CEEG Transformer Co., Ltd



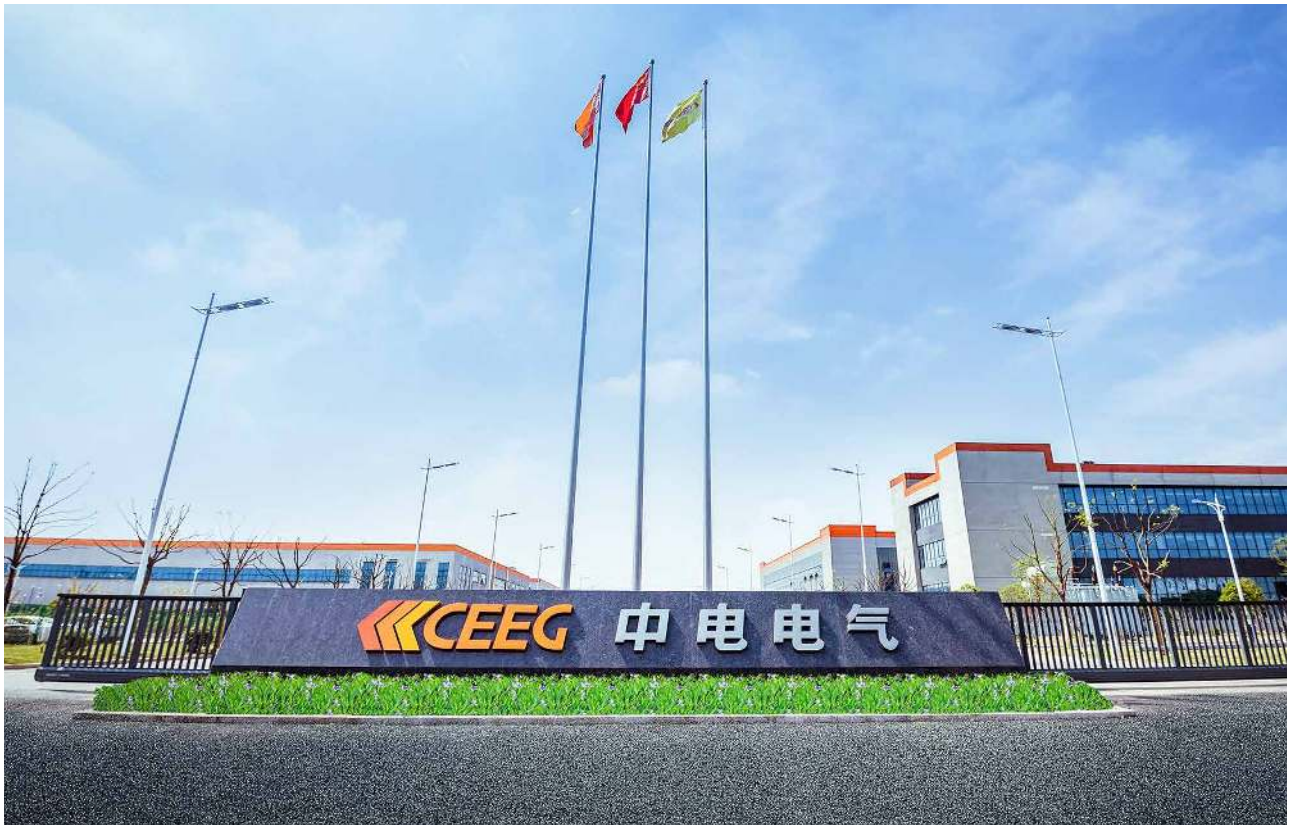
220kV Oil-Immersed Transformer

About CEEG

CEEG, founded in 1990, is a Chinese advanced electrical manufacturer. The company, guided by "vision, innovation, and responsibility," now owns three key industries, including power transmission and distribution equipment manufacturing, the new energy industry, and intelligent distribution systems.

As a modern enterprise, CEEG integrates research, design, manufacturing, and selling all together and is dedicated to providing the highest-quality product, the most excellent service, and the most various solutions to customers. During development, the company has established long-term strategic partnerships with global leading enterprises, such as DuPont, ABB, Siemens, etc.

On the belief of "safety, energy saving, and environmental protection," our products find extensive applications in coal mining, steelmaking, petrochemicals, metallurgy, and other industries and have gained multiple compliments from customers. Nowadays, the products have been exported to over 80 countries and regions, covering Asia, Africa, Europe, and South America.



Why CEEG

Strategy

For over 30 years, CEEG has remained steadfast in its commitment to delivering top-quality power to the world. Building upon a foundation of exceptional products and enduring partnerships, the company is now advancing its strategy through a supportive mode of "global manufacturing + comprehensive solutions and services."

Purpose

CEEG is passionate about keeping pace with the world throughout its development. Driven by technological advancements, enhanced competitiveness, energy transition, and environmental protection, CEEG aims for brand internationalization and service globalization.

Advanced Technology

CEEG' s enduring success over the past 30 years in energy industries can be attributed to its commitment to continuously enhance innovation and technological capabilities. Until today, we are still absorbing new concepts and technologies all over the world.

Safety

CEEG ensures the highest quality and safety throughout the entire lifecycle of each product, from design and manufacturing to operation. Our services integrate intelligent technologies and comprehensive solutions, resulting in a secure and stable operation system.

Sustainability

In response to the global trend toward decarbonization, CEEG is dedicated to advancing the energy transition and sustainability. Our efforts include developing energy-efficient products and the technology of new energy.







Ceeg-Delivering High-Quality Power To The World

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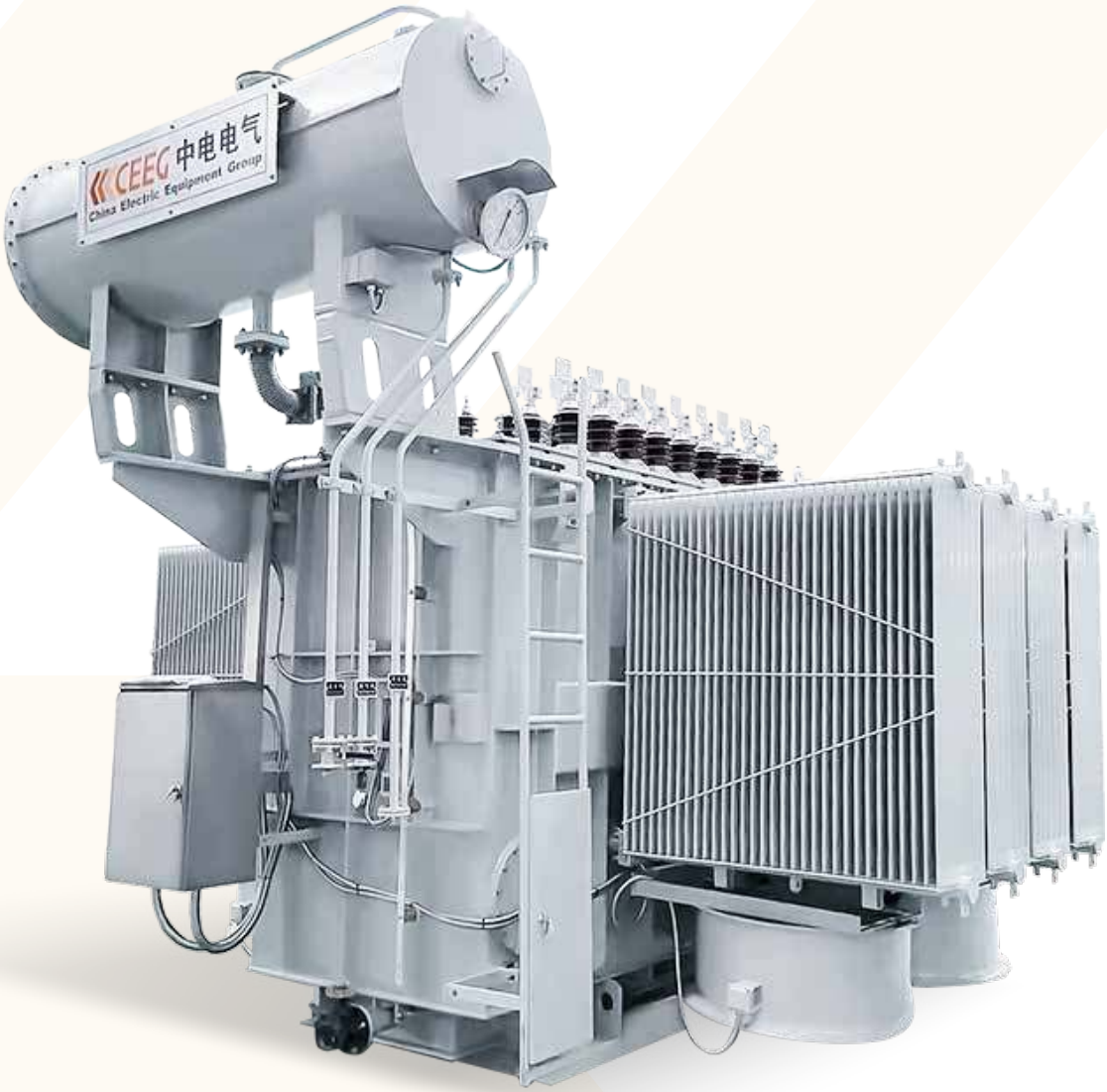
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Introduction



The 220KV Oil-Immersed Power Transformer is a self-designed product. The hot spot temperature part of the transformer uses DuPont Nomex® insulation material and mineral oil, which ensures the transformer has safety, reliability, and high overload capacity. It plays a vital role in transmitting electrical energy and can also be designed based on the customer' s needs.

Features

Low Loss

The no-load loss is **20% lower** than the national standards, the load loss is **5% lower** than the national standards





Low Noise

The noise level is 3-5 dB lower than the national standard

Low Partial Discharge

The factory test is less than **40pc**





Anti-Short Circuit

It passes the **sudden short circuit test**, and no product will be broken due to a sudden short circuit

Flexible Design

All kinds of accessories can be selected, and the product structure can be designed according to the customer's needs



Applications









It can be widely used in the utility and infrastructure sectors, such as urban power grids, rural power grids, high-end power supply fields; and industries such as coal mining, and agriculture, etc.

