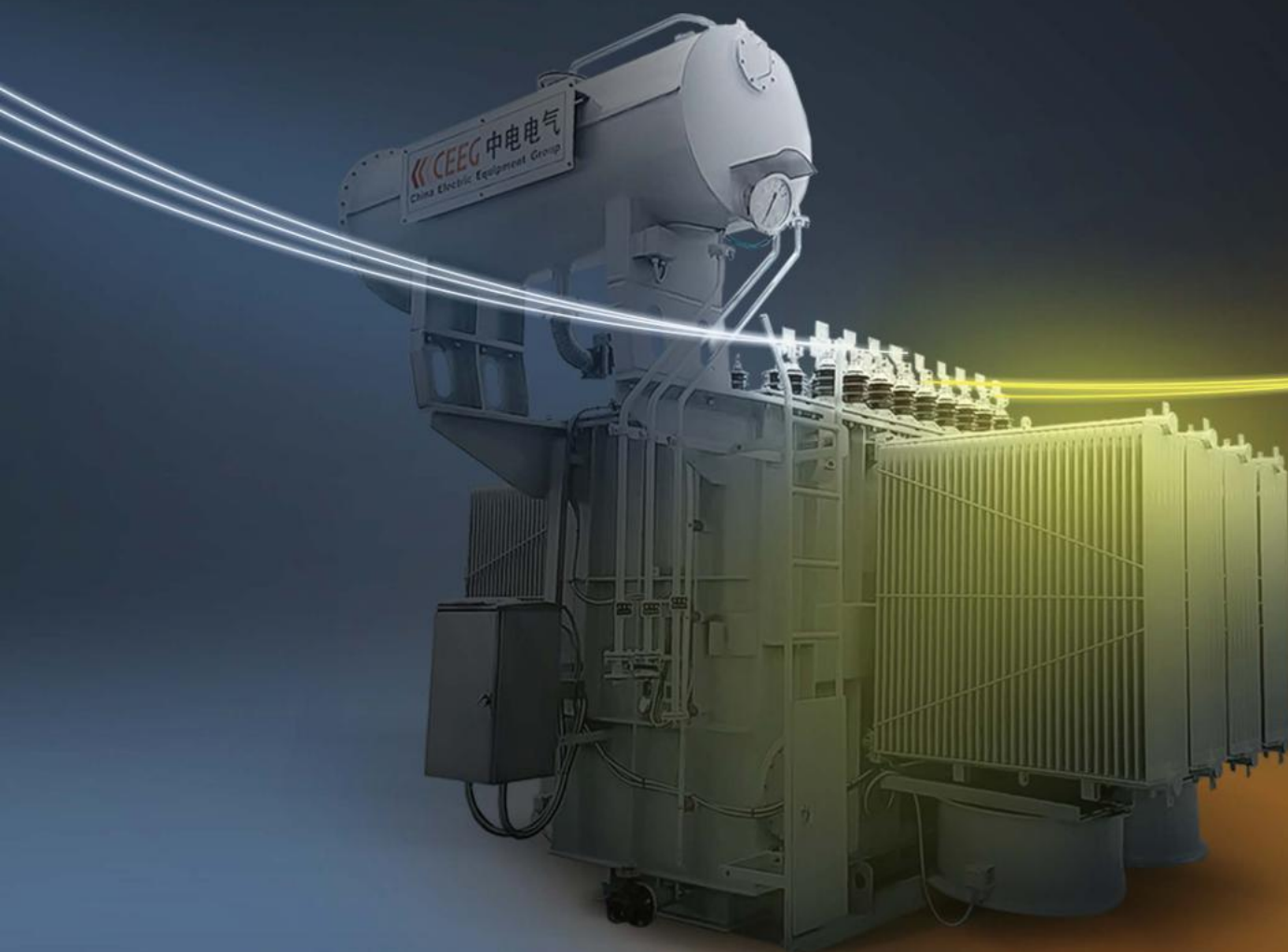




CEEGB Transformer Co., Ltd



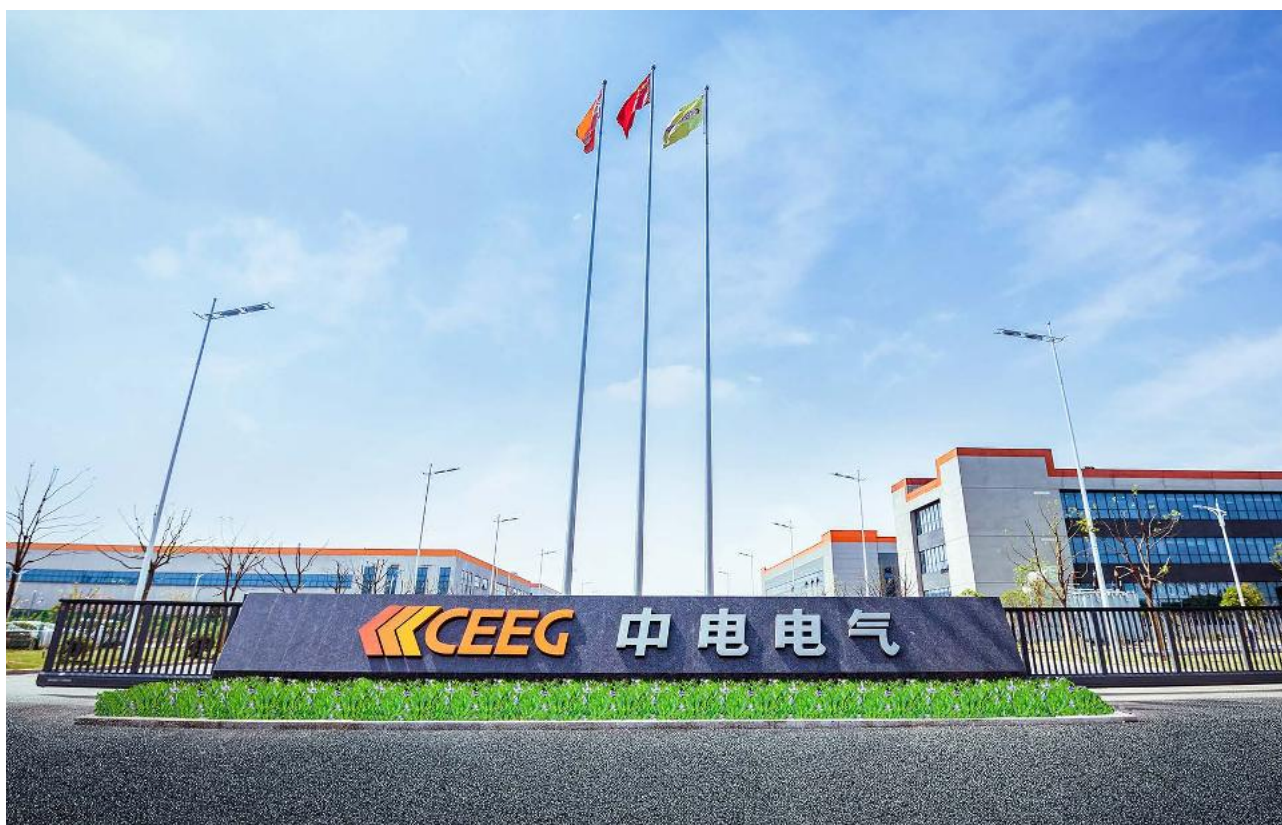
220kV Oil-Immersed Transformer

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.



