PTE People Transmit & Transform Ele.

Product Contents

PEOPLE产品五大特点

Five Characteristics of PEOPLE Products

江西人民输变电股份有限公司生产的PEOPLE变压器，具有低温升、使用寿命长，低噪音、节能水平高，抗短路能力强，局部放电量小，环保水平高五大技术特点。

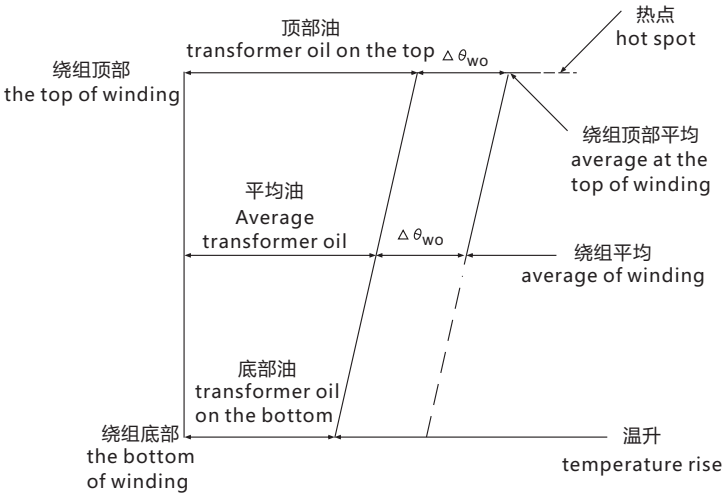
PEOPLE transformer produced by Jiangxi People's Power Transmission and Transformation Co., Ltd. has five technical characteristics, including lower temperature rise and long service life, lower noise and high level of energy-saving, strong short-circuit withstand strength, low partial discharge magnitude and high level of environmental protection.

一、低温升、使用寿命长

1.Lower Temperature Rise and Long Service Life

温升是变压器运行过程中，体现产品的可靠性和安全性的关健因素。PEOPLE变压器通过有限元法分析温度分布，利用计算机仿真技术进行线圈设计，调整了油道结构，降低了电密，从而有效地降低了温升，保证了变压器的可靠运行周期，PEOPLE变压器的使用寿命可达30年以上。

In the running of transformer, temperature rise is the key factor in reflecting reliability and safety of a product. The structure of oil duct of PEOPLE transformer is adjusted on the basis of temperature distribution analysis in finite element method and coil design with computer simulation technology, thus the current density is lowered, and then the temperature rise is effectively reduced, resultingly ensuring the reliable running period of PEOPLE transformer, of which the service life is more than 30 years.



顶层油温升 temperature rise at the top	
油不与大气直接接触的变压器 transformer which oil does not contact air directly	60K
油与大气直接接触的变压器 transformer which oil contact air directly	55K
绕组平均温升(用电阻法测量) average temperature rise of winding (measure in electric-resistivity method)	65K
热点 hot spot	78K

二、低噪音、节能水平高

Lower Noise and High Level of Energy-saving

PEOPLE变压器采用国际领先的技术和装备生产，利用计算机技术有效地控制磁滞伸缩，采用减震胶板等措施，有效地降低了变压器运行的噪声，其声级度超过了国家规定。其扩散噪声为58dB，达到同行业国际先进水平。

PEOPLE变压器选用优质的冷轧晶粒取向硅钢片，利用计算机技术对铁芯各部位不同的叠积方法进行计算，实现损耗的最小化，辅以精确的剪切设备，剪切毛刺只有0～0.001mm；采用不叠上铁轭工艺，减小片间磨擦，确保空载损耗最小。

Produced with the world's leading technology and equipment, PEOPLE transformer uses methods, such as adopting computer technology to well control magnetostriction, using damping rubber plate, etc., to effectively reduce the noise produced by transformer when running, and its sound intensity level exceeds national standards, and the rate of noise spreading is 58dB, reaching advanced international standards among the counterparts.

Made of high-quality cold rolled oriented silicon steel sheets and using computer technology to calculate the different lamination method at every part of cores, PEOPLE transformer minimizes the electric loss, and with accurate shearing equipment, the burr of PEOPLE transformer is just in the range of 0～0.001mm; owing to the unfold core technique adopted, the friction between sheets reduces, ensuring the minimum electric loss under idle load.

三、抗短路能力强

Strong Short-circuit Withstand Strength

短路强度也是变压器可靠性的关键因素之一。PEOPLE变压器通过对变压器漏磁场的分析，在结构上进行了安匝平衡和电磁力的有效控制、合理分布，选用先进的工艺装备和高、精、尖水平的原材料，充分满足短路强度的要求。通过国家质检中心进行了各种型式检验和特殊试验，PEOPLE产品具有足够的抗短路强度。

Short-circuit withstand strength is also a key factor in reflecting reliability of transformer. Through analysis of the leakage magnetic field of transformer, the structure of PEOPLE transformer has effective control and reasonable distribution of ampere turns balance and electromagnetic force; furthermore, with selection of advanced technological equipment and advanced materials of high grade and precision, PEOPLE transformer completely meets the requirements on short-circuit withstand strength. After the National Quality Test Center conducted various sorts of examination and special test for PEOPLE transformer, PEOPLE products were proved to have enough short-circuit withstand strength.

四、局部放电量小

Low Partial Discharge Magnitude

PEOPLE变压器的生产车间采用进口静化除尘设备，有效地控制了降尘量，内部器身当中采用绝缘成型件，有利地提高了绝缘强度，实现了多部位园角化加工使内部场强处于均匀状态，降低了变压器的局部放电量，经测试，PEOPLE变压器局部放电量在100PC以下。

Imported staticized dust separation device is used in production department of PEOPLE transformer to effectively control the dust fall amount, insulating forming parts are adopted in the internal body of transformer to favorably increase insulating strength of transformer, and implementation of rounding processing in multiple positions balances inner field of transformer; all above three factors make the PEOPLE transformer have low partial discharge magnitude. After examination, the partial discharge magnitude of PEOPLE transformer is below 100PC.

五、环保水平高

High Level of Environmental Protection

PEOPLE变压器通过计算机技术对磁场的涡流损耗进行有效控制，合理地进行结构调整，采用了油箱壁屏蔽技术、引线出头等部位的屏蔽技术，有效地降低了涡流损耗；电解铜作绕组的无氧铜含量达99.99%，达到了负载损耗的最小化。PEOPLE变压器的表面处理全部采用国际最先进的环保技术，通过了国际环保鉴定。

江西人民输变电股份有限公司本着"信誉第一、质量第一"的宗旨，一切为用户所想，一切为用户所急，竭诚为客户提供最优的产品和最好的服务。

我们庄重承诺：任何需要我们服务的客户，在江西省内的，我们24小时内到达现场。在江西省外的，我们48小时内到达现场！

With computer technology being used to well control the eddy current loss of magnetic field, the structure of transformer being reasonably revised, and shielding technology on the parts, such as tank wall, lead wire stub, etc., being adopted, the eddy current loss of PEOPLE transformer is effectively reduced; the content of oxygen-free copper in the winding made of electrolytic copper is 99.99%, reaching the minimum of load loss. The surface treatment of PEOPLE transformer adopts world's leading environmental technology, which passes international environmental identification.

With the aim of "Credit first, quality first", Jiangxi People's Power Transmission and Transformation Co., Ltd. will wholeheartedly provide our customers with the best product and superior service, think what is good for our customers, and worry about what is urgent for our customers.

We gravely promise: For any customers who needs our service, we will arrive at the scene within 24 hours if in Jiangxi province, or arrive at the scene within 48 hours if outside Jiangxi.

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110kV Level Three-phase On-load Tap-changing Electric Power Transformer

概述

Summary

110kV级三相油浸式有载调压电力变压器，在材料、工艺、结构上采取了一系列重大改革，具有体积小；重量轻、效率高、损耗低、噪声低、运行可靠的特点，可减少大量的电网损耗和运行费用，经济效益显著。

适用于发电厂、变电站、大型厂矿企业等。

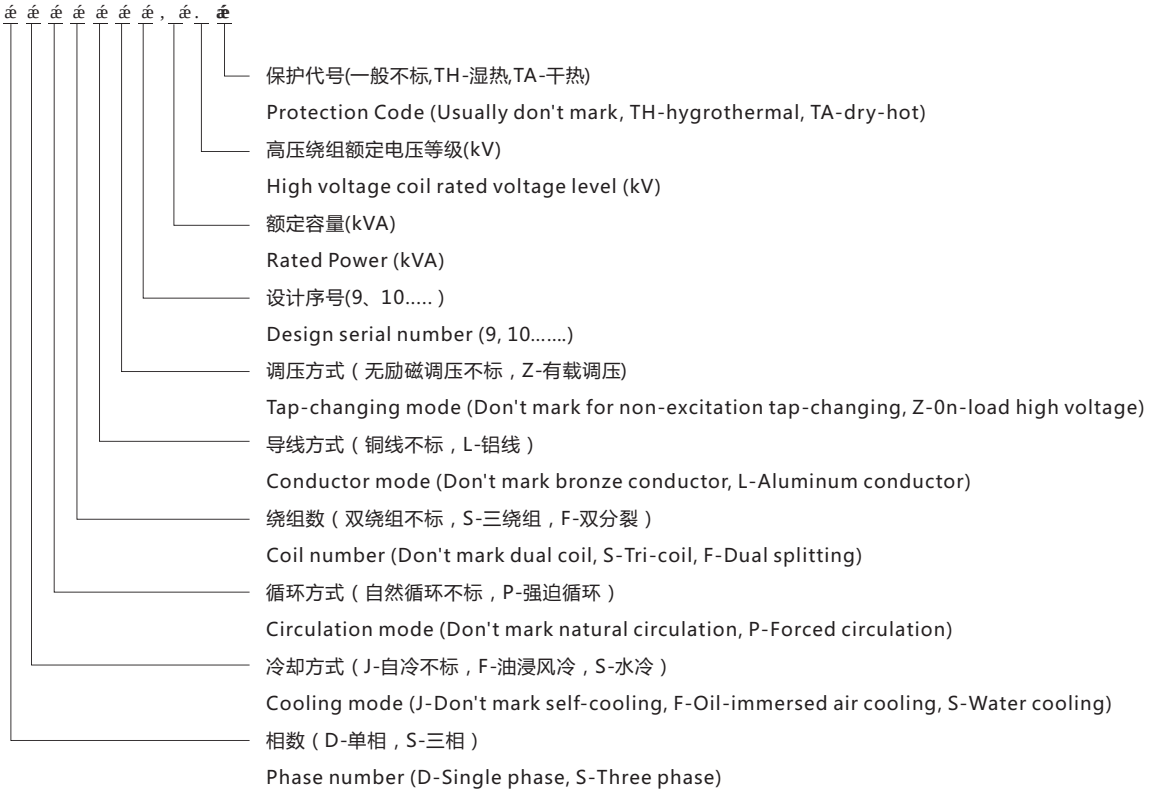
本产品符合国家标准：GB1094.1-1996《电力变压器 第1部分 总则》，GB1094.2-1996《电力变压器 第2部分 温升》,GB1094.3-2003《电力变压器 第3部分 绝缘水平、绝缘试验和外绝缘空气间隙》，GB1094.5-2003《电力变压器 第5部分 承受短路的能力》,GB/T6451-2008《三相油浸式电力变压器技术参数和要求》

We have adopted series of important reforms on the 110kV level three-phase oil-immersed on-load tap-changing transformer referring material, process and structure. The transformer has the features of small size, light weight, high efficiency, low loss, low noise, reliable operation etc. which can reduce a large amount of power network loss and operation expenses with significant economic benefits.

It is suitable for power plant, substation, heavy section plant ore enterprises etc.

The product complies with national standard: GB1094.1-1996《Power Transformer Section 1 General》 GB1094.2-1996 《Power Transformer Section 2 Temperature Rise》, GB1094.3-2003《Power Transformer Section 3 Insulation Level, Insulation Test and External Insulation Air Gap》, GB1094.5-2003 《Power Transformer Section 5 The Capacity to Bear Short Circuit》, GB/T6451-2008 《Three-phase Oil-immersed On-load Tap-changing Transformer Technical Parameters and Requirements》

型号及其含义
Model and meaning



使用环境条件
Application environment conditions

1 装置种类:户外式

2 环境温度:最高气温+40℃,最低气温-30℃

3 海拔高底:≤1000米(>1000米,温升需修正)

4 相对温度:≤90%(25℃)

5 安装场所:没有腐蚀气体,无明显污垢等地区

1 Device type: outdoor

2 Environment temperature: Maximum temperature +40℃, minimum temperature -30℃

3 Altitude :≤1000 meters (>1000 meters, need to modify temperature rise)

4 Relative temperature: ≤90%(25℃)

5 Installation area: Area with no corrosive gas and obvious fouling etc.

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110kV级三相有载调压电力变压主要技术参数

Main 110kV level three-phase on-load tap-changing power transformation technical parameters

6300kVA~180000kVA三相双绕组无励磁调压电力变压器

6300kVA~180000kVA three-phase duplex-winding non-field excitation changing power transformer

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping		联结组标号 Coupling group label	空载损耗 kW(9) No-load loss	负载损耗 kW(9) Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance
	高压kV High voltage	低压kV Low voltage					
6300	110±2×2.5% 121±2×2.5%	6.3 6.6 10.5 11	YNd11	9.3	36	0.77	10.5
8000				11.2	45	0.77	
10000				13.2	53	0.72	
12500				15.6	63	0.72	
16000				18.8	77	0.67	
20000				22.0	93	0.67	
25000				26.0	110	0.62	
31500				30.8	133	0.60	
40000				36.8	156	0.56	
50000				44.0	194	0.52	
63000				52.0	234	0.48	
75000		13.8 15.75 18 20		59.0	278	0.42	12~14
90000				68.0	320	0.38	
120000				84.8	397	0.34	
150000				100.2	472	0.30	
180000				112.5	532	0.25	

6300kVA~63000kVA三相三绕组无励磁调压电力变压器

6300kVA~63000kVA three-phase three-winding non-field excitation changing power transformer

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗 kW(9) No-load loss	负载损耗 kW(9) Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance	
	高压kV High voltage	中压kVMedium voltage	低压kV Low voltage					升压 Step up	降压 Step down
6300	110±2×2.5% 121±2×2.5%	35 37 38.5	6.3 6.6 10.5 11	YNyn0d11	11.2	47	0.82	高-中 17.5~18.5 高-低 10.5 中-低 6.5	高-中 10.5 高-低 17.5~18.5 中-低 6.5
8000					13.3	56	0.78		
10000					15.8	66	0.74		
12500					18.4	78	0.70		
16000					22.4	95	0.66		
20000					26.4	112	0.65		
25000					30.8	133	0.60		
31500					36.8	157	0.60		
40000					43.6	189	0.55		
50000					52.0	225	0.55		
63000					61.6	270	0.50		

6300kVA~63000kVA三相双绕组有载调压电力变压器

6300kVA~63000kVA three-phase duplex-winding on-load transforming power transformer

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping		联结组标号 Coupling group label	空载损耗 kW(9) No-load loss	负载损耗 kW(9) Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance
	高压kV High voltage	低压kV Low voltage					
6300	110±8×1.25%	6.3 6.6 10.5 11	YNd11	10.0	36	0.80	10.5
8000				12.0	45	0.80	
10000				14.2	53	0.74	
12500				16.8	63	0.74	
16000				20.2	77	0.69	
20000				24.0	93	0.69	
25000				28.4	110	0.64	
31500				33.8	133	0.64	
40000				40.4	156	0.58	
50000				47.8	194	0.58	
63000				56.8	234	0.52	

6300kVA~63000kVA三相三绕组有载调压电力变压器

6300kVA~63000kVA three-phase three-winding on-load transforming power transformer

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗 kW(9) No-load loss	负载损耗 kW(9) Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance
	高压kV High voltage	中压kVMedium voltage	低压kV Low voltage					
6300	110±8×1.25%	35 37 38.5	6.3 6.6 10.5 11	YNyn0d11	12.0	47	0.95	高-中 10.5 高-低 17.5~18.5 中-低 6.5
8000					14.4	56	0.95	
10000					17.1	66	0.89	
12500					20.2	78	0.89	
16000					24.2	95	0.84	
20000					28.6	112	0.84	
25000					33.8	133	0.78	
31500					40.2	157	0.78	
40000					48.2	189	0.73	
50000					56.9	225	0.73	
63000					67.7	270	0.67	

6300kVA~63000kVA三相双绕组低压为35kV无励磁调电力变压器

6300kVA~63000kVA three-phase duplex-winding low voltage 35kV non-field excitation changing power transformer

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping		联结组标号 Coupling group label	空载损耗 kW(9) No-load loss	负载损耗 kW(9) Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance
	高压kV High voltage	低压kV Low voltage					
6300	110±2×2.5% 121±2×2.5%	35 37 38.5	YNd11	10.0	39	0.84	10.5
8000				12.0	47	0.84	
10000				14.0	55	0.78	
12500				16.4	66	0.78	
16000				19.6	81	0.72	
20000				23.2	99	0.72	
25000				27.4	116	0.67	
31500				32.4	140	0.67	
40000				38.6	164	0.61	
50000				46.2	204	0.61	
63000				54.6	245	0.56	

1 根据用户要求,可生产表中容量以外的产品,其性能参数视要求而定.

