	1080	1.1	
125					150	1360	1295	1.1	
160					180	1665	1585	1.1	
200					215	1970	1870	1.0	
250					260	2300	2195	1.0	
315					305	2760	2630	0.9	
400					370	3250	3095	0.9	
500					430	3900	3710	0.8	
630					510	4460		0.8	4.5
800					630	5400		0.6	
1000					745	7415		0.6	
1250					870	8640		0.5	
1600					1050	10440		0.5	
2000					1225	13180		0.4	5.0
2500					1440	13360		0.4	

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S22-M.RL Type

6-10kV Three-dimensional Coil Core Oil-immersed Distribution Transformer



Overview

S22-M.RL three-dimensional coil-core oil-immersed transformer adopts three-phase symmetrical body structure, the magnetic circuit between the three phases is completely symmetrical and equal in length, and the iron core is made of continuous seamless coil, the transformer has low no-load loss, low no-load current, low noise, and remarkable power-saving effect. Improved voltage quality and reliability is a green energy-saving equipment for urban and rural power grid technology transformation project widely used in the new products.

Model meaning

S	22	-	M	-	R	-	L	□	/	10
Three-phase	Performance level code		Fully sealed type		Coil core		Solid	Rated capacity (kVA)		High voltage side voltage level (kV)

Scope of application

S22-30~2500/10 oil-immersed transformer is suitable for the power system with AC 50Hz and rated working voltage of 10kV and below, as the transformer for small and medium-sized substations and industrial and mining enterprises, institutions power distribution and lighting load.

Structural features

◇ **Low loss**

The three-dimensional coil core has small jointless reluctance, the magnetic circuit at the corner and the magnetic direction of the silicon steel sheet are consistent, the winding is tight and the filling coefficient is high, and the core is light in weight. Compared with the traditional core oil immersed transformer, the no-load loss can be reduced by 18%-28%.

◇ **Low running noise**

The noise level of the three-dimensional coil oil immersed transformer is 5-10dB lower than that of the laminated core oil immersed transformer.

◇ **Strong short-circuit resistance**

The body is in the shape of a three-dimensional triangular prism, with pull screws all around and in the center. It is integrated with the upper and lower iron yoke insulation and laminated wood block, which can effectively resist the axial and radial mechanical stress during the short circuit of corporal punishment.

Technical parameters

Rated capacity (kVA)	Losses (W)			Short circuit impedance (%)
	No-load loss	On-load loss		
		Dyn11/Yzn11	Yyn0	
30	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	460	4460		4.5
800	560	5400		
1000	665	7415		
1250	780	8640		
1600	940	10440		
2000	1085	13180		5.0
2500	1280	13360		

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SH15 Type

6-10kV Amorphous Alloy
Oil-immersed Transformer



Overview

SH15 amorphous alloy transformer is a new technology of energy saving power distribution equipment, the energy saving effect is mainly from the use of a new type of material with excellent soft magnetic properties, which is made of iron, cobalt, silicon, boron, carbon and other materials in accordance with a certain proportion, and made by rapid cooling process. It has high saturation magnetic induction, low coercivity, low loss, low excitation current and good temperature stability. This kind of transformer uses ferrous amorphous metal as the iron core. Because the material does not have a long range ordered structure, its magnetization and demagnetization are easier than common magnetic materials. Therefore, the no-load loss of amorphous alloy transformer is very low, no-load loss decreases by 70-80%, no-load current decreases by 50%, and the energy-saving effect is very obvious. It is a kind of green and environmentally friendly energy-saving transformer.

Model meaning

S	(B)	H	15	-	M	-	□	/	□
Three-phase	Low-voltage foil-wound core	Amorphous alloy iron core	Performance level code		Fully sealed		Rated capacity (kVA)		Voltage class (kV)

Scope of application

SH15 amorphous alloy transformer can be used as a distribution transformer, widely applicable to the power supply system urban network renovation, also can be used for multi-storey buildings, airports, subway stations, seaports, subway stations to fire safety, environmental protection have strict, special requirements of a variety of places.