Model



220kV Oil-Immersed TypeTransformer

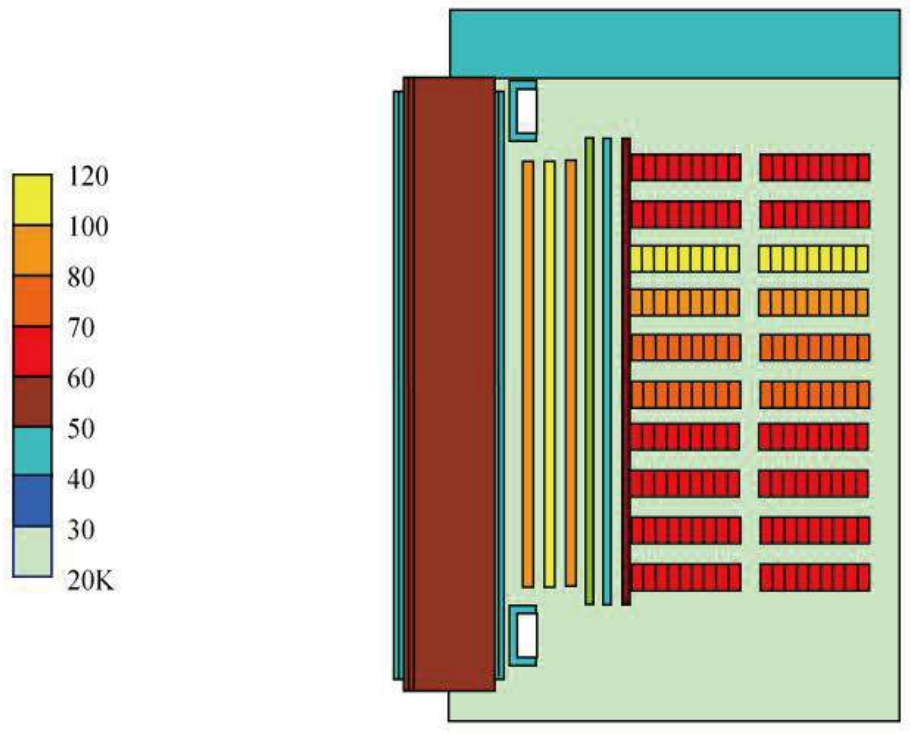
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- High Voltage (kv)
- Rated Capacity (kVA)
- Performance level code
- Voltage regulation mode
- Number of windings
- Oil circulation mode
- Cooling mode
- Number of phase
- Coupling mode

Core Technology

7-Step Temperature Control Technology

The structure of this type of transformer adopts the technology of traditional transformers, which retains many advantages, such as **reliability and cost-effectiveness**. The most obvious difference between these two types is that the design of the 35 kV oil-immersed transformer takes the temperature field into account. CEEG creates "**7-Step Temperature Control**" technology to ensure operation stability. This technology divides the design into five levels, from the hottest winding hot spot to the external parts, and the short circuit and overload conditions are also deemed key factors. It finally integrates a 7-step temperature control system. **The highest temperature** of **this transformer oil** is **95° C**, which ensures that the transformer has **maximum safety, thermal insulation, and a long lifespan**.



The schematic diagram of 7-step temperature control system

1.Insulation Temperature Control Technology

Different insulation materials should be selected based on the temperature of various parts of the winding and the structure. This allows for precise control the hot spot temperature of the winding.

2.Liquid Flow Circuit Temperature Control Technology

This technology integrates the temperature field and velocity field, allowing precise monitoring and control of the temperature in each component. It controls the oil temperature of the upper layer and the boundary layer near the winding hot spot.

3.Overload Temperature Control Technology

This is the temperature control of various parts of the transformer during overload conditions.

4.Iron Core Temperature Control Technology

This controls the temperature of the insulation components that connect with the iron core.

5.Sealing Temperature Control Technology

It monitors the condition of fully sealed oil tanks under the influence of temperature variations, such as thermal expansion, deformation, and strength.

6.Component Temperature Control Technology

Components are made of insulation materials according to the temperature of their location, such as sealing gaskets.

7.Short-Circuit Temperature Control Technology

It adopts the DuPont Nomex® insulation technology to ensure high insulation heat resistance and strong overload capacity. Even under multiple short-circuit conditions, it does not cause mechanical damage or electrical faults due to temperature rise, nor does it compromise the lifespan of the insulation material.

Hybrid Insulation System

CEEG has collaborated with DuPont for over 25 years, and the high-temperature-resistant insulating paper from **Dupont Nomex® technology** demonstrates its stability and safety. The 35 kV oil-immersed transformer adopts a hybrid insulation system; in addition to **high-temperature-resistant insulating paper**, there are insulating materials that are always used in some parts that have low temperatures.These technologies and designs ensure the highest safety while operating.







The high-temperature resistance hybrid insulation technology

- **High-quality electrical insulating materials**
- **Good chemical stability**
- **Heat resistance:** long-term operation at 220 ℃; short-term operation at 350 ℃; it will not melt, flow or support combustion at 250 ℃; no toxic or corrosive gas will be released at 750 ℃
- **Safety and environmental protection:** non-toxic, no smoke, no harmful gas

Advanced Technology

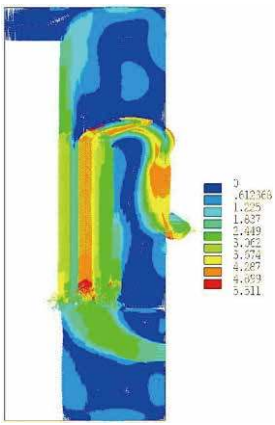
R & D Team

The CEEG research and development team focuses on advanced technologies for products and solutions. Over the past 35 years, CEEG has established a strong technology team that includes thousands of employees and many excellent experts. In addition, CEEG has partnered with many national research centers and top universities to develop more creative technologies.

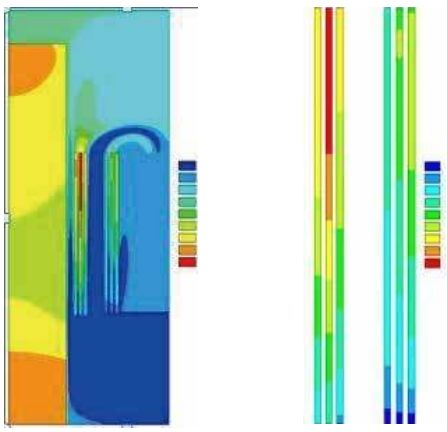
Strategic Partners

R & D Cloud Platform

The CEEG research cloud platform integrates many functions, such as electromagnetic design and optimization, parametric drawing, performance analysis, structural optimization, and automatic drawing of transformer production fields. This platform supports transformer resource sharing, data search, modification, and version control.



Flow field distribution



Temperature field distribution

Intelligent Operation Platform

By collecting key data such as transformer temperature, current, voltage, vibration, and power grid harmonics, this platform supports online power quality analysis and fault alarm. Customers can also download this APP to their phones for convenience.





Key Equipment













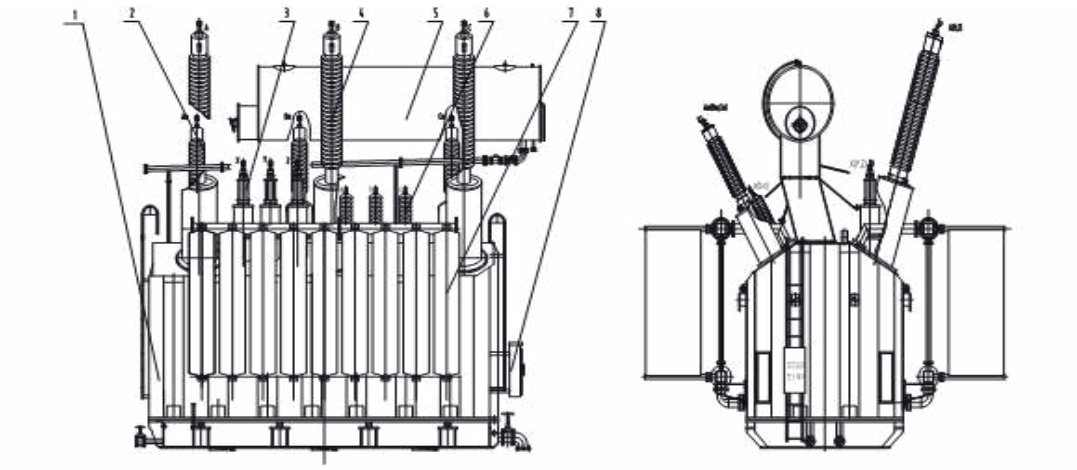
Technical Parameters

S11-220kV 31500kVA-240000kVA three phase three winding non excitation voltage regulating autotransformer

Rated Capacity (kVA)	Voltage Combination And Tapping Range			Vector Group	Step up Combination			Step down Combination			Impedance(%)	
	HV (kV)	HV (kV)	LV (kV)		No load Loss (Kw)	load Loss (Kw)	No load Current(%)	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Step Up	Step Down
31500	220+2x2.5% 230±2x2.5% 242+2x2.5%	115 121	6.6 10.5 21 36 37 38.5	YNaod11	20	111	0.45	17	94	0.4	HV-MV 12-14 HV-LV 8-12 MV-LV 14-18	HV-MV 8-10 HV-LV 28-34 MV-LV 18-24
40000					23	136	0.45	20	114	0.4		
50000					27	161	0.4	24	136	0.34		
63000					32	190	0.4	28	162	0.34		
90000			10.5 13.8 15.75 18 21 36 37 38.5		40	262	0.34	36	222	0.28		
120000					49	323	0.34	44	273	0.28		
150000					58	384	0.28	52	324	0.26		
180000					67	439	0.28	60	367	0.26		
240000					79	545	0.16	71	478	0.2		

Note:

1. The capacity allocation of step-up structure is (100 / 50 / 100)%, and that of step-down structure is (100 / 100 / 50)%;
2. The short circuit impedance in the table is 100% of the rated capacity;
3. Ttransformer with low voltage of 35kV can also be provided on request;
4. The non tapping structure is preferred, and taps can be set if required;
5. When the annual load rate of transformer is about 40%, the highest operation efficiency can be obtained by using the loss value inthe table.



1. Active Part 2. MV Bushing 3. MV Neutral Bushing 4. H Bushing
5. Oil Conservator 6. LV Bushing 7. Radiator (air cooler) 8. Control Cabinet

SSZ20-220kV 31500kVA-240000kVA three phase three winding OLTC power transformer(secondary energy eficiency)

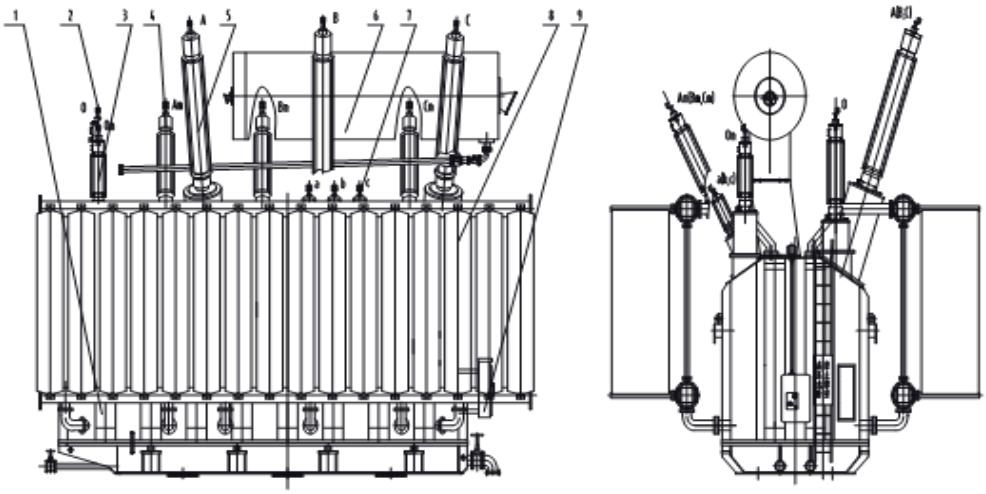
Rated Capacity (kVA)	Voltage Combination And Tapping Range			Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Capacity Allocation (%)	Impedance(%)
	HV (kV)	HV (kV)	LV (kV)						
31500	220±8x1.25% 230±8x1.25%	69 115 121	6.3 6.6 10.5 21 36 37 38.5	YNaod11	23.0	138	0.63	100/100/100 100/50/100 100/100/50	HV-MV 12~14 HV-LV 22~24 MV-LV 7~9
40000					27.0	165	0.60		
50000					31.0	194	0.60		
63000					36.0	231	0.55		
90000					47.0	300	0.44		
120000			10.5 21 36 37 38.5		60.0	369	0.44		
150000					70.0	438	0.39		
180000					81.0	538	0.39		
240000					100	667	0.35		

Note:

1. The data listed in the table are applicable to step-down structure products, and step-up structure products can also be provided asrequired;

2. transformer with 35kV low voltage can also be provided according to requirements;

3. When the annual load rate of transformer is between 45% and 50%,the highest operation efficiency can be obtained by using theloss value in the table.



