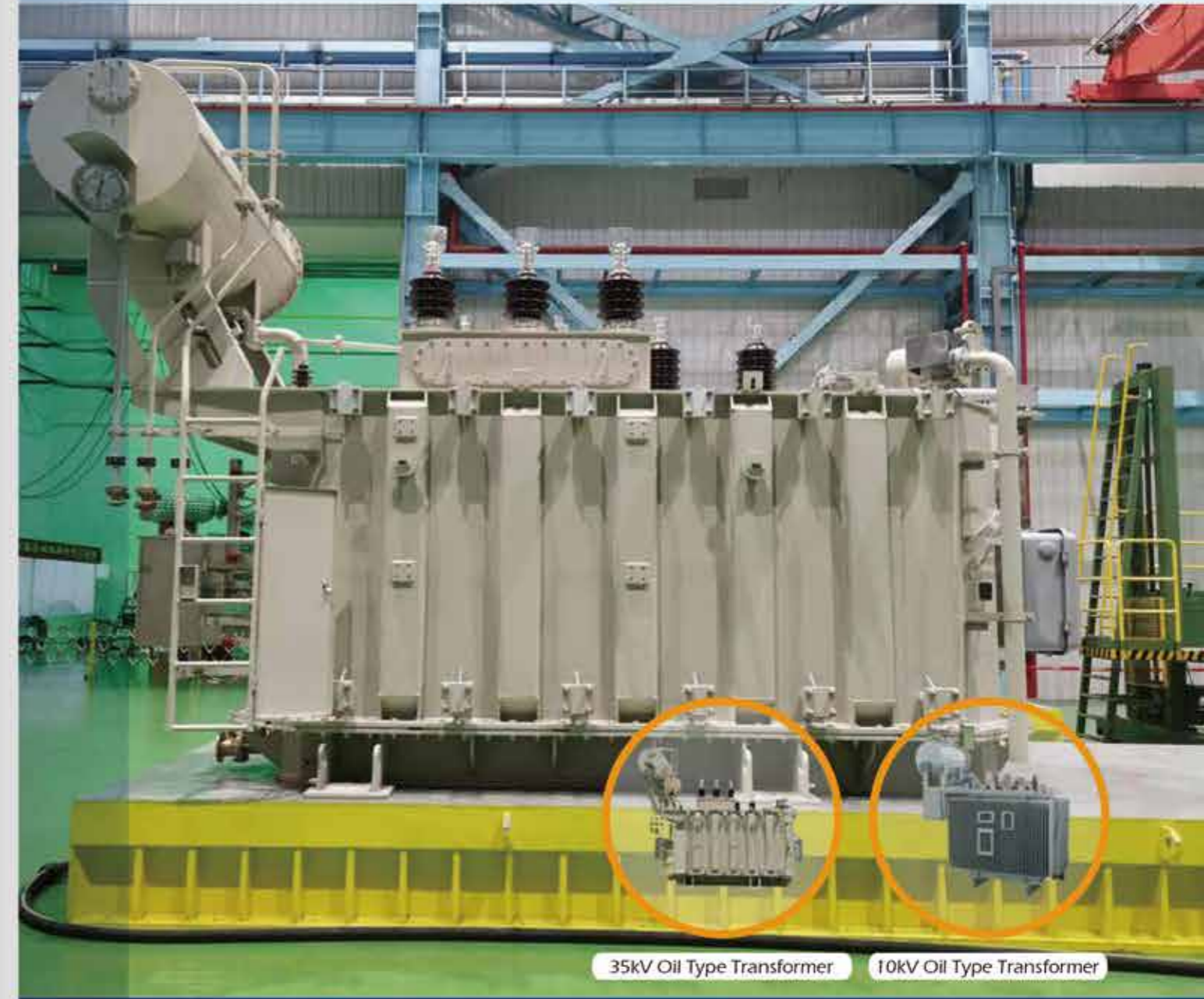


# Oil Type Transformer up to 35kV



Low loss, Low noise, Stable and Reliable



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Founded in 1990, CEEG has been focusing on manufacturing for 30 years and exporting quality power equipment to the world with the core values of "Vision, Innovation and Responsibility". So far, CEEG has three major industries: power transmission and distribution, new energy and system solutions, with industrial bases in Nanjing and Yangzhong.

CEEG was successively awarded the honorary titles of National Innovative Enterprise, Top 500 Asian Brands, Most Influential Brand of China Electrical Industry, China Environmental Label, and National Contract-observing and Creditable Enterprise. In 2011, CEEG was ranked 183rd among the top 500 private enterprises in China with sales of 10.9 billion.