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Structural features

- ◇ The core is a coil core structure, with three phases and five columns, and the section is rectangular.
- ◇ Low loss: the transformer core is made of amorphous allo strip coil, and the no-load loss is about 60% lower than that of the S11 transformer.
- ◇ Anti-short circuit: the coil is rectangular, the transformer high voltage is wound by acetal enamelled wire, and the low voltage is copper foil coil, which enhances the transformer's ability to withstand short circuit.
- ◇ Optimize power supply quality: Dyn11 is adopted for transformer connection group to reduce the influence of harmonics on the power grid and significantly improve power supply quality.
- ◇ Maintenance-free: The tank adopts the fully sealed structure, prolonging the service life and free of maintenance.
- ◇ Good insulation performance: The transformer adopts vacuum oiling, which can completely eliminate bubbles in the coil to ensure stable insulation performance.
- ◇ The oil storage tank is cancelled, and the oil pipe is replaced by a chip radiator as a cooling component. There is an inflatable cushion above the oil tank, which can be compressed with the volume expansion of the transformer oil.

Technical parameters

Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)			No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss			
						Dyn11/Yzn11	Yyn0		
30	6 6.3 10	±5% or ±2×2.5%	0.4	Yyn0 Dyn11 Yzn11	33	630	600	1.5	4.0
50					43	910	870	1.2	
63					50	1090	1040	1.1	
80					60	1310	1250	1	
100					75	1580	1500	0.9	
125					85	1890	1800	0.8	
160					100	2310	2200	0.6	
200					120	2730	2600	0.6	
250					140	3200	3050	0.6	
315					170	3830	3650	0.5	
400					200	4520	4300	0.5	
500					240	5410	5150	0.5	
630					320	6200		0.3	4.5
800					380	7500		0.3	
1000					450	10300		0.3	
1250					530	12000		0.2	
1600					630	14500		0.2	
2000					750	18300		0.2	5.0
2500					900	21200		0.2	

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35kV Class
On-load Regulating Oil-immersed Power Transformer



Overview

The 35kV on-load regulating transformer produced by our company can adjust the voltage automatically or manually within the voltage regulating range by means of on-load regulating switch in the load running state, so as to ensure the stability of the output voltage. Especially suitable for stable voltage requirements and power grid voltage changes larger, more frequent places. This product environmental protection effect is remarkable, no-load loss load loss greatly reduced. Superior performance, its performance index can reach the domestic advanced level.

Model meaning

S	Z	□	–	□	/	35
Three-phase	On-lead voltage regulation	Performance level code		Rated capacity (kVA)		High voltage side voltage level (kV)

Scope of application

It is suitable for rural power grid with large seasonal load variation range, and also suitable for some power distribution areas such as urban business district, industrial zone and development zone with significant diurnal load variation.

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Structural features

◇ **Reduce no-load loss**

The five grade silicon steel sheet joint with excellent performance is adopted to improve the core structure and process and reduce the process coefficient. Do not stack magnetic yoke silicon steel sheet, do not use paint, shear burr should be controlled below 0.02mm.

◇ **Reduce the load loss**

The conductivity is improved by using conductors drawn by anaerobic copper rods with higher conductivity than electrolytic copper. Reduce the current density appropriately and improve the insulation structure. Use half oil circuit, prefabricated insulation materials, complete set of winding. self-adhesive wire and self-adhesive paper to reduce the insulation volume, increase the winding filing coefficient, reduce the winding size and reduce the load loss.

◇ **Reduce the loss of other components**

Improve the core structure: improve the structure, control the winding magnetic leakage during the design process, adjust the balance of ampere-turns to reduce the loss of impurities in the tank and other structural parts. Waveform oil tank and seat radiator are adopted to improve heat dissipation efficiency.

Technical parameters

Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)		No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss		
800	35	±3×2.5%	0.4	Yyn0	1250	9880	0.90	6.5
1000					1500	12160	0.90	
1250					1770	14630	0.81	
1600					2160	17480	0.77	
2000					2300	19200	0.50	
2500					2720	20600	0.50	
3150	35~38.5				3230	24700	0.50	7.0
4000					3870	29100	0.50	
5000					4640	34200	0.50	
6300					5630	36700	0.50	8.0
8000				Dyn11	7870	40600	0.40	
10000					9280	48000	0.40	
12500					10000	56800	0.35	
1600					13100	70300	0.35	
2000					15500	82700	0.30	
25000					18300	97800	0.30	10.0
31500					21800	116000	0.30	

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SC(B)11, SC(B)12 Type

6-10kV Dry Type Transformer



Overview

The coils of SC(B)11 and SC(B)12 dry transformers are wrapped by epoxy resin, with flame-retardant, explosion-proof, maintenance-free, pollution-free and other characteristics, and can be directly installed in the load center. Good moisture-proof performance after shutdown without pre-drying can be put into operation. It is widely used in new factories, residential buildings and various special occasions. At the same time, the scientific and reasonable design and pouring process make the product loss is low, the local discharge power is small, the noise is low, the heat dissipation ability is strong, under the condition of forced air cooling can run for a long time under the 120% rated load, the product is equipped with perfect temperature protection and 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.