1. Active Part 2. HV Neutral Bushing 3. MV Neutral Bushing 4. MV Bushing 5. HV Bushing
6. Oil Conservator 7. Ly Bushing 8. Radiator (air cooler) 9. Control Cabinet

OSSZ20-220kV31500kVA-240000kVA three phase three winding OLTC autotransformer (secondary energy efficiency

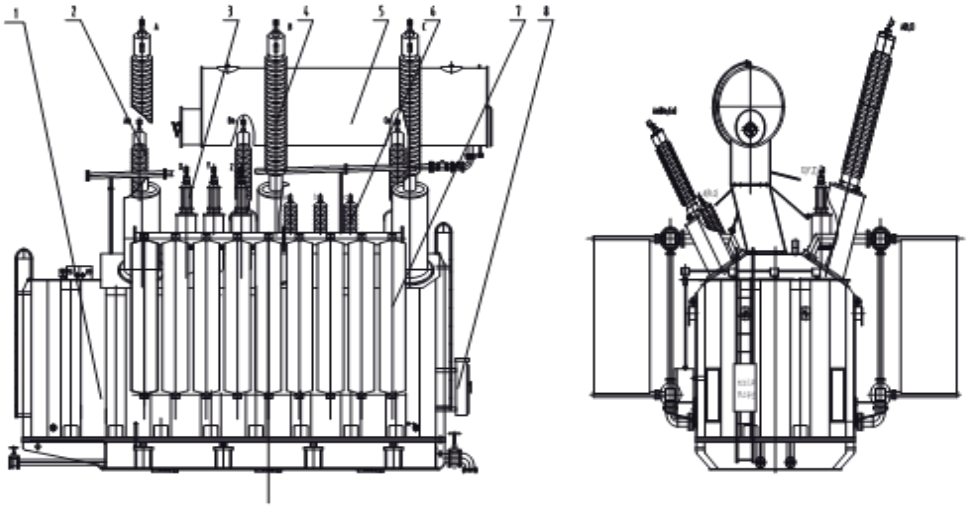
Rated Capacity (kVA)	Voltage Combination And Tapping Range			Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Capacity Allocation (%)	Impedance(%)
	HV (kV)	HV (kV)	LV (kV)						
31500	220± 8x1.25% 230± 8x1.25%	115 121	6.3 6.6 10.5 21 36 37 38.5	YNa0d11	13.0	92	0.44	100/100/50	HV-MV 8~11 HV-LV 28~34 MV-LV 18~24
40000					16.0	113	0.44		
50000					18.0	134	0.39		
63000					21.0	161	0.39		
90000					26.0	211	0.33		
120000			10.5 21 36 37 38.5		33.0	263	0.33		
150000					39.0	311	0.28		
180000					44.0	358	0.28		
240000					54.0	462	0.24		

Note:

1. The data isted in the table are applicable to the products with reduced pressure structure;

2. Transformer with 35kV low voltage can also be provided according to requirements;

3. When the annual load rate of transformer is between 40% and 45%, the highest operation eficiency can be obtained by using theoss value in the table.



1. Active Part 2. MV Bushing 3. MV Neutral Bushing 4. HV Bushing 5. Oil Conservator
6. LV Bushing 7. Radiator (air cooler) 8. Control Cabinet

SS20-220kV 31500kVA-300000kVA three phase three winding non excitation voltage regulating power transformer (secondary energy efficiency)

Rated Capacity (kVA)	Voltage Combination And Tapping Range			Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Impedance(%)	
	HV (kV)	HV (kV)	LV (kV)					Step Up	Step Down
31500	220± 2x2.5% 230± 2x2.5% 242± 2x2.5%	69 115 121	6.3 6.6 10.5 21 36 37 38.5	YNaod11	21.0	138	0.56	HV-MV 22~24 HV-LV 12~14 MV-LV 7~9	HV-MV 12~14 HV-LV 22~24 MV-LV 7~9
40000					25.0	165	0.50		
50000					29.0	194	0.44		
63000			10.5 13.8 21 36 37 38.5		34.0	231	0.44		
90000					44.0	300	0.39		
120000					55.0	369	0.39		
150000			10.5 13.8 15.75 21 36 37 38.5		65.0	438	0.33		
180000					73.0	500	0.33		
240000					91.0	616	0.28		
300000					108	726	0.24		

Note:

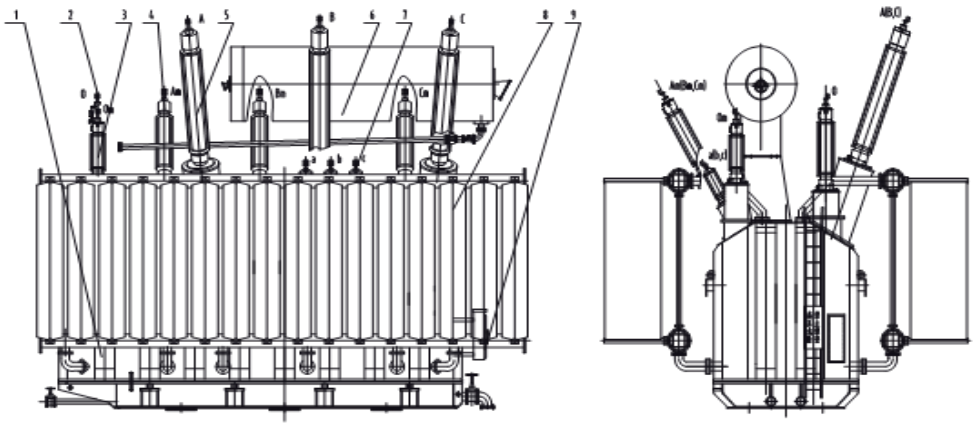
1. the capacity distribution of the load in the table is (100/100/100)9%; The capacity distribution of the step up structure can be1100/50/100)%: The capacity distribution of the step-down structure can be (100/100/50)%, or (100/50/100).

2, transformers with rated capacity less than 31500kva and other voltage combinations can also be provided as required,

3. transformers with low voltage of 35kV can also be provided;

4, the non tap structure is preferred, lf required by operation, tap can be set,

5, when the average oad rate oftranstormer is about 45%h, the maxmum onerating eficiency can be obtained by usina the oss yaluein the table.



1. Active Part 2. HV Neutral Bushing 3. MV Neutral Bushing 4. MV Bushing

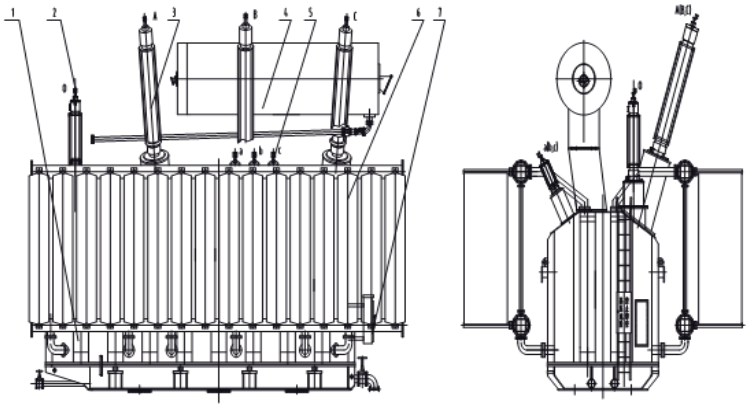
5. HV Bushing6.,Oil Conservator 7. LV Bushing8. Radiator (air cooler 9. Control Cabinet

S20-220kV 31500KVA~420000kVA three phase double winding non excitaion voltage regulating power transformel (secondary energy efficiency)

Rated Capacity (kVA)	Voltage Combination And Tapping Range		Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Impedance(%)
	HV (kV)	LV (kV)					
31500	220±2x2.5% 242±2x2.5%	6.3 6.6 10.5	YNaod11	18.0	115	0.56	12~14
40000				21.0	134	0.56	
50000				25.0	161	0.52	
63000				30.0	188	0.52	
75000		10.5 13.8		34.0	213	0.48	
90000				40.0	246	0.44	
120000				49.0	304	0.44	
150000		10.5 13.8 15.75 18 20		58.0	360	0.40	
160000				60.0	378	0.39	
180000				66.0	413	0.36	
240000				83.0	484	0.33	
300000				98.0	577	0.30	
360000		15.75 18 20		112	662	0.30	
370000				114	675	0.30	
400000				122	716	0.28	
420000				125	742	0.28	

Note:

1. Transformers with rated capacity less than 31500kVA and other voltage combinations can also be provided according to reguirements;
2. transformer with low voltage of 35kV can also be provided according to requirements;
3. The non tapping structure is preferred, and taps can be set if required;
4. When the annual average load rate of transformer is between 45% and 50%, the highest operaion eficiency can be obtained by using the loss value in the table.