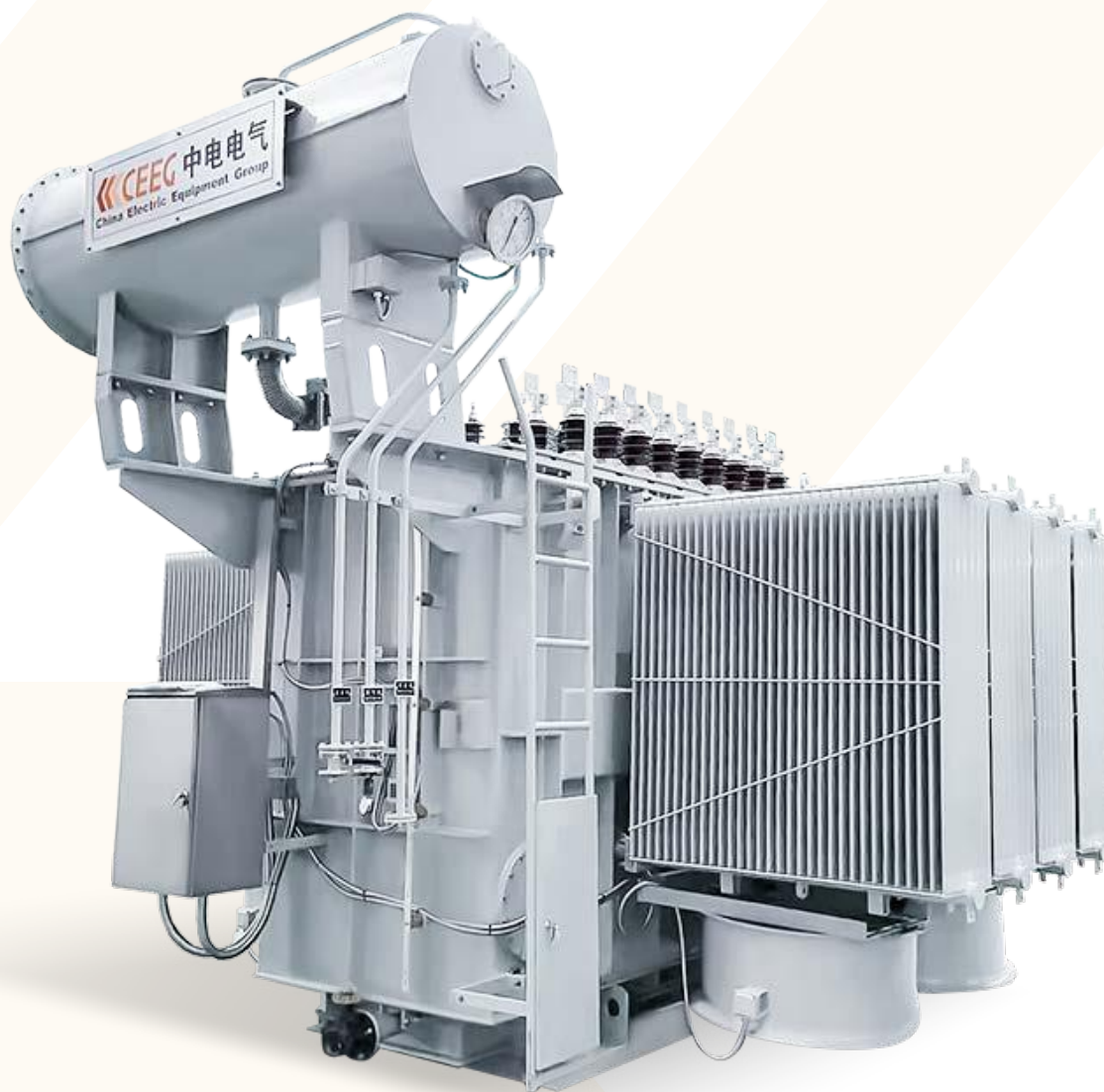


Ceeg-Delivering High-Quality Power To The World

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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

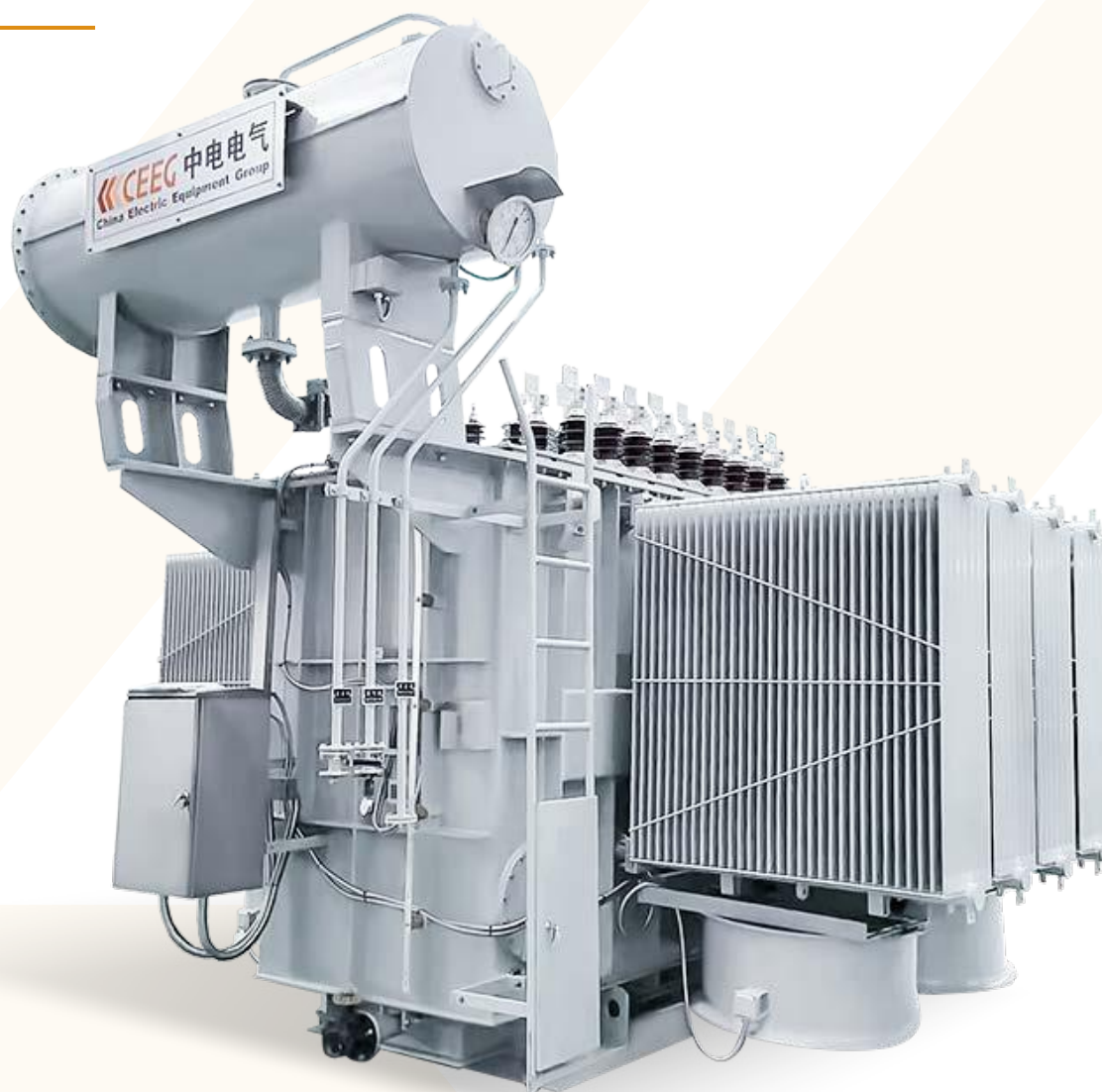
All kinds of accessories can be selected, and the product structure can be designed according to the customer's needs

Applications

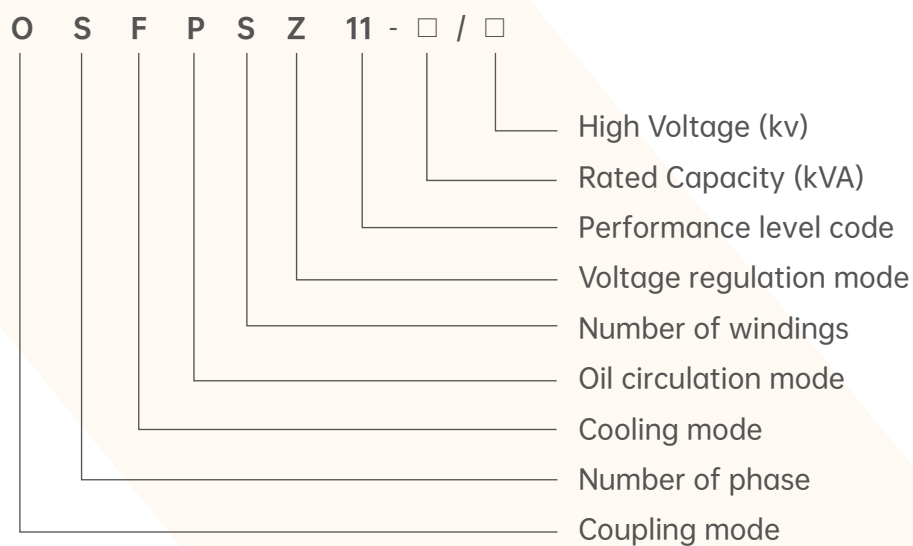


It can be widely used in the utility and infrastructure sectors, such as urban power grids, rural power grids, high-end power supply fields; and industries such as coal mining, and agriculture, etc.