2 根据不同的运行环境,我们可以提供特殊设计的产品.

3 中压可选择不同与表中的电压值或设分接头,高压分接选择非对称调压分接.

4 短路阻抗可选择不同于表中值.

5 最终尺寸以合同签订后图纸确认为准.

1. We can manufacture the product out of the volume mentioned in the table per consumer's requirement and its performance parameters are settled referred to requirement.
2. We can provide specially designed products according to various operation environment.
3. Choose medium voltage different from the value in table or set up tap changer. Choose asymmetric tap-changing for high voltage tap-changing.
4. Consumer can choose short circuit impedance different from value in table.
5. We should take confirmation of drawings after signing the contract as valid and binding for final size.

结构特点

Structure Features

110kV级三相双绕组有载调压电力变压器

110kV level three-phase dual coil on-load tap-changing power transformer

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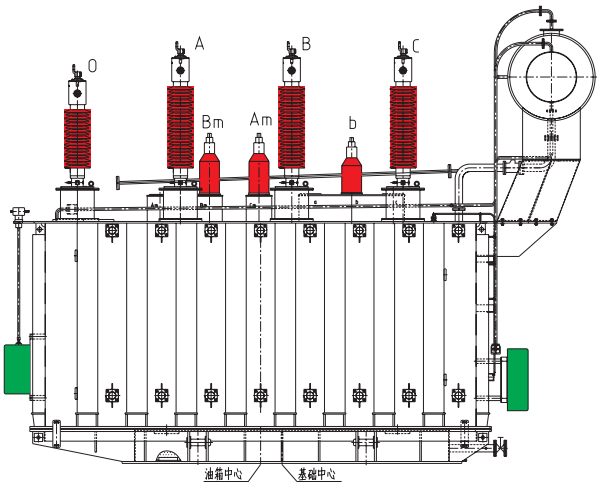
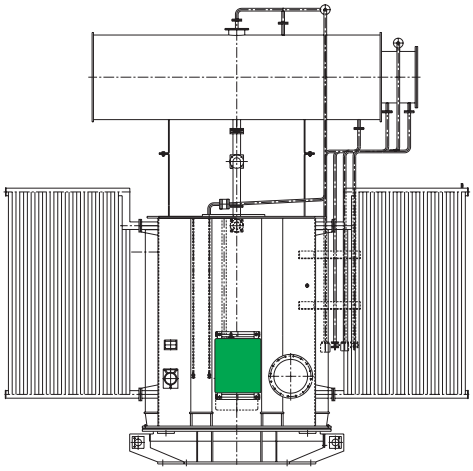
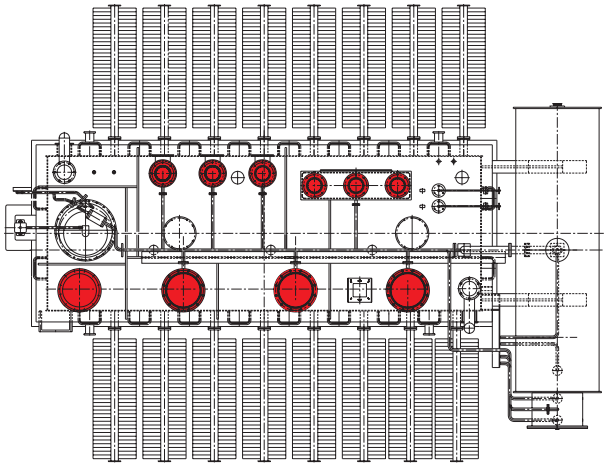






可根据用户的特殊要求制定不同规格的整流变压器。
Specification of rectifier transformer could be customized.

订货须知

Ordering instructions

订货时需提供以下技术参数：

产品型号、额定容量、系统电压、电压组合、联结组标号、短路阻抗、空载损耗、负载损耗、空载电流、额定频率、冷却方式、海拔高度、工作环境及其它要求。

Consumer needs to offer the following technical parameters when ordering：

Model, Product , rated volume, system voltage, voltage combination, connection symbol labeling, short circuit impedance, no-load loss, on-load loss, no-load current, rated frequency, cooling method, altitude, working environment and other requirements. Serial number.

220kV级三相有载调压电力变压器
220kV three-phase on-load voltage regulating transformer

概述
General

220kV级三相油浸式有载调压电力变压器，在材料、工艺、结构上采取了一系列重大改革，具有体积小，重量轻、效率高、损耗低、噪声低、运行可靠的特点，可减少大量的电网损耗和运行费用，经济效益显著。

适用于发电厂、变电站，大型厂矿石化企业等。

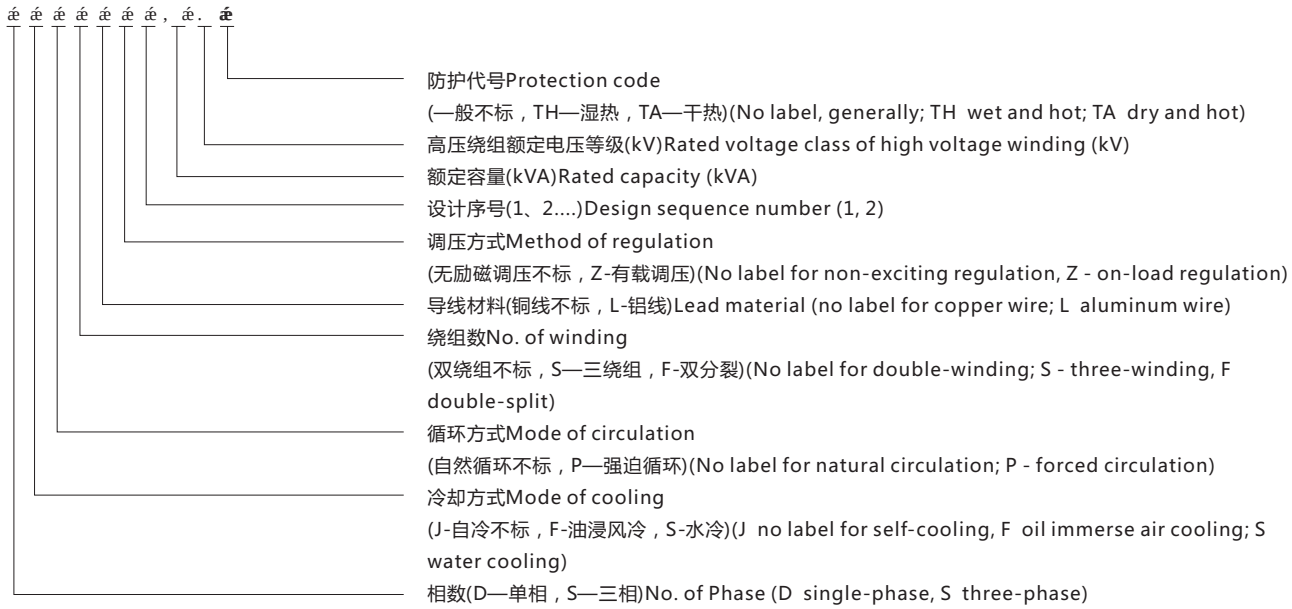
本产品符合国家标准：GBl094.1—1996《电力变压器 第1部分 总则》，GBl094.2-1996《电力变压器第2部分 温升》，GBl094.3-2003《电力变压器 第3部分 绝缘水平、绝缘试验和外绝缘空气间隙》，GBl094.5-2003《电力变压器 第5部分 承受短路的能力》，GB/T6451—2008《三相油浸式电力变压器技术参数和要求》。

220kV three-phase oil immersed on-load voltage regulating transformer brings about a series of major transformations in terms of material, technique, and construction. It is characteristic of compact construction, low weight, high efficiency, low loss, low noise, and reliability of performance. The product can reduce considerable losses on grid and operational costs and extend distinct economic efficacy.

It is suitable for power plant, transformer substation, and large-scale industrial, mining, and petrochemicalenterprises.

The product meets following national standards: GBl094.1-1996 Power transformers Part 1: General; GBl094.2-1996 Power transformers Part 2: Temperature rise; GBl094.3-2003 Power transformers Part 3: Insulation levels, dielectric tests and external clearances in air; GBl094.5 -2003 Power transformers Part 5: Ability to withstand short-circuit; GB/ T6451-2008 Specification and technical requirements for three phase oil immerse power transformers.

型号及其含义
Model and meaning



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使用环境条件

Environmental conditions

1 装置种类：户外式

2 环境温度：最高气温+40℃，最低气温-30℃

3 海拔高度：≤1000米(＞1000米，温升需修正)

4 相对湿度：≤90%(25℃)

5 安装场所：没有腐蚀性气体，无明显污垢等地区

1 Type: outdoor

2 Ambient temperature: max. temperature: +40℃; min. temperature: -30℃

3 Altitude: ≤1000m (temperature rise shall be corrected when ＞1000m)

4 Relative humidity: ≤90% (25℃)

5 Installation place: without corrosive gas and apparent fouling

220kV级三相有载调压电力变压器主要技术参数

Key technical parameters of 220kV three-phase on-load voltage regulating transformer

31500kVA～420000kVA三相双绕组无励磁调压电力变压器

31500kVA～420000kVA three-phase duplex-winding non-field excitation changing power transformer

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping		联结组标号 Coupling group label	空载损耗 kW(9) No-load loss	负载损耗 kW(9) Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance
	高压kVHigh voltage	低压kV Low voltage					
31500	220±2×2.5% 242±2×2.5%	6.3、6.6 10.5、11	YNd11	35	135	0.70	12～14
40000				41	157	0.70	
50000				49	189	0.65	
63000				58	220	0.65	
75000		10.5 11 13.8		67	250	0.60	
90000				77	288	0.55	
120000				94	345	0.55	
150000		11、13.8 15.75 18、20		112	405	0.50	
160000				117	425	0.49	
180000				128	459	0.46	
240000				160	567	0.42	
300000		15.75 18 20		189	675	0.38	
360000				217	774	0.38	
370000				221	790	0.38	
400000				234	837	0.35	
420000				242	868	0.35	

31500kVA～300000kVA三相三绕组无励磁调压电力变压器

31500kVA～300000kVA three-phase three-winding non-field excitation changing power transformer

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗 kW(9) No-load loss	负载损耗 kW(9) Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance	
	高压kV High voltage	中压kVMedium voltage	低压kV Low voltage					升压 Step up	降压 Step down
31500	220±2×2.5% 242±2×2.5%	69 115 121	6.3、6.6 10.5、11 35、37 38.5	YNyn0d11	40	162	0.70	高-中 22～24 高-低 12～14 中-低 7～9	高-中 12～14 高-低 22～24 中-低 7～9
40000					48	189	0.63		
50000					56	225	0.56		
63000					66	261	0.56		
90000			10.5、11 13.8、35 37、38.5		86	351	0.49		
120000					106	432	0.49		
150000					125	513	0.42		
180000			11、13.8 15.75、35 37、38.5		142	585	0.42		
240000					176	720	0.35		
300000					208	850	0.30		

31500kVA~240000kVA低压为66kV级三相双绕组无励磁调压电力变压器

31500kVA~240000kVA low voltage 66kV three-phase duplex-winding non-field excitation changing power transformer

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping		联结组标号 Coupling group label	空载损耗 kW(9) No-load loss	负载损耗 kW(10) Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance
	高压kV High voltage	低压kV Low voltage					
31500	220±2×2.5%	63 66 69	Ynd11	38	151	0.89	12~14
40000				45	176	0.89	
50000				53	211	0.82	
63000				63	247	0.83	
90000				83	323	0.75	
120000				102	387	0.75	
150000				122	453	0.68	
180000				138	513	0.68	
240000				171	635	0.61	

31500kVA~240000kVA三相三绕组无励磁调压自耦电力变压器

31500kVA~240000kVA three-phase three-winding non-field excitation changing self-coupled power transformer

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	升压组合 Step up combination			降压组合 Step down combination			短路阻抗% Short circuit impedance	
	高压kV High voltage	中压kV Medium voltage	低压kV Low voltage		空载损耗 No-load loss	负载损耗 Load loss	空载电流 %Idling current	空载损耗 No-load loss	负载损耗 Load loss	空载电流 %Idling current	升压 Step up	降压 Step down
31500	220±2×2.5% 242±2×2.5%	115 121	6.6、10.5 11、35 37、38.5	YNa0 d11	25	117	0.57	22	99	0.50	高-中 12~14 高-低 8~12 中-低 14~18	高-中 8~10 高-低 28~34 中-低 18~24
40000					29	144	0.57	26	121	0.50		
50000					34	170	0.50	30	144	0.43		
63000					40	201	0.50	36	171	0.43		
90000			10.5、11 13.8 15.75 18、35 37、38.5		50	276	0.43	46	234	0.36		
120000					62	340	0.43	56	288	0.36		
150000					73	405	0.36	66	342	0.33		
180000					84	463	0.36	76	387	0.33		
240000					99	595	0.33	89	504	0.25		

31500kVA~180000kVA三相双绕组有载调压电力变压器

31500kVA~180000kVA three-phase duplex-winding on-load transforming power transformer

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping		联结组标号 Coupling group label	空载损耗 No-load loss	负载损耗 Load loss	空载电流 %Idling current	短路阻抗% Short circuit impedance
	高压kV High voltage	低压kV Low voltage					
31500	220±8×1.25%	6.3、6.6 10.5、11 35、37 38.5	YNd11	38	135	0.70	12~14
40000				45	157	0.63	
50000				54	189	0.56	
63000				63	220	0.56	
90000				80	288	0.49	
120000		10.5、11 35、37 38.5		99	346	0.49	
150000				116	405	0.42	
180000				135	468	0.42	
120000		66 69		102	355	0.49	
150000				120	415	0.42	
180000				140	475	0.42	

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31500kVA~240000kVA 三相三绕组有载调压电力变压器

31500kVA~240000kVA three-phase three-winding on-load transforming power transformer

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗kW(9) No-load loss	负载损耗kW(9) Load loss	空载电流% Idling current	容量分配% Capacity assignment	短路阻抗% Short circuit impedance
	高压kV High voltage	中压kVMedium voltage	低压kV Low voltage						
31500	220±8×1.25%	69	6.3 6.6 10.5 11 35 37 38.5	YNyn0d11	44	162	0.77	100/100/100 100/50/100 100/100/50	高-中 12~14 高-低 22~24 中-低 7~9
40000					52	189	0.70		
50000					60	225	0.63		
63000		115			70	261	0.63		
90000		121	10.5 11 35 37 38.5		92	351	0.56		
120000					115	432	0.56		
150000					135	513	0.49		
180000					156	630	0.49		
240000					193	780	0.45		

31500kVA~240000kVA 三相三绕组有载调压自耦电力变压器

31500kVA~240000kVA three-phase three-winding on-load transforming self-coupled power transformer

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗kW(9) No-load loss	负载损耗kW(9) Load loss	空载电流% Idling current	容量分配% Capacity assignment	短路阻抗% Short circuit impedance
	高压kV High voltage	中压kVMedium voltage	低压kV Low voltage						
31500	220±8×1.25%	115 121	6.3 6.6 10.5 11 35 37 38.5	YNa0d11	25	108	0.56	100/100/50	高-中 8~10 高-低 28~34 中-低 18~24
40000					30	132	0.56		
50000					36	157	0.49		
63000					42	189	0.49		
90000					51	247	0.42		
120000			10.5 11 35 37 38.5		64	308	0.42		
150000					76	365	0.35		
180000					85	419	0.35		
240000					104	540	0.30		