1. Active Part
2. HV Neutral Bushing
3. HV Bushing
4. Oil Conservator
5. LV Bushing
6. Radiator (air cooler)
7. Control Cabinet

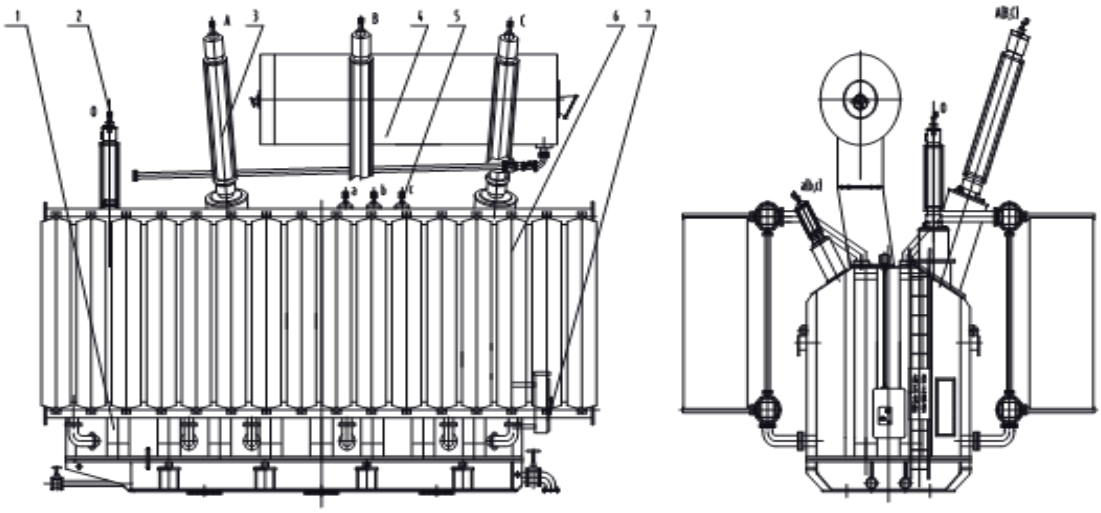
S20-220kV 31500kVA~240000kVA three phase double winding low voltage of 66kVnon excitation voltage regulatingpower transformer (secondary energy efficiency)

Rated Capacity (kVA)	Voltage Combination And Tapping Range		Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Impedance(%)
	HV (kV)	LV (kV)					
31500	220±2x2.5% 230±2x2.5%	63 66 69	YNd11	20.0	129	0.71	12~14
40000				23.0	150	0.71	
50000				27.0	180	0.65	
63000				33.0	211	0.65	
90000				43.0	275	0.60	
120000				53.0	330	0.60	
150000				63.0	387	0.54	
180000				72.0	438	0.54	
240000				88.0	543	0.48	

Note:

1. The no-load tap structure is preferred, and the tap can be set if the operation requires;

2. When the annual average efficiency of transformer is between 45% and 50%, the highest operation efficiency can be obtained byusing the loss value in the table.



1. Active Part 2. HV Neutral Bushing 3. HV Bushing 4. Oil Conservator
5. LV Bushing 6. Radiator (air cooler) 7. Control Cabinet

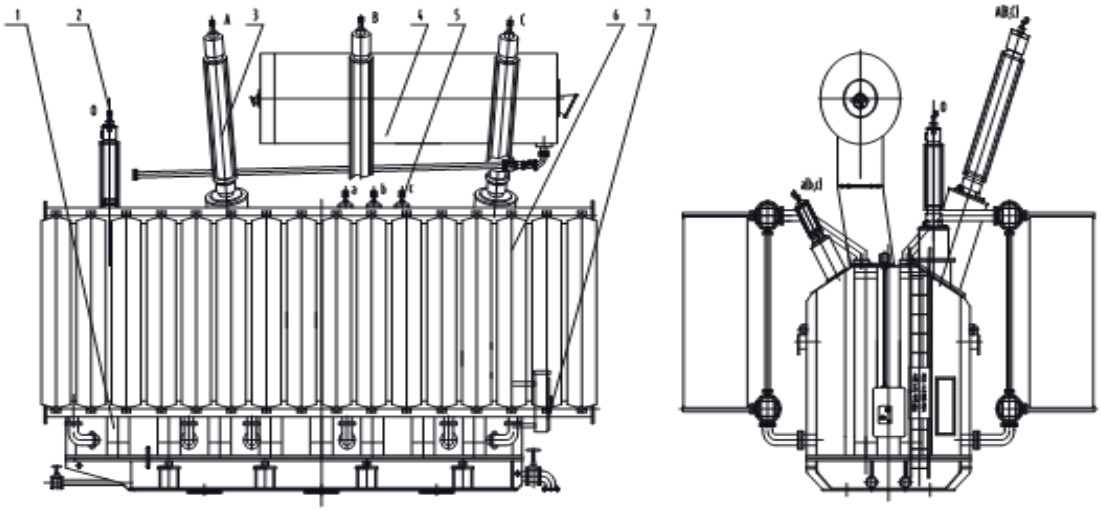
SZ20-220KV 31500kVA-240000kVA three phase double winding OLTC power transformer(secondary energy efficiency)

Rated Capacity (kVA)	Voltage Combination And Tapping Range		Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Impedance(%)
	HV (kV)	LV (kV)					
31500	220±8x1.25% 230±8x1.25%	6.3 6.6 10.5 21 36 37 38.5	YNd11	20.0	115	0.57	12~14
40000				23.0	134	0.57	
50000				28.0	161	0.53	
63000				33.0	188	0.53	
90000				42.0	246	0.45	
120000				51.0	304	0.45	
150000		10.5 21 36 37 38.5		60.0	360	0.41	
180000				70.0	413	0.38	
120000				53.0	303	0.45	
150000				62.0	355	0.43	
180000		66 69		73.0	406	0.38	
240000				91.0	504	0.30	

Note:

1. 35kV transformer with low voltage can also be provided according to requirements;

2. When the annual average load rate oftransformer is about 50%, the highest operation efficiency can be obtained by using the loss value in the table.



1. Active Part 2. HV Neutral Bushing 3. HV Bushing 4. Oil Conservator
5. LV Bushing 6. Radiator (air cooler) 7. Control Cabinet

SSZ22-220kV 31500kVA-240000kvA three phase three winding OLTC power transformer (primary energy efficiency)

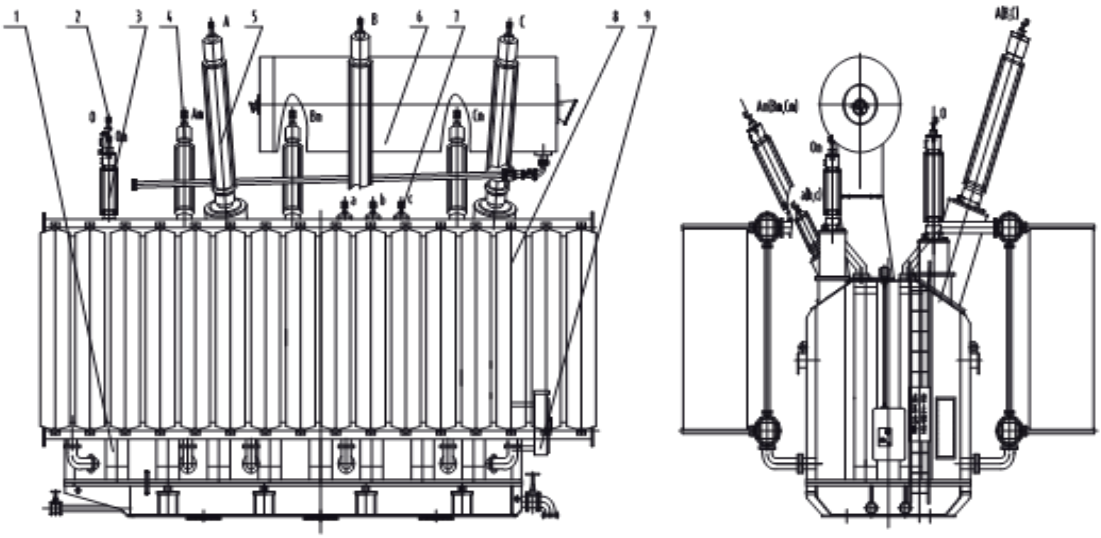
Rated Capacity (kVA)	Voltage Combination And Tapping Range			Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Capacity Allocation (%)	Impedance(%)
	HV (kV)	HV (kV)	LV (kV)						
31500	220±8x1.25% 230±8x1.25%	69 115 121	6.3 6.6 10.5 21 36 37 38.5	YNynod11	19.0	138	0.52	100/100/100 100/50/100 100/100/50	HV-MV 12~14 HV-LV 22~24 MV-LV 7~9
40000					23.0	165	0.51		
50000					26.0	194	0.5		
63000					31.0	231	0.47		
90000					40.0	300	0.37		
120000			10.5 21 36 37 38.5		51.0	369	0.37		
150000					59.0	438	0.33		
180000					68.0	538	0.33		
240000					85.0	667	0.3		

Note:

1. the data listed in the table are applicable to the products of pressure-reducing structure, and the booster structure products can also be provided as required;

2. transformers with low voltage of 35kV can also be provided as required;

3. when the annual load rate of transformer is between 459% and 50%, the maximum operating efficiency can be obtained by usingthe loss valye in the table.



1. Active Part 2. HV Neutral Bushing 3. HV Bushing 4. Oil Conservator
5. LV Bushing 6. Radiator (air cooler) 7. Control Cabinet

SSZ22-220kV 31500kVA-240000kvA three phase three winding OLTC power transformer (primary energy efficiency)

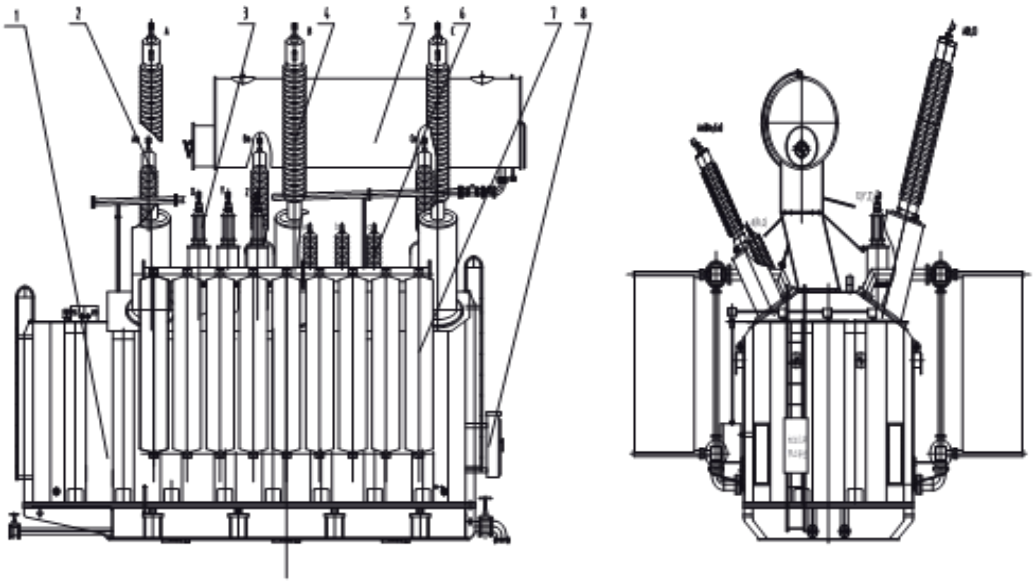
Rated Capacity (kVA)	Voltage Combination And Tapping Range			Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Capacity Allocation (%)	Impedance(%)
	HV (kV)	HV (kV)	LV (kV)						
31500	220±8x1.25% 230±8x1.25%	115 121	6.3 6.6 10.5 21 36 37 38.5	YNynod11	11.0	92	0.37	100/100/50	HV-MV 8~11 HV_LV 28~34 MV-LV 18~24
40000					13.0	113	0.36		
50000					15.0	134	0.33		
63000					18.0	161	0.33		
90000					22.0	211	0.28		
120000			10.5 21 36 37 38.5		28.0	263	0.28		
150000					33.0	311	0.24		
180000					37.0	358	0.24		
240000					46.0	462	0.2		

Note:

1. The data listed in the table are applicable to the products with reduced pressure structure,

2. transformer with low voltage of 35kV can also be provided according to requirements;

3. When the annual load rate of transformer is between 40% and 45%, the highest operation efficiency can be obtained by using the oss value in the table.