Model meaning

S	C	B	11/12	-	□	/	□
Three-phase	Epoxy casting type	Low-voltage foil-wound coil	Performance level code		Rated capacity (kVA)		Voltage level (kV)

Structural features

◇ Safe, not easy to burn, fire can be directly installed in the load center.
◇ Maintenance-free, easy installation, low economic operation cost.
◇ Good moisture-proof, can operate normally under 100% humidity.
◇ Low loss, low noise, good insulation, small local discharge, no pollution, loss.
◇ Good heat dissipation, strong overload capacity, under the condition of air cooling, can be over 50% of the load.
◇ Reliable operation, with perfect temperature protection and control system, can ensure the transformer safe operation.
◇ Small size, light weight, stable structure, strong resistance to lightning impact, high mechanical strength, temperature change resistance, strong resistance to sudden short circuit.

Scope of application

Applicable to high-rise buildings, commercial centers, residential areas, hospitals, chemical plants, nuclear power plants, ships and other requirements of fire, explosion-proof, moisture-proof distribution network and industrial and mining enterprise power supply and distribution system and other important or special environment places. You can configure different protection levels based on different application environments.

Technical parameters

◇ SCB11 Type 6-10kV dry type transformer

Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)		No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss		
30	6 6.3 6.6 10 10.5 11	±5% or ±2×2.5%	0.4	Yyn0 or Dyn11	170	710	2.0	4.0
50					240	1000	2.0	
80					330	13980	1.5	
100					360	1570	1.5	
125					420	1850	1.3	
160					480	2130	1.3	
200					550	2530	1.1	
250					640	2760	1.1	
315					790	3470	1.0	
400					880	3990	1.0	
500					1040	4880	0.85	
630					1200	5880	0.85	
630					1170	5960	0.85	6.0
800					1360	6960	0.85	
1000					1590	8130	0.85	
1250					1880	9690	0.85	
1600					2200	11700	0.85	
2000					2740	14400	0.7	
2500					3240	17100	0.7	

◇ SCB12 Type 6-10kV dry type transformer

Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)		No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss		
30	6 6.3 6.6 10 10.5 11	±5% or ±2×2.5%	0.4	Yyn0 or Dyn11	150	710	2.3	4.0
50					215	1000	2.2	
80					295	1380	1.7	
100					320	1570	1.7	
125					375	1850	1.5	
160					430	2130	1.5	
200					495	2530	1.3	
250					575	2760	1.3	
315					705	3470	1.1	
400					785	3990	1.1	
500					930	4880	1.1	
630					1070	5880	0.90	
630					1040	5960	0.90	6.0
800					1215	6960	0.90	
1000					1415	8130	0.90	
1250					1670	9690	0.90	
1600					1960	11730	0.90	
2000					2440	14450	0.7	
2500					2880	17170	0.7	

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SC(B)13 Type
6-10kV Dry Type Transformer



Overview

SCB13 type epoxy resin pouring three-coherent transformer has the advantages of high mechanical strength, good heat dissipation performance, strong over load capacity, small local release, low loss, low noise, maintenance-free, easy installation, good moisture resistance, et. It can replace oil-immersed transformer installed directly in the load center, and can run 120% rated load under forced air cooling conditions. After shutdown, it can be put into operation without pre-drying. SCB13 dry type transformer material quality, scientific formula, heat resistance grade F and H, can be equipped with perfect temperature detection and protection system, for dry type transformer safe operation to provide reliable guarantee. At the same time, different protection levels of the shell can be configured according to the different use environment.

Model meaning

S	C	B	13	-	□	/	□
Three-phase	Epoxy casting type	Low-voltage foil-wound coil	Performance level code		Rated capacity (kVA)		Voltage level (kV)

Scope of application

Applicable to high-rise buildings, commercial centers, residential areas, hospitals, chemical plants, nuclear power plants, ships and other requirements of fire, explosion-proof moisture-proof distribution network and industrial and mining enterprise power supply and distribution system and other important or special environment places. You can configure different protection levels based on different application environments.