China Electric Equipment (Jiangsu) Transformer Manufacture Co., Ltd. is a modern enterprise integrating manufacturing, sales and scientific research. It has a complete set of shearing machines, automatic wrapping machine, robotic automatic laminating machine, German Hedrich vacuum casting tank, vacuum impregnation, electric transfer vehicle and other advanced equipments representing a high level in the industry, and is the first in the industry to develop and apply transformer collaborative design platform to effectively combine product data, product development and production process. CEEG's products include VPI transformer, cast resin transformer, semi-envelope transformer, oil-immersed transformers, traction transformers, 220kV power transformers, 110kV power transformer, mining explosion-proof transformer, mining explosion-proof switches, high and low voltage switchgear, frequency conversion transformer, amorphous alloy transformer, anti-harmonic transformer, Scott transformer, substation, wind power transformer, marine transformer, etc. Its sales cover many industries such as electric power, electronics, hydropower, nuclear power, wind power, coal mines, communications, construction, petroleum, chemical industry, aviation, transportation, railroad, etc.

Walking with giants and keeping pace with the world. CEEG has established long-term strategic partnerships with world-class companies such as DuPont, Schneider, ABB. Pursuing innovation, fulfilling responsibilities, and constantly surpassing products, quality, services and actions, it has developed into a domestic giant power transmission and distribution equipment supplier with a solid industrial foundation. Its cast resin dry type transformers have been exported to more than 40 countries and regions in the world. The strategic layout of brand internationalization and service globalization has been formed!

Make CEEG the world's first choice!







35kV



中电电气 为世界输出优质动力  
CEE Delivering Premium Power To The World



**Flexible and customized design  
to meet the needs of different customers**

**First-class product quality**

The first-class R & D team in the industry ensures that all performance indicators of products meet or exceed national standards, introduces scientific management mode and standardized operation of process flow in all links to ensure the excellent quality of each product.

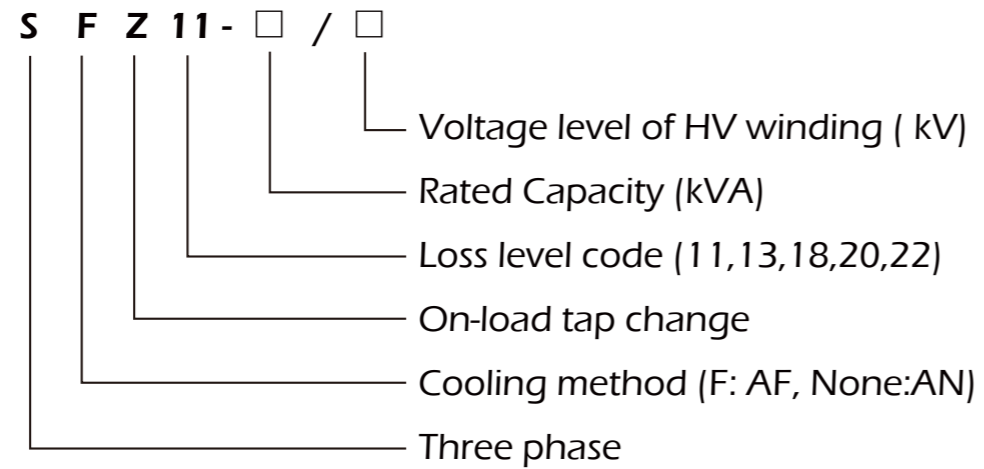
The product structure can be flexibly designed according to the actual needs of customers, and all kinds of accessories can select corresponding models according to user requirements to meet the personalized needs of different customers.







**Oil Type Power Transformer up to 35kV**



**Low loss, low noise, stable and reliable**

35kV series transformers have the following characteristics: no leakage, low loss, low noise, high reliability and cor-hanging free; and have passed the test of the National Transformer Quality Supervision and Inspection Center, and all indicators have reached the advanced level of domestic and international similar products. The performance indicators meet the energy efficiency requirements of the GB20052-2020 version.





## Performance characteristics

### 1. Low Loss

The core is made of high quality cold-rolled silicon steel sheet with high magnetic conductivity, using Swiss core automatic laminating machine for longitudinal and transverse shearing, multi-stage full-slant seam automatic laminating, core tying using overall pressure and PET tape tying process, effectively reducing the no-load loss and no-load current of the transformer. Transformer performance indicators are better than the national standard.