1 根据用户要求，可生产表中所列型号以外的产品，其性能参数视要求而定。

2 中压可选择不同与表中的电压值或设分接头，高压分接可选择非对称调压分接。

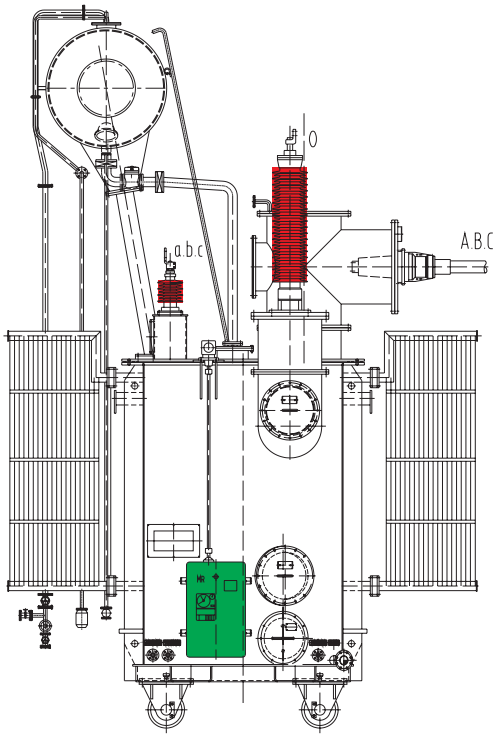
3 短路阻抗可选择不同于表中值。

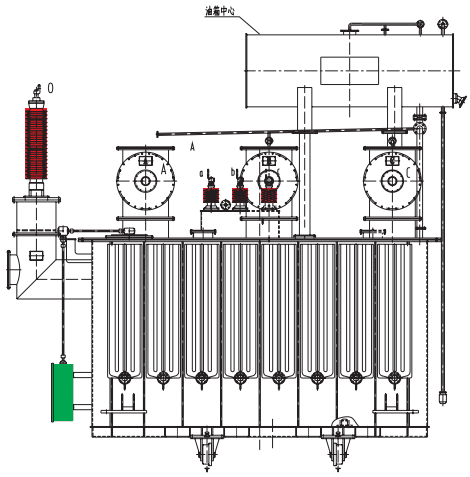
4 最终尺寸以合同签订后图纸确认为准。

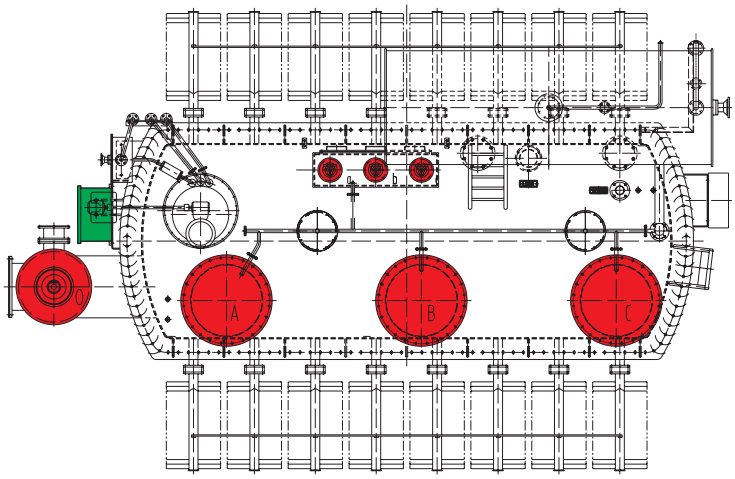
1. Products exclusive in the product list may also be provided upon user requirements. Performance of the products will be customized.
2. Medium voltage device could select voltage value or tap other than those specified in the table upon user requirement. High voltage tapping may choose asymmetrical regulating tapping.
3. Short circuit impedance may choose value other than those defined in the table.
4. Final size is based on drawings of signed contract.

结构特点
Construction

220kV级三相双绕组有载调压电力变压器
220kV three-phase duplex-winding on-load voltage regulating transformer







可根据用户的特殊要求制定不同规格的整流变压器。
Specification of rectifier transformer could be customized.

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订货须知

Ordering information

订货时需提供以下技术参数：

产品型号、额定容量、系统电压、电压组合、联结组标号、短路阻抗、空载损耗、负载损耗、空载电流、额定频率、冷却方式、海拔高度、工作环境及其它要求。

Following technical parameters shall be supplied during ordering:

Product model, rated capacity, system voltage, voltage combination, coupling group label, short circuit impedance,no-load loss, load loss, idling current, rated frequency, mode of cooling, altitude, operating environment,and other specifications.

330kV级电力变压器
330kV power transformer

概述

General

330kV级电力变压器，在材料、工艺、结构上采取了一系列重大改革，具有体积小，重量轻、效率高、损耗低、噪声低、运行可靠的特点，可减少大量的电网损耗和运行费用，经济效益显著。

适用开发电厂、变电站，大型厂矿石化企业等。

本产品符合国家标准：GB1094.1-1996《电力变压器 第1部分 总则》，GB1094.2—1996《电力变压器 第2部分 温升》，GBI094.3-2003《电力变压器 第3部分 绝缘水平、绝缘试验和外绝缘空气间隙》，GBI094.5-2003《电力变压器 第5部分 承受短路的能力》，GB/T6451—2008《三相油浸式电力变压器技术参数和要求》。

330kV power transformer brings about a series of major transformations in terms of material, technique, and construction. It is characteristic of compact construction, low weight, high efficiency, low loss, low noise, and reliability of performance. The product can reduce considerable losses on grid and operational costs and extend distinct economic efficacy.

It is suitable for power plant, transformer substation, and large-scale industrial, mining, and petrochemical enterprises.

The product meets following national standards: GB1094.1-1996 Power transformers Part 1: General; GB1094.2-1996 Power transformers Part 2: Temperature rise; GB1094.3-2003 Power transformers Part 3: Insulation levels, dielectric tests and external clearances in air; GB1094.5-2003 Power transformers Part 5: Ability to withstand short-circuit; GB/T6451-2008 Specification and technical requirements for three phase oil immerse power transformers.

使用环境条件

Environmental conditions

1 装置种类：户外式
2 环境温度：最高气温+40℃,最低气温-30℃
3 海拔高度：≤1000米(>1000米，温升需修正)
4 相对湿度：≤90%(25℃)
5 安装场所：没有腐蚀性气体，无明显污垢等地区

1 Type: outdoor
2 Ambient temperature: max. temperature: +40℃; min. temperature: -30℃
3 Altitude: ≤1000m (temperature rise shall be corrected when >1000m)
4 Relative humidity: ≤90% (25℃)
5 Installation place: without corrosive gas and apparent fouling

330kV级电力变压器主要技术参数

Key technical parameters of 330kV power transformer

90000kVA~720000kVA三相双绕组无励磁调压电力变压器

90000kVA~720000kVA three-phase duplex-winding non-field excitation changing power transformer

额定容量 (kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping		联结组标号 Coupling group label	空载损耗 kW No-load loss	负载损耗 kW Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance
	高压kV High voltage	低压kV Low voltage					
90000	345 345±2×2.5% 363 363±2×2.5%	10.5 13.8 15.75 18 20	YNd11	81	287	0.56	14~15
120000				100	356	0.56	
150000				119	422	0.52	
180000				137	484	0.48	
240000				171	603	0.43	
360000				234	845	0.43	
370000				238	862	0.38	
400000				252	913	0.38	
720000				391	1418	0.25	

90000kVA~240000kVA三相三绕组无励磁调压电力变压器

90000kVA~240000kVA three-phase three-winding non-field excitation changing power transformer

额定容量 (kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗 kW No-load loss	负载损耗 kW Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance	容量分配% Capacity assignment
	高压kV High voltage	中压kV Medium voltage	低压kV Low voltage						
90000	330±2×2.5% 345±2×2.5%	121	10.5 13.8 15.75	YNyn0d11	91	351	0.58	高-中 24~26 高-低 14~15 中-低 8~9	100/100/100
120000					114	437	0.58		
150000					135	517	0.54		
180000					154	593	0.54		
240000					191	736	0.50		

90000kVA~360000kVA三相三绕组无励磁调压自耦电力变压器(串联绕组调压)

90000kVA~360000kVA three-phase three-winding non-field excitation changing self-coupled power transformer (Regulating from series winding)

额定容量 (kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗 kW No-load loss	负载损耗 kW Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance	容量分配% Capacity assignment
	高压kV High voltage	中压kV Medium voltage	低压kV Low voltage						
90000	330±2×2.5%	121	10.5 11 35 38.5	YNa0d11	54	275	0.45	高-低 24~26 高-中 10~11 中-低 12~14	100/100/30
120000					67	342	0.45		
150000					80	404	0.40		
180000					91	464	0.40		
240000					114	576	0.36		
360000					154	782	0.36		

90000kVA~360000kVA三相三绕组有载调压自耦电力变压器(串联绕组末端调压)

90000kVA~360000kVA three-phase three-winding on-load transforming self-coupled power transformer (Regulating from series winding terminal)

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗 kW No-load loss	负载损耗 kW Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance	容量分配% Capacity assignment
	高压kV High voltage	中压kV Medium voltage	低压kV Low voltage						
90000	330±8×1.25% 345±8×1.25%	121	10.5 11 35 38.5	YNa0d11	56	275	0.50	高-中 10~11 高-低 24~26 中-低 12~14	100/100/30
120000					70	342	0.50		
150000					82	404	0.45		
180000					94	464	0.45		
240000					117	576	0.40		
360000					158	782	0.40		

90000kVA~360000kVA三相三绕组有载调压自耦电力变压器(中压线端调压)

90000kVA~360000kVA three-phase three-winding on-load transforming self-coupled power transformer (Regulating from intermediate voltage line terminal)

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗 kW No-load loss	负载损耗 kW Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance	容量分配% Capacity assignment
	高压kV High voltage	中压kV Medium voltage	低压kV Low voltage						
90000	330 345	121±8×1.25%	10.5 11 35 38.5	YNa0d11	58	294	0.50	高-中 10~11 高-低 26~28 中-低 16~17	100/100/30
120000					72	365	0.50		
150000					85	432	0.45		
180000					98	495	0.45		
240000					121	615	0.40		
360000					164	834	0.40		

90000kVA~360000kVA三相三绕组无励磁调压自耦电力变压器(中压线端调压)

90000kVA~360000kVA three-phase three-winding non-field excitation changing self-coupled power transformer (Regulating from intermediate voltage line terminal)

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗 kW No-load loss	负载损耗 kW Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance	容量分配% Capacity assignment
	高压kV High voltage	中压kV Medium voltage	低压kV Low voltage						
90000	330 345	230±2×2.5% 230±3×2.5% 242±2×2.5% 242±3×2.5%	10.5 11 35 38.5	YNa0d11	27	309	0.40	高-中 10~11	100/100/30
120000					34	383	0..35		
150000					40	454	0.30		
180000					46	520	0.30		
240000					58	646	0.25		
360000					79	881	0.25		

90000kVA~360000kVA三相三绕组有载调压自耦电力变压器(中压线端调压)

90000kVA~360000kVA three-phase three-winding on-load transforming self-coupled power transformer (Regulating from intermediate voltage line terminal)

额定容量 (kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗 kW No-load loss	负载损耗 kW Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance	容量分配% Capacity assignment
	高压kV High voltage	中压kV Medium voltage	低压kV Low voltage						
90000	330 345 363	230±4×1.25% 230±8×1.25% 242±4×1.25% 242±8×1.25%	10.5 11 35 38.5	YNa0d11	30	309	0.40	高-中 10~11	100/100/30
120000					37	383	0.35		
150000					44	454	0.30		
180000					50	520	0.30		
240000					63	646	0.25		
360000					85	882	0.25		

订货须知

Ordering information

订货时需提供以下技术参数：

产品型号、额定容量、系统电压、电压组合、联结组标号、短路阻抗、空载损耗、负载损耗、空载电流、额定频率、冷却方式、海拔高度、工作环境及其它要求。

Following technical parameters shall be supplied during ordering:

Product model, rated capacity, system voltage, voltage combination, coupling group label, short circuit impedance, no-load loss, load loss, idling current, rated frequency, mode of cooling, altitude, operating environment, and other specifications.

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500kV级电力变压器

500KV power transformer

概述

Overview

500kV级电力变压器，在材料、工艺、结构上采取了一系列重大改革，具有体积小，重量轻、效率高、损耗低、噪声低、运行可靠的特点，可减少大量的电网损耗和运行费用，经济效益显著。

适用于发电厂、变电站，大型厂矿石化企业等。

本产品符合国家标准：GB10941-1996《电力变压器 第1部分 总则》，GB1094.2-1996《电力变压器第2部分 温升》，GB1094.3-2003《电力变压器 第3部分 绝缘水平、绝缘试验和外绝缘空气间隙》，GB1094.5-2003《电力变压器 第5部分 承受短路的能力》，GB/T6451-2008《三相油浸式电力变压器技术参数和要求》

With the help of a series of improvements in material, technology and structure, 500kV power transformer is provided with the features such as compact structure, light weight, high efficiency, less loss, lower noise, reliable operation so that the grid loss and operation expenses can be reduced considerably and the economic benefits can
be improved significantly.

Suitable for power plant, substation, and large size mining and petrochemical enterprises.

This product is compliance with the national standards including: GB10941-1996 《Power Transformer: Part 1 General》, GB1094.2-1996 《Power Transformer: Part 2 Temperature Rise》, GB1094.3-2003 《Power Transformer: Part 3: Insulation Level, Insulation Test and External Insulation Air Clearance》, GB1094.5-2003 《Power Transformer: Part 5: Short-circuit Withstand Capability》, and GB/T6451-2008 《Technical Specifications and Requirements for Three-phase Oil-immsed Power Transformer》.

使用环境条件

Operational conditions

1装置种类：户外式

2 环境温度：最高气温+40℃，最低气温-30℃

3 海拔高度：≤1000米（ >1000米，温升需修正）

4 相对湿度：≤90%（25℃）

5 安装场所：没有腐蚀性气体，无明显污垢等地区

1 Installation type: Outdoor type

2 Ambient temperature: the highest temperature of +40℃ and the lowest temperature of -30℃

3 Altitude height above sea level: ≤1,000 meters (If > 1,000 meters, adjustment of temperature rise is required)

4 Relative humidity: ≤90% (at 25℃)

5 Installation premise: Premises free of corrosive gas and obvious contaminations

500kV级电力变压器主要技术参数

500kVMain technical parameters of 500kV power transformer

100MVA~260MVA单相双绕组无励磁调压电力变压器

100MVA~260MVA single-phase duplex-winding non-field excitation changing power transformer

额定容量 (kVA) Rated capacity	电压组合 Voltage unitcombination		联结组标号 Coupling group label	空载损耗 kW No-load loss	负载损耗 kW Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance
	高压kV High voltage	低压kV Low voltage					
100	500/$\sqrt{3}$ 525/$\sqrt{3}$ 550/$\sqrt{3}$	13.8,15.75	Ii0	72	240	0.25	14
120		15.75,18,20		83	275	0.25	
200		15.75,18,20,24		135	400	0.20	
240		18,20,24		155	460	0.20	
260		18,20		165	485	0.20	

120MVA~720MVA三相双绕组无励磁调压电力变压器

120MVA~720MVA three-phase duplex-winding non-field excitation changing power transformer

额定容量 (kVA) Rated capacity	电压组合 Voltage unitcombination		联结组标号 Coupling group label	空载损耗 kW No-load loss	负载损耗 kW Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance
	高压kV High voltage	低压kV Low voltage					
120	500 525 550	13.8,15.75	YNd11	89	419	0.30	14
160				110	520	0.25	
540				150	705	0.25	
300		13.8,15.75,18		175	830	0.25	
370		15.75,18,20		200	950	0.20	
400		18,20,24		210	1000	0.20	
420		15.75,18,20		220	1010	0.20	14或16
480		15.75,18,20		235	1120	0.20	
600		15.75,18,20,24		310	1410	0.20	
720		18,20,24		360	1620	0.15	

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120MVA~334MVA单相三绕组有载调压自耦电力变压器(中压线端调压)

120MVA~334MVA single-phase three-winding on-load transforming self-coupled power transformer (Regulating from intermediate voltage line terminal)