Structural features

- ◇ Low loss and low noise, the use of high quality cold rolled silicon steel sheet stacked, full oblique joint, the use of special processing technology, effectively reduce the vibration and noise during the operation, and computer optimization design and other materials, new process, new technology, making transformer lower loss, more quiet.
- ◇ High reliability, reasonable structure, high efficiency, waveform distortion, easy to use reliable, can run for a long time. The performance indicators fully comply with the GB/T 10228-2008 dry type transformer standard requirements, can be isolated from the main grid power supply, ant-impact anti-interference, anti-lightning.
- ◇ Environmental protection characteristics, with heat resistance, moisture resistance, stability, chemical compatibility, low temperature, radiation resistance and non-toxicity, high standard of safety, non-combustible resin.
- ◇ Good insulation performance. Dry transformer adopts excellent insulation material and technology, can effectively prevent short circuit, and does not generate any heat.
- ◇ High quality, excellent iron core structure, the most ideal production design makes the transformer overload ability is strong, strong short-circuit resistance, over voltage has strong insulation ability, further improve the service life of the transformer.

Technical parameters

Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)		No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss		
30	6 6.3 6.6 10 10.5 11	±5% or ±2×2.5%	0.4	Yyn0 or Dyn11	135	640	2.0	4.0
50					195	900	2.0	
80					265	1240	1.5	
100					290	1410	1.5	
125					340	1660	1.3	
160					385	1910	1.3	
200					445	2270	1.1	
250					515	2480	1.1	
315					635	3120	1.0	
400					705	3590	1.0	
500					835	4390	0.85	
630					965	5290	0.85	
630					935	5360	0.85	6.0
800					1090	6260	0.85	
1000					1270	7310	0.85	
1250					1500	8720	0.85	
1600					1760	10500	0.85	
2000					2190	13000	0.7	
2500					2590	15400	0.7	

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SC(B)14, SC(B)18 Type

6-10kV Dry Type Transformer



Overview

SCB18 dry type transformer is a new type of dry type transformer that conforms to the level 1 energy efficiency standard of GB20052-2020 National Standard for Energy Efficiency of Power Transformers and Energy Efficiency Grade. SCB14 dry type transformer is a type 2 dry type transformer with energy efficiency grade, and both of them are energy saving power transformers. Transformer energy efficiency not only includes transformer rated loss and operation efficiency, but also refers to the comprehensive energy utilization benefit of transformer throughout its life cycle, including raw material acquisition, design and manufacturing, operation and maintenance, as well as scrap recovery and reuse. On the premise of satisfying the function and reliability of power transformer the energy efficiency of transformer can be improved in the whole life cycle of transformer by improving its performance, improving its operation efficiency and reducing the comprehensive operation and maintenance cost.

Model meaning

S	C	B	14/18	-	□	/	□
Three-phase	Epoxy casting type	Low-voltage foil-wound coil	Performance level code		Rated capacity (kVA)		Voltage level (kV)

Structural features

◇ Safe, not easy to burn, fire can be directly installed in the load center.
◇ Maintenance-free, easy installation, low economic operation cost.
◇ Good moisture-proof, can operate normally under 100% humidity.
◇ Low loss, low noise, good insulation, small local discharge, no pollution, loss.
◇ Good heat dissipation, strong overload capacity, under the condition of air cooling, can be over 50% of the load.
◇ Reliable operation, with perfect temperature protection and control system, can ensure the transformer safe operation.
◇ Small size, light weight, stable structure, strong resistance to lightning impact, high mechanical strength, temperature change resistance, strong resistance to sudden short circuit.

Scope of application

Applicable to high-rise buildings, commercial centers, residential areas, hospitals, chemical plants, nuclear power plants, ships and other requirements of fire, explosion-proof, moisture-proof distribution network and industrial and mining enterprise power supply and distribution system and other important or special environment places. You can configure different protection levels based on different application environments.