### 2. Low Noise

The noise of oil-immersed self-cooling transformer is mainly caused by the electromagnetic noise of the core, in order to reduce the noise, our company has taken the following measures:

- (1) Low magnetic flux density design
- (2) High quality silicon steel sheet with high permeability
- (3) Swiss automatic stacking machine to control the stacking accuracy
- (4) Reliable clamping and bracing measures
- (5) Special vibration damping measures.

### 3. No Leakage

The oil tank and oil storage cabinet have been tested for positive and negative pressure to ensure that there will be no oil leakage during normal operation. The components are installed with flange groove structure, and all seals are made of high quality once-formed acrylate rubber parts to prevent oil leakage.

### 4. Strong Short Circuit Resistance

In order to ensure that the transformer can withstand the impact of short-circuit current and will not cause any thermal and mechanical damage, for this reason, our company has taken the following measures in the design and manufacture:

- (1) The transformer coils are calculated with reasonable ampere-turn balance and semi-rigid copper wire is used.
- (2) The core clamping parts are calculated for strength and stiffness to meet the safety requirements of maximum short-circuit mechanical force.
- (3) The winding pads are all densified and made of high-density rigid cardboard.
- (4) The winding adopts integral set and integral pressing to ensure the accuracy of assembly and the short-circuit resistance.

## 7-step Temperature Control Technology



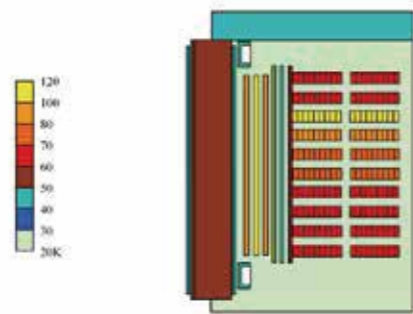
The mature structure and technology of traditional transformer shall be adopted as far as possible in the structure of high-temperature liquid immersed transformer, which retains the advantages of reliability, good manufacturability and economy of the traditional transformer. The biggest difference between this transformer and the traditional transformer is that the actual situation of the temperature field in the transformer is reasonably considered in the design, and the insulation materials with different temperature resistance grades are reasonably used according to the temperature distribution to form a hybrid insulation system. With the help of transformer temperature field simulation technology, the temperature distribution of the transformer (mainly winding and its vicinity) can be determined more accurately. According to different temperature ranges, different grades of insulating materials can be selected to give full play to the high-temperature resistance characteristics of materials, and at the same time, it has a good economy. The actual maximum oil temperature of this liquid immersed transformer is set at 95 °C, which ensures that the transformer has good safety, thermal performance margin and long expected life. For the temperature design of the whole transformer, we propose and implement the concept of "seven-step temperature control technology" as the design principle, that is, gradually extend from the vicinity of the winding hot spot with the highest temperature to the external low-temperature area and divide it into five levels, and consider the short circuit and overload to form a seven-level thermal state for temperature control:

- (1) Insulation material temperature control technology: different insulation materials shall be selected according to the temperature of different parts of the winding and body. The control winding hot spot temperature.
- (2) Temperature control technology of liquid flow circuit: it is a technology to determine and control the liquid flow temperature of each part by comprehensively considering the relationship between liquid velocity field and temperature field. Control the boundary layer liquid temperature and top layer liquid temperature near the hot spot of the winding.
- (3) Overload temperature control technology: temperature rise control of various parts of the transformer under overload state. The temperature distribution under overload conditions is different from that under rated load operation. Attention should be paid to the temperature rise change under overload conditions in design.
- (4) Iron core temperature control technology: temperature control of insulating parts in contact with iron core.
- (5) Sealed temperature control technology: the thermal expansion, deformation, strength, etc. of the fully sealed oil tank, the influence and control with the change of temperature, so as to ensure the normal operation of the transformer within its allowable temperature range.
- (6) Component temperature control technology: components shall be made of insulation materials of the corresponding grade according to the temperature of their location, such as sealing gasket, etc.
- (7) Short circuit temperature control technology: in case of transformer fault short circuit, the value of short-circuit current flowing through the winding is very large, but the time is very short. It is usually calculated according to the adiabatic process. Under the condition of multiple short-circuit reclosing, the heat accumulation and heat dissipation effect shall be considered. Generally speaking, due to Nomex ® The paper has good high-temperature resistance, mechanical strength, and the change of dielectric coefficient and dielectric loss with temperature is very small. Even under the condition of multiple short-circuit reclosing, it will not cause mechanical damage and electrical failure due to temperature rise, and will not lose the service life of insulating materials.