1. Active Part 2. MV Bushing 3. MV Neutral Bushing 4. HV Bushing
5. Oil Conservator 6. LV Bushing 7. Radiator (air cooler) 8. Control Cabinet

SS20-220kV 31500kVA-300000kVA three phase three winding non excitation voltage regulating power transformer (secondary energy efficiency)

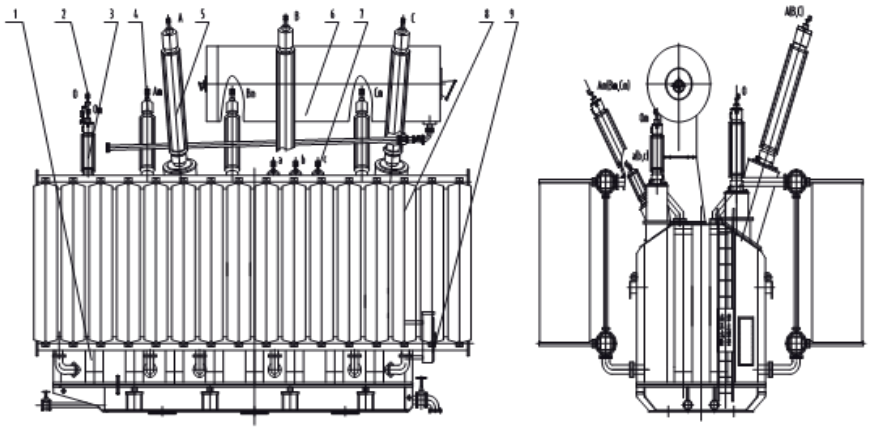
Rated Capacity (kVA)	Voltage Combination And Tapping Range			Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Impedance(%)	
	HV (kV)	HV (kV)	LV (kV)					Step Up	Step Down
31500	220± 2x2.5% 230± 2x2.5% 242± 2x2.5%	69 115 121	6.3 6.6 10.5 21 36 37 38.5	YNaod11	18.0	138	0.48	HV-MV 22~24 HV-LV 12~14 MV-LV 7~9	HV-MV 12~14 HV-LV 22~24 MV-LV 7~9
40000					21.0	165	0.42		
50000					24.0	194	0.36		
63000			10.5 13.8 21 36 37 38.5		29.0	231	0.38		
90000					37.0	300	0.33		
120000					46.0	369	0.33		
150000			10.5 13.8 15.75 21 36 37 38.5		55.0	438	0.28		
180000					62.0	500	0.28		
240000					72.0	616	0.22		
300000					91	726	0.20		

Note:

1. The capacity distribution ofthe load in the table is (100 / 100 / 100)9%; The capacity distribution of boost structure can be (100 / 50/ 100)%; The capacity allocation of Buck structure can be (100 /100/50)% or (100 /50 /100)%

2. Transformers with rated capacity less than 31500kvy, A and other voltage combinations can also be provided according to reguirements;

3. The transformer with low voltage of 35kV can also be provided;4. The non tapping structure is preferred, and taps can be set ifreguired, 5. When the annual average load rate oftransformer is about45%, the highest operation efficiency can be obtained by using the loss value in the table.



1. Active Part 2. HV Neutral Bushing 3. V Neutral Bushing 4. MV Bushing 5. HV Bushing
6. Oil Conservator 7. LV Bushing 8. Radiator (air cooler) 9. Control Cabinet

S22-220kV 31500kVA-420000kVA three phase double winding non excitaion voltage regulating power transformer(primary energy efficiency)

Rated Capacity (kVA)	Voltage Combination And Tapping Range		Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Impedance(%)
	HV (kV)	LV (kV)					
31500	220±2x2.5% 242±2x2.5%	6.3 6.6 10.5	YNaod11	15.0	115	0.47	12~14
40000				18.0	134	0.48	
50000				21.0	161	0.44	
63000				25.0	188	0.43	
75000		10.5 13.8		29.0	213	0.41	
90000				34.0	246	0.37	
120000				41.0	304	0.37	
150000		10.5 13.8 15.75 18 20		49.0	360	0.34	
160000				51.0	378	0.33	
180000				56.0	413	0.31	
240000				70.0	484	0.28	
300000				83.0	577	0.25	
360000		15.75 18 20		95	662	0.25	
370000				97	675	0.26	
400000				103	716	0.24	
420000				106	742	0.24	

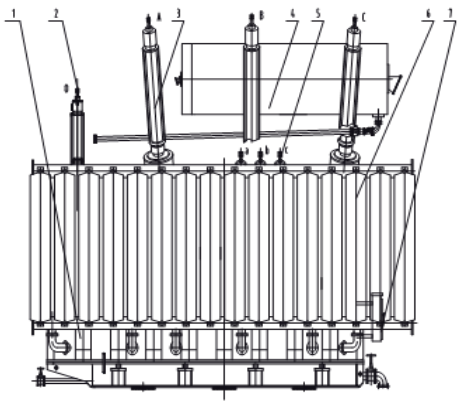
Note:

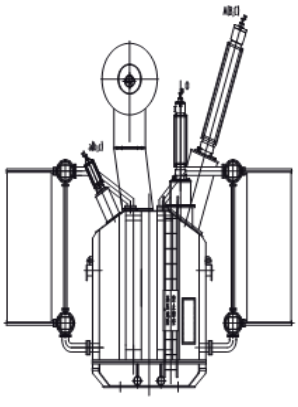
1. Transformers with rated capacity less than 31500kvA and other voltage combinations can also be provided according to require ments;

2, Transformer with low voltage of 35kV can also be provided according to requirements;

3. The non tapping structure is preferred, and taps can be set if required;

4. When the annual average load rate of transformer is between 45% and 50%, the highest operaion eficiency can be obtained by using the loss value in the table.





1. Active Part
2. HV Neutral Bushing
3. HV Bushing
4. Oil Conservator
5. LV Bushing
6. Radiator (air cooler)
7. Control Cabinet

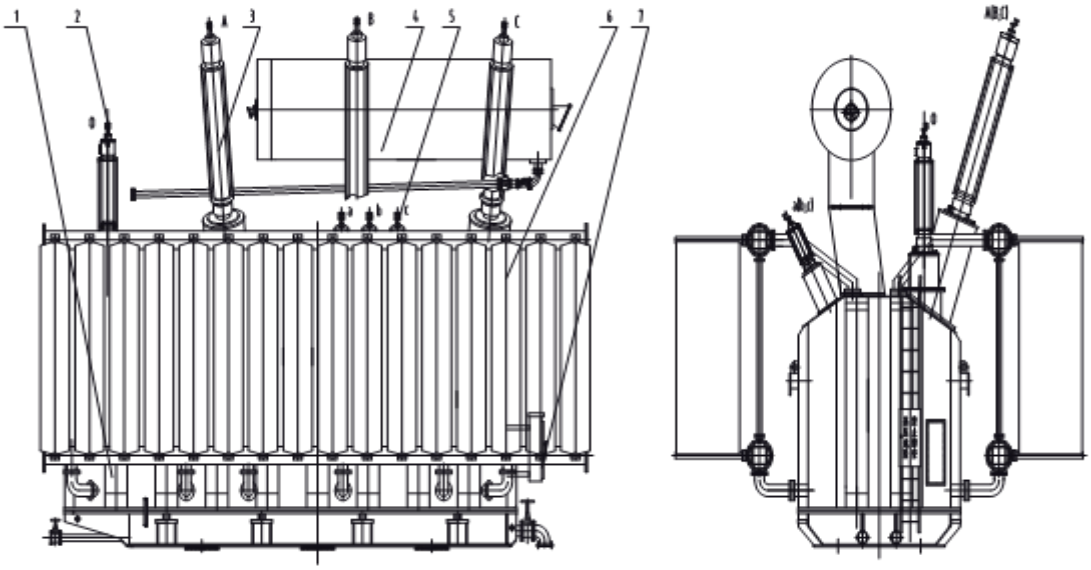
S22-220kV 31500kVA-240000kVA three phase double winding low voltage of 66kV non excitation voltage reaulatinapower transformer (primaryenergy efficiency)

Rated Capacity (kVA)	Voltage Combination And Tapping Range		Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Impedance(%)
	HV (kV)	LV (kV)					
31500	220±2x2.5% 230±2x2.5%	63 66 69	YNd11	17.0	129	0.60	12~14
40000				20.0	150	0.62	
50000				23.0	180	0.55	
63000				28.0	211	0.55	
90000				36.0	275	0.50	
120000				45.0	330	0.51	
150000				53.0	387	0.45	
180000				61.0	438	0.46	
240000				75.0	543	0.41	

Note:

1. The no-load tap structure is preferred, and the tap can be set if the operation requires,

2. When the annual average eficiency of transformer is between 45% and 50%, the highest operation efficiency can be obtained by using the loss value in the table.



1. Active Part 2. HV Neutral Bushing 3. HV Bushing 4. Oil Conservator
5. Ly Bushing 6. Radiator (air cooler) 7. Control Cabinet

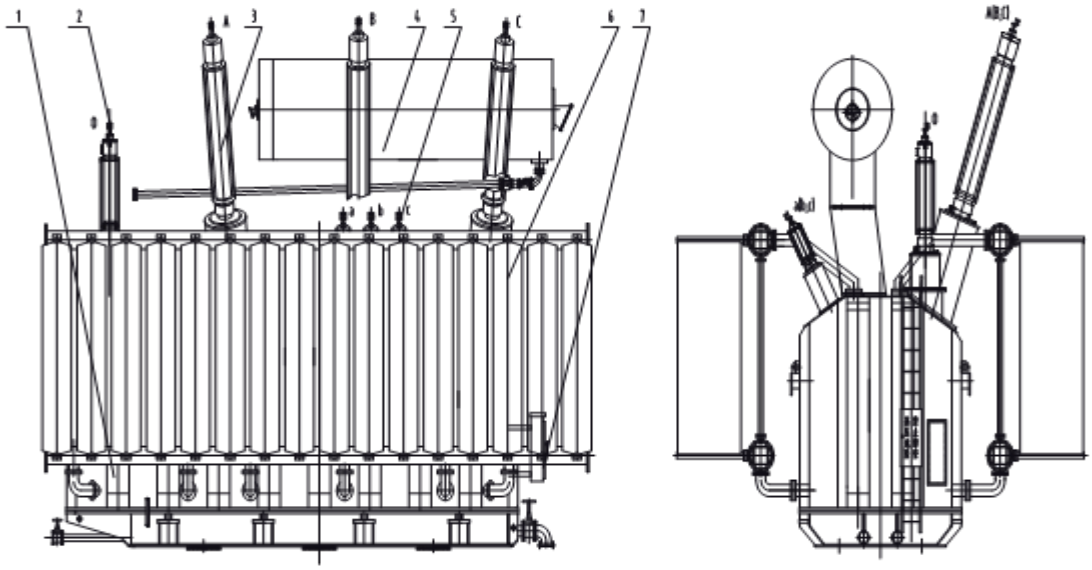
SZ22-220kV 31500kVA~240000kVA three phase double winding OLTC power transformer (primary energy efficiency)

Rated Capacity (kVA)	Voltage Combination And Tapping Range		Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Impedance(%)
	HV (kV)	LV (kV)					
31500	220±8x1.25% 230±8x1.25%	6.3 6.6 10.5 21 36 37 38.5	YNd11	20.0	115	0.48	12~14
40000				23.0	134	0.5	
50000				28.0	161	0.45	
63000				33.0	188	0.45	
90000				42.0	246	0.38	
120000				51.0	304	0.38	
150000		10.5 21 36 37 38.5		60.0	360	0.35	
180000				70.0	413	0.32	
120000				53.0	303	0.38	
150000				62.0	355	0.37	
180000		66 69		73.0	406	0.32	
240000				91.0	504	0.25	

Note:

1. Transformer with low voltage of 35kV can also be provided according to requirements;

2. When the annual average load rate of transformer is about 50%,the highest operation efficiency can be obtained by using the lossvalue in the table.