Technical parameters

◇ SCB14 Type 6-10kV dry type transformer

Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)				No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss				
						B(100℃)	F(120℃)	H(145℃)		
30	6 6.3 10	±5% ±2×2.5% (+3/-1×2.5%)	0.4	Yyn0 Dyn11 Yzn11	130	605	640	685	2.3	4.0
50					185	845	900	965	2.2	
80					250	1160	1240	1330	1.7	
100					270	1330	1415	1520	1.7	
125					320	1565	1665	1780	1.5	
160					365	1800	1915	2050	1.5	
200					420	2135	2275	2440	1.3	
250					490	2330	2485	2665	1.3	
315					600	2945	3125	3355	1.1	
400					665	3375	3590	3850	1.1	
500					790	4130	4390	4705	1.1	
630					910	4975	5290	5660	0.9	
630					885	5050	5365	5760	0.9	6.0
800					1035	5895	6265	6715	0.9	
1000					1205	6885	7315	7885	0.9	
1250					1420	8190	8720	9335	0.9	
1600					1665	9945	10555	11320	0.9	
2000					2075	12240	13005	14005	0.7	
2500					2450	14535	15445	16605	0.7	

◇ SCB18 Type 6-10kV dry type transformer

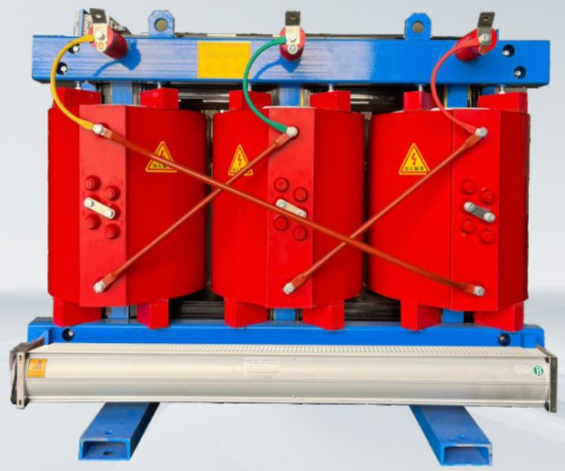
Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)				No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss				
						B(100℃)	F(120℃)	H(145℃)		
30	6 6.3 10	±5% ±2×2.5% (+3/-1×2.5%)	0.4	Yyn0 Dyn11 Yzn11	105	605	640	685	2.3	4.0
50					155	845	900	965	2.2	
80					210	1160	1240	1330	1.7	
100					230	1330	1415	1520	1.7	
125					270	1565	1665	1780	1.5	
160					310	1800	1915	2050	1.5	
200					360	2135	2275	2440	1.3	
250					415	2330	2485	2665	1.3	
315					510	2945	3125	3355	1.1	
400					570	3375	3590	3850	1.1	
500					670	4130	4390	4705	1.1	
630					775	4975	5290	5660	0.9	
630					750	5050	5365	5760	0.9	6.0
800					875	5895	6265	6715	0.9	
1000					1020	6885	7315	7885	0.9	
1250					1205	8190	8720	9335	0.9	
1600					1415	9945	10555	11320	0.9	
2000					1760	12240	13005	14005	0.7	
2500					2080	14535	15445	16605	0.7	

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SC(B)13 Type
20kV Dry Type Transformer



Overview

SCB13 type epoxy resin pouring three-coherent transformer has the advantages of high mechanical strength, good heat dissipation performance, strong over load capacity, small local release, low loss, low noise, maintenance-free, easy installation, good moisture resistance, etc. It can replace oil-immersed transformer installed directly in the load center, and can run 120% rated load under forced air cooling conditions. After shutdown, it can be put into operation without pre-drying. SCB13 dry type transformer material quality scientific formula, heat resistance grade F and H can be equipped with perfect temperature detection and protection system, for dry type transformer safe operation to provide reliable guarantee. At the same time, different protection levels of the shell can be configured according to the different use environment.

Model meaning

S	C	B	13	-	□	/	□
Three-phase	Epoxy casting type	Low-voltage foil-wound coil	Performance level code		Rated capacity (kVA)		Voltage level (kV)

Scope of application

Applicable to high-rise buildings, commercial centers, residential areas, hospitals, chemical plants, nuclear power plants, ships and other requirements of fire, explosion-proof moisture-proof distribution network and industrial and mining enterprise power supply and distribution system and other important or special environment places. You can configure different protection levels based on different application environments.