## Core Technology

The active part adopts high temperature resistant hybrid insulation system, preferably matching parts, truly same 30 years design of the life-span.

Oil transformer all adopts the basic structure form of traditional transformer. The core is heart type; the high-voltage winding adopts pancake type coil; the low-voltage winding adopts wire-wound or foil type coil according to different capacities. The biggest difference with the traditional transformer is the choice of high temperature resistant insulating paper. The insulation structure of 35kV and below oil-immersed power transformer belongs to the mixed insulation system, the wire turn insulation uses high temperature resistant insulating paper, and the insulation material with lower temperature coefficient is used in the lower temperature parts.



Transformer structure and seven-stage temperature control schematic

### Excellent performance

35kV and below oil-immersed power transformers use high temperature resistant insulating paper as insulation material, and use different temperature resistant grade insulation materials for different temperature parts according to the temperature field principle, so it has good temperature resistance performance and large margin in the design.

High temperature resistant transformer can be safely operated in more than 40 °C ambient temperature, and does not affect its life-span. It is safe and reliable even when operating at 20% over rated capacity. It provides a good solution to the problem of safe power supply during peak load periods. The permissible load factor K24 values for 24-hour continuous operation at various ambient temperatures are tabulated against those of conventional distribution transformers as follows.

Ambient Temperature (°C)	-10	0	10	20	30	40
S13(K24)	1.25	1.17	1.09	1.00	0.91	0.81
SRN(K24)	1.37	1.3	1.25	1.18	1.10	1.00

Performance comparison of transformers with high temperature resistant hybrid insulation system and oil-immersed transformers with conventional insulation materials.

ITEM	Conventional Insulation	Hybrid Insulation	Remark
Noise	Higher	Lower	The noise of hybrid insulated high temperature transformers is 5-8 dB less than conventional insulated oil-immersed transformers
Life-span	Shorter	Longer	Hybrid insulated high temperature resistant transformers have a true life expectancy of 30 years or more. Conventionally insulated oil-immersed transformers generally reach a theoretical 30 years, with a typical life span of about 20 years.
Overload Capacity	Poorer	Stronger	At the same temperature: Hybrid insulated high temperature resistant transformers have a long overload time and operate reliably. Conventionally insulated oil-immersed transformers have a short overload time, which accelerates the aging rate of the insulation.
Load factor at high temperature	Lower	Higher	At the same high temperature: hybrid insulation high temperature resistant transformers have a higher load factor than conventional ones.
Maintenance	Yes	Maintenance Free	Under normal circumstances, the hybrid insulation high temperature transformer does not need to be serviced or replaced, maintenance-free.
Losses	Lower	Lower	The combined losses of hybrid insulated high temperature resistant transformers are relatively low comparing to those of conventional ones.
Voltage	Higher	Higher	Since the structure of hybrid insulated high temperature resistant transformers is similar to conventional insulated oil-immersed transformers, higher voltage and larger capacity products can be manufactured just like conventional oil-immersed transformers, which are suitable for indoor and outdoor use and have better resistance to moisture and dust.
Capacity	Larger	Larger	
Service Location	Indoor/Outdoor	Indoor/Outdoor	
Moisture Resistance	Good	Good	
Dust Resistance	Good	Good	