额定容量 (kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗 kW No-load loss	负载损耗 kW Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance	容量分配% Capacity assignment
	高压kV High voltage	中压kV Medium voltage	低压kV Low voltage						
120	500/√3 525/√3 550/√3	230/√3±8×1.25%	15.75 35 36 38.5 63 66	Ia0i0	63	250	0.25	高-中 12 高-低 34~38 中-低 20~22	120/120/40
167					75	300	0.25		167/167/40
									167/167/60
250					105	400	0.20		250/250/40
									250/250/80
334					130	520	0.15		334/334/100
120					63	265	0.25	高-中 12 高-低 42~46 中-低 28~30	120/120/40
167					75	320	0.25		167/167/60
250					105	430	0.20		250/250/60
									250/250/80
334					130	560	0.15		334/334/80
									334/334/100
120					63	265	0.25	高-中 14~15 高-低 42~48 中-低 28~30	120/120/40
167					75	320	0.25		167/167/60
250					105	430	0.20		250/250/80
334					130	560	0.15		334/334/80
									334/334/100

120MVA~334MVA单相三绕组无励磁调压自耦电力变压器(中压线端调压)

120MVA~334MVA single-phase three-winding non-field excitation changing self-coupled power transformer (Regulating from intermediate voltage line terminal)

额定容量(kVA) Rated capacity	电压组合及分接范围 Voltage combination and range of tapping			联结组标号 Coupling group label	空载损耗 kW No-load loss	负载损耗 kW Load loss	空载电流% Idling current	短路阻抗% Short circuit impedance	容量分配% Capacity assignment
	高压kV High voltage	中压kV Medium voltage	低压kV Low voltage						
120	500/$\sqrt{3}$ 525/$\sqrt{3}$ 550/$\sqrt{3}$	242/$\sqrt{3}$±2×2.5%	15.75 35 36 38.5 63 66	Ia0i0	60	245	0.25	高-中 12 高-低 34~38 中-低 20~22	120/120/40
167					70	290	0.25		167/167/40
									167/167/60
250					100	390	0.20		250/250/60
									250/250/80
334					125	505	0.15		334/334/100
120					60	260	0.25	高-中 12 高-低 42~46 中-低 28~30	120/120/40
167					70	310	0.25		167/167/60
250					100	420	0.20		250/250/60
									250/250/80
334					125	540	0.15		334/334/80
									334/334/100
120					60	260	0.25	高-中 14~15 高-低 42~48 中-低 28~30	120/120/40
167					70	310	0.25		167/167/60
250					100	420	0.20		250/250/80
334					125	540	0.15		334/334/80
									334/334/100

订货须知

Notes to order

订货时需提供以下技术参数：

产品型号、额定容量、系统电压、电压组合、联结组标号、短路阻抗、空载损耗、负载损耗、空载电流、额定频率、冷却方式、海拔高度、工作环境及其它要求。

The following technical parameter shall be provided in the order:

Product model, rated capacity, system voltage, combination of voltage, code of coupling, short-circuit impedance, no-load loss, load loss, no-load current, rated frequency, cooling method, altitude height above sea level, operational environment and other requirements.

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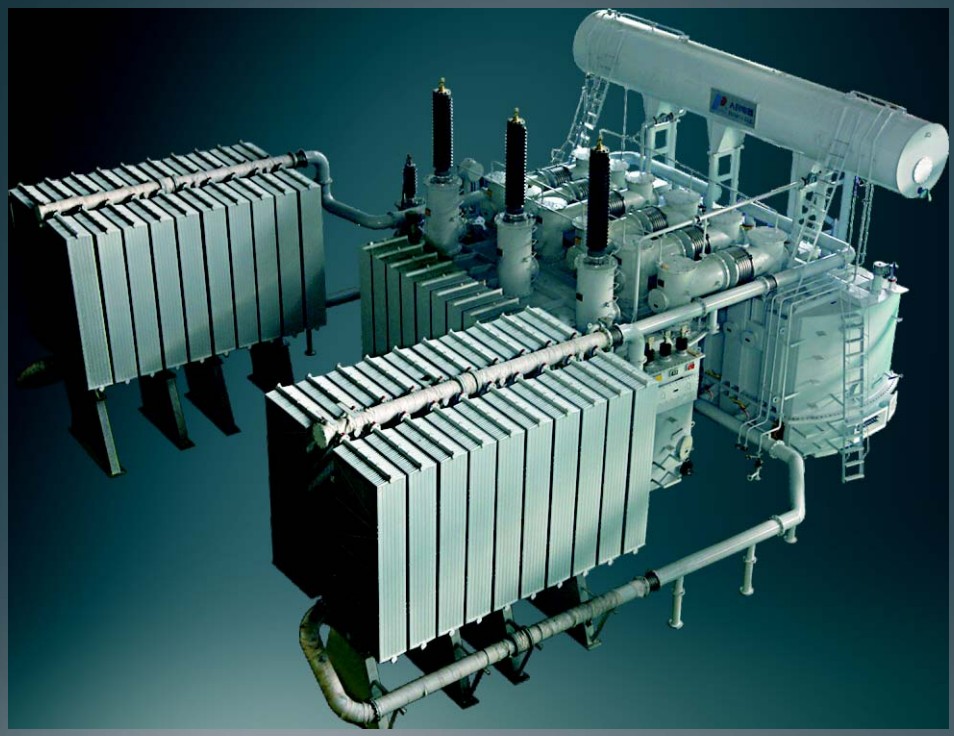

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Special transformer

概述

Summary

大功率高电压、低损耗、直降式整流变压器对于满足基础工业的需求，降低能耗及制造成本，替代进口节约外汇等方面有着重大意义及广阔前景。该系列产品采用了新结构新工艺新材料性能较高，有着明显的技术经济效益，达到了国际领先水平。

适用于系列电压1200V，系列电流320kA以下的电解系统，用作铝电解电源的调压整流变压器。

Large power, high voltage, low loss, and direct step-down rectifier transformer is significant and promising in such aspects including meeting the demands of basic industry, reducing energy consumption and manufacturing cost, and substituting imported product to save foreign exchange reserve. This series is provided with high performance thanks to new structure, new techniques, and new material, up to leading international standards. It could bring about apparent technical and economic efficacy.

The product is applicable for electrolytic systems with 1200V voltage and current below 320kA as voltage regulating and rectifier transformer for power supply to aluminum electrolysis.

执行标准
Standards:

1 GBI094.1-2-1996《电力变压器》
2 GBI094.3-2003《电力变压器》
3 JB/T8636-1997《电力变流变压器》
4 JB/DQZ0113.395《电工产品图样及技术文件编制导则 技术任务书》
5 GB/T50191《电力变压器试验导则》
6 GB2900.15-97《电工名词术语》
7 GB311.1-1997《高压输变电设备的绝缘配合》
本产品图样、技术文件符合ZB/TJ01 035.290ZB/TJ01 035.590规定

1 GBI094.1-2-1996 Power transformers
2 GBI094.3-2003 Power transformers
3 JB/T8636-1997 Power converter transformers
4 JB/DQZ0113.395 Technological work instructions for drawings of electrical products and guideline of compilation of technical documents
5 GB/T50191 Test guideline for power transformers
6 GB2900.15-97 Electrotechnical terminology
7 GB311.1-1997 Application guide for insulation coordination: High voltage transmission and transformation equipments Drawings and technical documents of the product conform to ZB/TJ01 035.290ZB/TJ01 035.590.

型号及其含义
Model and meaning

使用环境及条件
Operating environment and conditions

1 温度：极端最高温度：45℃
极端最低温度：-25℃
最热月平均温度：37℃
2 海拔高度：2000米以下
3 地震裂度：6度
4 污秽等级：3级
5 平均相对湿度：≤78%

1 Temperature: extreme max. temperature: 45%
Extreme min. temperature: -25℃
Mean temperature of hottest month: 37℃
2 Altitude: below 2000m
3 Earthquake intensity: 6
4 Pollution level: 3
5. Mean relative humidity: 478%

产品名称、型号、规格及主要技术参数及技术性能指标

Product name, model, specification, and key technical parameters and performance indicators

طﺶ ج ′ h ה ⋆ ФШӘ ≈ S δ

1 ỹ Ẽ ῶ ő δ ZHSTB-125000Ω220

2 Ö ว δ 125000kVA

3 Ö ว δ 125000kVA

4 Ö ה Ȩ δ 220 kV

5 ה δ 50Hz

6 نم δ Ґ

7 Ȩ Ḷ и δ 2*166.5A Ρ Ц Ḷ ה δ 191.26 Σ

8 ה ה ว δ 30000KVA

9 Ȩ ي δ ة ף ת 35 Ȩ + ق χ ף ת 3 ڠ Ȩ ש Ŗ ج ז 70 Ȩ î

Customized. Example:

1 Product model: ZHSTB-125000 / 220

2 Capacity on line side: 125000kVA

3 Capacity on valve side: 125000kVA

4 Line rated voltage: 220KV

5 Rated frequency: 50Hz

6 No. of phase: three-phase

7 Output current of voltage variation transformer : 2*166.5A(rated transformation ratio of main transformer :191.26)

8 Stabilizing rated capacity: 30000KVA

9 Type of tap changing: 70 steps tap changing consist of OLTC 35 steps continous coarse-tuning & fine-tuning and two steps tap changing of off-circuit tap changer .

10 联结组别：YNa0/Z,dll-d5/y0-y6

11 饱和电抗器调压深度：70V

12 饱和电抗器最大控制电流：40A

13 产品绝缘水平：LI950AC395-LI325AC140/LI70AC35/AC8

14 中性点绝缘水平：中性点绝缘水平为LI325AC140

15设备种类：半户外式

10 Vector group symbol: YNa0/Z,dll-d5/y0-y6

11 voltage-regulating depth of saturable reactor :70V

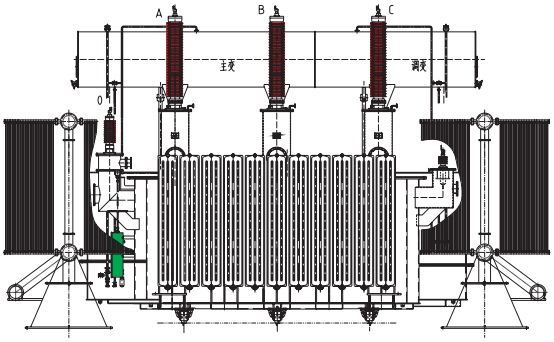
12 Max control current of saturable reactor : 40A

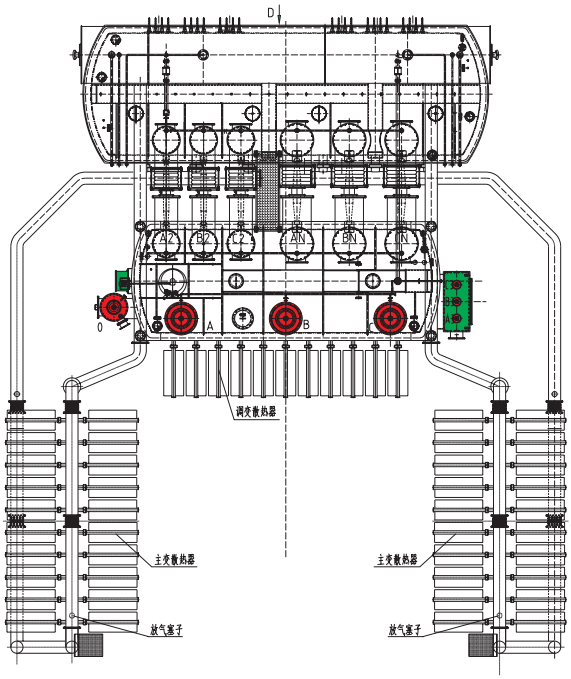
13 Insulation level of product: LI950AC395-LI325AC140/LI70AC35/AC8

14 Insulation level of neutral point: LI325AC140

15 Setting condition : semi-outdoor

外形及安装尺寸
Appearance and installation dimension





可根据用户的特殊要求制定不同规格的整流变压器。
Specification of rectifier transformer could be customized.

执行标准
Standards

GB1094.1-1996 GB/T10584-1989 GB/T6451-2008 GB/T7252-2001 GB7449-1987
GB311.1-1997 GB1094.3-2003 GB10238-1997 JB/T8636-1997

型号及其含义
Model and meaning

ZH S F P S Z 9 -□/□-□(□)

- 产品特殊使用环境：干热带TA 湿热带-TH
- 产品付边电压等级（kV）
- 产品原边电压等级（kV）
- 产品额定容量(kVA)
- 设计序号：9、10、11
- 调压方式：有载调压-Z 无载调压-无
- 绕组数：三相三线圈-S 三相双线圈-无
- 油循环方式：强迫油循环-P 自然油循环-无
- 冷却装置种类：风冷却器-F 水冷却器-S 自然冷却-无
- 相数：三相-S 单相-D
- 产品用途：电解-ZH 直流供电-ZB 磁励ZL等

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Special service environment: dry and hot area TA; wet and hot area TH
Secondary side voltage class (kV)
Original side voltage class (kV)
Rated capacity (kVA)
Design sequence number: 9, 10, 11
Mode of regulation: on-load regulation Z; no-load regulation None
No. of winding: three-phase three-winding S; three-phase double-winding None
Mode of oil circulation: forced oil circulation P; natural oil circulation None
Type of cooling device: air cooler F; water cooler S; natural cooling None
No. of phase: three-phase S; single-phase D
Purpose: electrolysis ZH; DC supply ZB; excitation ZL; etc.

执行标准
Standards:

GBI094.1—1996 GBI094.2—1996 GBI094.3-2003 GBI094.5-2003
GB7328-1987 GB311.1—1997 JB/T8636-1999 GB/T18494-2001

使用环境
Operating environment

1海拔高度：≤1000米。
2环境温度：最高温度+40℃，最高月平均温度+30℃;最低温度-10℃，最高年平均温度+20℃。
3安装环境：安装地点的倾斜度＜3°，无明显污秽和腐蚀，可燃性气体。

1 Altitude: ≤1000m.
2 Ambient temperature: max. temperature +40℃, max. monthly mean temperature +30℃, min. temperature-10℃, max. annual mean temperature +20℃.
3 Installation environment: slope of installation site < 3° no apparent fouling and corrosion or corrosive gas.