Model



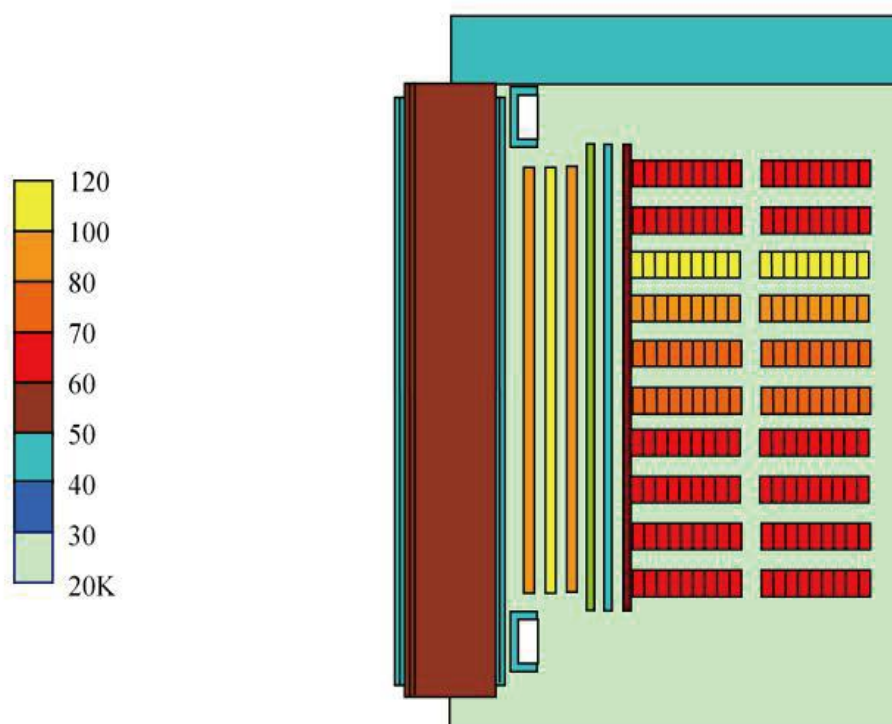
220kV Oil-Immersed Type Transformer



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 °C; short-term operation at 350 °C; it will not melt, flow or support combustion at 250 °C; no toxic or corrosive gas will be released at 750 °C
- **Safety and environmental protection:** non-toxic, no smoke, no harmful gas

Advanced Technology

R & D Team

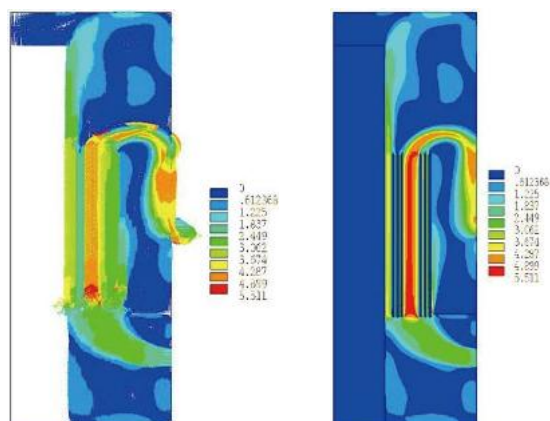
The CEEG research and development team focuses on advanced technologies for products and solutions. Over the past 35 years, CEEG has established a strong technology team that includes thousands of employees and many excellent experts. In addition, CEEG has partnered with many national research centers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

Strategic Partners

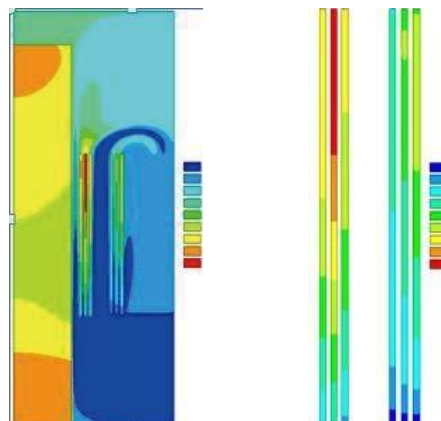


R & D Cloud Platform

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



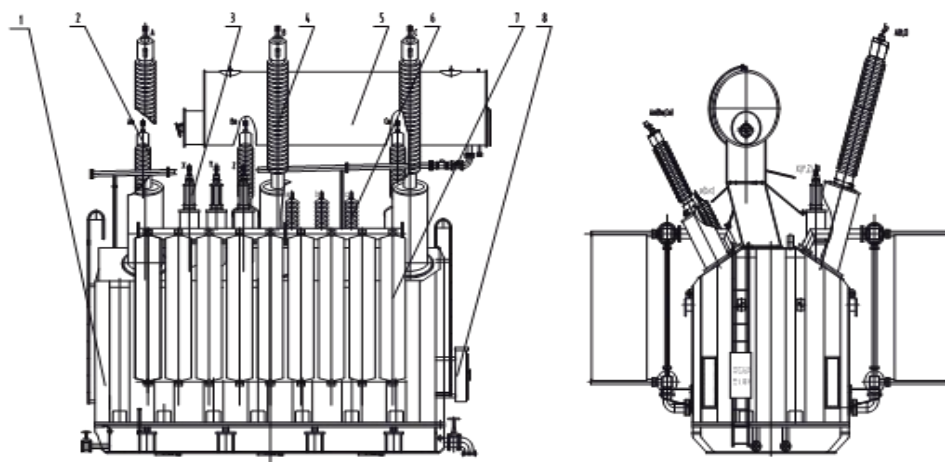
Technical Parameters

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	YNad11	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			10.5		23	136	0.45	20	114	0.4		
50000			21		27	161	0.4	24	136	0.34		
63000			36		32	190	0.4	28	162	0.34		
90000			37		40	262	0.34	36	222	0.28		
120000			38.5		49	323	0.34	44	273	0.28		
150000			10.5		58	384	0.28	52	324	0.26		
180000			13.8		67	439	0.28	60	367	0.26		
240000			15.75		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.



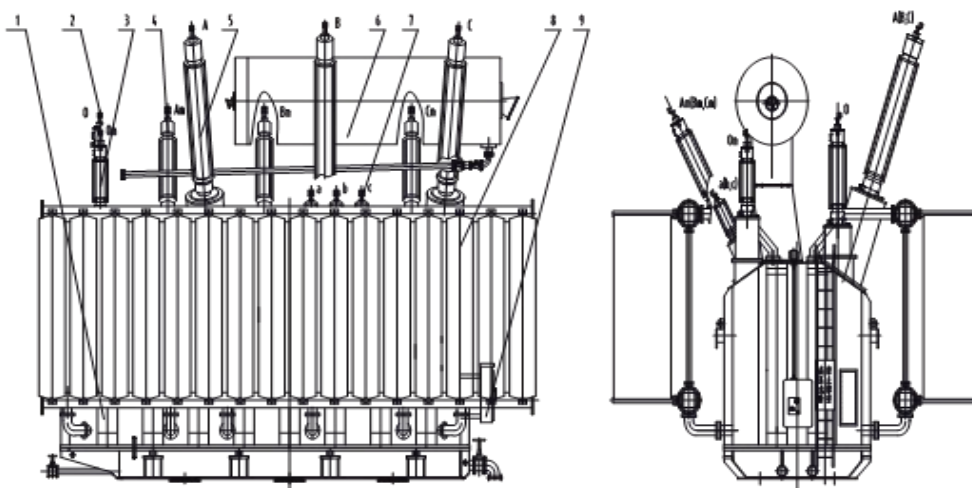
1. Active Part
2. MV Bushing
3. MV Neutral Bushing
4. H Bushing
5. Oil Conservator
6. LV Bushing
7. Radiator (air cooler)
8. Control Cabinet

SSZ20-220kV 31500kVA-240000kVA three phase three winding OLTC power transformer(secondary energy 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%	69	6.3	YNao11	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			6.6		27.0	165	0.60		
50000			10.5		31.0	194	0.60		
63000			21		36.0	231	0.55		
90000			36		47.0	300	0.44		
120000	230± 8x1.25%	115	37		60.0	369	0.44		
150000			38.5		70.0	438	0.39		
180000			10.5		81.0	538	0.39		
240000			21		100	667	0.35		
			36						
			37						
			38.5						

Note:

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



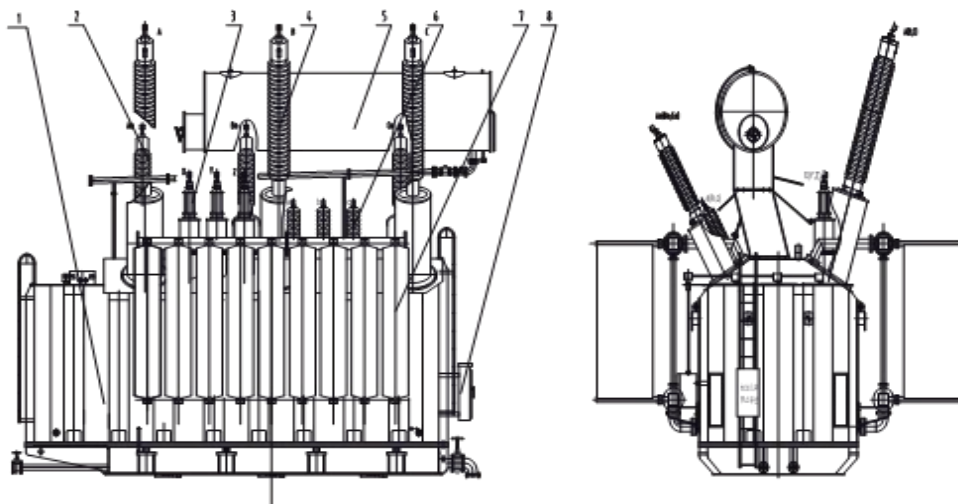
1. Active Part
2. HV Neutral Bushing
3. MV Neutral Bushing
4. MV Bushing
5. HV Bushing
6. Oil Conservator
7. Ly Bushing
8. Radiator (air cooler)
9. Control Cabinet

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%	115	6.3	YNa0d11	13.0	92	0.44	100/100/50	HV-MV 8~11 HV-LV 28~34 MV-LV 18~24
40000			6.6		16.0	113	0.44		
50000			10.5		18.0	134	0.39		
63000			21		21.0	161	0.39		
90000	230± 8x1.25%	121	36		26.0	211	0.33		
120000			37		33.0	263	0.33		
150000			38.5		39.0	311	0.28		
180000			10.5		44.0	358	0.28		
240000			21		54.0	462	0.24		
			36						
			37						
			38.5						

Note:

1. The data listed 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 efficiency can be obtained by using the loss value in the table.



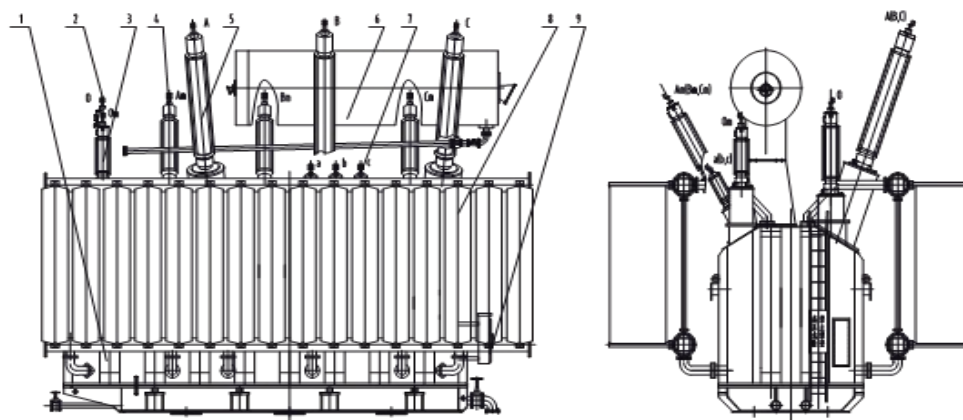
1. Active Part
2. MV Bushing
3. MV Neutral Bushing
4. HV Bushing
5. Oil Conservator
6. LV Bushing
7. Radiator (air cooler)
8. Control Cabinet

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±		6.3	YNao11	21.0	138	0.56	HV-MV	HV-MV
40000			6.6		25.0	165	0.50		
50000			10.5		29.0	194	0.44		
63000			21		34.0	231	0.44		
90000	230±	69	10.5		44.0	300	0.39	22~24	12~14
120000	2x2.5%	115	13.8		55.0	369	0.39	HV-LV	HV-LV
150000	242±	121	21		65.0	438	0.33	12~14	22~24
180000			36		73.0	500	0.33	MV-LV	MV-LV
240000			37		91.0	616	0.28	7~9	7~9
300000			38.5		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 be 100/50/100%: 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, If required by operation, tap can be set,
- 5, when the average load rate of transformer is about 45%, the maximum operating efficiency can be obtained by using the loss value in the table.



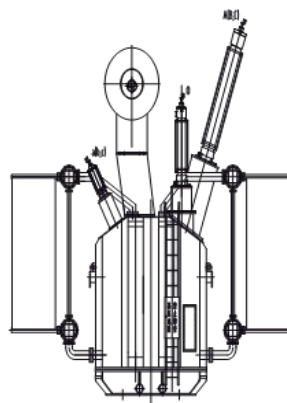
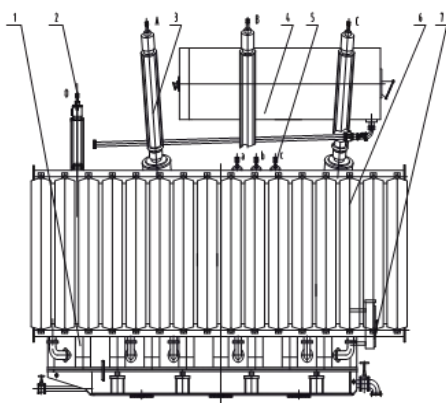
1. Active Part 2. HV Neutral Bushing 3. MV Neutral Bushing 4. MV Bushing
5. HV Bushing 6. Oil Conservator 7. LV Bushing 8. Radiator (air cooler) 9. Control Cabinet

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		58.0	360	0.40	
160000				60.0	378	0.39	
180000				66.0	413	0.36	
240000				83.0	484	0.33	
300000		18 20 15.75 18 20		98.0	577	0.30	
360000				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 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 of transformer is between 45% and 50%, the highest operaion efficiency can be obtained by using the loss value in the table.



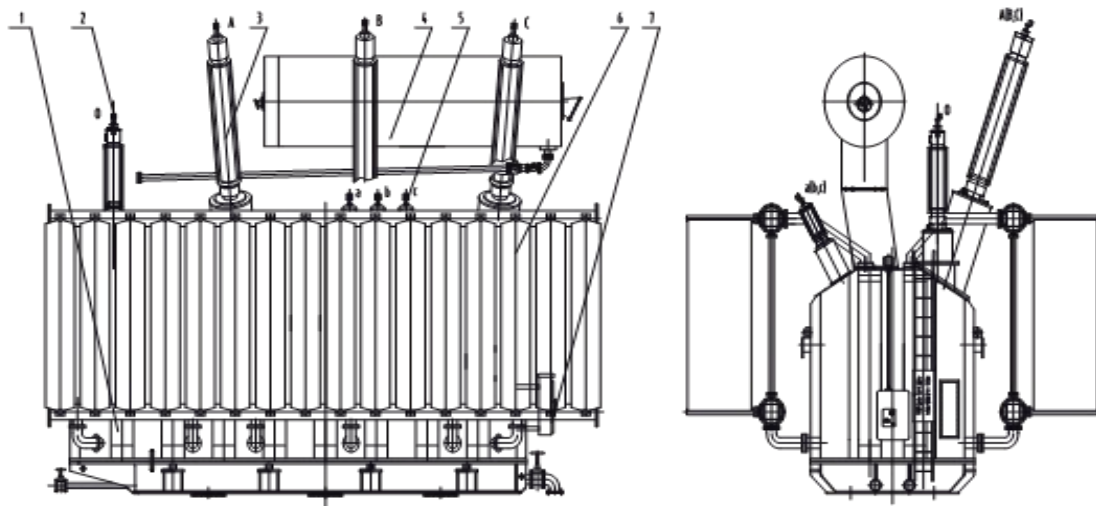
1. Active Part
- 2.HV Neutral Bushing
3. HV Bushing
- 4.Oil Conservator
- 5.LV Bushing
6. Radiator (air cooler)
7. Control Cabinet

S20-220kV 31500kVA~240000kVA three phase double winding low voltage of 66kV 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)	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 by using the loss value in the table.