### High temperature resistant hybrid insulation system



Photo 1



Photo 2



## Technical Advantages

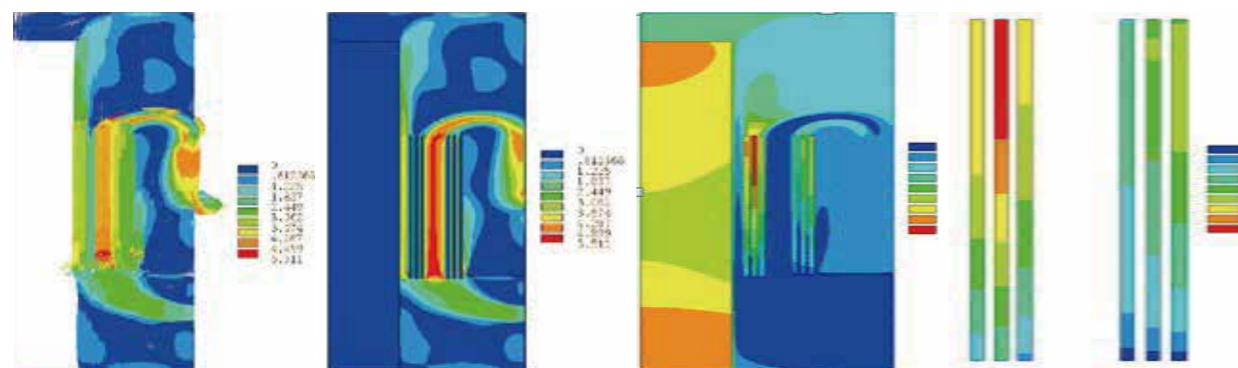
### R & D Team

CEEG has established a strong technology R & D team, with technology R & D platforms such as postdoctoral workstation, Jiangsu power transformation equipment engineering technology research center, Jiangsu graduate workstation and Jiangsu technology center, in conjunction with the Institute of electrical engineering, Chinese Academy of Sciences, Southeast University, Nanjing University of Aeronautics and Astronautics, Jiangsu University China University of mining and technology and other well-known scientific research institutions and universities jointly carry out a series of technological R & D and innovation.



### R & D Cloud Platform

It integrates the functions of electromagnetic optimization design, parametric drawing, performance analysis, structural optimization and automatic drawing of transformer, so as to realize the sharing of transformer design resources, search, modification and version control of various data information.



### Intelligent Operation and Maintenance Platform

Online power quality analysis and fault alarm can be realized by collecting key data such as transformer temperature, current, voltage, vibration and grid harmonic, and can be installed on mobile phone.



### Key equipments and process layout



### Testing Station

Invest 50 million to build the industry's superb high-voltage testing station.



### Medium and high voltage transformer production workshop



## Technical Parameter

S11-50 ~ 75000/35 Non-excited voltage regulating transformers

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75 °C)	I0 (%)	Uk (%)
	HV (kV)	Tapping range	LV (kV)					
50	35~ 38.5	±5% ±2×2.5%	0.4	Dyn11 Yyn0	0.16	1.20	1.30	6.5
100					0.23	2.01	1.10	
125					0.27	2.37	1.10	
160					0.28	2.82	1.00	
200					0.34	3.32	1.00	
250					0.40	3.95	0.95	
315					0.48	4.75	0.95	
400					0.58	5.74	0.85	
500					0.68	6.91	0.85	
630					0.83	7.86	0.65	
800					0.98	9.40	0.65	
1000					1.15	11.50	0.65	
1250					1.40	13.90	0.60	
1600					1.69	16.60	0.60	
2000					1.99	19.70	0.55	
2500					2.36	23.20	0.55	
630	35~ 38.5	±5% ±2×2.5%	3.15 3.3 6.3 6.6 10.5 11.0	Yd11	0.83	7.86	0.65	6.5
800					0.98	9.40	0.65	
1000					1.15	11.50	0.65	
1250					1.40	13.90	0.55	
1600					1.69	16.60	0.45	
2000					2.17	18.30	0.45	
2500					2.56	19.60	0.45	
3150					3.04	23.00	0.45	
4000					3.61	27.30	0.45	
5000					4.32	31.30	0.45	
6300				5.24	35.00	0.45		
8000				7.20	38.40	0.35	8.0	
10000				8.70	45.30	0.35		
12500				10.00	53.80	0.30		
16000				12.10	65.80	0.30		
20000				14.40	79.50	0.30		
25000	17.00	94.00	0.25					
31500	20.20	112.00	0.25	10.0				
40000	25.90	150.00	0.25					
50000	29.40	210.00	0.25					
63000	31.20	250.00	0.20					
75000	33.40	300.00	0.20					

Rated Capacity (kVA)	Dimension (mm)			Weight (kg)	Gauge (mm)
	Length	Width	Height		
50	2300	950	2190	1285	660/660
100	1175	1000	1850	1015	
125	1190	1120	1870	1260	
160	1220	1140	1900	1390	
200	1240	1130	1955	1545	
250	1720	1140	1980	1635	
315	1820	1240	1950	1700	
400	1840	800	2400	2075	
500	1960	830	2430	2450	
630	2050	1750	2275	3140	
800	2165	1430	2235	3525	
1000	2270	1125	2500	4970	
1250	2550	1146	2470	4910	
1600	2570	1240	2630	5730	
800	2240	900	2490	3780	
1000	2270	1125	2500	3980	
1250	2550	1200	2560	5260	
1600	2540	1240	2670	5530	
2000	2060	1550	2850	6390	
2500	2560	2450	2860	7690	
3150	2740	2830	2870	8245	
4000	2930	2970	2930	8860	
5000	2950	2790	2895	10375	
6300	3110	2890	3360	14040	
8000	3500	4150	3400	15865	
10000	3600	3600	3500	17750	
12500	4285	3720	3690	22450	
16000	4350	3910	4375	30050	
20000	5240	4100	4050	30900	
25000	4682	3500	4255	31725	
31500	5800	4800	4400	42000	
40000	4830	4940	4470	49250	
50000	4960	5070	4510	56800	
63000	4990	5110	4740	60550	
75000	5010	5250	4880	66500	