35kV及以下整流变压器主要技术参数
35kVKey technical parameters of rectifier transformer

产品型号 容量(kVA) Product model and capacity	网侧 电压(kV) Voltage on line side	阀侧 电压(V) Voltage on valve side	联结组 标号 Coupling group label	冷却 方式 Mode of cooling	直流输出 DC output		空载 电流(%) Idling Current	阻抗 电压(%) Impedance voltage	整流方式 Mode of rectification	负载 等级 Load class
					电流(A) Current	电压(V) Voltage				
ZHS-800/10	10	480	Yy0	油浸自冷 Oil immersed self-cooling	1000	600	2.0	6-8	三相桥式 Three-phase bridge type	V
ZHS-1250/10		480			1500	600	2.0			
ZHS-1600/10		480			2000	600	2.0			
ZHS-2000/10		660	Yd11		2000	825	2.0			
ZHSSP-2500/35	35	660		强油水冷 Forced oil and water cooling	2500	825	1.5			
ZHSSP-5000/35		1320			2500	1650	1.5			
ZHSSP-4000/35		1320			3300	1650	1.5			
ZHSSPZ-8000/35		1320	Dy11		4000	1650	1.5			

35kV及以下整流变压器主要技术参数

Key technical parameters of convertor transformer of 35kV and below

产品型号 Model	额定容量(KVA) Rated capacity	额定电压(V) Rated voltage		联结组标号 Coupling group label	损耗(W) Loss		空载电流(%) Idling current	阻抗电压(%) Impedance voltage	重量(KG) Weight				轨距 Gauge
		一次电压 Primary voltage	二次电压 Secondary voltage		空载 Idling	负载 Load			油重 Oil weight	总重 Gross weight	加添油重 Added oil weight	运输重 Handling weight	
ZSSP-13200/35	13200	35000	210~255		20000	217000		16.5	5400	30400			2000/2000
ZSFZ-12500/35	8532	35000	245	Y,y6;Yy0;Yd5;Yd11	15700	62800		9.96	10000	40000	2000	34500	2000/1435
ZHSFZ-10000/35	5500	35000	725	Y,yo;Y,y6;Yy6;Yyo	12400	118700		8~10	9600	30000	2400	24400	2000/1435
ZSK-6200/35	6200	35000	565	D,y11;D,y5	7230	24300		9.38	7320	24300			1505
ZHSSP-5900/35	5900	35000	268~311	D,y11;D,y5	7720	64620		7	4900	15600			1505
ZBSK-800/35	800	35000	260	Y,yo;Y,yo	1580	11420		7.5	1370	4420			820
ZHST-8000/10	8000	10000		Y,yo;Y,d11,Y,y6;Yd5	5150	65290		13.32	7000	21000			1435
ZQS-5500/10	5500	6300	850	D,y5;D,d6					4430	17800			
ZQS-4000/10	4000	6300	800	D,y5	5550	33550	7	7.86	2360	11360			1070
ZQ-3800/10	3800	10000	375~650	D,do;D,y11	5240	32000		6.1	2440	12320			1070
ZSFZ-3150/10	3150	10000	197~277	D,d6;D,y7;D,d0;D,d1	4500	37000		5.83~7.5 7.33	4000	14000			1505
ZSFB-3150/10	3150	10000	160~249	Y,d11	2700	26500		7.27	4300	13000			
ZSK-2500/10	2500	10000	150	D,y11;D,y5	6200	25000		6.5	2580	8970			
ZS-2000/10	200	10000	359~900	Y,yo;Y,d11	3250	19600		5.5	1810	7100			1070
ZQS-2000/10	200	6300	400	D,y5	3170	19900		6.0	1380	6330			1070
ZS-1000/10	1000	600	400~670	D,yn11	7000	16500		6.5	1191	4850			
ZS-1350/10	1350	6000	608~670	D,yn11	7000	16500			1200	4900			1070
ZHSZK-800/10	800	10500	196~272	Y,yo;Y,y6	2200	13800		5	1775	5620			1070/770
ZHSZK-630/10	630	10000	400	Y,yn0	2450	10000		4	674	3095			820
ZS-400/10	400	10000	400	Y,yn0	920	5800		4	288	1460			550
ZS-180/10	180	10000	210	Y,d11	950	3260		4.5	183	950			660
ZS-100/10	100	10000	380	YN,d11	620	2250		4	114	610			550
ZHS-200/0.4	200	400	82~59	D,y11	1040	5980		6	425	1700			660
ZS-160/0.4	160	380	210	D,yn11	770	3850		4.5	250	900			550
ZS-100/0.4	100	380	160	Y,y0	590	2620		6	147	726			550

订货须知

Notes to order

订货时需提供以下技术参数：

产品型号、额定容量、系统电压、电压组合、联结组标号、短路阻抗、空载损耗、负载损耗、空载电流、额定频率、冷却方式、海拔高度、工作环境及其它要求。

The following technical parameter shall be provided in the order:

Product model, rated capacity, system voltage, combination of voltage, code of coupling, short-circuit impedance, no-load loss, load loss, no-load current, rated frequency, cooling method, altitude height above sea level, operational environment and other requirements.

PTE People Transmit & Transform Ele.

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Oil-immersed transformer

油浸式变压器产品结构简介

Introduction of oil immersed transformer

我公司生产的油浸式电力变压器是在消化吸收国内外先进技术的基础上，针对我国城乡电网特点自行研制开发的，其产品性能指标优于GB/T6451《三相油浸式电力变压器技术参数和要求》，完全符合JB/T3837-1996《变压器类产品型号编制办法》及GB1094.1.2-1996、GB1094.3.5-2003《电力变压器》制造标准及国际电工委员会推荐标准IEC-76。该产品具有低损耗、低噪音、免吊芯的突出特点，其安全性、可靠性、经济性等方面都有非凡的创新，使其一跃成为国内一流技术的产品。该产品主要有以下的特点。

oil immersed transformer of our company is independently designed on the basis of learning from latest technologies in China and overseas and according to characteristics of the grid in urban and rural China. Its performance indices are superior over GB/T6451 Specification and technical requirements for three phase oil immersed power transformers and fully meet JB/T3837-1996 Method of establishment for type of transformer products, Gb1094.1.2-1996, GB1094.3.5-2003 Power transformers, and IEC-76, the recommended standard of International Electrotechnical Commission. The product is characteristic of low loss, reduced noise, and exemption of sweeping core. It is innovative in terms of safety, reliability, and economy. It is now taking the lead in China thanks to the top class technology. Features of the product are introduced as follows.

显著的节能效果

Prominent performance of energy conservation

空载损耗比国家标准GB/T6451-1999平均下降了35%，负载损耗比国家标准降低10%~20%。

No-load loss is reduced by 35% on average on the basis of the national standard GB/T6451-1999. Load loss is reduced by 10%~20% on the basis of relevant national standard.

变压器铁芯

Transformer iron core

铁芯采用5级步进搭接式工艺，叠片为45°斜缝无孔绑扎结构。硅钢片由意大利先进的纵、横剪切线下料，剪切口毛刺不大于0.02mm。另外，先进的铁芯叠装翻转台、严格的叠装及不预叠上铁轭工艺，充分保证了冷轧硅钢片的晶粒取向性，有效地降低了变压器的空载损耗。铁芯采用聚酯带绑扎，夹件结构采用板式夹件，降低了杂散损耗。铁轭夹紧采用了独特的夹紧绑扎工艺，充分保证了铁芯的夹紧程度。同时，多年成熟的工艺，使铁芯、拉板、支撑梁、垫脚成为一个牢固的整体，确保铁芯片处的最佳受力状态。这样既降低了空载损耗，又大大降低了噪音。

Its iron core is manufactured based on 5-step lapping technique. The pile is in 45℃inclined joint and pore-free binding construction. Sili steel sheet is laid off with Italian longitudinal and transverse cutting lines. Blur of cutting opening has a size of no more than 0.02mm. In addit advanced iron core piling and tilting workbench and rigorous techniques of piling and iron yoking without pre-piling ensure sufficient orientation of the grains in cold-rolled silicon steel sheet and reduce no-load loss of transformer effectively. Iron core is bound with polyester tape. Clampi structure is provided with flat clamp to reduce stray loss. Iron yoke clamping is provided with unique clamping and binding techniques that ensure clamping degree of the iron core. Meanwhile, mature techniques developed for years make iron core, anchor plate, bearing beam, and cushion block a firm integral so as to ensure optimum stress of iron core. This procedure reduces no-load loss as well as noise.

变压器绕组

Transformer winding

高、中、低压组均绕制在高强度的绝缘筒上。低压绕组采用了带轴向油道的螺旋式结构；高、中压绕组采用美国进口高强度丹尼森纸包复合导线绕制而成，提高了变压器铁窗的填充系数，降低了导线的涡流损耗和环流损耗，提高了变压器的抗短路能力。所有绕组内侧均有锁撑条（即加强撑条），外侧均有锁撑条，绕组的幅向紧固采用“0”裕度设计，因而极大地增强了绕组的机械强度和抗短路能力。另外，高、中、低压绕组内部均设有油导向结构，从而降低了绕组最热点温升，延长了使用的寿命。

独立的调压绕组（针对有载调压变压器），使各绕组的安匝更趋平衡，提高了稳定性、杜绝了失稳变形，有效地降低了变压器外部短路时所造成的轴向电动力，提高了变压器在外部故障短路情况下的动稳定性。

High, medium, and low voltage windings are coiled on high strength insulating cylinder. Low voltage winding is in spiral construction with axial oil duct; medium and high voltage windings are made of high strength Avery Dennison paper wrapped composite conductor imported from US, improving the resistance against short circuit of the transformer. In all the windings, the interior side is equipped with locking stay (reinforcing stay) and the exterior side is equipped with locking stay as well. Cross direction fastening of winding is devised with"0"margin, thus it improves mechanical strength and short circuit resisting capability considerably. In addition, high, medium, and low voltage windings are all interiorly designed with oil ducting mechanism for reducing maximum hot spot temperature rise inside winding and improving useful life.

Independent regulating winding (for on-load voltage regulating transformer) further balances ampere turn of each winding, improves stability, eliminates deformation instability, reduces axial electric motive force incurred by external short circuit of transformer, and enhances dynamic stability of transformer in case of external failure and short circuit.

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器身绝缘

Insulation

变压器器身装配和绕组绕制均在全封闭的净化车间内完成，达到制造500kV产品的清洁度要求和器身恒温要求，进一步保证了器身的清洁和干燥度。同时采用煤油汽相干燥设备，使产品的清洁度效果更佳。器身下部托板、上部压板全部采用了机械强度高、电气性能好的电工层压木板，变压器所用的撑条、垫块等均经过两次密切处理和倒圆工艺，降低了局部放电。钢夹件和钢压钉有足够的强度，与压板接触的压碗接触面设计到最大，并且支撑垫块、撑条、压钉的布置，尽可能使绕组受力相对均衡，提高了器身的整体稳定性。器身采用整体套装恒压干燥工艺，缩短绕组稳定化处理后器身装配时间。调节各绕组同心度使磁中心尽量一致，充分保证了各线圈电抗高度相等，使各绕组受力均匀，从而提高各绕组的抗短路能力。另外，下夹件与下节油箱采用了钢性定位，通过反压钉调节锁定；上梁与上节油箱采用环氧树脂固化。因此器身在油箱中能经受住各种运输条件下的冲击考验和运行中的轴向电动力而不致移位。

Assembling and winding of transformer are both finished in fully enclosed cleaning shop. This procedure meets the requirements on cleanness and constant temperature of core and winding assembly for the manufacture of 500kV products, further ensuring the cleanness and dryness of the core and winding assembly. Kerosene gas-state drying device is used as well for optimizing cleanness of product. Bottom bearing plate and top clamping plate of the assembly are all made of electrical laminated wooden board with high mechanical strength and superior electrical property. Transformer stays and cushion blocks are processed under double precise cutting and rounding techniques for reduced partial discharge. Steel clamping piece and steel clamping nail have sufficient strength. The contact surface with contact to clamping plate is designed to the maximum. Meanwhile, the layout of bearing cushion block, stay, and clamping nail makes the stress on winding balanced and even as possible so as to improve overall stability of the assembly. The assembly is processed under integral assembling and constant pressure drying technique. The shortened winding is under even stress, so the short circuit resistance of each winding is improved. Furthermore, lower clamping piece and bottom part of tank are located rigidly and are regulated and locked up by back pressure nail. Upper beam and top part of tank are cured by epoxy resin. Therefore, the assembly could endure impacts under various transportation conditions and axial electric motive force during operation without displacement.

引线部分

Leads

高、中压分接引线以支架固定并引至开关，低压引线铜排固定于铁芯夹件和下节油箱上平面，提高了引线的稳固性，并且有线圈出头绑扎标准和工艺的保证，大大提高了低局放的要求。

High and medium voltage tapping leads are fixed by support and introduced to switch. Low voltage leads copper bar is fixed on the upper plane of iron core clamping piece and bottom part of tank, thus stability of the leads increases. The standards and techniques for binding extruded parts of coil improves performance of low partial discharge.

油箱

Oil tank

油箱结构型式为钟罩式。采用大型折板机一次瓦楞成型，取消了各种加强铁、加强板，既大大提高了油箱的机械强度（可承受真空度20kPa、正压力80kPa），又减小了焊缝，扩大了本体散热面积，提高了散热效果；同时瓦楞形箱壁有发散效应，从而起到了降低噪音的作用。对油箱密封部分进行特殊加工，并对箱体进行整体“喷丸”处理，彻底清除箱体表面的氧化皮及加工中产生的尖角毛刺、焊渣，提高了油漆的附着力，使外观质量既美观又持久。散热器和组件模拟现场运行的恶劣环境条件进行试验和检测，有效地保证渗漏点的清除。所有法兰面均进行精加工，并有开槽、限位结构，同时采用耐油、耐气候、耐臭氧的优质丁腈橡胶密封垫，从而防止了变压器的渗漏。另外，上、下节油箱之间的螺栓连接时，也可以根据客户需要采用焊缝密封箱沿结构。

Oil tank is in bell-shaped construction. The structure is shaped in corrugation by large-size bending press. Strengthened iron and reinforced plate of various sorts are cancelled. This design improves mechanical strength (20kPa vacuum degree, 80kPa positive pressure) as well as reduces welding seals, enlarges the area of dissipation, and enhances heat dissipation performance. In addition, corrugated box wall is radiating, thus reducing noise. The sealing parts of the oil tank is subject to special treatment and the tank body has experienced shot blasting that thoroughly eliminates oxide skin on the surface and sharp angles, burrs, and weld slag created by processing. This procedure also increases adhesion of paint, thus the exterior is highly qualified, pleasant, and durable. Radiator and components have been tested and checked in simulated severe environmental conditions, so elimination of leaks is assured of. All the flange faces are finished and are provided with groove and limiter mechanism. High quality Buna-N rubber gasket resistant to oil, weathering, and ozone is used for preventing leak from transformer. In addition, bolt connection between top and bottom parts of tank may also choose to weld the box edges for sealing upon customer request.

冷却和附属装置
Cooling device and ancillary device

一般为风冷/自冷型，风机起动时满负荷运行，风机停开自然冷却时，负荷可为满负荷的67%。

片式散热器布置紧凑、合理，风机一般挂在片散上，水平或垂直方向吹风。

储油柜一般为胶囊型，内装有耐油、气密的胶囊，充分隔离了空气和油的接触，实现了全密封，另外也可采用不锈钢材料制成的膨胀式储油柜（内油式或外油式），具有免维护、运行可靠的特点。

我公司依靠科技进步，借助完善的质量保证体系，通过可靠的产品结构设计及先进的工艺，使公司产品始终保护低局放、低噪音、低损耗、高可靠性。公司所有在役110kV及以上的产品均未发生过损伤事故和渗漏油现象，已达到国际先进水平。

The device is generally air-cooled/self-cooled. It operates under full load when blower fan works. The load could be 67% of the full load when natural cooling is used and the blow fan stops.Gilled radiator is placed compactly and reasonably. Blower fan is often hanged on the gilled radiator and works horizontally or vertically.

Oil conservator is always in capsule construction with built-in oil-resistant, airtight capsules that sufficiently separate air from oil and bring about complete sealing. In addition, stainless steel expanding conservator may also be mounted (oil stored interiorly or exteriorly), characteristic of absence of maintenance and operational stability.

The company adheres to technological progress and implements complete quality assurance system. Thanks to reliable structural design and advanced techniques, our products always ensure low partial discharge, low noise, limited loss, and high reliability. The 110kV products have never experienced any damages and oil leak. They are up to latest international standards.

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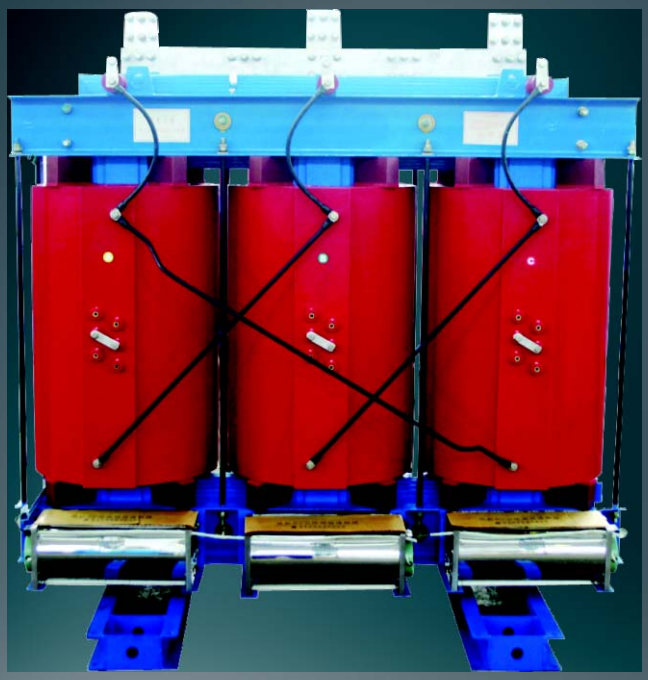


SC(B)系列F级树脂干式变压器
Dry-type transformer

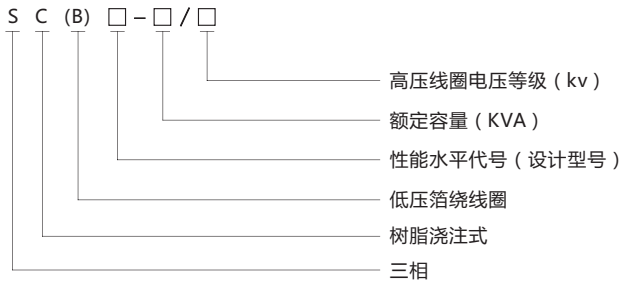
干式变压器概述
Overview of dry-type transformer

用薄层环氧树脂浇注来包封高、低压绕组的干式变压器，具有阻燃、自熄、防潮、散热性好等优点，可以深入负荷中心，例：高层建筑、机场、码头、电厂、住宅小区或成套变电站等各种场所。

Low consumption Low partial discharge Low noise Strong heat-sinking capability Good damp-proof capability. It is in normal operation under 100% humidity. It can be put into safe operation without pre-drying after stop and it is non-flammable and fire-resisting without pollution and can be directly installed in the loaded and installed in the centre.Good temperature protection and control system provides reliable support for safe operation of dry type transformer. It is free from maintenance and can be simply installed. The overall cost is low with high reliability.

