



RENDONG

仁栋变压器

RENDONG TRANSFORMER

宁波仁栋变压器有限公司
NINGBO RENDONG TRANSFORMER CO., LTD.

目录 Contents



仁义心 栋梁志

创建百年栋梁；
有限多元化 无限发展；
崇尚品牌 追求卓越 你我同心 共创辉煌；
科技先导 管理创新 有序生产 永续发展；
客户为中心 质量为生命 创新为动力 人才为根本；
眼明手快 安全第一 产品在手 质量在心；
诚信团结 执着奋进。

Renyi Xin, Dongliang Zhi.

Creating the mainstay beyond one hundred years old
Limited diversification Unlimited development
Advocating brand Striving for excellence Uniting with heart and mind Create resplendence
Technology guide Management innovation Orderly production Sustainable development
Customer-centric Taking quality as life Taking innovation as driving force Taking talented person as root
Hand-eye coordination Safety first Holding products in our hands Holding quality in our heart
Good faith and solidarity Keeping forging ahead

04/ 企业简介
Company Profile

06/ 企业荣誉
Company Honor

07/ 企业资质
Qualification and Certification

08/ 科研开发
Research and Development

09/ 品质保证
Quality Guarantee

10/ 生产能力
Production Capacity

16/ 市场营销
Marketing

18/ 产品系列
Product Series

企业简介

Company Profile



宁波仁栋变压器有限公司是一家电力设备专业生产厂家，位于浙江慈溪经济开发区（宁波杭州湾新区），占地80000平方米，建筑面积65000平方米，注册资本6698万元。公司通过权威机构的ISO9000质量管理体系认证、ISO14000环境管理体系认证、OHSMS18000职业健康安全管理体系认证、中国质量认证中心的3C认证及电能（北京）产品认证中心的PCCC认证和节能认证，拥有1项发明专利和12项实用新型专利，获得中国驰名商标、浙江省著名商标、守合同重信用AAA级、企业资信AAA级、浙江省诚信民营企业等殊荣，属国家级开发区的重点骨干企业。

公司拥有产品研发、设计、生产、检测和售后等一条龙的生产服务体系，主要生产35kV及以下电压等级的S11、S13系列油浸式配电变压器，SCB10、SCB11系列环氧树脂浇注干式变压器，SBH15系列非晶合金变压器，D11系列卷铁心单相变压器、ZGS系列组合式变电站、YBW系列高低压预装式变电站及各种特殊非标变压器。技术先进、设备精良，制造的产品性能稳定、工艺完善、质量保证。2001年在省内率先研制开发S11型卷铁芯变压器，因其损耗低、噪音小等优点于2002年获得机械部、电力部的联合鉴定和国家经贸委的推荐。

公司本着“以市场为中心，以科技为核心，以质量为重”的经营理念，全体员工秉承“崇尚品牌，追求卓越；你我同心，共创辉煌”的企业精神，把“铸造仁栋精品，打造一流产品”作为企业发展战略目标。以用户的需求为导向，努力用一流的产品、一流的服务及优惠的价格服务用户，以达到互惠共赢的目的。公司已与十余个省的电力部门建立了业务合作关系，我们的诚信得到了他们的信任和支持，合作在不断扩大中……仁栋的发展有您的贡献！当前仁栋公司正在发展中，我们将以做人之道做企业——仁义心，栋梁志，为国家电力事业做贡献，恳请新老客户一如既往给予关心和支持！

Ningbo Rendong Transformer Co., Ltd. is a professional power equipment manufacturer, located in Cixi Economic Development Zone (Ningbo Hanzhou Bay New Zone) of Zhejiang. It covers an area of 80,000 square meters including a building area of 65,000 square meters. It has a registered capital of 66.98 million RMB Yuan (USD10,580,000). It has successfully passed ISO9001:2008 quality management system certification, ISO14001:2004 environmental management system certification, OHSMS18000 occupational health and safety management system certification, CCC (China Compulsory Certification) certification by China Quality Certification Center, PCCC certification and energy-

saving product certification by Power (Beijing) Product Certification Center Co., Ltd. It has obtained an invention patent and 12 patents of utility model. It successively obtained certificates such as China Well-known Trademark, Famous Trademark of Zhejiang Province as well as honorary titles such as AAA grade of keeping contracts and valuing credit, Enterprise Credit AAA grade and Good Faith Private Enterprise of Zhejiang Province, etc. It is one of key enterprises in national level development zone.

The company has a complete production and service system in product research and development, design, production, inspection and after-sale service. We mainly produce a variety of 35kV and below voltage class distribution transformers, such as S11 and S13 series oil-immersed distribution transformers, SCB10 and SCB11 series epoxy resin casting dry-type transformers, SBH15 series amorphous alloy transformers, D11 series wound core single phase transformers, ZGS series pad-mounted transformer substation, YBW series prefabricated transformer substation and all kinds of special non-standard transformers. With using advanced technology, excellent produce equipments and perfect production technique, our products have stable performance and reliable quality guarantee. In 2001, we took the lead in researching and developing S11 series wound core transformers in Zhejiang Province. Because of their low losses, low noise and other advantages, they were authenticated by the Ministry of Machinery together with the Ministry of Electric Power and were recommended as energy-saving product by the State Economic and Trade Commission of China in 2002.

To take the market as the center, to take the science and technology as the core and to take the quality as the center of gravity are our business philosophy. Advocating brand, striving for excellence, cooperation together you with me and creating brilliance are all our staff's enterprise spirit. To cast Rendong quality products and to create top-grade products are our enterprise development strategic objectives. In order to meet the needs of different users and achieve the purpose of mutual benefit, we serve our users with first-class products, first-class service and favorable price as far as possible. We have established business cooperation relations with the related power sectors of over ten provinces. Our honest and credit receives their reliance and support. Our cooperation is enlarging gradually.

Rendong's development has your contribution. Now Rendong transformer is a developing company. To do the person's principle, Renyi Xin, Dongliang Zhi, is to do business. We will make greater contributions to the development of the national electric power industry in the future. Welcome new and old customers to continue to give your care and support as you did in the past.



企业荣誉

Company Honor

“仁义心、栋梁志”，带着炎黄子孙的仁厚与诚信，以新时代创业者的坚毅与执着，坚持“过硬的质量是企业的生命，卓越的品牌是辉煌的基石”。诚实守信、开拓创新、励精图治、合作共赢，高高树立“仁栋”在中国电力行业的品牌。

Renyi Xin, Dongliang Zhi. With the clemency and integrity of the Chinese people and with the determination and persistence of the new age entrepreneur, we insist that superhard quality is our life and excellent brand is the glorious foundation. Through honesty and credit, deployment and innovation, good governance, win-win cooperation, we will highly build Rendong brand in Chinese electric power industry.



企业资质

Qualification and Certification

公司拥有系列产品的全套权威机构型式试验报告、型号证书、鉴定资料及国家经贸委的推荐文件。通过ISO9000质量管理体系认证、ISO14000环境管理体系认证、OHSMS18000职业健康安全管理体系认证、中国质量认证中心的3C认证及电能（北京）产品认证中心的PCCC认证和节能认证，拥有1项发明专利和12项实用新型专利。

The company has a full set of type test reports, model certificates and identification datum of our series transformers issued by the authorities. And we also have the recommended files issued by the State Economic and Trade Commission of China. It has successfully passed ISO9001:2008 quality management system certification, ISO14001:2004 environmental management system certification, OHSMS18000 occupational health and safety management system certification, CCC (China Compulsory Certification) certification by China Quality Certification Center, PCCC certification and energy-saving product certification by Power (Beijing) Product Certification Center Co., Ltd. It has obtained an invention patent and 12 patents of utility model.

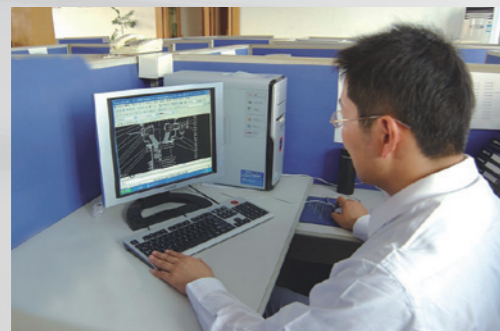


科研开发

Research and Development

在仁栋的旗帜下，来自五湖四海的行业精英，凝聚成一股力量，立志打造知名品牌，力做行业精英，正在日复一日、年复一年的不断自我创新、自我完善中实现价值。

Under Rendong's banner, the elites of transformer industry from all corners of the country unite into a force to determine to create famous brands and to be one of the elites. They are realizing their value through continuous self innovation and self improvement day by day and year by year.



品质保证

Quality Guarantee

公司本着“以市场为中心，以科技为核心，以质量为重”的经营理念，全体员工秉承“崇尚品牌，追求卓越；你我同心，共创辉煌”的企业精神，把“铸造仁栋精品，打造一流产品”作为企业发展战略目标。在不断提高员工质量意识的同时实行绩效考核，使产品质量有制度保证、与员工利益挂钩，要求一次合格率达到98%以上，用户满意率达到100%。

To take the market as the center, to take the science and technology as the core and to take the quality as the center of gravity are our business philosophy. Advocating brand, striving for excellence, cooperation together you with me and creating brilliance are all our staff's enterprise spirit. To cast Rendong qualified products and to create top-grade products are our enterprise development strategic objectives. In order to realize the product qualified rate above 98% at the first time and the user satisfaction rate 100%, we make product quality guarantee association with the staff's interests through improving the staff's quality consciousness and applying performance appraisal system.