1. Active Part 2. HV Neutral Bushing 3. HV Bushing 4. Oil Conservator
5. Ly Bushing 6. Radiator (air cooler) 7. Control Cabinet

SSZ18-220kV 31500kVA-240000kVA three phase three winding OLTC power transformer (energy eficiency three)

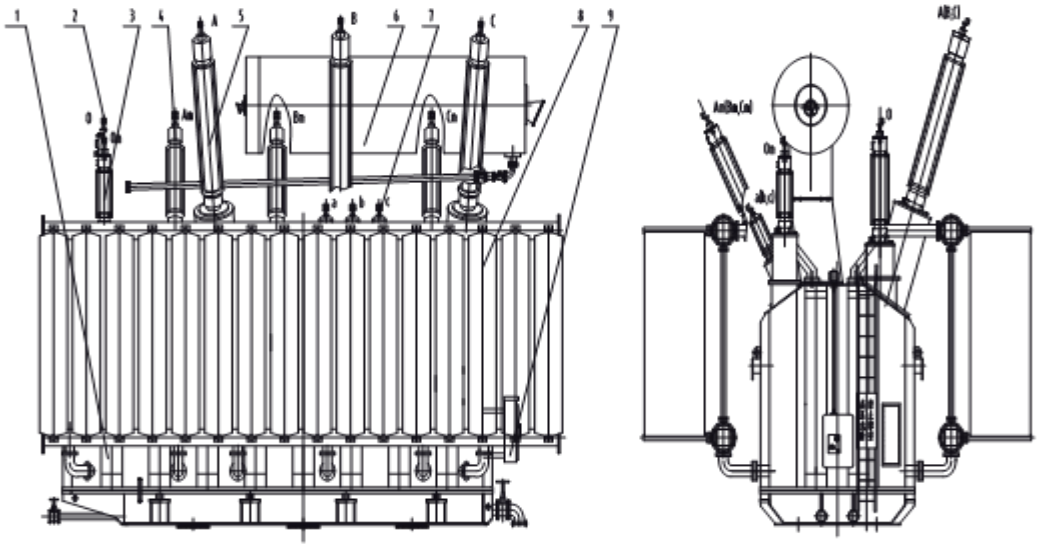
Rated Capacity (kVA)	Voltage Combination And Tapping Range			Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Capacity Allocation (%)	Impedance(%)
	HV (kV)	HV (kV)	LV (kV)						
31500	220±8x1.25% 230±8x1.25%	69 115 121	6.3 6.6 10.5 21 36 37 38.5	YNynod11	28.0	145	0.77	100/100/100 100/50/100 100/100/50	HV-MV 12~14 HV-LV 22~24 MV-LV 7~9
40000					33.0	174	0.73		
50000					38.0	205	0.74		
63000					45.0	244	0.69		
90000					58.0	316	0.54		
120000			10.5 21 36 37 38.5		74.0	390	0.54		
150000					86.0	463	0.48		
180000					99.0	568	0.48		
240000					123	704	0.43		

Note:

1. The data isted in the table are applicable to step-down structure products, and step-up structure products can also be provided asreguired;

2. Transformer with low voltage of 35kV can also be provided according to requirements;

3. When the annual load rate of transformer is between 45% and 50%,the hichest operation efficiency can be obtained by using theloss yalue in the table.



1. Active Part 2. HV Neutral Bushing 3. MV Neutral Bushing 4. MV Bushing 5. HV Bushing
6.Oil Conservator 7. LV Bushing 8. Radiator (air cooler) 9. Control Cabinet

OSSZ18-220kV 31500kVA-240000kVA three phase three winding OLTC autotransformer (energy efficiency three)

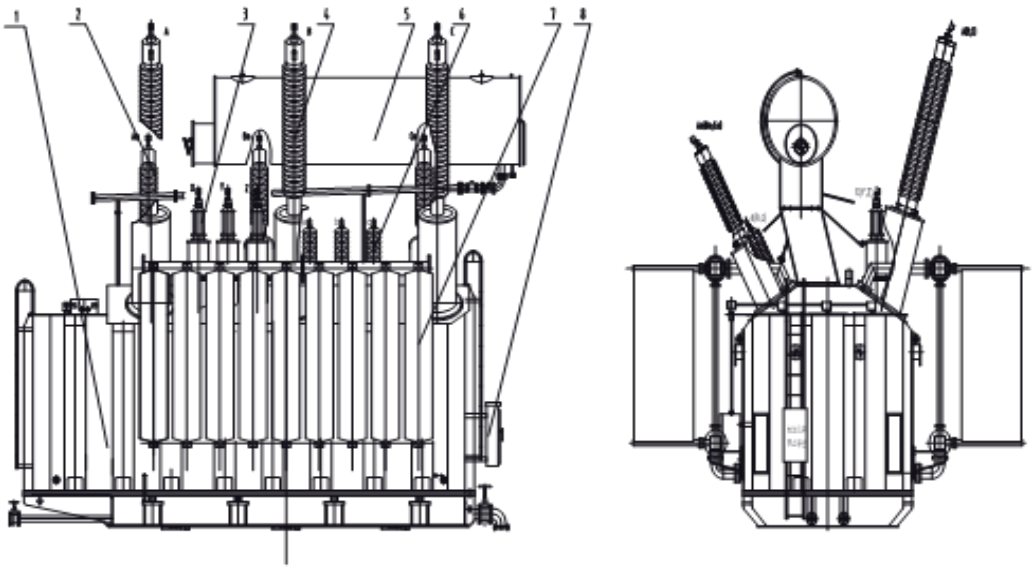
Rated Capacity (kVA)	Voltage Combination And Tapping Range			Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Capacity Allocation (%)	Impedance(%)
	HV (kV)	HV (kV)	LV (kV)						
31500	220±8x1.25% 230±8x1.25%	115 121	6.3 6.6 10.5 21 36 37 38.5	YNynod11	16.0	97	0.54	100/100/50	HV-MV 8~11 HV_LV 28~34 MV-LV 18~24
40000					19.0	119	0.52		
50000					22.0	142	0.48		
63000					26.0	170	0.48		
90000					32.0	222	0.41		
120000			10.5 21 36 37 38.5		41.0	277	0.41		
150000					48.0	329	0.34		
180000					54.0	378	0.34		
240000					66.0	487	0.29		

Note:

1. The data listed in the table are applicable to the products with reduced pressure structure;

2. Transformer with low voltage of 35kV can also be provided according to requirements;

3. When the annual load rate of transformer is between 40% and 45%,the highest operation efficiency can be obtained by using theloss value in the table.



1. Active Part 2. MV Bushing 3. MV Neutral Bushing 4. HV Bushing
5. Oil Conservator 6. LV Bushing 7. Radiator (air cooler) 8. Control Cabinet

SS18-220kV 31500kVA-300000kVA three phase three winding non excitation voltage regulatingpower transtormer(energy efficiency three)

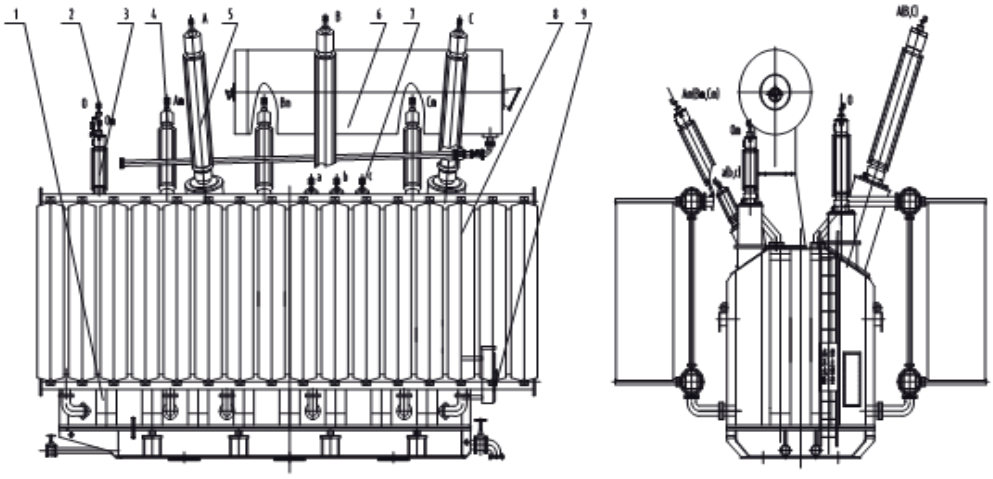
Rated Capacity (kVA)	Voltage Combination And Tapping Range			Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Impedance(%)	
	HV (kV)	HV (kV)	LV (kV)					Step Up	Step Down
31500	220± 2x2.5% 230± 2x2.5% 242± 2x2.5%	69 115 121	6.3 6.6 10.5 21 36 37 38.5	YNaod11	26.0	1145	0.69	HV-MV 22~24 HV-LV 12~14 MV-LV 7~9	HV-MV 12~14 HV-LV 22~24 MV-LV 7~9
40000					30.0	174	0.60		
50000					35.0	2050	0.53		
63000			10.5 13.8 21 36 37 38.5		42.0	244	0.54		
90000					54.0	316	0.48		
120000					67.0	390	0.48		
150000			10.5 13.8 15.75 21 36 37 38.5		80.0	463	0.41		
180000					90.0	527	0.41		
240000					112.0	650	0.34		
300000					133	767	0.30		

Note:

1. The capacity distribution ofthe load in the table is (100 / 100 / 100)9%; The capacity distribution of boost structure can be (100 / 50/ 100)%; The capacity allocation of Buck structure can be (100 /100 / 50)% or (100 / 50 /100)%.

2. Transformers with rated capacity less than 31500ky,A and other voltage combinations can also be provided according to require ments;

3. The transformer with low voltage of 35kV can also be provided4. The non tapping structure is prefered, and taps can be set if reguired, 5. When the annual average load rate of transformer is about45%, the highest operation efficiency can be obtained by using the loss value in the table.