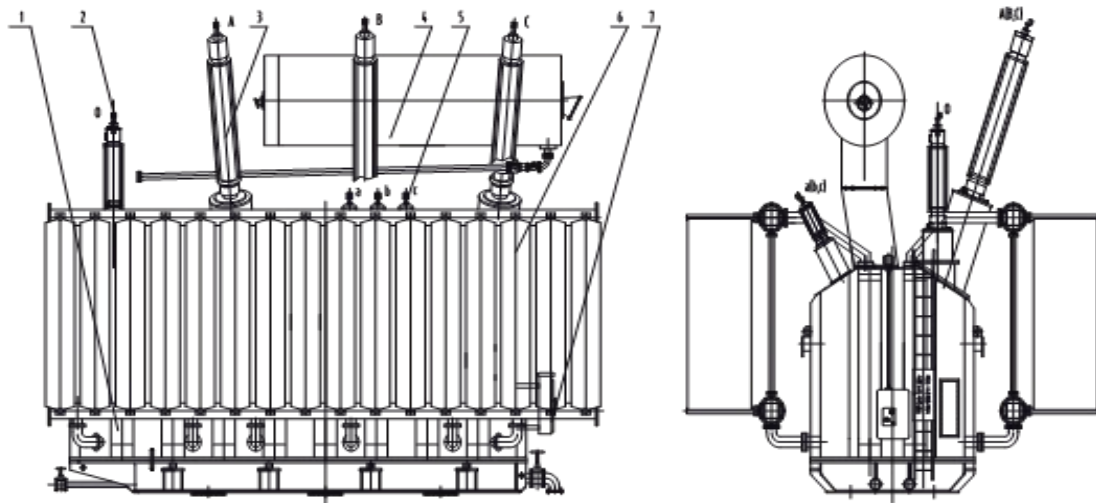
1. Active Part
2. HV Neutral Bushing
3. HV Bushing
4. Oil Conservator
5. LV Bushing
6. Radiator (air cooler)
7. Control Cabinet

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	YNd11	20.0	115	0.57	12~14
40000		6.6		23.0	134	0.57	
50000		10.5		28.0	161	0.53	
63000		21		33.0	188	0.53	
90000		36		42.0	246	0.45	
120000		37		51.0	304	0.45	
150000		38.5		60.0	360	0.41	
180000		10.5		70.0	413	0.38	
120000		21		53.0	303	0.45	
150000		36		62.0	355	0.43	
180000		37		73.0	406	0.38	
240000		38.5		91.0	504	0.30	
		66					
		69					

Note:

1. 35kV transformer with low voltage 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 loss value in the table.



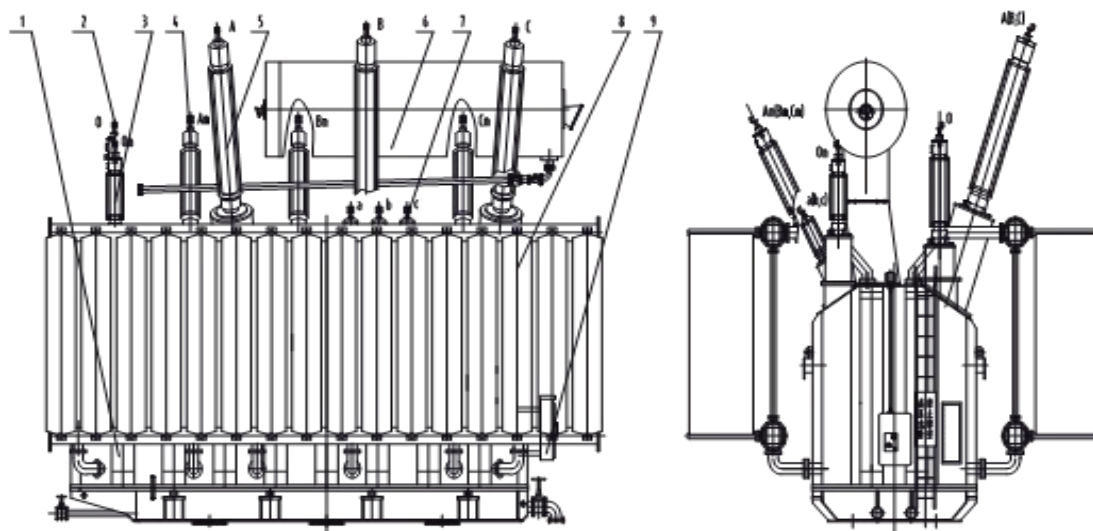
1. Active Part 2. HV Neutral Bushing 3. HV Bushing 4. Oil Conservator
5. LV Bushing 6. Radiator (air cooler) 7. Control Cabinet

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%	69	6.3	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			6.6		23.0	165	0.51		
50000			10.5		26.0	194	0.5		
63000			21		31.0	231	0.47		
90000			36		40.0	300	0.37		
120000	230± 8x1.25%	115	37		51.0	369	0.37		
150000			38.5		59.0	438	0.33		
180000			10.5		68.0	538	0.33		
240000			21		85.0	667	0.3		
			36						
			37						
			38.5						

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 using the loss value in the table.



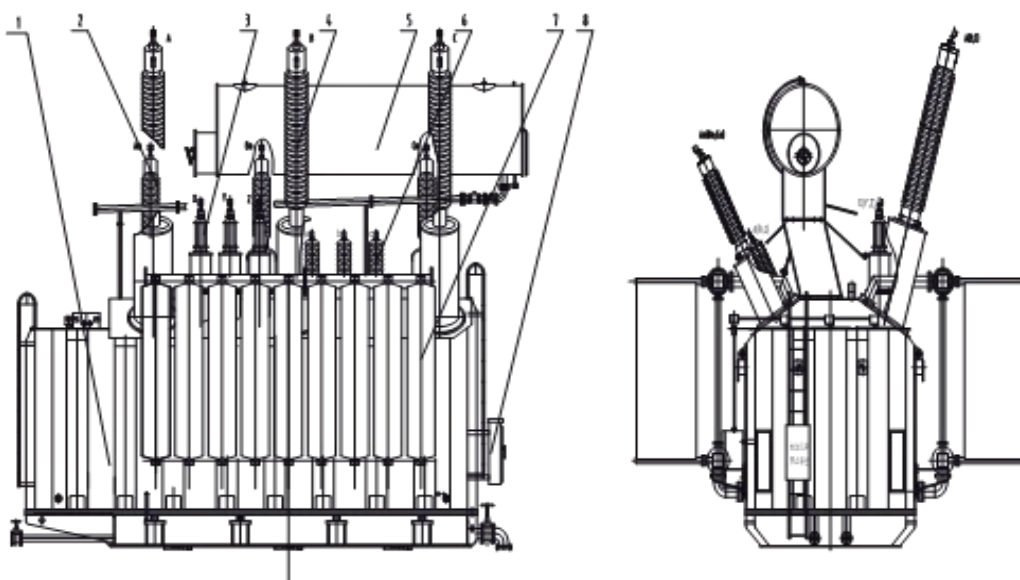
1. Active Part 2. HV Neutral Bushing 3. HV Bushing 4. Oil Conservator
5. LV Bushing 6. Radiator (air cooler) 7. Control Cabinet

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%	115	6.3	YNynod11	11.0	92	0.37	100/100/50	HV-MV 8~11 HV_LV 28~34 MV-LV 18~24
40000			6.6		13.0	113	0.36		
50000			10.5		15.0	134	0.33		
63000			21		18.0	161	0.33		
90000			36		22.0	211	0.28		
120000	230± 8x1.25%	121	37		28.0	263	0.28		
150000			38.5		33.0	311	0.24		
180000			10.5		37.0	358	0.24		
240000			21		46.0	462	0.2		
			36						
			37						
			38.5						

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.



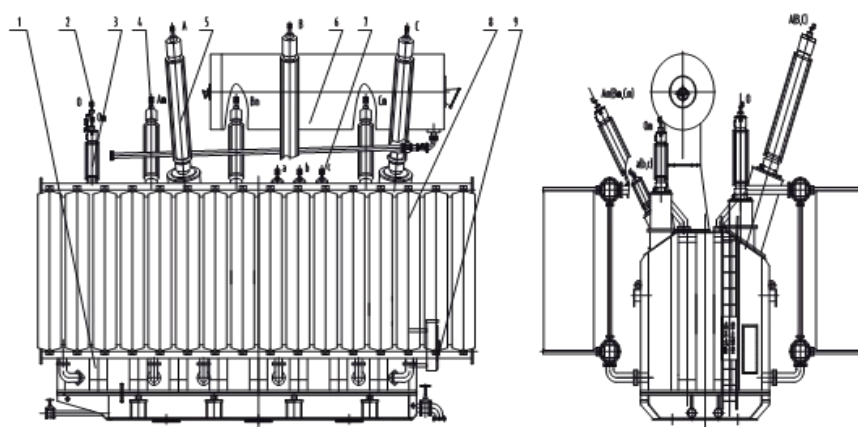
1. Active Part 2. MV Bushing 3. MV Neutral Bushing 4. HV Bushing
5. Oil Conservator 6. LV Bushing 7. Radiator (air cooler) 8. Control Cabinet

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%	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					29.0	231	0.38		
90000	230±		10.5 13.8 21 36 37 38.5		37.0	300	0.33		
120000	2x2.5%				46.0	369	0.33		
150000	242±				55.0	438	0.28		
180000	2x2.5%		10.5 13.8 15.75 21 36 37 38.5		62.0	500	0.28		
240000					72.0	616	0.22		
300000					91	726	0.20		

Note:

1. The capacity distribution of the 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 31500kVA, A and other voltage combinations can also be provided according to requirements;
3. The transformer with low voltage of 35kV can also be provided;
4. The non tapping structure is preferred, and taps can be set if required;
5. When the annual average load rate of transformer is about 45%, the highest operation efficiency can be obtained by using the loss value in the table.