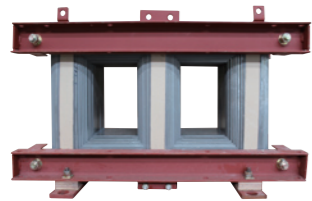


生产能力

Production capacity

油浸式配电变压器

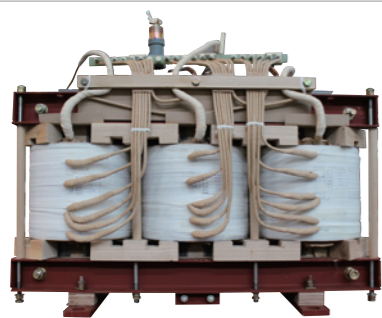
Oil-immersed distribution transformers



铁心制造 Core manufacturing

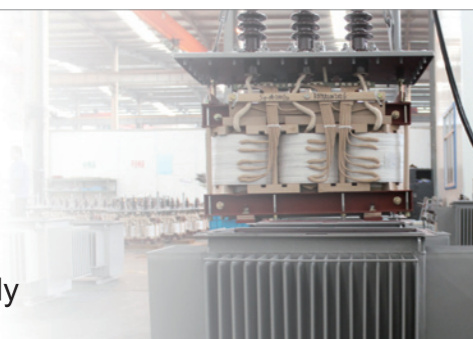


线圈绕制 Windings manufacturing



器身装配
Body assembly

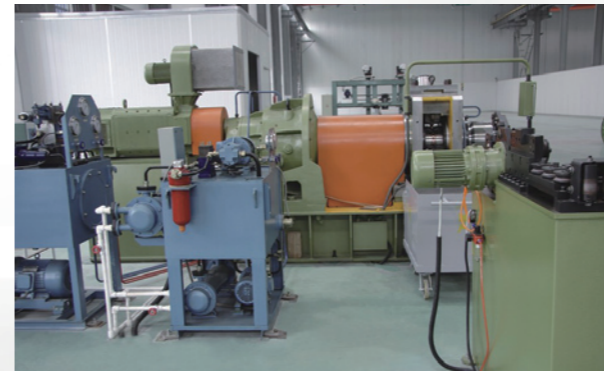
总装
Final assembly



硅钢片纵剪生产线
Slitting lines for transformer CRGO lamination



硅钢片（数控）横剪生产线
Step lap cut-to-length line for transformer CRGO lamination



无氧铜杆挤压
Oxygen-free copper rod extrusion



变压法真空干燥
Variable pressure vacuum drying equipment



生产能力

Production capacity

干式配电变压器

Dry-type distribution transformers



铁心制造
Core manufacturing



线圈绕制与浇注
Windings manufacturing and casting



器身装配
Body assembly



外壳、风机安装
Enclosure and cooling fan installation



箔式线圈绕制机
Foil Coil Winding Machine



全数字箔式线圈绕制机
Numerical Control Foil Coil Winding Machine



环氧树脂真空浇注设备
Epoxy Resin Vacuum Casting Equipment



烘箱
Drying Oven



生产能力

Production capacity

高低压成套设备

High and low voltage complete sets of equipment



美式箱变
Pad-mounted transformer

预装式变电站
Prefabricated Substation

开关柜
Switchgear



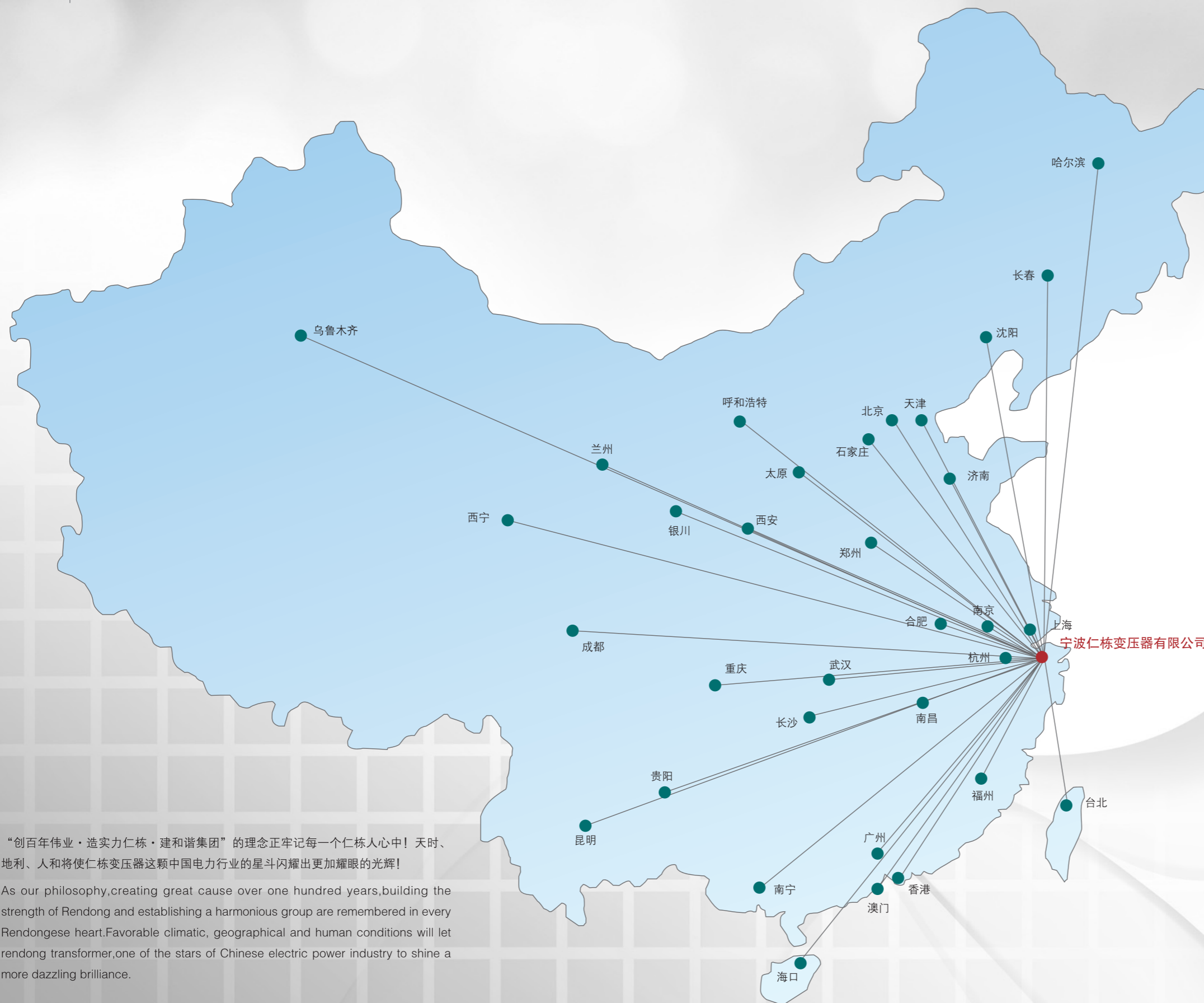
数控冲床
CNC punching machine



数控折边机
CNC flanging machine



数控剪板机
CNC plate shearing machine



“创百年伟业·造实力仁栋·建和谐集团”的理念正牢记每一个仁栋人心中！天时、地利、人和将使仁栋变压器这颗中国电力行业的星斗闪耀出更加耀眼的光辉！

As our philosophy, creating great cause over one hundred years, building the strength of Rendong and establishing a harmonious group are remembered in every Rendongese heart. Favorable climatic, geographical and human conditions will let rendong transformer, one of the stars of Chinese electric power industry to shine a more dazzling brilliance.

市场营销 Marketing

海纳百川有容乃大，杭州湾新区这个焕发活力、充满商机的新兴城市，随着杭州湾跨海大桥的贯通而成为接轨上海与世界经济动脉的桥头堡。满怀激情的仁栋人以更开阔的全新视角、更雄厚的资本实力和更深厚的科技实力驾驭风云莫测的全球市场，实现二次创业。

Be tolerant to diversity, tolerance is a virtue. Hangzhou bay new zone is a booming city with shining vigor and more business opportunities. It becomes a bridge tower with converging world economy artery and Shanghai after Hangzhou bay bridge was open to traffic. More and more passionate Rendongese are realizing the second pioneering work with more open perspective, more abundant capital strength and more profound scientific and technological strength to control the changeability of the global market.

油浸式配电变压器

Oil-immersed distribution transformers

产品特点 Product features

- 1、变压器的设计基于大量实体模型试验，运用有限元分析法对变压器的漏磁通、短路机械力、负载损耗等进行电磁计算优化，并通过CAD三维软件对结构设计进行全面优化；
- 2、铁心采用高导磁冷轧晶粒取向硅钢片，厚度 $\leq 0.27\text{mm}$ ，叠铁心利用国际先进的硅钢片全自动剪切线加工而成，采用 45° 五级全斜接缝结构，卷铁心利用先进的卷绕设备加工而成，经过严格的真空充氮退火处理，空载损耗比国家标准GB/T 6451-2008规定下降30%，空载电流下降50~60%，噪音平均下降5~10dB。非晶合金铁心变压器采用非晶合金铁心，搭接式、矩形、三相五柱式结构，铁心在油箱中不受力，处于“自由悬浮”状态，空载损耗仅为S9型产品的25%；
- 3、线圈采用高纯度无氧铜杆挤压而成的高强度漆包线（或纸包线）卷绕，绕制紧、轴向偏差小，具有很强的抗短路能力；
- 4、油箱采用波纹油箱全密封结构，单相变压器也可采用圆筒柱状式全密封结构，制作过程中采用水压、气压、油压三次试漏，保证长期运行过程中不出现渗漏油现象，表面经磷化处理采用静电喷涂工艺，附着力和耐蚀性能强。
- 5、器身采用双定位结构，即上下部同时定位，引线采用层压木牢固夹持，与器身紧密连接，避免了运输过程中变压器器身和引线的移位。同时所有紧固螺母都采用防松螺母，确保产品在运输和长期运行中紧固件不松动。
- 6、有载调压变压器选用性能好、可靠性高的有载调压分接开关，可加装在线滤油装置，在电网电压波动时，在线、及时、自动进行输出电压的调整，有效提高供电质量。
- 7、变压器采用先进的真空注油工艺，可完全排除线圈中气泡，确保绝缘性能稳定。外部安装了压力释放阀、气体继电器、户外温度控制器等保护装置，确保产品的安全、可靠运行，同时可根据用户需求加装高压警示牌、电缆安装支架、避雷器支架及专用防盗锁等。

1. Transformer design is based on a large number of physical model tests. Through using the finite element analysis method, we proceed to do electromagnetic computing optimization for our transformers, such as leakage magnetic flux, short circuit mechanical force, load loss, etc. And we also use three-dimensional CAD software to optimize the structure design of the transformers comprehensively.