产品型号说明

Model Description



正常使用条件

The normal conditions of use

海拔不超过 1000m 户内

最高环境气温 +40℃ 最高日平均温度+30℃

最高年平均气温 +20℃ 最低气温-5℃

根据用户要求可提供在特殊使用条件下运行的变压器。

Altitude	<1000m	Indoor
Max. Ambient temperature	+40℃	
Max. daily average temperature	+30℃	
Max. annual average temperature	+20℃	
Min. temperature	-5℃	

Supply transformers operate under special conditions according to customer requirements

性能特点

Features

a.铁芯采用进口高导磁冷轧晶粒取向硅钢片厚度≤0.3MM，45°全斜阶梯形迭积，用防护树脂复盖铁芯表面，以防潮、防锈。

b.低压绕组除小容量采用铜导线以外，一般都采用铜箔绕制的圆筒式结构；高压绕组采用多层圆筒式结构，使之绕组的安匝分布平衡，漏磁小，机械强度高，抗短路能力强。

c.可配置低噪音的风冷装置，通过温控器对风扇的起动和关闭可以自动控制，由此可以使变压器增容40%运行。

d.通过埋入低压绕组的感温元件和传感系统，根据设定值来启动，关闭风机或报警、跳闸起到保护变压器的作用。

e.变压器配置IP20使直径>12mm的异物不会进入罩壳内，配置IP23，它同时还可以防止与垂直成≤60°角度的水淋入。保护罩能有效地防止小动物进入罩内而引起的短路停电等事故，也保障人生安全。

f.SC(B)9 空载损耗同GB/T10228-2008标准值

负载损耗同GB/T10228-2008标注值

SC(B)10 空载损耗比GB/T10228-2008标准值下降10%

负载损耗比GB/T10228-2008标注值下降5%

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A.Core Are Made Of Cold Rolled Silicon Steel Sheets That Thickness ≤0.3mm With Prime Grain Orientation And High Permeability And 45℃ Fully In -clined Step Joint Seams, The Surface Is Coated With Special Resin For Moisture Prevantion And Rust Prevention

A.About Lv Winding, Small Capacity Adopt Copper Conductors While Others All Adopt Cylindrical Structure Made Of Copper Wound; The Hv Wind -ing Adopt Multi-layer Cylinder Structure, Which Balance The Ampere-turn Distribution So That It Have Characteristics Such As Small Magnetic Fl -ux Leakage,high Mechanical Strength And Strong Short-circuit Withstand Capacity.

B.To Equip Air Cooling Device With Low Noise, Self-control The Start And Stop Of Fans By Temperature Control Device, So That Transformer Can Op -erate When Capacity Increase By 40%.

C.By The Temperature Sensing Components And Sensor System Embed In Lv Winding To Start Or Stop Fans ,or To Alarm And Trip So That Prevent T -ransformer From Damage According The Setting Value.

D.To Equip Ip20 So That Prevent Objects That Have Diameter >12mm From Getting Into Enclosure, To Equip Ip23 In Order To Meanwhile Prevent Water That Angle With Vertical Direction≤60°from Getting In Enclosure, Safety Guard Can Effectively Prevent Small Animals From Getting In Encl -osure So That Avoid Troubles Such As Power Off Caused By Short Circuit, Also Guarantee Personal Security.

F.Sc(b)9 No-load Losses Equal To Standard Value In Gb/t10228-2008

On Load Losses Equal To Tagged Value In Gb/t10228-2008

Sc(b)10 No-load Losses Decrease By 10% Compared With Standard Value In Gb/t10228-2008

On Load Losses Decrease By 5% Compared With Tagged Value In

Gb/t10228-2008

订货须知

Instruction to order

选用我公司产品时，请提供下列数据，以便更好地为阁下提供服务

When using the products made by our company, please provide following data in order to provide

变压器型号Model of transformer :_____

额定容量Nominal capacity : _____ kVA

相数Phase : □ 三相Tri-phase

□ 单相Single-phase

频率Frequency : □ 50Hz

□ 60Hz

额定电压（高压/低压）Nominal voltage (high voltage/low voltage)

分接范围Tapping scope : ± _____ X _____ %

绝缘水平Insulation level : : LI _____ AC _____ /LI _____ AC

联结组标号Connection group symbol : □ Dyn11

□ Yyn0

□ 其他Others

阻抗电压UKImpedance voltage UK : _____ %

使用条件Operating condition : 海拔Altitude _____ m

环境温度Environmental temperature _____ ℃

冷却方式Cooling method : □ AN □ AF

外壳防护等级Housing protection level : □ IP00

□ IP20

□ 其他Others

低压出线方式Low-voltage outlet method : □ 常规出线General outlet

□ 侧出线Side outgoing

□ 标准封闭母线Standard enclosed bus

□ 配零序CTZero line connection sequence

□ 其他Others

对温控器的要求Requirement for temperature controller:

1功能配置Configuration：□ 常规功能General function

□ 带4-20mA输出With 4-20mA output

□ RS485接口RS485 interface

2温控器相关控制线长Length of control cables of temperature controller：

温度传感总成实需长度（IP00产品填此项）

True length required for unit assembly of temperature sensor (For IP00 product): :

□ 15m（标准配置Standard）

□ 30m

□ 50m

□ 100m

□ 其他长度Others ________m

RS485信号线实需长度（最长1200m）True length required for RS485 signal cable (1200m, Max.)：

□ 20m（标准配置Standard）

□ 其他长度Others ____________ m

对我们产品的其他要求Other requirements for our products：

____

____

____

____

____

售后特别注意事项
after-sale precautions:

1、请在验收设备前或安装设备前查看到货，设备是否挂有"人民电器"变压器铭牌，若无铭牌，"人民电器"集团概不承认到货设备为"人民电器"变压器并符合相应标准。

2、请在验收设备时查收设备使用说明书，并按要求填妥用户回执寄江西人民输变电股份有限公司。若没收到用户回执，江西人民输变电股份有限公司将不对设备负有售后监督责任。

1、When accepting and before installing the equipment, it is necessary to check whether a nameplate of" People Electric Appliance"Group China is hung on the equipment arrived. If there is no such nameplate, People Electric Appliance Group China will not admit the equipment arrived as the transformer of"People Electric Appliances" which shall be consistent with relevant standards.

2、The instruction manual shall be checked when accepting the equipment, and it is necessary to fill the customer return receipt as per requirement to Jiangxi People Transmitting and Transforming Equipment Co., Ltd. If no return receipt is received, Jiangxi People Transmitting and Transforming Equipment Co., Ltd shall not be responsible for the after-service of the equipment.

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售前服务
Service before sale

向用户提供产品的相关资料，提供技术咨询。如果用户有特殊要求，可在用户的配合下进行研制。同用户进行多种形式的技术交流，在双方认可的情况下拟定设计方案，并共同开发各类新型变压器。

To supply customers with related technical documents and technical consultation; to develop equipment with the cooperation of customer, if customer has special requirement; to propose the design under agreement of both sides and to develop variety of innovated transformers.

售中服务
Service in sale

在产品制造期间，我们随时与用户保持联系，进行沟通，我们严格按照合同中的各项要求执行。

During manufacture of products, we will keep close contact with customers. We will implement strictly according the contract.

售后服务
Service after sale

公司服务的宗旨是“快捷，准确，满意”。在接到用户需要服务信息后及时答复、处理问题。公司保证24小时内有代表到达现场，24小时内派出专业技术人员，边远地区48小时内到达，做到问题不解决服务工作不终止。在向用户提供产品的安装、调试、运行的咨询和服务时，主动配合用户，使产品最终安全、顺利地投入运行。产品“三包”两年，产品在“三包”期内确属质量问题，严格履行“三包”规定和合同规定赔偿责任。超过“三包”期限的产品，我公司保修二十年，保证提供维修配件并根据用户要求做好维修服务工作。

Based on the service principle of "swiftly, exactly, satisfactorily", after we have received any after service request, we will response to quickly. Our company vows that if any problem occurs, our delegation will arrive at the site within 24h, and technician will be sent out within 24h, who will reach the remote area within 48h. We vow to solve whatever problems before we stop our service. When providing the consultation and service for installing, commissioning and running equipment, we will cooperate with our costumers actively in order to put the products in to operation safely and successfully.The "three warrant" of products is valid for two years, if there is any quality defect with products during the period of "three warrant", we will conduct strictly according the requirement of "three warrant" and compensate as per the contract. For the products having gone beyond the period of "three warrant", our company warrant 20 years' repairing period, providing accessories for repair and maintenance in order to keep products in good repair.

注：用户在通知我公司维护时，应尽可能的提供故障的详细情况、联系电话、详细地址及联系人。

Note: when requesting for our service, customers shall report the failure in detail, as well as the contact and address.

SC(B)10F级系列干式变压器

SC (B)10F series dry type transformer

本系列新产品是以玻纤网格布加强，带填料浇注的干式变压器，计量泵配料加静态混料能有效地防止线圈的龟裂，先进的浇注成型工艺可确保树脂混合料充分渗透到匝间及段间，以保证产品的绝缘强度和极小的局放（≤5PC）。

The products of this latest series are resin-cast transformers reinforced by glass fiber grid. Resin is fed by flow control pump and static control in order to prevent coils from alligator crack. The advanced cast technique ensures the resin mixture fully immerses into the space between turns and segments in order to ensure the dielectric strength and minimum partial discharge（≤5PC）.

执行标准

Standards

GB/T 1094.11-2007 干式变压器

GB/T 17211-1998 干式变压器负载导则

GB/T 10228-2008 干式电力变压器技术参数和要求

GB1094.11-2007 Dry-type Power Transformer

Load Guide Rule of GB/T17211-1998 Dry-type Power Transformer

Technical Parameter and Requirement of GB/T10228-2008 Dry-type Power Transformer

10KV级SC(B)10系列树脂绝缘干式电力变压器技术参数

Technical parameter of SC (B) 10 series 10KV resin insulation dry-type power transformer

额定容量 Nominal capacity (kVA)	电压组合 Voltage unitcombination		低压 Low voltage (kV)	联结组标号 Coupling Connection group symbol	空载损耗 No-load loss (W)	负载损耗 (120℃) Loaded loss (W)	空载电流 No-load current (%)	短路阻抗 Short-circuit impedance (%)	绝缘等级 Insulation level	轨距 Gauge (mm)	噪声水平 Noise level (dB)
	高压High voltage(kV)	高压分接范围 Bridging range for hHigh voltage tap range									
30	6; 6.3; 6.6; 10; 10.5; 11;	±2×2.5% 或±5%	0.4	Yyn0 或 Dyn11	190/198	706/727	2.2/2.86	4	F/F	500 × 500	40
50					270/280	995/1025	2.1/2.73				40
60					324/334	1110/1143	2.0/2.60				40
80					368/379	1377/1418	1.9/2.47				41
100					400/412	1573/1620	1.8/2.34				41
125					472/486	1845/1900	1.7/2.21				43
160					544/560	2125/2189	1.6/2.08				43
200					624/642	2525/2600	1.5/1.95				44
250					720/742	2754/2837	1.4/1.82			660×660	44
315					880/906	3468/3572	1.3/1.69			820 × 820	45
400					976/1005	3987/4107	1.2/1.56				45
500					1160/1195	4879/5025	1.1/1.43				46
630					1344/1384	5874/6050	1.0/1.30			820 × 820	47
630					1296/1335	5959/6138	1.0/1.30	6			47
800					1520/1566	6953/7162	0.9/1.17				48
1000					1768/1821	8126/8370	0.8/1.04			1070 × 1070	48
1250					2088/2151	9690/9981	0.7/0.91				49
1600					2448/2521	11730/12082	0.6/0.78				50
2000					3320/3420	14450/14884	0.5/0.65				50
2500					4000/4120	17170/17685	0.5/0.65				

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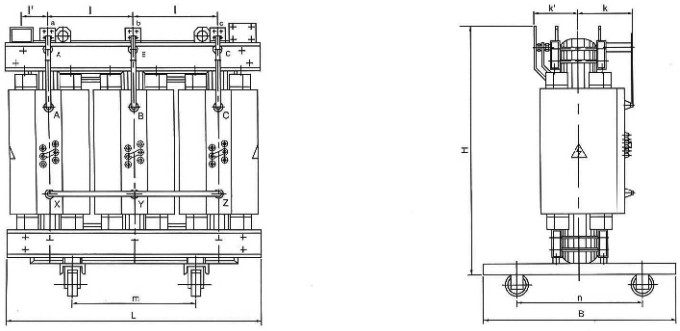
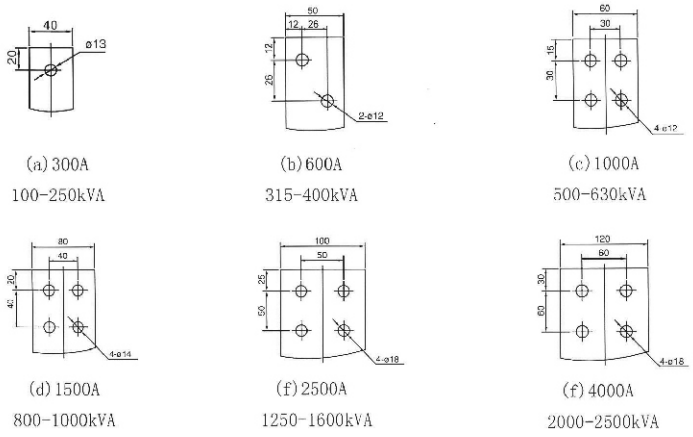
外形尺寸图
Outline dimensional drawing



低压接线端子母排
Primary and secondary line bank of Llow voltage terminal bus-bar



(a) 300A
100-250kVA

(b) 600A
315-400kVA

(c) 1000A
500-630kVA

(d) 1500A
800-1000kVA

(f) 2500A
1250-1600kVA

(f) 4000A
2000-2500kVA

SG(B)10H级系列干式变压器
SG (B) 10H dry-type transformer

本系列产品是采用杜邦NOMEX纸为基础的绝缘系统，在变压器整个使用寿命期中都保持极佳的电气性能和机械性能。NOMEX纸抗老化、耐收缩及抗拉伸，因此可确保线圈结构紧密，并且能够承受短路的压力。

Product of this series is an insulation system based on DUPONT NOMEX paper. During the whole life of the transformer, perfect electric and mechanical property and mechanical propertyies are well maintained. Due to the ageing resistance, shrinkage-proof and stretch-proof characteristics of NOMEX paper, the coil structure is of tightness and able to bear the pressure of short-circuit.