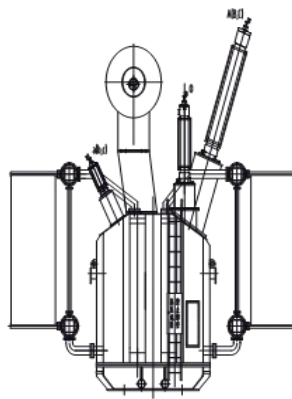
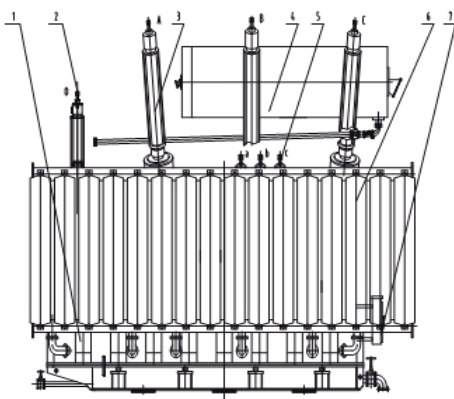
1. Active Part
2. HV Neutral Bushing
3. V Neutral Bushing
4. MV Bushing
5. HV Bushing
6. Oil Conservator
7. LV Bushing
8. Radiator (air cooler)
9. Control Cabinet

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		49.0	360	0.34		
160000				51.0	378	0.33		
180000				56.0	413	0.31		
240000				70.0	484	0.28		
300000		15.75 18 20		83.0	577	0.25		
360000				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 efficiency can be obtained by using the loss value in the table.



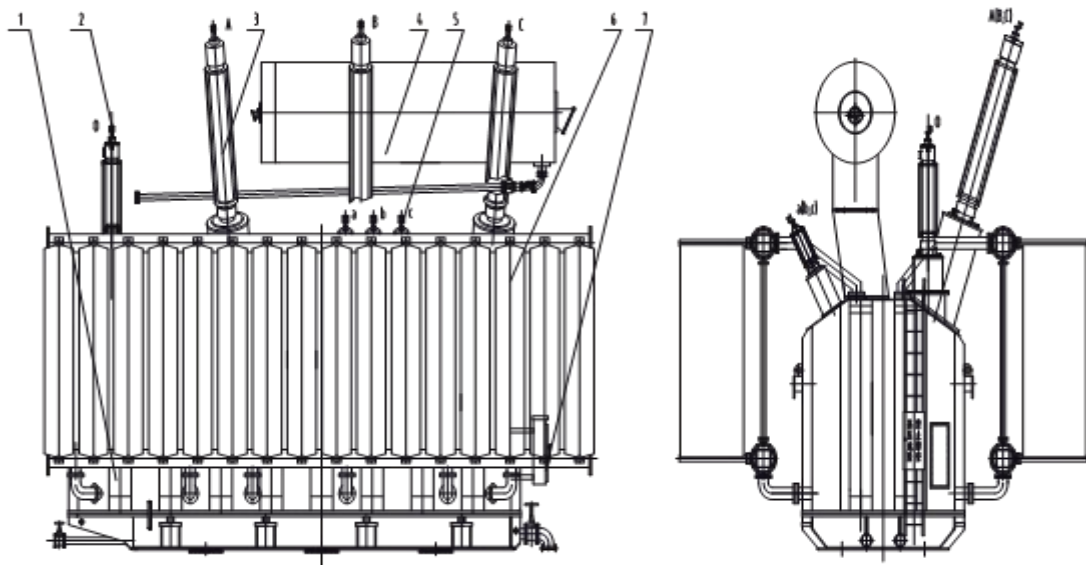
1. Active Part
2. HV Neutral Bushing
3. HV Bushing
4. Oil Conservator
5. LV Bushing
6. Radiator (air cooler)
7. Control Cabinet

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



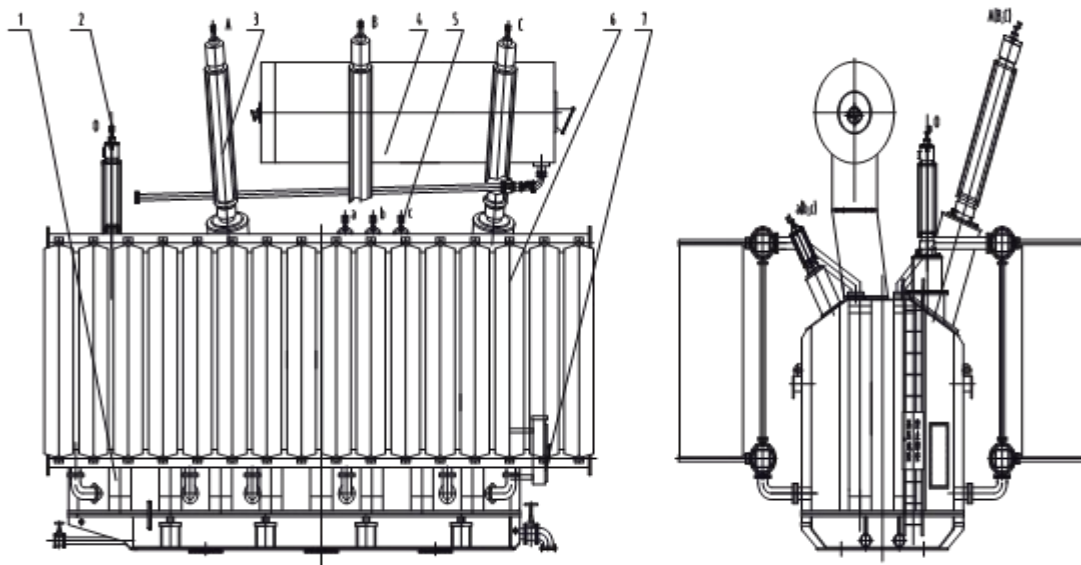
1. Active Part 2. HV Neutral Bushing 3. HV Bushing 4. Oil Conservator
5. Ly Bushing 6. Radiator (air cooler) 7. Control Cabinet

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	YNd11	20.0	115	0.48	12~14
40000		6.6		23.0	134	0.5	
50000		10.5		28.0	161	0.45	
63000		21		33.0	188	0.45	
90000		36		42.0	246	0.38	
120000		37		51.0	304	0.38	
150000		38.5		60.0	360	0.35	
180000		10.5		70.0	413	0.32	
120000		21		53.0	303	0.38	
150000		36		62.0	355	0.37	
180000		37		73.0	406	0.32	
240000		38.5		91.0	504	0.25	
		66					
		69					

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.