2. Transformer core is composed of cold rolled grain-oriented silicon steel sheets with high permeability. The thickness is equal or lesser than 0.27mm. The lamination core is produced out through adopting an international advanced full-automation CRGO shear line - step lap cut-to-length line for transformer CRGO lamination. The lamination structure adopts 45° miter joints and the joints are lapped with 5 steps. The wound core is processed out by using advanced winding equipment. All the transformer cores are treated through the strict vacuum nitrogen filling annealing treatment. The no-load loss of our transformers is decreased by 30% than the provision of the national standard GB/T 6451-2008. The no-load current is decreased by 50 ~ 60%. The noise level is averagely decreased by 5 ~ 10dB.

Amorphous alloy core transformer uses amorphous alloy core with lap, rectangular, three-phase and five-column structure. The core in the tank is not bore any force and in "free floating" status. The no-load loss is only 25% of S9 transformers.

3. Transformer winding uses high-purity oxygen-free copper rod to extrude high-strength enamelled wire (or paper wrapped wire) for wound, wound tight, small axial deviations, with strong ability to withstand short circuit.

4. Transformer tank uses hermetically-sealed corrugated tank. Single phase transformers can also be used on cylindrical, pole-amounted and hermetically-sealed structure. In the process of manufacturing the tank, we will use water pressure, air pressure and oil pressure, total three times, to inspect tank leak. It can be ensure that oil leakage phenomenon does not occur in the long run. The surface of the tank is treated after phosphate treatment then used electrostatic spraying process with strong adhesion and corrosion resistance.

5. Transformer body uses double localization structure. That is to say, the upper yoke is fixed position with the lower yoke at the same time. The lead is firmly clamped by the laminated wood and is closely connected with the body. It can avoid translocation between transformer body and lead in the transportation. At the same time all fastening nuts are the locknuts. It ensures that the fasteners can not be loosen during products in transport and in the long run.

6. On-load tap changing transformer uses on-load voltage regulating tap changer with good performance and high reliability. It can also install online oil filter device. When the voltage fluctuations occur in the power grid, it can adjust output voltage online, timely and automatically. It can effectively improve the quality of power supply.

7. Transformer adopts advanced vacuum oil filling technology. It can completely get rid of the bubbles in the windings. It can ensure the insulation performance is steady. In order to ensure the transformer's safe and reliable working, we can install some protective device on the external of the transformer, such as pressure relief valve, gas relay, outdoor temperature controller and so on. At the same time, we can also install high voltage warning plate, cable mounting bracket, arrester bracket, special security locks and so on according to the users' requirements.



三相油浸式全密封配电变压器
Three-phase oil-immersed hermetically sealed distribution transformer



三相油浸式立体卷铁心配电变压器
Three-phase oil-immersed tridimensional toroidal-core distribution transformer



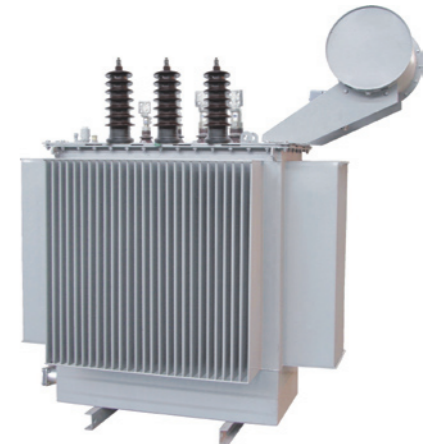
三相油浸式有载调压配电变压器
Three-phase oil-immersed on-load tap changing distribution transformer



三相油浸式非晶合金铁心配电变压器
Three-phase oil-immersed amorphous alloy core distribution transformer



单相油浸式配电变压器
Single-phase oil-immersed distribution transformer



35kV级三相油浸式配电变压器
35kV class three-phase oil-immersed distribution transformer

10kV级三相油浸式全密封配电变压器

10kV class three-phase oil-immersed hermetically sealed distribution transformer

S11-M系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 75°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)						
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height		底座轨距 Base Gauge				
S11-M-10	6	±5	0.4	Yyn0	55	310/325	1.25	4.0	285	685×670×970	400×400					
S11-M-20					70	480/500	1.10		315	765×690×1010	400×400					
S11-M-30					100	600/630	1.00		300	750×700×890	400×400					
S11-M-50					130	870/910	0.90		400	780×730×910	400×400					
S11-M-63					150	1040/1090	0.90		470	780×800×940	550×550					
S11-M-80					180	1250/1310	0.90		520	800×800×955	550×550					
S11-M-100					200	1500/1580	0.80		585	850×850×980	550×550					
S11-M-125					240	1800/1890	0.80		600	870×870×1000	550×550					
S11-M-160					6.3	±2×2.5	0.69		Dyn11	280	2200/2310	0.80	4.5	700	1150×850×1030	550×550
S11-M-200					6.6					340	2600/2730	0.70		830	1210×850×1045	550×550
S11-M-250					10			400		3050/3200	0.70	950		1350×990×1100	550×550	
S11-M-315					10.5			480		3650/3830	0.60	1100		1400×1000×1185	660×660	
S11-M-400					11			570		4300/4520	0.60	1315		1430×1010×1200	660×660	
S11-M-500					680			5150/5410		0.50	1480	1580×1100×1240		660×660		
S11-M-630					810			6200		0.50	1850	1630×1110×1200		660×660		
S11-M-800					980			7500		0.40	2625	1770×970×1580		660×660		
S11-M-1000					1150			10300		0.40	2490	1800×1270×1330		820×820		
S11-M-1250					1360			12000		0.30	3030	1810×1350×1500		820×820		
S11-M-1600					1640	14500	0.30	4510	2090×1290×2100	820×820						
S11-M-2000					2000	17400	0.25	5460	2220×1370×2150	1070×1070						
S11-M-2500					2400	20200	0.20	5300	2120×1450×1800	1070×1070						

S13-M系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 75°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)						
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height		底座轨距 Base Gauge				
S13-M-10	6	±5	0.4	Yyn0	40	310/325	1.00	4.0	320	690×680×1010	400×400					
S13-M-20					60	480/500	0.90		360	780×700×1060	400×400					
S13-M-30					80	600/630	0.80		300	690×640×940	400×400					
S13-M-50					100	870/910	0.70		390	710×640×940	400×400					
S13-M-63					110	1040/1090	0.70		460	750×680×970	550×550					
S13-M-80					130	1250/1310	0.70		530	770×680×1030	550×550					
S13-M-100					150	1500/1580	0.60		600	790×700×1080	550×550					
S13-M-125					170	1800/1890	0.60		650	790×720×1100	550×550					
S13-M-160					6.3	±2×2.5	0.69		Dyn11	200	2200/2310	0.60	4.5	750	840×840×1180	550×550
S13-M-200					6.6					240	2600/2730	0.60		850	1130×840×1200	550×550
S13-M-250					10			290		3050/3200	0.60	960		1180×860×1210	550×550	
S13-M-315					10.5			340		3650/3830	0.50	1140		1230×860×1220	660×660	
S13-M-400					11			410		4300/4520	0.50	1310		1320×870×1330	660×660	
S13-M-500					480			5150/5410		0.40	1550	1340×905×1360		660×660		
S13-M-630					570			6200		0.40	1900	1400×930×1430		660×660		
S13-M-800					700			7500		0.30	2300	1550×1130×1500		660×660		
S13-M-1000					830			10300		0.30	2500	1700×1150×1550		820×820		
S13-M-1250					970			12000		0.20	3300	1850×1250×1780		820×820		
S13-M-1600					1170	14500	0.20	4000	1900×1380×1820	820×820						
S13-M-2000					1640	17400	0.20	6270	2280×1450×2370	1070×1070						
S13-M-2500					2000	20200	0.20	7690	2050×1950×2390	1070×1070						

注：1. 表中斜线上方的负载损耗值适用于Yyn0联结组标号，斜线下方的负载损耗值适用于Dyn11联结组标号；
2. 表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
3. 可按用户需求设计特殊规格型号产品。

Remarks: 1. Load loss values above the oblique line in the table are applicable to the Yyn0 connection group, and the values below the oblique line are applicable to the Dyn11 connection group;
2. The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
3. Customized transformers of different specification are available upon the demand of users.