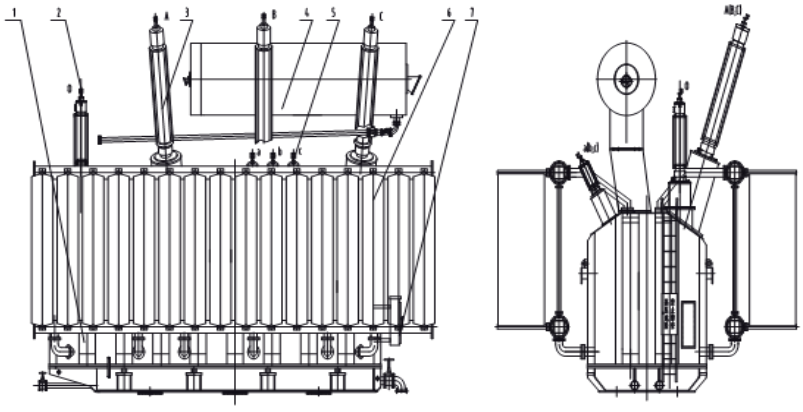
1. Active Part 2. HV Neutral Bushing 3, MV Neutral Bushing 4. MV Bushing 5. HV Bushing 6.Oil Conservator 7. LV Bushing 8. Radiator (air cooler) 9. Control Cabinet

S18-220kV 31500kVA-420000kVA three phase double winding non excitation voltage regulating power transformer(energy efficiency three)

Rated Capacity (kVA)	Voltage Combination And Tapping Range		Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Impedance(%)
	HV (kV)	LV (kV)					
31500	220±2x2.5% 242±2x2.5%	6.3 6.6 10.5	YNaod11	22.0	122	0.68	12~14
40000				26.0	142	0.69	
50000				31.0	170	0.64	
63000				37.0	199	0.64	
75000		10.5 13.8		42.0	225	0.59	
90000				49.0	259	0.54	
120000				60.0	321	0.54	
150000		10.5 13.8 15.75 18 20		71.0	380	0.49	
160000				74.0	399	0.48	
180000				82.0	436	0.45	
240000				102.0	511	0.41	
300000				121.0	609	0.37	
360000		15.75 18 20		138	698	0.37	
370000				141	713	0.37	
400000				150	755	0.34	
420000				154	783	0.34	

Note:

1. Transformers with rated capacity less than 31500kvA and other voltage combinations can also be provided according to requirements;
2. Transformer with low voltage of 35kV can also be provided according to requirements;
3. The non tapping structure is preferred, and taps can be set if required;
4. When the annual average load rate oftransformer is between 45% and 50%, the highest operation eficiency can be obtained by using the loss value in the table.



1. Active Part
2. HV Neutral Bushing
3. HV Bushing
4. Oil Conservator
5. LV Bushing
6. Radiator (air cooler)
7. Control Cabinet

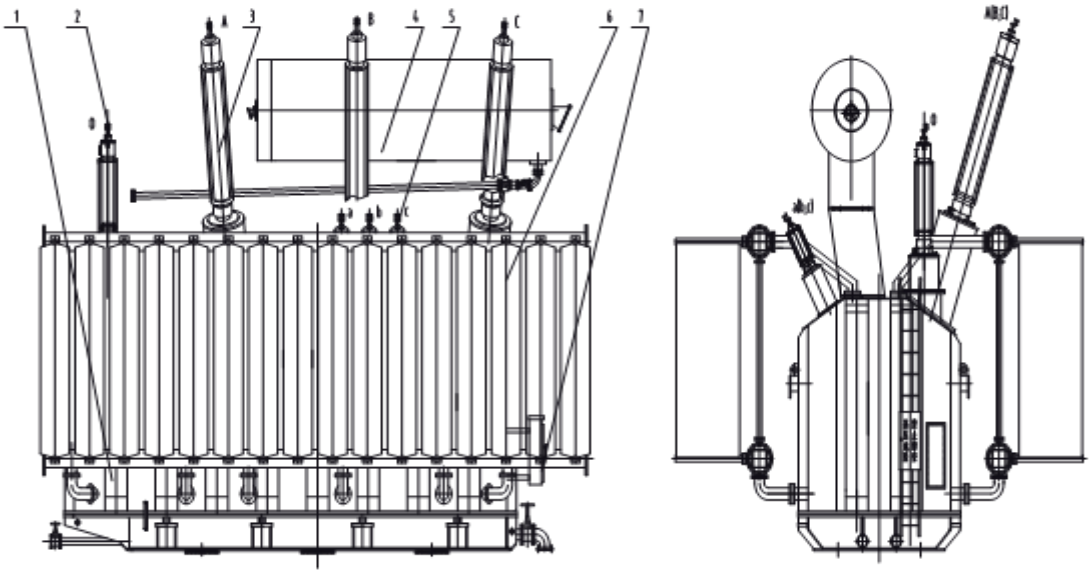
S18-220kV 31500kVA-240000kvA three phase double winding low voltage of 66kV non excitation voltage regulatingpower transformer (energy efficiency three)

Rated Capacity (kVA)	Voltage Combination And Tapping Range		Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Impedance(%)
	HV (kV)	LV (kV)					
31500	220±2x2.5% 230±2x2.5%	63 66 69	YNd11	24.0	136	0.85	12~14
40000				29.0	159	0.90	
50000				34.0	190	0.82	
63000				40.0	222	0.79	
90000				53.0	291	0.74	
120000				65.0	349	0.74	
150000				78.0	409	0.67	
180000				88.0	463	0.66	
240000				109.0	573	0.59	

Note:

1. The no-load tap structure is preferred, and the tap can be set if the operation requires;

2. When the annual average efficiency of transformer is between 45% and 50%, the highest operation eficiency can be obtained byusing the loss value in the table.



1. Active Part 2. HV Neutral Bushing 3. HV Bushing 4. Oil Conservator
5.LV Bushing 6. Radiator (air cooler)7. Control Cabinet

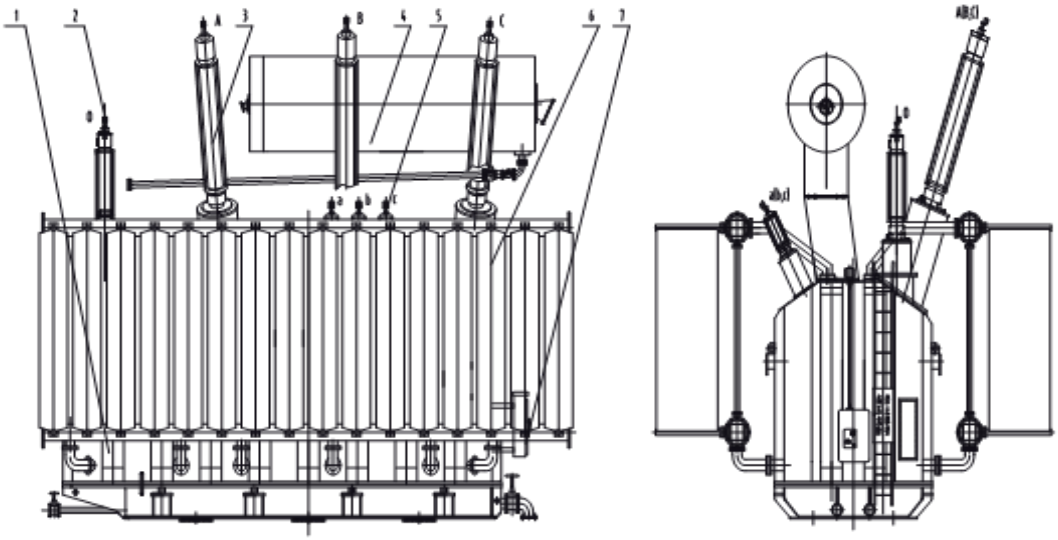
SZ18-220kV 31500kVA-240000kVA three phase double winding OLTC power transformer (energy efficiency three)

Rated Capacity (kVA)	Voltage Combination And Tapping Range		Vector Group	No load Loss (Kw)	load Loss (Kw)	No load Current(%)	Impedance(%)
	HV (kV)	LV (kV)					
31500	220±8x1.25% 230±8x1.25%	6.3 6.6 10.5 21 36 37 38.5	YNd11	24.0	122	0.68	12~14
40000				29.0	142	0.7	
50000				34.0	170	0.64	
63000				40.0	199	0.64	
90000				51.0	259	0.55	
120000				63.0	321	0.56	
150000		10.5 21 36 37 38.5		74.0	380	0.51	
180000				86.0	436	0.47	
120000				65.0	320	0.55	
150000				77.0	374	0.53	
180000		66 69		90.0	428	0.47	
240000				112	532	0.37	

Note:

1. Transformer with low voltage of 35kV can also be provided according to requirements;

2. When the annual average load rate oftransformer is about 50%, the highest operation eficiency can be obtained by using the lossvalue in the table.



1. Active Part 2. HV Neutral Bushing 3. HV Bushing 4. Oil Conservator
5. Ly Bushing 6. Radiator (air cooler) 7. Control Cabinet

Qualifications



QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 00123Q310887R1M-1/1100

We hereby certify that

China Electric Equipment (Jiangsu) Transformer Manufacture Co., Ltd.

Business Registration Number: 91321182338887858XM

No.188 Gangjiong Road,Yangzhong Economic Development Zone, Zhenjiang City, Jiangsu Province, China

by reason of its

Quality Management System

has been awarded this certificate for compliance with the standard

ISO 9001:2015

The Quality Management System Applies in the following area:

1.The Design, Manufacturing, Sales and After Service of 35kV Grade and Below Voltage Dry Type Transformer, Rectifier Frequency Transformer and Marine Transformer, Rectifier Transformer and Transformer Supporting Accessories

2.The Design, Manufacturing, Sales and After Service of 220kV Grade and Below Voltage Oil-immersed Power Transformer, Railway Traction Transformer, Auto-transformer, Amorphous Alloy Oil-immersed Transformer and Transformer Supporting Accessories; The Design, Manufacturing, Sales and After Service of 35kV Grade and Below Voltage Wind Power Generation Modular Transformers , PV Power Transformer and Transformer Supporting Accessories. The Design, Manufacturing, Sales and After Service of 35kV Grade and Below Substation, Complete Switch Equipment

3.The Design, Manufacturing, Sales and After Service of 35kV Grade and Below Voltage Amorphous Alloy Oil-immersed Power Transformer、Amorphous Alloy Core dry Type Power Transformer、Amorphous Alloy Core

Certified since: December 29, 2020 Valid from: December 28, 2023 Valid until: December 28, 2026

a statement saying : the validity of this certificate depends on the validity of the main certificate

After a surveillance cycle, the certificate is valid only when used together with an Acceptance Notice of Surveillance Audit issued by CQC

Please access www.cqc.com.cn for checking validity of the certificate.

This certificate and its relevant information can query in the website of Certification and Accreditation Administration of the People's Republic of China(www.cnca.gov.cn).

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CHINA QUALITY CERTIFICATION CENTRE

Section 9, No.188, Nanshuan(the South Fourth Ring Road) Xilu(West Road), Beijing 100070, China

http://www.cqc.com.cn

A 0079891 2022年版



ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 00123E352241R1M-1/1100

We hereby certify that

China Electric Equipment (Jiangsu) Transformer Manufacture Co., Ltd.