SG(B)10H级系列干式变压器

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执行标准

Execution sStandards

GB/T 1094.11-2007 干式变压器
GB/T 17211-1998 干式变压器负载导则
GB/T 10228-2008 干式电力变压器技术参数和要求

GB1094.11-2007 Dry-type Power Transformer
Load Guide Rule of GB/T17211-1998 Dry-type Power Transformer
Technical Parameter and Requirement of GB/T10228-2008 Dry-type Power Transformer

使用环境条件

Operating Eenvironmental condition requireds

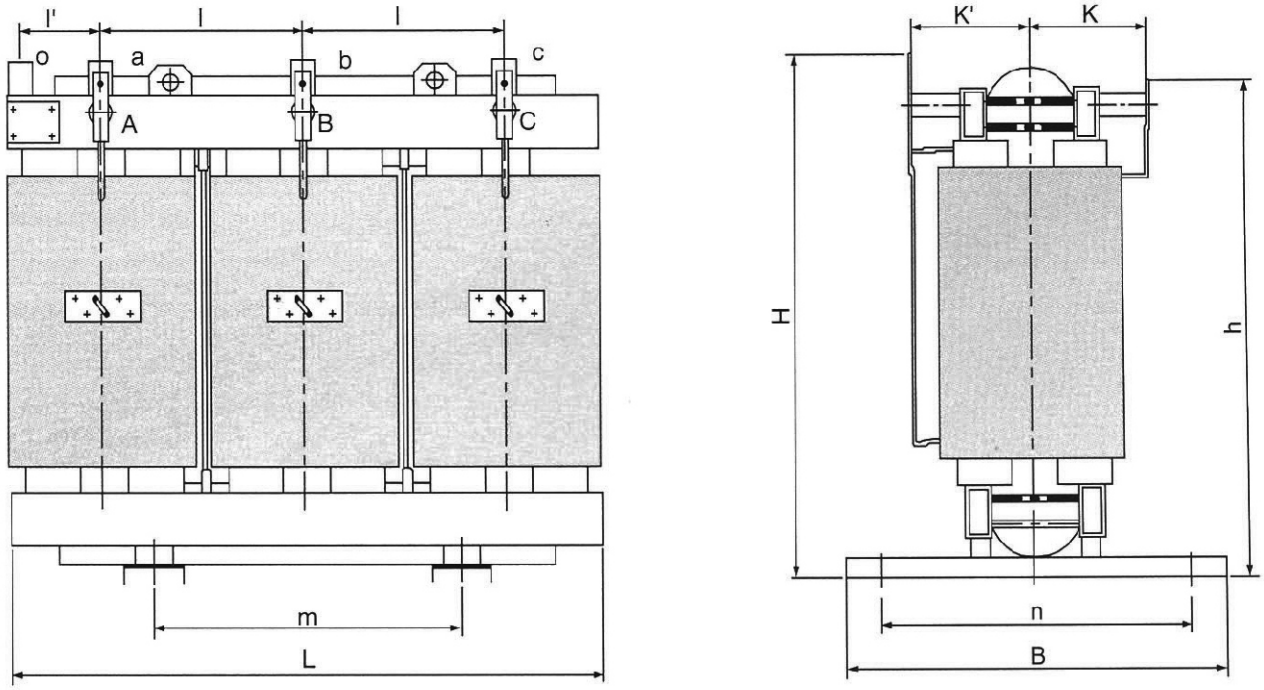
海拔不超过	1000m	户内
最高环境气温	+40℃	最高日平均温度+30℃
最高年平均气温	+20℃	最低气温-5℃

根据用户需要，可提供超出上述范围使用条件的变压器。

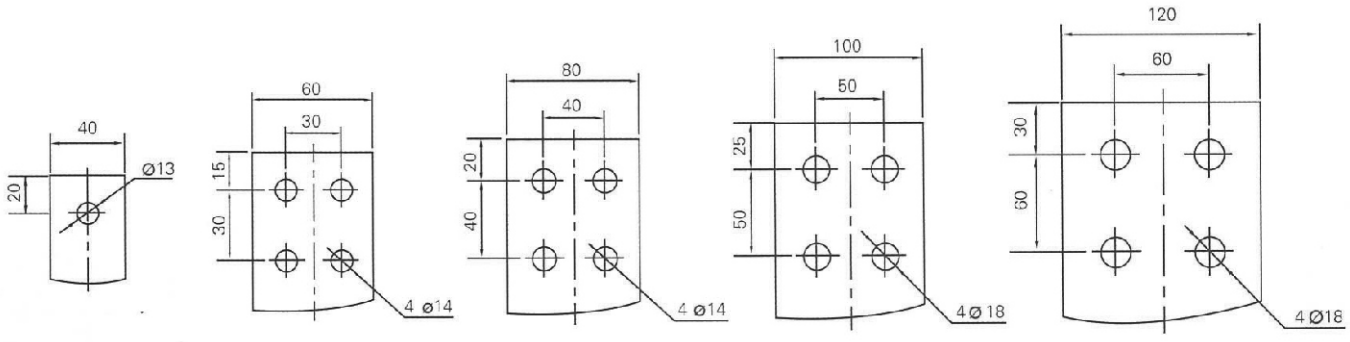
Altitude	＜1000m	Indoor
Max. Ambient temperature	+40℃	
Max. daily average temperature	+30℃	
Max. annual average temperature	+20℃	
Min. temperature	-5℃	

Supply transformers operate under special conditions according to customer requirements

外形尺寸图
Outline dimensional drawing



低压接线排
Line bank of lLow voltage line bank



(a)500A
100–315kVA

(b)900A
400–500kVA

(c)1300A
630–800kVA

(d)2000A
1000–1600kVA

(e)4000A
2000–2500kVA

技术参数

Technical parameter

额定容量 Nominal capacity (kVA)	电流比 Current ratio A	联结组标号 Joins group sign number	损耗(W) Loses W	空载电流 No-load current (%)	负载损耗 H(145℃) Loaded loss (W)	短路阻抗 Short -circuits impedance %	总损耗 Total loss W	声级 内控/行标 Acoustic level (PLAdB) controls from the inside / good sign
30	1.73/43.3	Yyn0	205	2.3	830	4	1035	46/54
50	2.89/72.2		285	2.2	1200		1485	46/54
63	3.64/90.9		324	1.7	1340		1664	46/54
80	4.62/115.4		380	1.7	1660		2040	47/55
100	5.77/144.3		410	1.5	1930		2340	47/55
125	7.22/180.4		470	1.5	2250		2720	49/58
160	9.24/230.9		550	1.3	2620		3170	49/58
200	11.55/288.7		650	1.3	3050		3700	49/58
250	14.43/360.8		740	1.3	3480		4220	49/58
315	18.19/454.7		880	1.1	4180		5060	51/60
400	23.09/577.4	Dyn11	1000	1.1	4900		5900	51/60
500	28.87/721.7		1180	1.1	5850		7030	53/62
630	36.4/909.3		1350	0.9	6950		8300	53/62
630	36.4/909.3		1300	0.9	7170	6	8470	53/62
800	46.2/1154.7		1540	0.9	8350		9890	54/64
1000	57.7/1443.4		1750	0.9	9900		11650	54/64
1250	72.2/1804.2		2030	0.9	11800		13830	55/65
1600	92.4/2309.4		2700	0.9	14400		17100	56/66
2000	115.5/2886.8		3000	0.7	17400		20400	56/66
2500	144.3/3608.4		3500	0.7	20800		24300	56/71

注：本手册提供外形尺寸仅供选型设计参考，最终尺寸以产品实际外形图为准。

Note: The physical dimension in the manual is only provided for design reference, and the fimal dimension shall be based on the actual outside drawing.

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SG（B）17系列H级树脂浇注非晶合金干式变压器

SG（（B））17 H level resin pouring amorphous alloy dry-type transformer

树脂浇注非晶合金干式变压器是一种用非晶合金铁心为导磁材料和薄层绝缘环氧树脂浇注来包封高、低压浇注的干式变压器，是环保节能的理想电气产品，符合国家经委和计委颁布的《中国节能技术大纲》精神，近二十月已经在国内、外电网上普遍运行。

The magnetic material of resin pouring amorphous alloy dry-type transformer is certain amorphous alloy core. It applies a thin insulation epoxy to cover the high and low voltage pressure castings. Being an ideal environment- friendly and energy-saving electric product, it complies with the spirit of China Energy-Saving Technology Policy Outline promulgated by National Planning Committee and National Economy Committee. It has been put to use on the electric network home and abroad for recently twenty-month.

执行标准

Execution sStandards

GB/T 1094.11-2007 干式变压器
GB/T 17211-1998 干式变压器负载导则
GB/T 10228-2008 干式电力变压器技术参数和要求

GB1094.11-2007 Dry-type Power Transformer
Load Guide Rule of GB/T17211-1998 Dry-type Power Transformer
Technical Parameter and Requirement of GB/T10228-2008 Dry-type Power Transformer

使用环境条件

Environmental conditions

1、海拔不超过　1000m　户内
2、最高环境气温　+40℃　最高日平均温度+30℃
3、最高年平均气温 +20℃　最低气温-5℃
4、根据用户需要，可提供超出上述范围使用条件的变压器。

Altitude	＜1000m	Indoor
Max. Ambient temperature	+40℃	
Max. daily average temperature	+30℃	
Max. annual average temperature	+20℃	
Min. temperature	-5℃	

Supply transformers operate under special conditions according to customer requirements

技术参数

Technical parameter

额定容量 Rated Capacity (kVA)	额定电压 Rated Voltage			联结组标号 Coupling group label	空载损耗 kW No-load loss	负载损耗 Load loss(W)			空载电流(%) Idling current	短路阻抗 Short-Cireuit Impe-dance (%)
	高压kVHigh voltage	分接 Tapping(%)	低压kV Low voltage			100℃ (B)	120℃ (F)	145℃ (H)		
30					70	670	710	700	1.6	
50					90	940	1000	1070	1.4	
80					120	1200	1380	1480	1.3	
100					130	1480	1570	1600	1.2	
125					150	1740	1850	1980	1.1	
160					170	2000	2130	2250	1.1	
200					200	2370	2530	2710	1.0	4
250					230	2590	2760	2960	1.0	
315	6				280	3270	3470	3730	0.9	
400	6.3				310	3760	3900	4280	0.8	
500	6.6	±5	0.4	Dyn11	360	4690	4880	5230	0.8	
630	10	±2×2.5			420	5530	5880	6290	0.7	
630	10.5				410	5610	5060	6400	0.7	
800	11				480	6550	6960	7460	0.7	
1000					550	7650	8130	8760	0.6	
1250					650	9100	9690	10370	0.6	6
1600					760	11050	11730	12580	0.6	
2000					1000	13600	14450	15560	0.5	
2500					1200	16150	17170	18450	0.6	
1600					760	12280	12960	18900	0.6	
2000					1000	15020	15960	17110	0.5	8
2500					1200	17760	18890	20290	0.5	

注：本手册提供外形尺寸仅供选型设计参考，最终尺寸以产品实际外形图为准。

Note: The physical dimension in the manual is only provided for design reference, and the fimal dimension shall be based on the actual outside drawing.

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Box type transformer

10kV级组合式变压器(美式箱变)

10kV combined transformer (American box type transformer)

产品概述

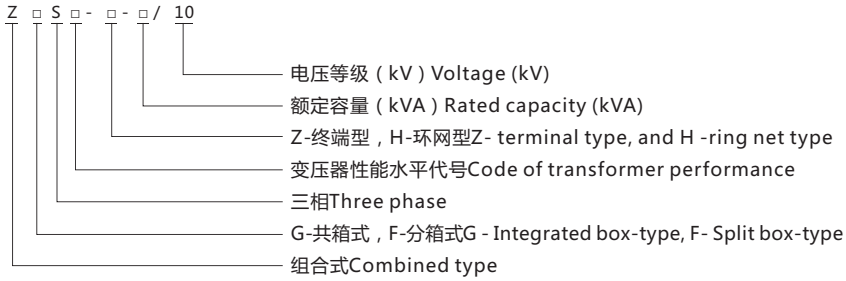
Introduction of product

组合变压器，俗称美式箱变，具有供电可靠、结构合理、安装迅速、灵活、操作方便、体积小等卓越性能，广泛用于工业园区、居民小区、商业中心、城市道路以及高层建筑等各种场所。该类产品与目前国内生产的欧式箱变不同在于：美式箱变是将变压器铁心、高压负荷开关、保护用熔断等设备一体化设计、放置于同一油箱中，因而体积较小。

Combined transformer, commonly named as American box -type transformer, has outstanding features including reliable power supply, compact structure, fast and flexible installation, convenient operation, small size, etc. It can be widely used in industrial areas, residential communities, commercial centers, urban roads, high-rise buildings and other premises. The difference between this kind of product and European box-type transformer domestically man-ufactured is: American box-type transformer is designed with integration of transformer core, high-voltage load switch, protective fuse and other devices, and placed in an oil tank for relatively comparably smaller size.

产品型号及含义

Description and model of product



使用环境

Operating conditions

环境温度：最高气温+40℃，最低气温-30℃

海拔：≤1000m

风速：相当34m/s（不大于700Pa）

湿度：日相对湿度平均值不大于95%

月相对湿度平均值不大于95%

防震：水平加速不大于0.4m/s2，垂直加速度不大于0.15m/s2

安装地点倾斜度：不大于30

安装环境：无爆炸性、腐蚀性气体，安装场所无剧烈震动冲击

订购本产品超出上述条件的规定时，可与本公司协商。

Ambient temperature: Highest temperature: +40℃, lowest temperature: -30℃

Altitude above sea level: no more than 1,000 m

Wind speed: 34 m/s (no more than 700Pa)

Humidity: daily average of relative humidity no more than 95%

Monthly average of relative humidity no more than 95%

Shock resistance: horizontal acceleration no more than 0.4m/s2, vertical acceleration no more than 0.15m/s2

Slope of installation site: no more than 30

Installation conditions: free of explosive and corrosive gas, no severe vibration and shock

When the product is ordered for operating conditions out of the scope specified above, please inform the Company in advance.

产品特点

Features of product

体积小，结构紧凑，仅为同容量欧式箱变的三分之一左右。

全密封，全绝缘结构，无需绝缘距离，可确保人身安全。

既可用于环网，又可用于终端，转换十分方便，提高了供电的可靠性。

变压器性能卓越：低损耗、低噪音、低温升、过载能力强、抗短路、耐冲击能力强。

电缆接头可操作200A负荷电流，在紧急情况下可作为负荷开关操作，并具有隔离开关的特点。

采用双熔丝保护，降低了运行成本，插入式熔断器熔丝为双敏熔丝（温度、电流）。

选用高燃点油（R-TEMP油，燃点高达312℃），可置于建筑内消除火灾隐患。

采用Dyn11接法及三相五柱式结构，优点是电压质量高，中性点不飘移、噪音低、防雷性好。

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Small size, compact structure, only one third of the size of European box-type transformer with same capacity The product is fully enclosed and equipped with complete insulation structure without requiring insulation clearance to ensure personal safety.

It is suitable for both ring net and terminal and can be changed conveniently for an enhanced reliability of power supply. Outstanding performances of transformer: low noise, low loss, low temperature rise, strong overload capacity, and resistance to short circuit and impact.

The cable connector can be operated at load current of 200A and operated as load switch under emergency circum-stances. It also has features similar to isolating switch.

Adopt double fuse protection to reduce operating cost, and the plug fuse is fuse of double sensitivity(temperature and current).

Due to use of oil with high ignition point (R-TEMP oil, the ignition point is up to 312℃), it can be used in buildings and eliminate risk of fire.

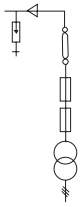
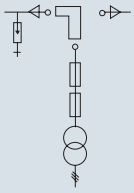
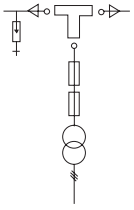
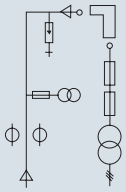
Adopt Dyn11 connection and three-phases five-poles structure with advantages such as high quality of voltage, no displacement of neutral point, low noise and good lightning protection.