10kV级三相油浸式卷铁心配电变压器

10kV class three-phase oil-immersed toroidal-core distribution transformer

S11-M•R系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 75°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)						
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height		底座轨距 Base Gauge				
S11-M•R-10	6	±5	0.4	Yyn0	55	310/325	1.25	4.0	285	685×670×970	400×400					
S11-M•R-20					70	480/500	1.10		315	765×690×1010	400×400					
S11-M•R-30					100	600/630	1.00		330	850×680×1010	400×400					
S11-M•R-50					130	870/910	0.90		470	895×720×1040	400×400					
S11-M•R-63					150	1040/1090	0.90		540	920×720×1100	550×550					
S11-M•R-80					180	1250/1310	0.90		580	920×720×1100	550×550					
S11-M•R-100					200	1500/1580	0.80		655	940×730×1130	550×550					
S11-M•R-125					240	1800/1890	0.80		760	1000×750×1150	550×550					
S11-M•R-160					6.3	±2×2.5	0.69		Dyn11	280	2200/2310	0.80	4.5	865	1030×780×1170	550×550
S11-M•R-200					6.6					340	2600/2730	0.70		1055	1090×810×1230	550×550
S11-M•R-250					10			400		3050/3200	0.70	1245		1400×820×1290	550×550	
S11-M•R-315					10.5			480		3650/3830	0.60	1385		1450×850×1330	660×660	
S11-M•R-400					570			4300/4520		0.60	1705	1530×860×1400		660×660		
S11-M•R-500					680			5150/5410		0.50	1905	1600×895×1480		660×660		
S11-M•R-630					810			6200		0.50	2195	1700×920×1530		660×660		
S11-M•R-800					980			7500		0.40	2625	1770×970×1580		660×660		
S11-M•R-1000					1150			10300		0.40	3090	1830×1080×1800		820×820		
S11-M•R-1250					1360			12000		0.30	3645	2020×1260×2020		820×820		
S11-M•R-1600					1640	14500	0.30	4510	2090×1290×2100	820×820						
S11-M•R-2000					2000	17400	0.25	5460	2220×1370×2150	1070×1070						
S11-M•R-2500					2400	20200	0.20	6690	2020×2520×2130	1070×1070						

S13-M•R系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 75°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)						
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height		底座轨距 Base Gauge				
S13-M•R-10	6	±5	0.4	Yyn0	40	310/325	1.00	4.0	320	690×680×1010	400×400					
S13-M•R-20					60	480/500	0.90		360	780×700×1060	400×400					
S13-M•R-30					80	600/630	0.80		375	870×710×1150	400×400					
S13-M•R-50					100	870/910	0.70		540	920×760×1240	400×400					
S13-M•R-63					110	1040/1090	0.70		615	940×780×1260	550×550					
S13-M•R-80					130	1250/1310	0.70		670	940×780×1280	550×550					
S13-M•R-100					150	1500/1580	0.60		750	940×800×1280	550×550					
S13-M•R-125					170	1800/1890	0.60		870	1050×800×1350	550×550					
S13-M•R-160					6.3	±2×2.5	0.69		Dyn11	200	2200/2310	0.60	4.5	995	1080×820×1370	550×550
S13-M•R-200					6.6					240	2600/2730	0.60		1210	1120×840×1390	550×550
S13-M•R-250					10			290		3050/3200	0.60	1430		1450×890×1480	550×550	
S13-M•R-315					10.5			340		3650/3830	0.50	1595		1500×920×1530	660×660	
S13-M•R-400					410			4300/4520		0.50	1960	1590×960×1600		660×660		
S13-M•R-500					480			5150/5410		0.40	2185	1680×995×1680		660×660		
S13-M•R-630					570			6200		0.40	2525	1780×1020×1730		660×660		
S13-M•R-800					700			7500		0.30	3015	1800×1050×1820		660×660		
S13-M•R-1000					830			10300		0.30	3555	1880×1140×1950		820×820		
S13-M•R-1250					970			12000		0.20	4190	2050×1350×2190		820×820		
S13-M•R-1600					1170	14500	0.20	5185	2150×1400×2280	820×820						
S13-M•R-2000					1640	17400	0.20	6270	2280×1450×2370	1070×1070						
S13-M•R-2500					2000	20200	0.20	7690	2050×1950×2390	1070×1070						

注：1. 表中斜线上方的负载损耗值适用于Yyn0联结组标号，斜线下方的负载损耗值适用于Dyn11联结组标号；
2. 表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
3. 可按用户需求设计特殊规格型号产品。

Remarks: 1. Load loss values above the oblique line in the table are applicable to the Yyn0 connection group, and the values below the oblique line are applicable to the Dyn11 connection group;
2. The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
3. Customized transformers of different specification are available upon the demand of users.

10kV级三相油浸式立体卷铁心配电变压器

10kV class three-phase oil-immersed tridimensional toroidal-core distribution transformer

S13-M•R•L系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 75°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)					
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height	底座轨距 Base Gauge				
S13-M•R•L-30	6	±5	0.4	Yyn0 Dyn11	80	600/630	0.30	4.0	310	710×680×1000	400×400				
S13-M•R•L-50					100	870/910	0.24		450	740×710×1075	400×400				
S13-M•R•L-63					110	1040/1090	0.23		515	780×725×1100	400×400				
S13-M•R•L-80					130	1250/1310	0.22		550	810×775×1120	400×400				
S13-M•R•L-100					150	1500/1580	0.21		620	880×815×1150	400×400				
S13-M•R•L-125					170	1800/1890	0.20		720	940×890×1170	400×400				
S13-M•R•L-160					200	2200/2310	0.19		825	980×920×1210	550×550				
S13-M•R•L-200					6.3	±2×2.5	0.69		Yyn0 Dyn11	240	2600/2730	0.18	1000	1025×950×1290	550×550
S13-M•R•L-250					6.6					290	3050/3200	0.17	1175	1110×1020×1360	550×550
S13-M•R•L-315					10					340	3650/3830	0.16	1315	1160×1070×1410	550×550
S13-M•R•L-400					10.5					410	4300/4520	0.16	1580	1220×1100×1480	550×550
S13-M•R•L-500					11					480	5150/5410	0.16	1800	1310×1170×1520	550×550
S13-M•R•L-630					4.5					570	6200	0.15	2050	1390×1220×1585	660×660
S13-M•R•L-800										700	7500	0.15	2450	1470×1300×1620	660×660
S13-M•R•L-1000										830	10300	0.14	2935	1600×1450×1750	660×660
S13-M•R•L-1250										970	12000	0.13	3460	1780×1595×1890	660×660
S13-M•R•L-1600										1170	14500	0.12	4280	1970×1785×2030	660×660

注：1. 表中斜线上方的负载损耗适用于Yyn0联结组标号，斜线下方的负载损耗适用于Dyn11联结组标号；
2. 表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
3. 可按用户需求设计特殊规格型号产品。

Remarks: 1. Load loss values above the oblique line in the table are applicable to the Yyn0 connection group, and the values below the oblique line are applicable to the Dyn11 connection group;
2. The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
3. Customized transformers of different specification are available upon the demand of users.

10kV级三相油浸式调容变压器

10kV class three-phase oil-immersed adjusting distribution transformer

S11-M•T系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 75°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)					
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height	底座轨距 Base Gauge				
S11-M•T-30(10)	6	±5	0.4	Yyn0 Dyn11	100(55)	630(260)	1.0(0.5)	4.0	385	790×690×1020	400×400				
S11-M•T-50(20)					130(70)	910(450)	0.9(0.5)		510	810×700×1150	400×400				
S11-M•T-63(20)					150(70)	1090(450)	0.9(0.5)		595	840×720×1220	550×550				
S11-M•T-80(30)					180(100)	1310(600)	0.9(0.5)		635	950×750×1300	550×550				
S11-M•T-100(30)					200(100)	1580(600)	0.8(0.4)		720	980×775×1340	550×550				
S11-M•T-125(40)					6.3	±2×2.5	0.69		Yyn0 Dyn11	240(115)	1890(750)	0.8(0.4)	835	1000×780×1360	550×550
S11-M•T-160(50)					6.6					280(130)	2310(870)	0.8(0.4)	950	1020×800×1390	550×550
S11-M•T-200(63)					10					340(150)	2730(1040)	0.7(0.4)	1160	1100×860×1460	550×550
S11-M•T-250(80)					10.5					400(180)	3200(1250)	0.7(0.4)	1370	1180×950×1550	550×550
S11-M•T-315(100)					11					480(200)	3830(1500)	0.6(0.3)	1525	1450×960×1600	660×660
S11-M•T-400(125)					4.5					570(240)	4520(1800)	0.6(0.3)	1875	1520×1000×1690	660×660
S11-M•T-500(160)										680(280)	5410(2200)	0.5(0.3)	2095	1610×1080×1760	660×660

注：1. 表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
2. 可按用户需求设计特殊规格型号产品。

Remarks: 1. The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
2. Customized transformers of different specification are available upon the demand of users.

10kV级三相油浸式有载调压配电变压器

10kV class three-phase oil-immersed on-load tap changing distribution transformer

SZ11-M系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 75°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)					
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height	底座轨距 Base Gauge				
SZ11-M-200	6	±4×2.5	0.4	Yyn0 Dyn11	385	2900	1.05	4.0	1200	1485×890×1420	550×550				
SZ11-M-250					450	3420	1.00		1400	1675×890×1460	550×550				
SZ11-M-315					540	4100	1.00		1535	1720×890×1535	660×660				
SZ11-M-400					6.3	±4×2.5	0.69		Yyn0 Dyn11	640	4960	0.95	1850	1750×940×1615	660×660
SZ11-M-500					6.6					770	5900	0.85	1960	1880×960×1630	660×660
SZ11-M-630					10					960	7270	0.75	2345	1970×990×1690	660×660
SZ11-M-800					10.5					1120	8890	0.70	2785	2080×1050×1750	660×660
SZ11-M-1000					11					1360	10430	0.70	3250	2140×1080×1820	820×820
SZ11-M-1250					4.5					1560	12400	0.60	3810	2190×1140×1900	820×820
SZ11-M-1600										1920	14800	0.50	4690	2250×1240×2080	820×820

注：1. 表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
2. 可按用户需求设计特殊规格型号产品。

Remarks: 1. The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
2. Customized transformers of different specification are available upon the demand of users.