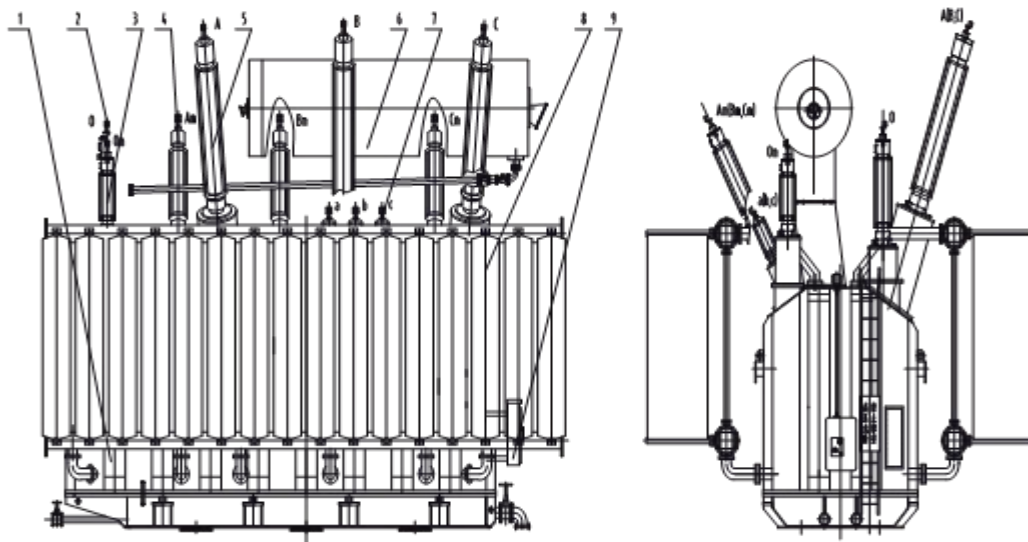
1. Active Part 2. HV Neutral Bushing 3. HV Bushing 4. Oil Conservator
5. Ly Bushing 6. Radiator (air cooler) 7. Control Cabinet

SSZ18-220kV 31500kVA-240000kVA three phase three winding OLTC power transformer (energy 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%	69	6.3	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			6.6		33.0	174	0.73		
50000			10.5		38.0	205	0.74		
63000			21		45.0	244	0.69		
90000			36		58.0	316	0.54		
120000	230± 8x1.25%	115	37		74.0	390	0.54		
150000			38.5		86.0	463	0.48		
180000			10.5		99.0	568	0.48		
240000			21		123	704	0.43		
			36						
			37						
			38.5						

Note:

1. The data listed in the table are applicable to step-down structure products, and step-up structure products can also be provided as required;
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 highest operation efficiency can be obtained by using the loss value in the table.



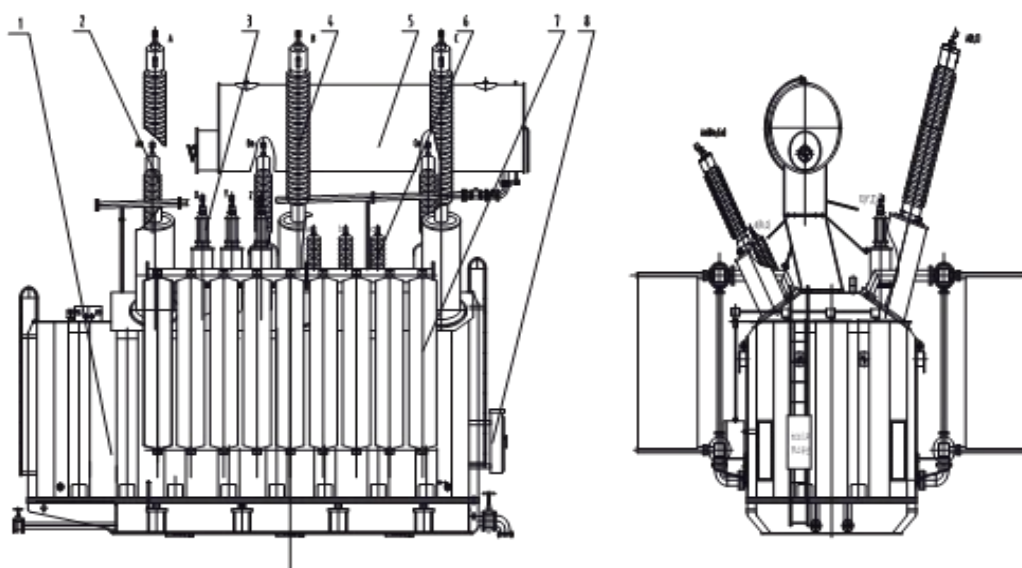
1. Active Part 2. HV Neutral Bushing 3. MV Neutral Bushing 4. MV Bushing 5. HV Bushing
6. Oil Conservator 7. LV Bushing 8. Radiator (air cooler) 9. Control Cabinet

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%	115	6.3	YNynod11	16.0	97	0.54	100/100/50	HV-MV 8~11 HV_LV 28~34 MV-LV 18~24
40000			6.6		19.0	119	0.52		
50000			10.5		22.0	142	0.48		
63000			21		26.0	170	0.48		
90000			36		32.0	222	0.41		
120000	230± 8x1.25%	121	37		41.0	277	0.41		
150000			38.5		48.0	329	0.34		
180000			10.5		54.0	378	0.34		
240000			21		66.0	487	0.29		
			36						
			37						
			38.5						

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 loss value in the table.



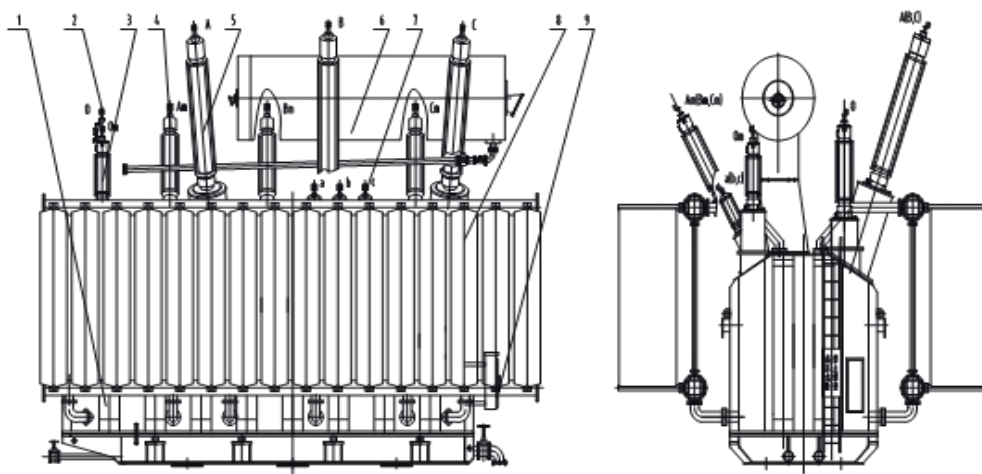
1. Active Part 2. MV Bushing 3. MV Neutral Bushing 4. HV Bushing
5. Oil Conservator 6. LV Bushing 7. Radiator (air cooler) 8. Control Cabinet

SS18-220kV 31500kVA-300000kVA three phase three winding non excitation voltage 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)	HV (kV)	LV (kV)					Step Up	Step Down		
31500	220±	69	6.3	YNao11	26.0	1145	0.69	HV-MV	HV-MV		
40000			6.6		30.0	174	0.60				
50000			10.5		35.0	2050	0.53				
63000			21		42.0	244	0.54				
90000	230±		13.8		54.0	316	0.48			HV-LV	HV-LV
120000	2x2.5%		21		67.0	390	0.48			12~14	22~24
150000	242±		36		80.0	463	0.41			MV-LV	MV-LV
180000	2x2.5%		37		90.0	527	0.41			7~9	7~9
240000			38.5		112.0	650	0.34				
300000			10.5		133	767	0.30				

Note:

1. The capacity distribution of the 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 31500kVA and other voltage combinations can also be provided according to requirements;
3. The transformer with low voltage of 35kV can also be provided.
4. The non tapping structure is preferred, and taps can be set if required.
5. When the annual average load rate of transformer is about 45%, the highest operation efficiency can be obtained by using the loss value in the table.



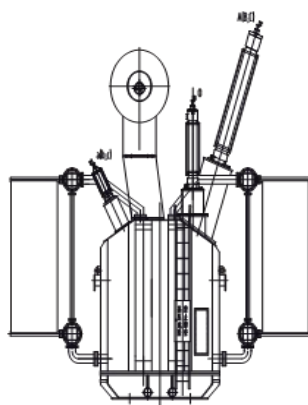
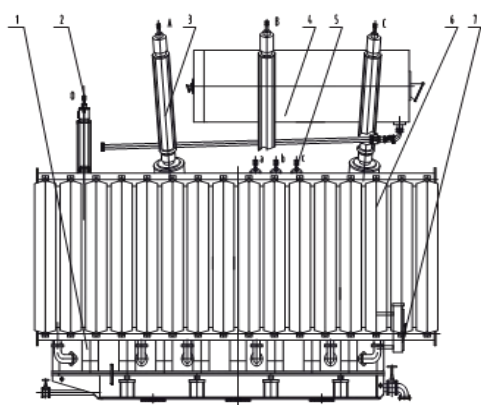
1. Active Part
2. HV Neutral Bushing
3. MV Neutral Bushing
4. MV Bushing
5. HV Bushing
6. Oil Conservator
7. LV Bushing
8. Radiator (air cooler)
9. Control Cabinet

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	YNad11	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		71.0	380	0.49		
160000				74.0	399	0.48		
180000				82.0	436	0.45		
240000				102.0	511	0.41		
300000		15.75 18 20		121.0	609	0.37		
360000				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 of transformer is between 45% and 50%, the highest operation efficiency can be obtained by using the loss value in the table.