主要技术参数
External dimensions of product

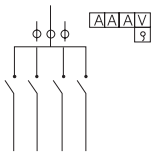
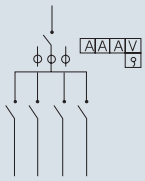
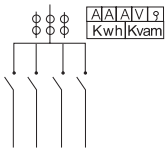
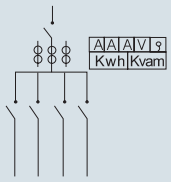
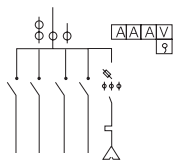
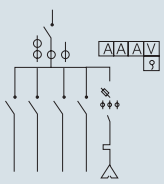
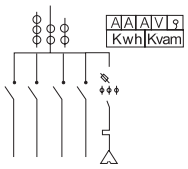
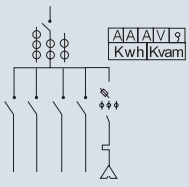
序号 Number	项目 Item		单位 Unit	技术参数 Technical parameters
1	额定电压 Rated voltage	一次侧 Primary side	kV	6~10
		二次侧 Secondary side	kV	0.4
2	额定工作电压 Rated working voltage		kV	12
3	额定频率 Rated frequency		Hz	50
4	额定容量 Rated capacity		kVA	100~1250
5	1分钟工频耐受电压 1- min power frequency withstand voltage		kV	35
6	雷电冲击耐受电压 Lightning impulse withstand voltage		kV	95
7	2秒短时耐受电流 2 second short time withstand current		A	12
8	高压后备限流熔断器遮断容量 Interrupting capacity of back up high voltage current limiting fuse		KVA	50
9	无载调压 No-load voltage adjustment			(6~10) ±2×2.5%
10	环境温度 Ambient temperature		℃	-20~+40
11	允许温升 Allowable temperature rise		K	55

电气原理图
Electric schematic diagram

高压接线方案图
High voltage wiring diagram

编号Code	Ⅰ	Ⅱ	Ⅲ	Ⅳ
系统方案 System program				
	终端供电 Power supply at terminal	双电源供电 Double power supply	环网、双电源供电 Loop network and double power supply	高压计量方案 High voltage metering plan
FYN-12高压负荷开关 High voltage	315-630A	315-630A	315-630A	315-630A

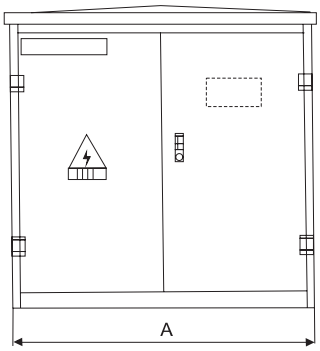
低压接线方案图
Low voltage wiring diagram

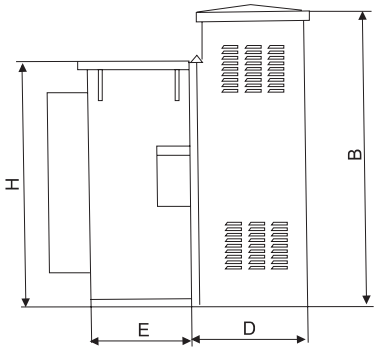
类型 Type	方案1 Program 1	方案2 Program 2	方案3 Program 3	方案Program 4
电气主接线 Master electric wiring				
元件 Element	支路开关Branch switch 100-630A	主开关Main switch 630-1250A 支路开关Branch switch 100-630A	支路开关Branch switch 100-630A	主开关Main switch 630-1250A 支路开关 Branch switch 100-630A
类型Type	方案1 Program 1	方案2 Program 2	方案3 Program 3	方案 Program 4
				
元件 Element	支路开关Branch switch 100-630A 补偿容量 Compensation capacity 30-300kVar	主开关Main switch 630-1250A 支路开关Branch switch 100-630A 补偿容量 Compensation capacity 30-300kVar	支路开关Branch switch 100-630A 补偿容量 Compensation capacity 30-300kVar	主开关Main switch 630-1250A 支路开关Branch switch 100-630A 补偿容量 Compensation capacity 30-300kVar

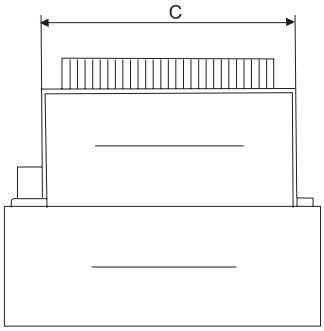
People Transmit & Transform Ele.

产品外形尺寸
External dimensions of product

标准型外形尺寸图
Outline dimensional drawing of standard type

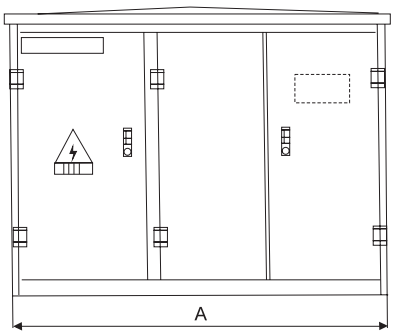


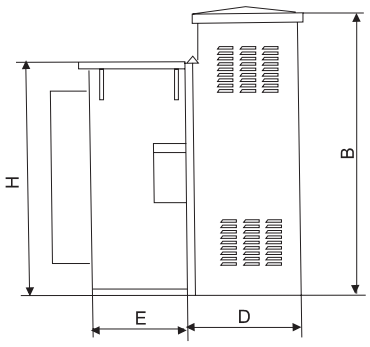


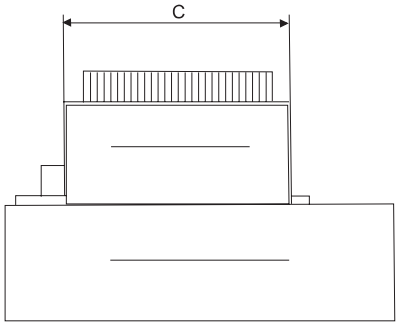


标准型外形尺寸 External dimensions of standard type					
容量Capacity KVA	100-250	315-400	500-630	800-1000	1250
A	1840	1840	1840	2000	2200
B	1780	1780	1780	1780	1780
C	1250	1450	1550	1700	2000
D	800	800	800	800	800
E	555	555	625	725	855
H	1400	1500	1500	1500	1550

加强型外形尺寸
External dimensions of enforced type







标准型外形尺寸 External dimensions of standard type					
容量Capacity KVA	100-250	315-400	500-630	800-1000	1250
A	2200/2400	2200/2400	2200/2400	2200/2400	2200/2400
B	1820	1820	1820	1820	1820
C	1250	1450	1550	1700	2000
D	800	800	800	800	800
E	555	555	625	725	855
H	1400	1500	1500	1500	1550

ZBW系列组合变电站
ZBW series combined substaion

适用范围
Scope of application:

ZBW系列组合式变电站，俗称欧式箱变，是将高压电器设备、变压器、低压电器设备等组合成紧凑型成套配电装置，用于城市高层建筑、城乡建筑、居民小区、高新技术开发区、中小型工厂、矿山油田以及临时施工用电等场所，作配电系统中接受和分配电能之用。

ZBW系列组合式变电站，具有成套性强、体积小、结构紧凑、运行安全可靠、维护方便、以及可移动等特点，与常规土建式变电站相比，同容量的组合式变电站占地面积通常仅为常规变电站的1/10~1/5，大大减少了设计工作量及施工量，减少了建设费用。在配电系列中，可用于环网配电系统，也可用于双电源或放射终端配电系统，是目前城乡变电站建设和改选的新型成套设备。

ZBW系列组合式变电站符合SD320-1992《箱式变电站技术条件》和GB/T17467-1997《高压/低压预装式变电站》的标准。

ZBW series combined transformer substation, commonly named as European box-type transformer, is a kind of compact power distribution device that integrates high voltage electrical devices, transformer, low voltage electrical devices together. It can be used in high-rise buildings, buildings in urban and rural areas, residential communities, high-tech development areas, small & medium size factories, mining areas, oil fields, temporary construction sites, and other premises, and can also be used for acceptance and distribution of power in power distribution system.

ZBW series combined transformer substation is characterized with features including high integrity, small size, compact structure, safe and reliable operation, convenient maintenance, portable, etc. Compared to conventional transformer requiring civil work, the combined transformer with same capacity needs only one-tenth to one-fifth of the floor area for conventional transformer so that the design work, construction work and construction expense is reduced significantly. It also can be used in ring net power distribution system and double power supply or terminal power distribution system. This new complete set of product is an ideal choice for construction and modification of transformer in urban and rural areas.

ZBW series combined transformer substation complies with standards of SD320-1992《technical specifications for box-type transformer》 and GB/T17467-1997 《High voltage/low voltage prefabricated substations》.

工作条件
Operating conditions

海拔高度不超过1000m；

环境温度最高不超过+40℃，最低不低于-25℃，24小时周期内平均温度不超过+35℃。

户外风速不超过35m/s；

空气相结温度不超过90%（+25℃）；

地震水平加速度不大于0.4m/s2，垂直加速度不大于0.2m/s2；

无火灾、爆炸危险、严重污秽、化学腐蚀及剧烈震动的场所。

特殊使用条件，订货时与我公司协商解决。

Attitude above sea level: no more than 1,000 m

Ambient temperature: highest temperature +40℃, lowest temperature -25℃, average temperature in 24 hours no more than +35℃

Outdoor wind speed no more than 35m/s

Air relative humidity no more than 90% (+25℃)

Shock resistance: horizontal acceleration no more than 0.4m/s2, vertical acceleration no more than 0.2m/s2

Installation conditions: no risk of fire and explosion, free of serious contamination, chemical corrosion and severe vibration and shock.

For special operating conditions, please inform the Company in ordering and solve it through negotiation.

PTE People Transmit & Transform Ele.

型号及其含义
Description and model of product

标准型外形尺寸图
Outline dimensional drawing of standard type

主要技术参数
External dimensions of product

序号 Number	项目 Item	单位 Unit	高压电器 High voltage appliances	变压器 Transformer	低压电器 Low voltage appliances
1	额定电压 Rated voltageUe	kV	7.2、12	6/0.4、10/0.4	0.4
2	额定容量 Rated capacity Se	KvA		目型Order type : 200~1250	
3	额定电流 Rated currentLe	KA	200~630		100~3000
4	额定开断电流 Current disconnecting current	A KA	负荷开关Load switch 400~630A 组合电器取决于熔断器 The combined appliance is subject to the fuse.		15~63
5	额定短时耐受电流 Rated short time withstand current	KA	20（2S） 12.5（4S）	200~400kvA 400kvA	15（1S） 30（1S）
6	额定峰值耐受电流 Rated peak withstand current	KA	31.5、50	200~400kvA 400kvA	30 63
7	额定关合电流Rated making current	KA	31.5、50		
8	工频耐受电压 power frequency withstand voltage1min	KV	相对地及相间 Phase to ground, phase to phase42、30 隔离断口Isolating switch breaking48、34	油变Oil-immersed transformer : 35/5min 干变Dry type transformer : 28/5 min	≤300V时2kV 300，660V时 2.5kV
9	雷电冲击 Lightning impulse	KV	相对地及相间 Phase to ground, phase to phase75、60 隔离断口 Isolating switch breaking 85、75	75	
10	噪声水平 Noise level	DB		油变Oil-immersed transformer : 35/5min 干变Dry type transformer : ＜65	
11	防护等级 Protection degree		Ip33	Ip23	Ip33
12	外形尺寸 External dimensions	根据所选变压器容量和形式，选定不同的外形尺寸。 The external dimensions shall be selected based on the selected transformer capacity and type.			

产品结构特点
Structural features of product

本产品由高压配电装置、变压器及低压配电装置联接而成，分成三个功能隔室，即高压室、变压器室和低压室。高、低压室功能齐全，高压侧一次供电系统，可布置成环网供电、终端供电、双电源供电等多种供电方式，还可装设高压计量装置，满足高压计量的要求。变压器室可选择S9、S11系列低损耗油浸式变压器和SC（B）9、SCR9、SC（B）10、SCR10系列干式变压器；变压器室设有自起动强迫风冷系统及照明系统，低压室根据用户要求可采用面板或柜装式结构组成用户所需供电方案，有动力配电、照明配电、无功功率补偿、电能计量和电量测量等多种功能，满足用户的不同要求，并方便用户的供电管理和提高供电质量。

高压室结构紧凑合理、并具有全面防误操作的"五防"联锁功能。变压器在用户有要求时，可设有轨道能方便地从变压器室两侧大门进出。各室均有自动照明装置，另外高、低压室所选用全部元件性能可靠、操作方便、使产品运行安全可靠、操作维护方便。

采用自然通风和强迫通风两种方式、使通风冷却良好。变压器室和低压室均有通风道，排风扇有温控装置，按整定温度能自动启动和关闭，保证变压器满负荷运行。

箱体结构能防止雨水和污物进入采用特种钢板或铝合金板制作，经防腐处理，具备长期户外使用的条件。确保防腐、防水、防尘性能，使用寿命长，同时外形美观。

This product consists of high voltage power distribution device, transformer and low voltage power distribution device. It is divided into three function compartments, high voltage compartment, transformer compartment and low voltage compartment. Both high voltage and low voltage compartments are provided with all functions, the primary power supply system on high voltage side can be configured in various power supply methods, such as ring net power supply, terminal power supply, power supply with double supply. High voltage metering instrument can also be install ed on high voltage side to satisfy the requirements for high voltage measurement. For transformer compartment, S9，S11 series low loss oil immersed transformer, and SC（B）9、SCR9、SC（B）10、SCR10 series dry transformer are available, and the transformer compartment is equipped with self-start forced air cooling system and lighting system. The low voltage compartment can be equipped with panel or cabinet type structure based on customer's requirements, and has various functions including distribution for drive power, power distribution for lighting, comp-ensation of reactive power, metering of electricity energy, and measurement of electricity consumption to meet various demands of customers and provide customers with convenient management and high quality in terms of power supply.

High voltage compartment is designed with compact structure and interlock function of "five preventions"to com-pletely protect from mis-operation. Upon customer" request, the transformer can be equipped with guide rail for convenient access through the gates on both sides of the transformer. All compartments are provided with auto lighting system, furthermore, both high voltage and low voltage compartments are made of reliable and easy to operate elements so that the product can be operated safely and stably, maintained conveniently.

The product has good cooling and ventilation effect due to application of both natural ventilation and forced ventilation. Both transformer compartment and low voltage compartment are equipped with ventilation ducts, the exhaust fan is provided with temperature regulating device and can start or stop automatically according to the preset temperature to ensure the transformer to be operated under full load.

The box structure is designed with special steel sheet or aluminum alloy sheet to prevent entry of rain water and dirty. The box is treated with anti-corrosion measures and is suitable for outdoor use for long time. The box is provided with features including resistance to corrosion, water proof, dust proof, long useful life and good external appearance.

平面布置形式及外形尺寸
Plane layout and external dimensions

1、ZBW系列箱式变电站，根据排列方式分：

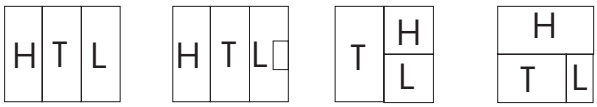
“目”字型排列（图1-1、图1-2）；

“品”字型排列（图1-3、图1-4）；

ZBW series box-type transformer substation, based on its configuration, can be classified as follows

"B"type configuration (see figure 1-1 and figure 1-2)

"Delta"configuration (see figure 1-3 and figure 1-4)



图为ZBW系列箱式变电站平面布置形式图 H-高压室 T-变压器室 L-低压室

Configuration diagram of ZBW series box-type transformer substation is shown in the figure.

H-high voltage compartment, T-transformer compartment, L-low voltage compartment

外形尺寸见图2、图3、表2 For external dimensions see figure 2, 3 and table 2

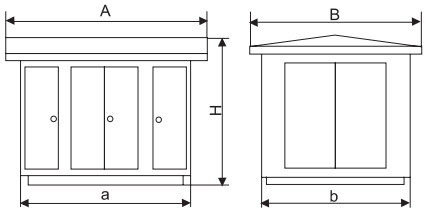


图2 ZBW系列箱式变电站外形图（“目”字型排列）

Figure 2: External drawing of ZBW series box-type transformer substation ("B"type configuration)

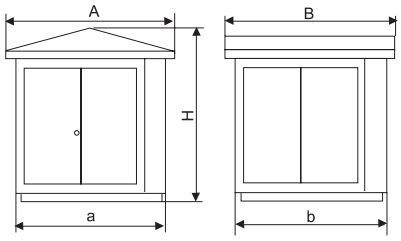


图3 ZBW系列箱式变电站外形图（“品”字型排列）

Figure 3: External drawing of ZBW series box-type transformer substation ("delta"configuration)

类别 Type			A	a	B	b	H	最佳适用场所 Best application premises
三相 Three phase	目字型"B" shape type	100-630kvA	4140	3750	2590	2290	2320	工矿、油田、建筑施工等Industrial and mining enterprises, oil field, construction, etc.
		800-1250kvA	5184	4880	2500	2290	2626	生活小区 Residential community
	品字型"A" shape type	50-400kvA	2500	2300	2400	2200	2320	
单相 Single phase	目字型"B" shape type	≤50kvA	2500	2300	1260	1060	2215	路灯供电Power supply of road lamps
		80-100kvA	2500	2300	1840	1640	2215	

注：以上外形尺寸仅供设计时参考，订货时以实物尺寸为准。

Note: The above mentioned external dimensions are for reference only, and the order should be performed based on real size.

订货须知

Notes to order

订货时请提供以下资料：

箱式变电站型式；

变压器型号和容量；

高、低压回路主接线方案图；

有特殊要求的电气元件型号和参数；

外壳颜色；

备品、备件的名称、数量以及其它要求。

The following information shall be provided for order:

Type of box-type transformer substation

Model and capacity of transformer

Connecting diagram of high and low voltage circuits

Models and parameters of electrical elements with special requirements Color of housing

Description, quantity and other requirements for spare parts and elements