35kV

### Technical Parameter

SZ11-2000~40000/35 on-load tap changer transformer

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75 C)	I0 (%)	Uk (%)
	HV (kV)	Tapping range	LV (kV)					
2000	35~38.5	±3×2.5%	3.15	Yd11	2.30	19.20	0.50	6.5
2500					2.72	20.60	0.50	
3150					3.23	24.70	0.50	
4000					3.87	29.10	0.50	7.0
5000					4.64	34.20	0.50	
6300					5.63	36.70	0.50	7.5
8000			6.3	6.3	0.40			
10000			6.6	6.6	0.40	8.0		
12500			10.5	10.5	0.35			
16000			11.0	11.0	0.35			
20000			15.60	82.70	0.30			
25000			18.30	97.80	0.30	8.0		
31500			21.80	116.00	0.30		10.0	
40000			26.20	139.00	0.30			

S11-M-30~3150/10 distribution transformer

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75 C)	I0 (%)	Uk (%)
	HV (kV)	Tapping range	LV (kV)					
30	6, 6.3, 10, 10.5	±5, ±2×2.5%	0.4	Dyn11 Yyn0	0.1	0.63	1.50	4.0
50					0.13	0.91	1.30	
63					0.15	1.09	1.20	
80					0.18	1.31	1.20	
100					0.20	1.58	1.10	
125					0.24	1.89	1.10	
160					0.28	2.31	1.00	
200					0.34	2.73	1.00	
250					0.40	3.20	0.90	
315					0.48	3.83	0.90	
400					0.57	4.52	0.80	
500					0.68	5.41	0.80	
630					0.81	6.20	0.60	4.5
800					0.98	7.50	0.60	
1000					1.15	10.30	0.60	
1250					1.36	12.00	0.50	
1600					1.64	14.50	0.50	
2000					1.94	18.30	0.40	
2500					2.29	21.20	0.40	5.0
3150					2.81	26.66	0.40	

SZ11-2000~40000/35 on-load tap changer transformer

Rated Capacity (kVA)	Dimension (mm)			Weight (kg)	Gauge (mm)
	Length (mm)	Width (mm)	Height (mm)		
2000	3160	2170	2550	6900	1070/1070
2500	3250	2740	2740	7500	
3150	3360	2990	2850	8640	
4000	3540	2940	2950	11200	
5000	3800	3400	3250	11495	
6300	4150	3420	3750	13460	
8000	4350	3450	3790	16305	1475/1475
10000	4400	3520	3810	18090	
12500	4450	3670	3850	23400	
16000	4480	4080	3900	24300	
20000	4500	4200	3950	29540	
25000	4990	4320	4080	36400	
31500	5220	4590	4140	44500	2040/1475
40000	5430	4540	4270	53300	

S11-M-30~3150/20 distribution transformer

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75 C)	I0 (%)	Uk (%)
	HV (kV)	Tapping range	LV (kV)					
30	20	±5, ±2×2.5%	0.4	Dyn11 Yyn0	0.10	0.69	2.1	5.5
50					0.13	1.01	2.0	
63					0.15	1.20	1.9	
80					0.18	1.44	1.8	
100					0.2	1.73	1.6	
125					0.24	2.08	1.5	
160					0.29	2.54	1.4	
200					0.34	3.00	1.3	
250					0.40	3.52	1.2	
315					0.48	4.21	1.1	
400					0.57	4.97	1.0	
500					0.68	5.94	1.0	
630					0.81	6.82	0.9	6
800					0.98	8.25	0.8	
1000					1.15	11.33	0.7	
1250					1.38	13.20	0.7	
1600					1.66	15.95	0.6	
2000					1.95	19.14	0.6	
2500					2.34	22.22	0.5	6
3150					2.78	26.42	0.5	





S18-3150 ~ 31500/35 non-excited voltage regulating transformer (third-grade energy efficiency)