10kV级三相油浸式非晶合金铁心配电变压器

10kV class three-phase oil-immersed amorphous alloy core distribution transformer

S(B)H15-M系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 75°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)					
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height	底座轨距 Base Gauge				
SH15-M-30	6	±5	0.4	Dyn11	33	630	1.50	4.0	350	930×720×960	550×550				
SH15-M-50					43	910	1.20		500	975×745×980	550×550				
SH15-M-63					50	1090	1.10		585	1000×760×990	550×550				
SH15-M-80					60	1310	1.00		625	1020×785×1000	550×550				
SH15-M-100					75	1580	0.90		710	1100×785×1000	550×550				
SH15-M-125					85	1890	0.80		810	1195×810×1040	550×550				
SH15-M-160					100	2310	0.60		940	1235×840×1070	660×660				
SBH15-M-200					120	2730	0.60		1150	1260×880×1090	660×660				
SBH15-M-250					6.3	±2×2.5	0.69		Dyn11	140	3200	0.60	1350	1420×880×1120	660×660
SBH15-M-315					6.6					170	3830	0.50	1515	1470×910×1165	660×660
SBH15-M-400					10					200	4520	0.50	1880	1575×920×1250	660×660
SBH15-M-500					10.5					240	5410	0.50	2185	1680×940×1295	820×820
SBH15-M-630					11					320	6200	0.30	2480	1770×1000×1385	820×820
SBH15-M-800					4.5					380	7500	0.30	3300	1840×1160×1430	820×820
SBH15-M-1000										450	10300	0.30	3750	2120×1280×1600	1070×1070
SBH15-M-1250										530	12000	0.20	4505	2320×1345×1790	1070×1070
SBH15-M-1600										630	14500	0.20	5560	2490×1490×1920	1070×1070
SBH15-M-2000										750	18300	0.20	6780	2510×1770×2050	1070×1070
SBH15-M-2500	900	21200	0.20	8350				2640×1930×2120		1070×1070					

注：1. 表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
2. 可按用户需求设计特殊规格型号产品。

Remarks: 1. The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
2. Customized transformers of different specification are available upon the demand of users.

10kV级单相油浸式配电变压器

10kV class single-phase oil-immersed distribution transformer

D11-M(•R)系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组 标号 Connection Group Symbol	空载 损耗 No-load Loss (W)	负载 损耗 Load Loss 75°C (W)	空载 电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)
	高压 HV (kV)	高压分接 HV Tapping (%)	低压 LV (kV)						
D11-M-5	6 6.3 6.6 10 10.5 11	±5 ±2× 2.5	0.23 2*0.23	II0	28	130	2.80	3.5	120
D11-M-10					44	235	2.50		145
D11-M-16					52	330	2.20		165
D11-M-20					64	385	2.10		200
D11-M-30					80	560	2.00		260
D11-M-40					100	700	1.80		280
D11-M-50					120	855	1.60		300
D11-M-63					144	1020	1.50		340
D11-M-80					160	1260	1.40		390
D11-M-100					192	1485	1.30		445
D11-M-125					228	1755	1.30		470
D11-M-160					292	2130	1.20		580

D13-M(•R)系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组 标号 Connection Group Symbol	空载 损耗 No-load Loss (W)	负载 损耗 Load Loss 75°C (W)	空载 电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)
	高压 HV (kV)	高压分接 HV Tapping (%)	低压 LV (kV)						
D13-M-5	6 6.3 6.6 10 10.5 11	±5 ±2× 2.5	0.23 2*0.23	II0	21	130	2.00	3.5	135
D13-M-10					33	235	1.75		165
D13-M-16					39	330	1.60		190
D13-M-20					48	385	1.50		225
D13-M-30					60	560	1.40		285
D13-M-40					75	700	1.25		320
D13-M-50					90	855	1.15		345
D13-M-63					108	1020	1.05		380
D13-M-80					120	1260	1.00		440
D13-M-100					144	1485	0.95		505
D13-M-125					171	1755	0.90		540
D13-M-160					219	2130	0.85		660

注：1. 表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
2. 可按用户需求设计特殊规格型号产品。

Remarks: 1. The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
2. Customized transformers of different specification are available upon the demand of users.

20(10)kV级三相油浸式双电压配电变压器

20(10)kV class three-phase oil-immersed dual voltage distribution transformer

S11-M系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组 标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 75°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)	
	高压 HV(kV)	高压分接 HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height	底座轨距 Base Gauge
S11-M-30	20 (10)	±5 ±2×2.5	0.4	Yyn0 Dyn11	90	660	2.10	5.5	450	960×730×1300	400×400
S11-M-50					130	960	2.00		620	980×740×1340	400×400
S11-M-63					150	1145	1.90		700	1000×750×1360	550×550
S11-M-80					180	1370	1.80		765	1050×785×1390	550×550
S11-M-100					200	1650	1.60		850	1080×785×1400	550×550
S11-M-125					240	1980	1.50		980	1100×800×1420	550×550
S11-M-160					290	2420	1.40		1100	1120×830×1450	550×550
S11-M-200					330	2860	1.30		1340	1150×850×1490	550×550
S11-M-250					400	3350	1.20		1560	1480×870×1550	550×550
S11-M-315					480	4010	1.10		1750	1530×900×1600	660×660
S11-M-400					570	4730	1.00		2100	1600×920×1660	660×660
S11-M-500					680	5660	1.00		2550	1695×950×1710	660×660
S11-M-630					810	6820	0.90	2820	1800×970×1880	660×660	
S11-M-800					980	8250	0.80	3150	1890×1000×2020	660×660	
S11-M-1000					1150	11330	0.70	3890	1950×1120×2160	820×820	
S11-M-1250					1350	13200	0.70	4550	2160×1300×2420	820×820	
S11-M-1600					1630	15950	0.60	5620	2210×1360×2510	820×820	
S11-M-2000					1950	19140	0.60	6770	2350×1420×2630	1070×1070	
S11-M-2500					2340	22220	0.50	8200	2180×1880×2750	1070×1070	

注：1. 表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
2. 可按用户需求设计特殊规格型号产品。

Remarks: 1. The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
2. Customized transformers of different specification are available upon the demand of users.

20kV级三相油浸式全密封配电变压器

20kV class three-phase oil-immersed hermetically sealed distribution transformer

S11-M系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组 标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 75°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)	
	高压 HV(kV)	高压分接 HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height	底座轨距 Base Gauge
S11-M-30	20	±5 ±2×2.5	0.4	Yyn0 Dyn11	90	660	2.10	5.5	430	1040×770×1200	400×400
S11-M-50					130	960	2.00		580	1050×780×1220	400×400
S11-M-63					150	1145	1.90		660	1070×800×1260	550×550
S11-M-80					180	1370	1.80		725	1100×810×1280	550×550
S11-M-100					200	1650	1.60		800	1120×840×1300	550×550
S11-M-125					240	1980	1.50		930	1175×860×1320	550×550
S11-M-160					290	2420	1.40		1045	1200×870×1360	550×550
S11-M-200					330	2860	1.30		1260	1250×930×1400	550×550
S11-M-250					400	3350	1.20		1470	1580×950×1500	550×550
S11-M-315					480	4010	1.10		1650	1640×980×1540	660×660
S11-M-400					570	4730	1.00		1950	1700×1030×1600	660×660
S11-M-500					680	5660	1.00		2420	1840×1110×1680	660×660
S11-M-630					810	6820	0.90	2680	2030×1200×1800	660×660	
S11-M-800					980	8250	0.80	2990	2100×1230×1950	660×660	
S11-M-1000					1150	11330	0.70	3660	2140×1320×2060	820×820	
S11-M-1250					1350	13200	0.70	4320	2200×1390×2125	820×820	
S11-M-1600					1630	15950	0.60	5320	2230×1430×2190	820×820	
S11-M-2000					1950	19140	0.60	6430	2450×1480×2230	1070×1070	
S11-M-2500					2340	22220	0.50	7790	2290×1980×2450	1070×1070	

注：1. 表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
2. 可按用户需求设计特殊规格型号产品。

Remarks: 1. The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
2. Customized transformers of different specification are available upon the demand of users.

35kV级三相油浸式配电变压器

35kV class three-phase oil-immersed distribution transformer

S11-M系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组 标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 75°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)	
	高压 HV(kV)	高压分接 HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height	底座轨距 Base Gauge
S11-M-50	33 35 38.5	±5 ±2×2.5	0.4	Yyn0 Dyn11	170	1150/1200	1.60	6.5	860	1150×900×1670	400×400
S11-M-100					240	1900/2000	1.40		1275	1240×970×1720	550×550
S11-M-125					270	2260/2380	1.40		1440	1355×1100×1780	550×550
S11-M-160					290	2700/2820	1.30		1680	1410×1120×1800	550×550
S11-M-200					340	3150/3300	1.20		1750	1460×1150×1850	550×550
S11-M-250					410	3750/3950	1.10		1865	1500×1170×1900	550×550
S11-M-315					490	4500/4800	1.40		2290	1710×1200×1930	660×660
S11-M-400					580	5500/5750	1.00		2500	1790×1210×1970	660×660
S11-M-500					690	6600/6900	1.00		2950	2080×1260×2000	660×660
S11-M-630					840	7850	0.90		3420	2160×1310×2090	660×660
S11-M-800					980	9400	0.80		4225	2300×1370×2190	660×660
S11-M-1000					1150	11500	0.80		5130	2460×1420×2300	820×820
S11-M-1250					1400	14000	0.70	5600	2500×1480×2410	820×820	
S11-M-1600					1700	16700	0.60	6380	2590×1520×2680	820×820	
S11-M-2000					2200	18400	0.60	7100	2640×1880×2500	1070×1070	
S11-M-2500					2560	19600	0.60	8000	2700×1920×2530	1070×1070	

注：1. 表中斜线上方的负载损耗值适用于Yyn0连接组标号，斜线下方的负载损耗值适用于Dyn11连接组标号；
2. 表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
3. 可按用户需求设计特殊规格型号产品。

Remarks: 1. Load loss values above the oblique line in the table are applicable to the Yyn0 connection group, and the values below the oblique line are applicable to the Dyn11 connection group;
2. The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
3. Customized transformers of different specification are available upon the demand of users.