Structural features

- Low loss and low noise, the use of high quality cold rolled silicon steel sheet stacked, full oblique joint, the use of special processing technology, effectively reduce the vibration and noise during the operation and computer optimization design and other materials new process, new technology, making transformer lower loss, more quiet.
- High reliability, reasonable structure, high efficiency, waveform distortion, easy to use reliable, can run for a long time. The performance indicators fully comply with the GB/T 10228-2008 dry type transformer standard requirements, can be isolated from the main grid power supply, anti-impact, anti-interference, anti-lightning.
- Environmental protection characteristics, with heat resistance, moisture resistance, stability, chemical compatibility, low temperature, radiation resistance and non-toxicity, high standard of safety, non-combustible resin.
- Good insulation performance. Dry transformer adopts excellent insulation material and technology. can effectively prevent short circuit, and does not generate any heat.
- High quality, excellent iron core structure, the most ideal production design makes the transformer overload ability is strong, strong short-circuitresistance, over voltage has strong insulation ability, further improve the service life of the transformer.

Technical parameters

Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)		No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss		
50	20 22 24	±5% ±2×2.5% or (+3×2.5% −1×2.5%)	0.4	Yyn0 or Dyn11	305	1420	2.4	6.0
100					484	2380	2.2	
160					597	2960	1.8	
200					655	3350	1.8	
250					759	3650	1.6	
315					872	4300	1.6	
400					1042	5300	1.4	
500					1189	6250	1.4	
630					1365	7500	1.2	
800					1494	8560	1.2	
1000					1856	10660	1.0	
1250					2140	12420	1.0	
1600					2507	15000	1.0	8.0
2000					2678	15860	0.8	
2500					3128	18650	0.8	

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SC(B) Type

35kV Dry Type Transformer



Overview

This series of dry type transformers is suitable for some special occasions that need to be directly converted from 35KV grid voltage to 400V. Compared with 6-10kV distribution transformers, this type of transformer has higher requirements for the manufacture of products. Therefore, in manufacturing, the transformer local discharge control technology should strictly control the process, the transformer internal insulation control in the ideal state, so as to ensure the key performance of the transformer.

Model meaning

S	C	B	□	-	□	/	□
Three-phase	Epoxy casting type	Low-voltage foil-wound coil	Performance level code		Rated capacity (kVA)		Voltage level (kV)

Scope of application

Applicable to high-rise buildings, commercial centers, residential areas, hospitals, chemical plants, nuclear power plants, ships and other requirements of fire, explosion-proof, moisture-proof distribution network and industrial and mining enterprise power supply and distribution system and other important or special environment places. You can configure different protection levels based on different application environments.

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KS11 Type

6-10kV Oil-immersed Mining Transformer



Overview

KS11 series mine transformer as the mine distribution equipment, the product has the characteristics of small volume, easy to go down the well, reasonable structure, low loss, good thermal conductivity and so on. It is suitable for oil-immersed mining power transformer with capacity up to 1250kVA and voltage up to 10kV. This type of mine transformer is a general oil-immersed transformer, and there is no explosion-proof requirement. It is mainly used as the mine lighting or power driving power when the mine distribution is used.

Model meaning

K	S	11	-	□	/	10
Mining	Three-phase	Performance level code		Rated capacity (kVA)		High voltage side voltage level (kV)

Scope of application

It is suitable for underground coal mine central substation, bottom shaft car yard, total air inlet duct and main air inlet duct, although there is gas but no explosion risk place. It is also applicable to the humid environment of the tunnel.

Structural features

- ◇ Normal environmental conditions: the altitude is not more than 1000m, special circumstances are explained.
- ◇ The highest ambient temperature is +40℃, the lowest temperature is −25℃.
- ◇ The relative humidity of the surrounding air is not more than 95% (+25C).
- ◇ In the environment with no strong jolting and no more than 15 degrees of inclination from the vertical plane.

Technical parameters

Rated capacity (kVA)	Voltage combination			Vector group	Losses(W)		No-load current (%)	Short circuit impedance (%)
	HV(kV)	Tapping range	LV(kV)		No-load loss	On-load loss		
50	6 6.3 10	±5% or ±2×2.5%	0.4 0.69	Yyn0 or Dyn11	130	870	2.0	4.0
80					180	1250	1.8	
100					200	1500	1.6	
125					240	1800	1.5	
160					280	2200	1.4	
200					340	2600	1.3	
250					400	3050	1.2	
315					480	3650	1.1	
400					570	4300	1.0	
500					680	5150	1.0	
630					810	6200	0.9	4.5
800					980	7500	0.9	