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75°C)	I0 (%)	Uk (%)			
	HV (kV)	Tapping range	LV (kV)								
3150	35~ 38.5	±5% ±2×2.5%	3.15	Yd11	2.40	21.90	0.45	7.0			
4000					2.90	25.90	0.45				
5000					3.50	29.70	0.45				
6300					4.20	33.30	0.45				
8000					5.80	36.50	0.35				
10000					7.00	43.00	0.35				
12500			38.5	±2×2.5%	6.6	YNd11	8.00	51.10	0.30	8.0	
16000							9.70	62.50	0.30		
20000							11.50	75.50	0.30		
25000							13.60	89.30	0.25		10.0
31500							16.20	106.40	0.25		

SZ18-3150 ~ 31500/35 on-load regulating oil-immersed transformer (third-grade energy efficiency)

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75°C)	I0 (%)	Uk (%)			
	HV (kV)	Tapping range	LV (kV)								
3150	35~ 38.5	±3×2.5%	3.15	Yd11	2.60	23.50	0.50	7.0			
4000					3.10	27.60	0.50				
5000					3.70	32.50	0.50				
6300					4.50	34.90	0.50				
8000					6.30	38.60	0.40		7.5		
10000					7.40	45.60	0.40				
12500			38.5	±3×2.5%	6.6	YNd11	8.70	54.00	0.35	8.0	
16000							10.50	66.80	0.35		
20000							12.40	78.60	0.30		
25000							14.60	92.90	0.30		10.0
31500							17.40	110.20	0.30		

S20-3150 ~ 31500/35 non-excited voltage regulating transformer (secondary-grade energy efficiency)

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75°C)	I0 (%)	Uk (%)			
	HV (kV)	Tapping range	LV (kV)								
3150	35~ 38.5	±5% ±2×2.5%	3.15	Yd11	2.00	20.70	0.45	7.0			
4000					2.30	24.60	0.45				
5000					2.80	28.20	0.45				
6300					3.40	31.50	0.45				
8000					4.70	34.60	0.35		8.0		
10000					5.70	40.80	0.35				
12500			38.5	±2×2.5%	6.6	YNd11	6.50	48.40	0.30	8.0	
16000							7.90	59.20	0.30		
20000							9.40	71.60	0.30		
25000							11.10	84.60	0.25		10.0
31500							13.10	100.80	0.25		

SZ20-3150 ~ 31500/35 on-load regulating oil-immersed transformer (secondary-grade energy efficiency)

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75°C)	I0 (%)	Uk (%)			
	HV (kV)	Tapping range	LV (kV)								
3150	35~ 38.5	±3×2.5%	3.15	Yd11	2.10	22.20	0.50	7.0			
4000					2.50	26.20	0.50				
5000					3.00	30.80	0.50				
6300					3.70	33.00	0.50				
8000					5.10	36.50	0.40		7.5		
10000					6.00	43.20	0.40				
12500			38.5	±3×2.5%	6.6	YNd11	7.10	51.10	0.35	8.0	
16000							8.50	63.30	0.35		
20000							10.10	74.40	0.30		
25000							11.90	88.00	0.30		10.0
31500							14.20	104.40	0.30		

S22-3150 ~ 31500/35 non-excited voltage regulating transformer (first-grade energy efficiency)

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75°C)	I0 (%)	Uk (%)			
	HV (kV)	Tapping range	LV (kV)								
3150	35~ 38.5	±5% ±2×2.5%	3.15	Yd11	1.70	20.70	0.45	7.0			
4000					2.00	24.60	0.45				
5000					2.40	28.20	0.45				
6300					2.90	31.50	0.45				
8000					4.00	34.60	0.35		8.0		
10000					4.80	40.80	0.35				
12500			38.5	±2×2.5%	6.6	YNd11	5.50	48.40	0.30	8.0	
16000							6.70	59.20	0.30		
20000							7.90	71.60	0.30		
25000							9.40	84.60	0.25		10.0
31500							11.10	100.80	0.25		

SZ22-3150 ~ 31500/35 on-load regulating oil-immersed transformer (first-grade energy efficiency)

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75°C)	I0 (%)	Uk (%)			
	HV (kV)	Tapping range	LV (kV)								
3150	35~ 38.5	±3×2.5%	3.15	Yd11	1.80	22.20	0.50	7.0			
4000					2.10	26.20	0.50				
5000					2.60	30.80	0.50				
6300					3.10	33.00	0.50				
8000					4.30	36.50	0.40		7.5		
10000					5.10	43.20	0.40				
12500			38.5	±3×2.5%	6.6	YNd11	6.00	51.10	0.35	8.0	
16000							7.20	63.30	0.35		
20000							8.50	74.40	0.30		
25000							10.10	88.00	0.30		10.0
31500							12.00	104.40	0.30		