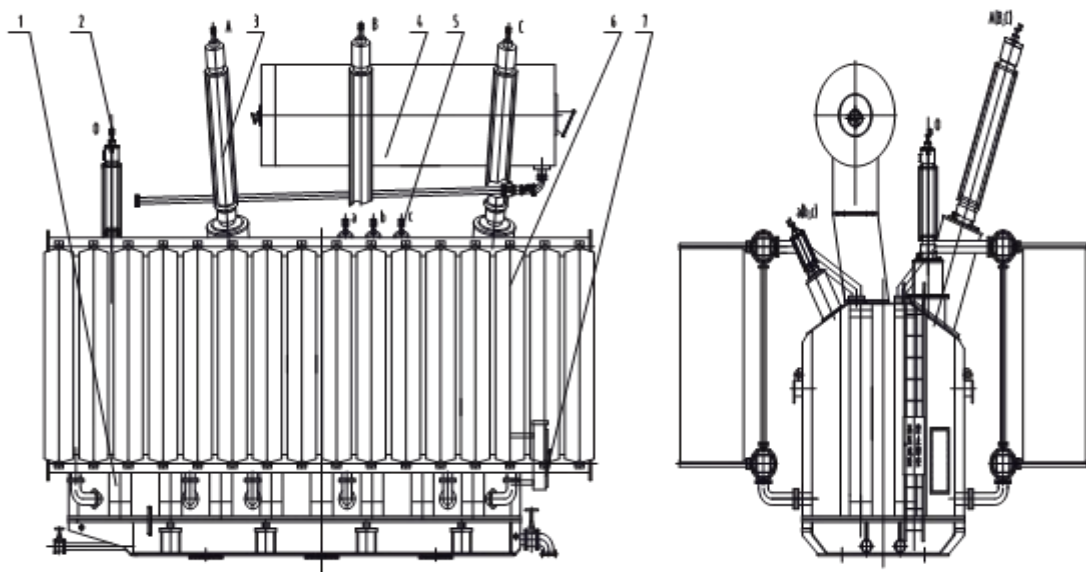
1. Active Part
2. HV Neutral Bushing
3. HV Bushing
4. Oil Conservator
5. LV Bushing
6. Radiator (air cooler)
7. Control Cabinet

S18-220kV 31500kVA-240000kVA three phase double winding low voltage of 66kV 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 $\pm$ 2x2.5% 230 $\pm$ 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 efficiency can be obtained by using the loss value in the table.



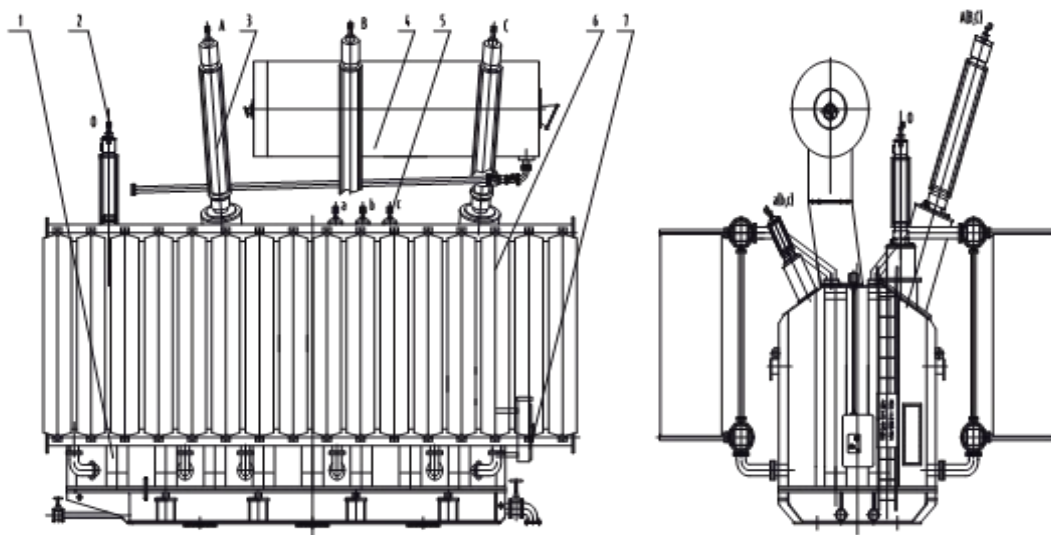
1. Active Part 2. HV Neutral Bushing 3. HV Bushing 4. Oil Conservator
5. LV Bushing 6. Radiator (air cooler) 7. Control Cabinet

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	YNd11	24.0	122	0.68	12~14
40000		6.6		29.0	142	0.7	
50000		10.5		34.0	170	0.64	
63000		21		40.0	199	0.64	
90000		36		51.0	259	0.55	
120000		37		63.0	321	0.56	
150000		38.5		74.0	380	0.51	
180000		10.5		86.0	436	0.47	
120000		21		65.0	320	0.55	
150000		36		77.0	374	0.53	
180000		37		90.0	428	0.47	
240000		38.5		112	532	0.37	
		66					
		69					

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 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

Qualifications



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 60076-11:2018
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

TÜV Rheinland (China) Ltd.
3F 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 2220
http://www.tuv.com



Certification Body

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Precisely Right.



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: 2025-05-15

Signed on behalf of China National Accreditation Service for Conformity Assessment

徐朝华

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/cnasaaccreditation/index.shtml>.

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.

2014/20/EC 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/EC Electromagnetic Compatibility Directive

Related Standards : EN 60076-1:2011, IEC 60076-1:2011

Product Name : Oil Immersed Transformer

Report No and Date : TCF-20220413LE

Product Brand/Model/Type : S5A4 SL SLA4 S(F)2.5(F)2A4 S(F)3.5(F)2A4 O5(P)15Z
O5(P)15Z-A4 O5(P)15Z-B4 O5(P)15Z-C4 (Capacity 240000kva and below,
voltage grade 220kV and below)

Certificate Number : M.2022.204.C72741

Initial Assessment Date : 13.04.2022

Registration Date : 14.04.2022

Release Date/No : -

Expiry Date : 13.04.2027

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 consultation of UDEM International Certification
Auditing Training Centre Industry and Trade Inc. Co. to whom it must be obtained upon request. The company
must keep a copy of this certificate for 10 years from the registration of certificate. This certificate
only covers the products listed above and UDEM must be notified in case of any change on the products.
Address: Mülkiye Mahallesi 2073 Sokak (Eski 91 Sokak) No:10 Çankaya - Ankara - TÜRKİYE
Phone: +90 312 443 55 90 Fax: +90 312 443 55 79
E-mail: info@udemtr.com.tr www.udem.com.tr

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



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 Products

No 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**



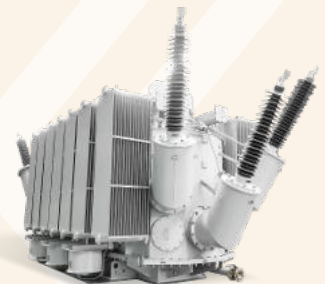
**110kV Traction
Transformer**



**110kV Power
Transformer**



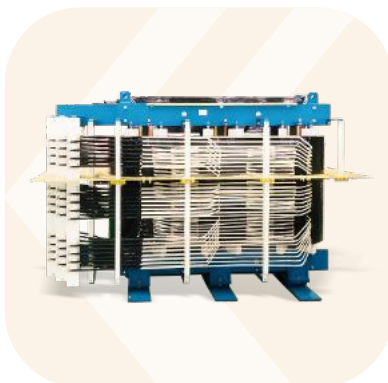
**35kV Power
Transformer**



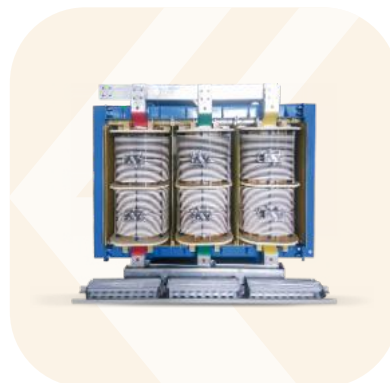
**110kV Mobile
Transformer**



**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

CONTACT US

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