干式配电变压器

Dry-type distribution transformers

产品特点 Product features

- 1、变压器的设计基于大量实体模型试验，运用有限元分析法对变压器的漏磁通、短路机械力、负载损耗等进行电磁计算优化，并通过CAD三维软件对结构设计进行全面优化；
- 2、铁心采用高导磁冷轧晶粒取向硅钢片，厚度 $\leq 0.27\text{mm}$ ，利用国际先进的硅钢片全自动剪切线加工而成，采用 45° 七级全斜接缝结构，有效降低了空载损耗和空载电流，铁心外表涂覆专用的环氧树脂漆，达到防锈、防潮的目的，又增加了铁心的整体刚性，有效降低噪声水平；
- 3、线圈材质采用高纯度无氧铜，树脂绝缘干式配电变压器高压线圈为分段层式结构，选用进口优质环氧树脂，采用国际先进的设备进行真空浇注，工艺先进，有效防止了环氧树脂浇注体的龟裂，确保浇注体内无残留气泡，非包封H级绝缘干式配电变压器高压线圈为饼式结构。250kVA及以上低压线圈采用箔式结构，安匝分布均匀，绝缘结构合理，变压器局放量小，抗短路能力强，产品运行安全、可靠；
- 4、可根据用户要求配置温控装置、冷却装置、铝合金外壳（不锈钢外壳）等。温控配置具有故障报警，超温报警，超温跳闸，三相巡检，启、停冷却装置等功能，还可配置计算机远程接口控制；冷却装置采用横流顶吹式冷却风机，具有冷却效果好、噪音低、安装方便等优点。

1. Transformer design is based on a large number of physical model tests. Through using the finite element analysis method, we proceed to do electromagnetic computing optimization for our transformers, such as leakage magnetic flux, short circuit mechanical force, load loss, etc. And we also use three-dimensional CAD software to optimize the structure design of the transformers comprehensively.
2. Transformer core is composed of cold rolled grain-oriented silicon steel sheets with high permeability. The thickness is equal or lesser than 0.27mm. The lamination core is produced out through adopting an international advanced full-automation CRGO shear line - step lap cut-to-length line for transformer CRGO lamination. The lamination structure adopts 45° miter joints and the joints are lapped with 7 steps. Such structure can effectively reduce no-load loss and no load current. Special epoxy paint is coated core appearance. It can achieve the purpose of rust-proof, moisture-proof. It can also increase the rigidity of core and effectively reduce noise level.
3. Transformer winding uses high-purity oxygen-free copper conductor. The high voltage windings of epoxy resin insulation dry-type distribution transformer are sectional layer structure. The transformer uses imported and high quality epoxy resin. The transformer adopts international advanced equipment for vacuum casting with advanced technology. It can effectively prevent the cracking of epoxy resin casting body. It can ensure that no residue bubbles are in the casting body. The high voltage windings of open ventilated H class insulation dry-type distribution transformer are disk-type structure. The low voltage windings of 250kVA and above use foil type structure. Such structure can let ampere and turns distribute uniform. And insulation structure is rational. The transformer has small partial discharge volume and strong ability to withstand short circuit. So our transformers can run safe and reliable.
4. Transformer can be equipped with temperature control device, cooling devices, aluminum alloy shell (stainless steel enclosure) and so on according to the users' requirements. Temperature controller configuration has failure alarm, over-temperature alarm, Tripping over temperature, three-phase inspection, start and stop cooling function. It can also install the computer remote control interface. The cooling device uses cross top-blowing cooling fan with good cooling performance, low noise and easy installation.



三相树脂绝缘干式配电变压器
 Three-phase resin insulation dry-type distribution transformer



三相非包封H级绝缘干式配电变压器
 Three-phase open ventilated H class insulation dry-type distribution transformer



铝合金外壳干式配电变压器
 Aluminium alloy enclosure dry-type distribution transformer



喷塑外壳干式配电变压器
 Plastic spraying enclosure dry-type distribution transformer

10kV级三相树脂绝缘干式配电变压器

10kV class three-phase resin insulation dry-type distribution transformer

SC(B)10系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 120°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)	
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height	底座轨距 Base Gauge
SC10-30	6	±5	0.4	Yyn0	190	710	2.10	4.0	525	1150×950×1900	460×460
SC10-50					270	1000	2.10		650	1150×950×1900	460×460
SC10-80					370	1380	1.60		790	1200×1000×1900	460×460
SC10-100					400	1570	1.60		840	1300×1100×1900	460×460
SCB10-125					470	1850	1.50		950	1400×1100×1900	550×660
SCB10-160					540	2130	1.50		1170	1400×1100×1900	550×660
SCB10-200					620	2530	1.30		1270	1450×1100×1900	550×660
SCB10-250					720	2760	1.30		1430	1450×1100×1900	550×660
SCB10-315					880	3470	1.10		1800	1600×1200×2200	660×820
SCB10-400					980	3990	1.10		2070	1600×1200×2200	660×820
SCB10-500				1160	4880	1.10	2260	1600×1200×2200	660×820		
SCB10-630				1340	5880	0.90	2500	1850×1280×2200	820×820		
SCB10-630				1300	5960	0.90	2460	1750×1300×2200	820×820		
SCB10-800				1520	6960	0.90	2820	1850×1300×2200	820×820		
SCB10-1000				1770	8130	0.90	3120	1850×1300×2200	820×820		
SCB10-1250				2090	9690	0.90	3840	1950×1350×2200	820×820		
SCB10-1600				2450	11730	0.90	4790	2000×1400×2200	1070×1070		
SCB10-2000				3050	14450	0.70	5250	2100×1500×2300	1070×1070		
SCB10-2500				3600	17170	0.70	6560	2300×1550×2300	1070×1070		
SCB10-1600				2450	12960	0.90	4780	2100×1450×2200	1070×1070		
SCB10-2000	3050	15960	0.70	5250	2360×1580×2500	1070×1070					
SCB10-2500	3600	18890	0.70	6550	2400×1600×2600	1070×1070					

SC(B)11系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 120°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)	
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height	底座轨距 Base Gauge
SC11-30	6	±5	0.4	Yyn0	175	710	1.90	4.0	540	1150×990×1900	400×400
SC11-50					250	1000	1.90		670	1180×1030×1900	400×400
SC11-80					335	1380	1.50		810	1150×1060×1900	400×400
SC11-100					360	1570	1.50		865	1300×1060×1900	400×400
SCB11-125					420	1850	1.30		980	1320×1080×1900	550×550
SCB11-160					490	2130	1.30		1200	1450×1100×1900	550×550
SCB11-200					560	2530	1.10		1300	1450×1100×1900	550×550
SCB11-250					650	2760	1.10		1480	1450×1100×1900	660×660
SCB11-315					790	3470	1.00		1850	1600×1200×2200	660×660
SCB11-400					880	3990	1.00		2130	1650×1200×2200	660×660
SCB11-500				1050	4880	1.00	2320	1670×1220×2200	660×660		
SCB11-630				1210	5880	0.80	2575	1850×1280×2200	820×820		
SCB11-630				1170	5960	0.80	2540	1850×1280×2200	820×820		
SCB11-800				1370	6960	0.80	2900	1850×1280×2200	820×820		
SCB11-1000				1590	8130	0.80	3210	1950×1370×2200	820×820		
SCB11-1250				1880	9690	0.80	3950	1950×1380×2200	820×820		
SCB11-1600				2200	11730	0.80	4900	2100×1450×2200	1070×1070		
SCB11-2000				2720	14450	0.60	5400	2360×1580×2500	1070×1070		
SCB11-2500				3200	17170	0.60	6750	2400×1600×2600	1070×1070		
SCB11-1600				2210	12960	0.80	4920	2100×1450×2200	1070×1070		
SCB11-2000	2720	15960	0.60	5400	2360×1580×2500	1070×1070					
SCB11-2500	3200	18890	0.60	6750	2400×1600×2600	1070×1070					

注：1、表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
2、可按用户需求设计特殊规格型号产品。

Remarks: 1、The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
2、Customized transformers of different specification are available upon the demand of users.