35kV

# Technical Parameter

S13-M-30 ~ 2500/10 distribution transformer (third-grade energy efficiency)

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75 °C)	I0 (%)	Uk (%)			
	HV (kV)	Tapping range	LV (kV)								
30	6	±5%	0.4	Dyn11 Yyn0	80.00	630/600	1.50	4.0			
50					100.00	910/870	1.30				
63					110.00	1090/1040	1.20				
80					130.00	1310/1250	1.20				
100					150.00	1580/1500	1.10				
125					170.00	1890/1800	1.10				
160					200.00	2310/2200	1.00				
200					240.00	2730/2600	1.00				
250					290.00	3200/3050	0.90				
315					340.00	3830/3650	0.90				
400					410.00	4520/4300	0.80				
500					480.00	5410/5150	0.80				
630					570.00	6200	0.60				
800					700.00	7500	0.60				
1000					830.00	10300	0.60				
1250					970.00	12000	0.50				
1600					1170.00	14500	0.50				
2000	1360.00	18300	0.40								
2500	1600.00	21200	0.40								
	6.3	±2×2.5%	0.4	Dyn11 Yyn0				4.5			
	10										
	10.5										
											5.0

S22-M-30 ~ 2500/10 distribution transformer (first-grade energy efficiency)

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75 °C)	I0 (%)	Uk (%)			
	HV (kV)	Tapping range	LV (kV)								
30	6	±5%	0.4	Dyn11 Yyn0	65.00	455/430	1.50	4.0			
50					80.00	655/625	1.30				
63					90.00	785/745	1.20				
80					105.00	945/900	1.20				
100					120.00	1140/1080	1.10				
125					135.00	1360/1295	1.10				
160					160.00	1665/1585	1.00				
200					190.00	1970/1870	1.00				
250					230.00	2300/2195	0.90				
315					270.00	2760/2630	0.90				
400					330.00	3250/3095	0.80				
500					385.00	3900/3710	0.80				
630					460.00	4460	0.60				
800					560.00	5400	0.60				
1000					665.00	7415	0.60				
1250					780.00	8640	0.50				
1600					940.00	10440	0.50				
2000	1085.00	13180	0.40								
2500	1280.00	13360	0.40								
	6.3	±2×2.5%	0.4	Dyn11 Yyn0				4.5			
	10										
	10.5										
											5.0

S20-M-30 ~ 2500/10 distribution transformer (secondary-grade energy efficiency)

Rated Capacity (kVA)	Voltage Ratio			Vector Group	P0 (kW)	Pk (kW) (75 °C)	I0 (%)	Uk (%)			
	HV (kV)	Tapping range	LV (kV)								
30	6	±5%	0.4	Dyn11 Yyn0	70.00	505/480	1.50	4.0			
50					90.00	730/695	1.30				
63					100.00	870/830	1.20				
80					115.00	1050/1000	1.20				
100					135.00	1265/1200	1.10				
125					150.00	1510/1440	1.10				
160					180.00	1850/1760	1.00				
200					215.00	2185/2080	1.00				
250					260.00	2560/2440	0.90				
315					305.00	3065/2920	0.90				
400					370.00	3615/3440	0.80				
500					430.00	4330/4120	0.80				
630					510.00	4960	0.60				
800					630.00	6000	0.60				
1000					745.00	8240	0.60				
1250					870.00	9600	0.50				
1600					1050.00	11600	0.50				
2000	1225.00	14640	0.40								
2500	1440.00	14840	0.40								
	6.3	±2×2.5%	0.4	Dyn11 Yyn0				4.5			
	10										
	10.5										
											5.0

## Qualifications



ISO 19001



ISO 45001



ISO 14001



# Product Family



01	02	03
04	05	06
07	08	09

- 1. Amorphous Metal Transformer
- 4. 220kV Power Transformer
- 7. 110kV Power Transformer

- 2. VPI Transformer
- 5. 220kV Traction Transformer
- 8. 35kV Power Transformer

- 3. Cast Resin Transformer
- 6. 110kV Traction Transformer
- 9. 110kV Mobile Transformer

01	02	03
04	05	06
07	08	09

- 1. Mining Flame-proof Substation
- 4. Ocean Platform Transformer
- 7. Integrated PV Step-up Transformer
- 2. Rectifier Transformer
- 5. Marine Transformer
- 8. Substation

- 3. Harmonic Mitigating Transformer
- 6. AFWF Transformer
- 9. Substation