Business Registration Number: 91321182338887858XM

No.188 Gangjiong Road,Yangzhong Economic Development Zone, Zhenjiang City, Jiangsu Province, China

by reason of its

Environmental Management System

has been awarded this certificate for compliance with the standard

ISO 14001:2015

The Environmental Management System Applies in the following area:

1.The Design, Manufacturing, Sales and After Service of 35kV Grade and Below Voltage Dry Type Transformer, Rectifier Frequency Transformer and Marine Transformer, Rectifier Transformer and Transformer Supporting Accessories and Related Management Activities

2.The Design, Manufacturing, Sales and After Service of 220kV Grade and Below Voltage Oil-immersed Power Transformer, Railway Traction Transformer, Auto-transformer, Amorphous Alloy Oil-immersed Transformer and Transformer Supporting Accessories; The Design, Manufacturing, Sales and After Service of 35kV Grade and Below Voltage Wind Power Generation Modular Transformers , PV Power Transformer and Transformer Supporting Accessories; The Design, Manufacturing, Sales and After Service of 35kV Grade and Below Substation,Complete Switch Equipment and Related Management Activities

3.The Design, Manufacturing, Sales and After Service of 35kV Grade and Below Voltage Amorphous Alloy Oil-immersed Power Transformer、Amorphous Alloy Core dry Type Power Transformer、Amorphous Alloy Core and Related Management Activities

Certified since: December 28, 2020 Valid from: December 28, 2023 Valid until: December 27, 2026

the expiry date of last certification cycle: December 27, 2023 the date of recertification audit: December 18, 2023 to December 20, 2023

a statement saying : the validity of this certificate depends on the validity of the main certificate

After a surveillance cycle, the certificate is valid only when used together with an Acceptance Notice of Surveillance Audit issued by CQC

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OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 00123S34193R1M-1/1100

We hereby certify that

China Electric Equipment (Jiangsu) Transformer Manufacture Co., Ltd.

Business Registration Number: 91321182338887858XM

No.188 Gangjiong Road,Yangzhong Economic Development Zone, Zhenjiang City, Jiangsu Province, China

by reason of its

Occupational Health and Safety Management

has been awarded this certificate for compliance with the standard

ISO 45001:2018

The Occupational Health and Safety Management Applies in the following area:

1.The Design, Manufacturing, Sales and After Service of 35kV Grade and Below Voltage Dry Type Transformer, Rectifier Frequency Transformer and Marine Transformer, Rectifier Transformer and Transformer Supporting Accessories and Related Management Activities

2. The Design, Manufacturing, Sales and After Service of 220kV Grade and Below Voltage Oil-immersed Power Transformer, Railway Traction Transformer, Auto-transformer, Amorphous Alloy Oil-immersed Transformer and Transformer Supporting Accessories; The Design, Manufacturing, Sales and After Service of 35kV Grade and Below Voltage Wind Power Generation Modular Transformers, PV Power Transformer and Transformer Supporting Accessories; The Design, Manufacturing, Sales and After Service of 35kV Grade and Below Substation,Complete Switch Equipment and Related Management Activities

3.The Design, Manufacturing, Sales and After Service of 35kV Grade and Below Voltage Amorphous Alloy Oil-immersed Power Transformer、Amorphous Alloy Core dry Type Power Transformer、Amorphous Alloy Core and Related Management Activities

Certified since: December 28, 2020 Valid from: December 28, 2023 Valid until: December 27, 2026

the expiry date of last certification cycle: December 27, 2023 the date of recertification audit: December 18, 2023 to December 20, 2023

a statement saying : the validity of this certificate depends on the validity of the main certificate

After a surveillance cycle, the certificate is valid only when used together with an Acceptance Notice of Surveillance Audit issued by CQC

Please access www.cqc.com.cn for checking validity of the certificate.

This certificate and its relevant information can query in the website of Certification and Accreditation Administration of the People's Republic of China(www.cnca.gov.cn).

IAF CNAS 谢肇照 IQNET CHINA QUALITY CERTIFICATION CENTRE

CHINA QUALITY CERTIFICATION CENTRE

Section 9, No.188, Nanshuan(the South Fourth Ring Road) Xilu(West Road), Beijing 100070, China

http://www.cqc.com.cn

A 0079374 2022年版



Certificate
of
Appointment

No. UA 50634363-0001

The Applicant

**China Electric Equipment (Jiangsu)
Transformer Manufacture Co.,Ltd.
No. 188 Ganglong Road, Yangzhong,
Zhenjiang,
212215 Jiangsu
P.R. China**

has been authorized to carry out testing by the order
and under supervision of TÜV Rheinland
according to

IEC 60076-1:2011/EN 60076-1:2011, IEC 60076-2:2011/EN 60076-2:2011
IEC 60076-3:2013/AMD1:2018/EN 60076-3:2013/A1:2018
IEC 60076-4:2002/EN 60076-4:2002, IEC 60076-7:2018/IEC 60076-12:2008
IEC 60076-10:2016/EN 60076-10:2016, IEC 60076-11:2018/EN IEC60076-11:2018
IEC 60156:2018/IEC 60247:2004/IEC 60475:2022

An audit of the laboratory was conducted according to the applicable clauses of
ISO/IEC 17025 by a TÜV Rheinland auditor.
Audit Report No. CN24FGJ1 - 001

This certificate is valid from 06 June 2025 until 05 June 2026.

Date of issue: 25 June 2024

Certification Body

Yongming Yang

TÜV Rheinland (China) Ltd.
2F and 12F, Building 4, No. 15, Ronghua South Road,
Beijing Economic Technological Development Area,
Beijing, P.R. China.
Tel: +86 10 8524 2222
Fax.: +86 10 8524 2200 http://www.chn.tuv.com

www.tuv.com

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China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(Registration No. CNAS L18260)

**Testing Center of China Electric Equipment (Jiangsu)
Transformer Manufacture Co., Ltd.**

(Legal Entity: China Electric Equipment (Jiangsu) Transformer Manufacture Co., Ltd.)

Building 8, No.188, Ganglong Road, Economic Development Zone,
Yangzhong, Zhenjiang, Jiangsu, China

is accredited in accordance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence to undertake the service described in the schedule attached to this certificate.

The scope of accreditation is detailed in the attached schedule bearing the same registration number as above. The schedule forms an integral part of this certificate.

Effective Date：2023-05-16

Expiry Date：2029-05-15

Signed on behalf of China National Accreditation Service for Conformity Assessment 张朝华

China National Accreditation Service for Conformity Assessment (CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is a signatory of the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC MRA) and the Asia Pacific Accreditation Cooperation Mutual Recognition Arrangement (APAC MRA).
The validity of the certificate can be checked on CNAS website at http://www.cnas.org.cn/english/findanaccreditedbody/index.shtml.



UDEM

CERTIFICATE

ATTESTATION CERTIFICATE OF ELECTROMAGNETIC COMPATIBILITY AND LOW VOLTAGE DIRECTIVES

Technical file of the company mentioned below has been observed and audit has been completed successfully.
2014/30/EU Electromagnetic Compatibility Directive and
2014/35/EU Low Voltage Directives have been taken as references for these processes

Company Name	: China Electric Equipment (Jiangsu) Transformer Manufacture Co., Ltd.
Company Address	: No. 188 Ganglong Road, Yangzhong, Zhenjiang, Jiangsu, China
Related Directives and Annex	: 2014/35/EU Low Voltage Directive 2014/30/EU Electromagnetic Compatibility Directive
Related Standards	: EN 60076-1:2011, IEC 60076-1:2011
Product Name	: Oil Immersed Transformer
Report No and Date	: TCF-ZD220413LE
Product Brand/Model/Type	: S,S-M,SL,SL-M,S(F)Z,S(F)Z-M,S(P)SZ,S(FP)SZ-M,OS(PF)SZ, OS(PF)SZ-M,GYS,ZTSF,ZHSF,YS,ZPSF(Capacity 240000kva and below, voltage grade 220kV and below)
Certificate Number	: M.2022.206.C72761
Initial Assessment Date	: 13.04.2022
Registration Date	: 14.04.2022
Reissue Date/No	: -
Expiry Date	: 13.04.2027

UDEM International Certification
Auditing Training Centre Industry
and Trade Inc. Co.

The validity of the certificate can be checked through www.udem.com.tr. The CE mark shown on the right can only be used under the responsibility of the manufacturer with the completion of EC Declaration of Conformity for all the relevant Directives. This certificate remains the property of UDEM International Certification Auditing Training Centre Industry and Trade Inc. Co. to whom it must be returned upon request. The above named firm must keep a copy of this certificate for 10 years from the registration of certificate. This certificate only covers the product(s) stated above and UDEM must be noticed in case of any changes on the product(s).

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E-mail: info@udemltd.com.tr www.udem.com.tr



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实验室名称：国家电器产品质量监督检验中心
Lab Name: China National Center for Quality Supervision and Test of Electrical Apparatus Procucts

№ 20M0561-S

型式试验报告
Type Test Report

委 托 单 位: China Electric Equipment (Jiangsu) Transformer Manufacturing Co., Ltd
Client:

产 品 名 称: Power transformer
Name of Product:

产 品 型 号: SZ11-63000/110
Product Type:

检 验 类 别: Commission test
Test Category:

本实验室对出具的检验(试验)结果负责，未经实验室书面同意，不得部分地复制本报告。

The laboratory is responsible for the inspection (Test) results. The report shall not be reproduced except in full, written approval of the laboratory.

Product family



Amorphous Metal Transformer



VPI Transformer



Cast Resin Transformer



220kV Power Transformer



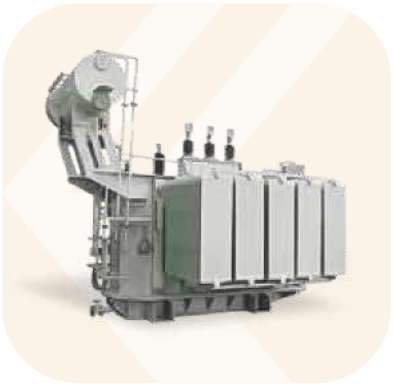
220kV Traction Transformer



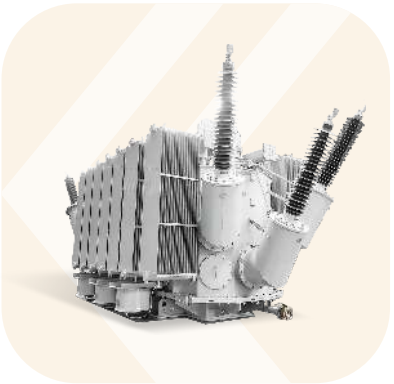
110kV Traction Transformer



110kV Power Transformer



35kV Power Transformer



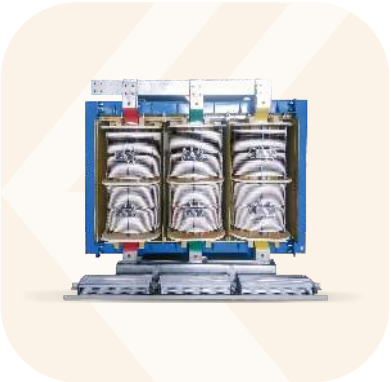
110kV Mobile Transformer



Mining Explosion-proof Substation



Ocean Platform Transformer



Integrated PV Step-up Transformer



Marine Offshore Duty Transformers



AFWF Transformer



Substation



Integrated Boost Converter



Marine Transformer



Substation



CEEG Transformer Co., Ltd

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与巨人同行 与世界同步
GO ALONG WITH GIANTS
KEEP PACE WITH THE WORLD
企业荣誉