20(10)kV级三相树脂绝缘干式双电压配电变压器

20(10)kV class three-phase resin insulation dual voltage dry-type distribution transformer

SC(B)11系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 120°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)	
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height	底座轨距 Base Gauge
SC11-50	20 (10)	±5 ±2×2.5	0.4	Yyn0	300	1230	1.90	6.0	730	1600×1100×1900	400×400
SC11-100					480	1990	1.50		940	1600×1100×1900	400×400
SC11-160					600	2470	1.30		1300	1700×1200×1900	550×550
SC11-200					660	2940	1.10		1410	1700×1200×1900	550×550
SCB11-250					750	3420	1.10		1600	1800×1300×2200	550×550
SCB11-315					860	4080	1.00		1990	1800×1300×2200	660×660
SCB11-400					1020	4840	1.00		2280	1900×1350×2200	660×660
SCB11-500					1200	5790	1.00		2500	1900×1350×2200	660×660
SCB11-630					1360	6840	0.80		2780	2100×1400×2200	660×660
SCB11-800					1560	8260	0.80		3130	2100×1400×2200	820×820
SCB11-1000				1840	9780	0.80	3460	2200×1450×2200	820×820		
SCB11-1250				2120	11540	0.80	4260	2200×1450×2200	820×820		
SCB11-1600				2480	13870	0.80	5290	2350×1600×3000	1070×1070		
SCB11-2000				2880	16380	0.60	5830	2600×1780×3000	1070×1070		
SCB11-2500				3440	19380	0.60	7290	2600×1900×3000	1070×1070		
SCB11-2000				2880	17860	0.60	5800	2600×1780×3000	1070×1070		
SCB11-2500				3440	21280	0.60	7250	2600×1900×3000	1070×1070		

注：1、表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
2、可按用户需求设计特殊规格型号产品。

Remarks: 1、The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
2、Customized transformers of different specification are available upon the demand of users.

20kV级三相树脂绝缘干式配电变压器

20kV class three-phase resin insulation dry-type distribution transformer

SC(B)11系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 120°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)	
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height	底座轨距 Base Gauge
SC11-50	20	±5 ±2×2.5	0.4	Yyn0	300	1230	1.90	6.0	720	1600×1100×1900	400×400
SC11-100					480	1990	1.50		910	1600×1100×1900	400×400
SC11-160					600	2470	1.30		1265	1700×1200×1900	550×550
SC11-200					660	2940	1.10		1370	1700×1200×1900	550×550
SCB11-250					750	3420	1.10		1560	1800×1300×2200	550×550
SCB11-315					860	4080	1.00		1940	1800×1300×2200	660×660
SCB11-400					1020	4840	1.00		2220	1900×1350×2200	660×660
SCB11-500					1200	5790	1.00		2440	1900×1350×2200	660×660
SCB11-630					1360	6840	0.80		2710	2100×1400×2200	660×660
SCB11-800					1560	8260	0.80		3050	2100×1400×2200	820×820
SCB11-1000				1840	9780	0.80	3370	2200×1450×2200	820×820		
SCB11-1250				2120	11540	0.80	4150	2200×1450×2200	820×820		
SCB11-1600				2480	13870	0.80	5150	2350×1600×3000	1070×1070		
SCB11-2000				2880	16380	0.60	5685	2600×1780×3000	1070×1070		
SCB11-2500				3440	19380	0.60	7100	2600×1900×3000	1070×1070		
SCB11-2000				2880	17860	0.60	5750	2600×1780×3000	1070×1070		
SCB11-2500				3440	21280	0.60	7060	2600×1900×3000	1070×1070		

注：1、表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
2、可按用户需求设计特殊规格型号产品。

Remarks: 1、The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
2、Customized transformers of different specification are available upon the demand of users.

10kV级三相非包封H级绝缘干式配电变压器

10kV class three-phase open ventilated H class insulation dry-type distribution transformer

SG(B)10系列

型号 Model No.	电压组合及分接范围 Voltage Combination and Tapping Range			联结组标号 Connection Group Symbol	空载损耗 No-load Loss (W)	负载损耗 Load Loss 145°C(W)	空载电流 No-load Current (%)	短路阻抗 Short-circuit Impedance (%)	总重 Total Weight (kg)	外观尺寸(毫米) Outline Dimension (mm)	
	高压 HV(kV)	高压分接HV Tapping(%)	低压 LV(kV)							长×宽×高 Length X Width X Height	底座轨距 Base Gauge
SG10-30	6 6.3 6.6 10 10.5 11	±5 ±2×2.5	0.4	Yyn0 Dyn11	190	760	2.10	4.0	505	1150×990×1900	400×400
SG10-50					270	1070	2.10		625	1180×1030×1900	400×400
SG10-80					370	1480	1.60		760	1150×1060×1900	400×400
SG10-100					400	1690	1.60		820	1300×1080×1900	400×400
SG10-125					470	1980	1.50		910	1320×1080×1900	550×550
SG10-160					540	2280	1.50		1120	1450×1100×1900	550×550
SG10-200					620	2710	1.30		1220	1450×1100×1900	550×550
SGB10-250					720	2960	1.30		1380	1600×1200×2200	660×660
SGB10-315					880	3730	1.10		1750	1650×1200×2200	660×660
SGB10-400					980	4280	1.10		2000	1650×1200×2200	660×660
SGB10-500					1160	5230	1.10	2200	1670×1220×2200	660×660	
SGB10-630					1340	6290	0.90	2440	1850×1280×2200	820×820	
SGB10-630					1300	6400	0.90	6.0	2390	1850×1280×2200	820×820
SGB10-800					1520	7460	0.90		2720	1850×1280×2200	820×820
SGB10-1000					1770	8760	0.90		3020	1950×1370×2200	820×820
SGB10-1250					2090	10370	0.90		3740	1950×1380×2200	820×820
SGB10-1600					2450	12580	0.90		4690	2100×1450×2200	1070×1070
SGB10-2000					3050	15560	0.70		5150	2360×1580×2500	1070×1070
SGB10-2500					3600	18450	0.70		6450	2400×1600×2600	1070×1070
SCB10-1600					2450	13900	0.90		8.0	4670	2100×1450×2200
SCB10-2000	3050	17110	0.70	5130	2360×1580×2500	1070×1070					
SCB10-2500	3600	20290	0.70	6420	2400×1600×2600	1070×1070					

注：1、表格中外形尺寸、底座轨距、总重量仅为参考，具体数据以出厂文件为准；
2、可按用户订货需求设计特殊规格型号产品。

Remarks: 1、The datum of outline dimension, base gauge and total weight are only for your reference in the table. The real datum are subject to the actual shipments;
2、Customized transformers of different specification are available upon the demand of users.

干式变压器订货规范书

合同编号：_____ 工程名称：_____ 需方全称：_____

联系人：_____ 联系电话：_____ 承接人：_____ 签订日期：_____

交货地点：_____ 交货时间：_____

技术参数和要求：

序号	基本要求		(□其他)说明	
1	产品型号：	<input type="checkbox"/> SCB9 <input type="checkbox"/> SCB10 <input type="checkbox"/> SCB11 <input type="checkbox"/> 其他		
2	额定容量：	_____ kVA 数量 _____ 台		
3	绝缘耐热等级：	<input type="checkbox"/> F级 <input type="checkbox"/> 其他		
4	分接范围：	<input type="checkbox"/> +2×2.5% <input type="checkbox"/> 其他		
5	额定电压(kV)：	<input type="checkbox"/> 10/0.4 <input type="checkbox"/> 10.5/0.4 <input type="checkbox"/> 其他		
6	短路阻抗：	<input type="checkbox"/> 4% <input type="checkbox"/> 6% <input type="checkbox"/> 8% <input type="checkbox"/> 其他		
7	联结组别：	<input type="checkbox"/> Dyn11 <input type="checkbox"/> Yyn0 <input type="checkbox"/> 其他		
8	冷却方式：	<input type="checkbox"/> AN <input type="checkbox"/> AN/AF <input type="checkbox"/> 其他		
9	防护等级：	<input type="checkbox"/> IP00 <input type="checkbox"/> IP20 <input type="checkbox"/> 其他		
10	外壳	材料： <input type="checkbox"/> 铝合金 <input type="checkbox"/> 不锈钢(本色) <input type="checkbox"/> 其他		
		铝合金表面： <input type="checkbox"/> 喷塑 <input type="checkbox"/> 本色磨花 <input type="checkbox"/> 其他		
		高度： <input type="checkbox"/> 2200mm <input type="checkbox"/> 无要求 <input type="checkbox"/> 其他		
		结构： <input type="checkbox"/> 整体固定式 <input type="checkbox"/> 现场组装式 <input type="checkbox"/> 其他		
		开门保护： <input type="checkbox"/> 一常开一常闭 <input type="checkbox"/> 二常开二常闭 <input type="checkbox"/> 带电磁锁 <input type="checkbox"/> 配带电显示器 <input type="checkbox"/> 无要求 <input type="checkbox"/> 其他		
11	高压进线方式：	<input type="checkbox"/> 电缆上部进线 <input type="checkbox"/> 电缆下部进线 <input type="checkbox"/> 其他		
12	低压出线方式	上出线： <input type="checkbox"/> 铜排出外壳 <input type="checkbox"/> 不出铜排 <input type="checkbox"/> 其他		
		左出线□ 右出线□		<input type="checkbox"/> 铜排出外壳 _____mm <input type="checkbox"/> 不带铜排，留出排孔 <input type="checkbox"/> 铜排不出外壳，且离内壁 _____mm <input type="checkbox"/> 其他
		下出线：		<input type="checkbox"/> 带电缆支架 <input type="checkbox"/> 不带电缆支架 <input type="checkbox"/> 其他
		出线铜排规格：		3×____(____×____)+____(____×____) 三相×根数(厚×宽)+根数(厚×宽)
13	温控器配置：	<input type="checkbox"/> 温显常规功能 <input type="checkbox"/> 4~20mA接口 <input type="checkbox"/> RS232接口 <input type="checkbox"/> RS485接口 <input type="checkbox"/> 其他		
14	特殊要求及说明：			

感谢贵方的鼎力支持，我司将以“最周到的服务•最可靠的产品”满足贵方要求！

备注：1.需方必须提供基本要求(1~13项)栏所列出的内容，并确认后在方框内打“√”。

2.如选用其它项，应在后面做相应说明，如有特殊要求请在14项内作详细说明。

3.当项12低压出线方式为左出或右出时，请提供低压柜铜排的相序排列、相间尺寸、铜排规格、铜排接触面的孔距和孔径、离地高度等。

ZGS系列组合式变压器（美式箱变）

ZGS Series Combined Type Transformer (Pad-mounted Transformer)

产品概述 Product Overview

ZGS□系列组合式变压器是我公司自主研发的国产化美式箱变。该产品作为城乡配电网中的重要供电单元，集高压控制、保护、变电，以及配电设备于一体的变电产品，广泛应用于城乡配网之中。

该产品将高压负荷开关、高压熔断器置于变压器油中，具有变压器器身共箱或分箱两种结构形式。油箱采用全密封机构，配有油温表、油位表、压力释放阀、放油阀等元件以检测变压器运行状况。

该产品分为环网型、终端型及双电源型供电方式。

ZGS□ series combined type transformer is a domestic manufacturing pad-mounted transformer which is independent research and development by our company.As an important power supply unit in urban and rural power distribution network,the transformer is a powertransformation product which is a collection of Hv control,protection,powertransformation and distribution equipment.It is widely used in urban and rural power distribution network.

Hv load switches and Hv fuses of the transformer are immersed in transformer oil.The transformer body has two kinds of structural form,one tank or separate tank.The tank of the transformer adopts hermetically sealed mechanism which is assembled with oil temperature gauge,oil level gage,pressure relief valve,drain valve and other components so as to detect the operation condition of the transformer.The product can be used in ring net type,terminal type and dual power supply mode.

使用环境 Environmental 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≤95%；月相对湿度平均值≤90%；

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3°；

安装环境：周围空气不受腐蚀性、可燃性气体等明显污染，安装地点无剧烈震动；

订购本产品超出上述条件的规定时，可与本公司协商。

Ambient temperature: maximum temperature +40℃, minimum temperature -30℃;

Altitude: ≤1000m;

Wind speed: equivalently 34m/s (not more than 700Pa);

Humidity: daily average relative humidity ≤ 95%; monthly average relative humidity ≤90%;

Earthquake: horizontal acceleration not more than 0.4m/s², vertical acceleration not more than 0.15m/s²;

Installation site gradient: not more than 3 degrees;

Installation environment: the surrounding air is not corrosive,flammable gases and other significant pollution, the installation site without severe shock;

More than the provisions of the above conditions can be determined in consultation with our company.

产品结构特点 Product Structural Features

结构紧凑，体积小，仅为同容量国产欧式箱变的1/3~1/5左右，大大减少了占地面积；

全密封、全绝缘结构，无需绝缘距离，可靠保护人身安全；

高压采用负荷开关熔断器组合电器保护；

高压接线既可用于环网，又可用于终端，供电方式灵活，可靠性高；

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；

满足各种低压馈出要求，可按方案选择，亦可自行设计；

电缆头有200A肘型电缆接头及600A欧式前接头两种，肘型电缆接头适用于电缆面积为35-120mm²，欧式前接头适用于电缆截面积为35-500mm²，电缆头的材质分为铜芯和铝芯，两者均可配置全绝缘氧化锌避雷器，200A肘型电缆头可以带负荷插拔，又可以起到隔离开关的作用。

Compact structure, small volume, only with the capacity of domestic European-type box transformer 1/3 - 1/5, greatly reduces floor area;

Full sealing, full insulation structure, dispense with insulation distance, reliable protection of personal safety;

Hv uses load switch, fuse and other combination components protection;

High voltage connection wiring are available in ring net system, and can be used for terminal system, power supply mode flexibility, high reliability;

Transformer performance excellence . Low loss, low noise, low temperature rise ; Strong overload, short circuit resistant, strong shock resistance;

Meet a variety of low-voltage feed-out requirements, either scheme selection, or design by ourselves;

Cable joints have 200A elbow-type cable connector and 600A European-type frontconnector. The elbow-type cable connectors are suitable for cable section area 35-120mm².The European-type frontconnectors are suitable for cable section area 35-500mm² ,

The material of the cable joints has copper conductor and aluminum conductor. They can both be configurable with full insulation casting oxide surge arrester.The 200A elbow-type cable connector can be inserted and extracted with load. And it can also have the role of isolating switch.

型号说明 Model Explanation

Z G S □ - □ - □ / □ / □

— 低压侧额定电压等级 (kV) rated voltage class of Lv side

— 高压侧额定电压等级 (kV) rated voltage class of Hv side

— 额定容量 (kVA) rated capacity

— 高压接线方式 Hv connection scheme

H: 环网型 Z: 终端型 H: ring net type Z: terminal type

— 性能水平代号 performance level code

9 10 11 13

— 相数 phase quantity

S:三相 D:单相 S: 3-phase D: single-phase

— 箱体形式 box body structure

G:共箱式 F:分箱式 G:one tank type F: separate tank type

— 组合式变压器 combined type transformer

例：ZGS11-H-630/10/0.4

组合式共箱式变压器 性能水平11 环网型 容量630kVA 高压10kV 低压0.4kV

For example:YBWM-12/0.4-630

combined type one-tank type transformer performance level 11 ring net type rated capacity 630kVA HV 10kV LV 0.4kV



变压器性能参数 Transformer Performance Parameter

10kV组合式变压器用S9、S10、S11系列油浸式变压器性能水平

S9、S10、S11series oil-immersed type transformer performance level for 10kV combined type transformer

变压器额定容量 (kVA) rated capacity of transformer	低压侧 (0.4kV) 额定电流 (A) rated current of Lv side	高压侧 (10kV) 额定电流 (A) rated current of Hv side	插入式熔断器容量 (A) plug-in fuse capacity	后备熔断器容量 (A) backup fuse capacity	低压配置主开关容量 (A) main switch capacity of Lv configuration
50	72.2	2.89	6	50	100
80	115.5	4.62	6	50	160
100	144.3	5.77	6或10	50	200
125	180.4	7.22	10	50	250
160	230.9	9.24	15	63	315
200	288.7	11.55	15	63	400
250	360.8	14.43	20	80	500
315	454.7	18.19	25	100	630
400	577.4	23.09	25	100	800
500	721.7	28.87	40	125	1000
630	909.3	36.37	40	125	1250
800	1154.7	46.19	63	150或175	1600
1000	1443.4	57.74	63或80	175	2000
1250	1804.2	72.17	80或100	175或100双拼	2500
1600	2309.4	92.38	125	150双拼	3000

注：

a、根据用户要求变压器的高压分接范围可设计为±2×2.5%；
b、根据用户要求变压器的低压可设计为0.69kV。

Remarks:

a. The tapping range of the transformer Hv side can be designed to ±2X2.5% according to the users' requirements; The transformer Lv side can be designed to 0.69kV according to the users' requirements.

负荷开关性能参数 Load Switch Performance Parameter

额定电流 (A) rated current	额定电压 (kV) rated voltage	冲击耐压 (kV) lightning impulse withstand voltage	工频耐受电压 (1min.kV) power frequency withstand voltage	额定短时耐受电流 (kA/s) rated shorttime withstand current	短路关合电流 (kA) rated short-circuit closed current	额定峰值耐受电流 (kA) rated peak withstand current	负荷操作次数 load operation number	机械操作次数 mechanical operation number
315	12	75	42	12.5/2	31.5	31.5	100	2000
630	12	75	42	16/4	40	40	100	2000

主回路方案图 The main loop scheme diagram

高压典型方案 Hv typical scheme

编号No.	O1	O2	O3	O4
系统方案 system scheme				
	适用终端用户 suitable for the end user	环网供电 ring net power supply	带高压计量 with HV measurement	双电源供电 double power supply
FYN-12负荷开关 load switch	315A/630A	315A/630A	315A/630A	315A/630A
高压典型方案和各高压方案的使用范围 range of application for HV typical scheme and different HV scheme	单电源供电 适用终端用户 single power supply suitable for the end user	可实现环网供电 200A, 600A realizable ring net power supply	适用于需高压计量的用户 suitable for the user of HV measurement	可实现双电源供电 realizable double power supply

低压典型方案 Lv typical scheme

编号No.	O1	O2	O3
系统方案 system scheme			
主开关 main switch	CW1-2000M/3,630A	CW1-2000M/3,1250A	CW1-2000M/3,1600A
分路开关 shunt switch	CM1-225L/3300,200A 4路	CM1-400L/3300,400A 3路	CM1-400L/3300,400A 4路
电容总开关 capacitor master switch	CM1-225L/3300,200A	CM1-400L/3300,400A	CM1-630L/3300,500A
电容容量 capacitor capacity	100kvar	200kvar	240kvar

组合式变压器（美式箱变）订货规范书

合同编号: _____ 工程名称: _____ 需方全称: _____
 联系人: _____ 联系电话: _____ 承接人: _____ 签订日期: _____
 交货地点: _____ 交货时间: _____ 规格型号: _____ 数量: _____ 台

一、常规要求

- 隔热 军绿色 绝缘操作杆 _____ 根/台
 防潮 海灰色 海拔高度 _____ m
 有散热器 其它颜色 备用熔丝 _____ A _____ 支/台

二、高压要求

- 有功计量 _____ 电流互感器 型号: _____ 比值: _____ 精度: _____ 级
 无功计量 _____ 电流互感器 型号: _____ 比值: _____ 精度: _____ 级
 电压指示 终端供电 (终端开关) 双电源供电 (双电源开关) 环网供电 (T型开关 V型开关)
 电流指示 带电指示器: _____ 支 200A (肘型) 电缆接头 (进口 国产) _____ 支
 避雷器 (进口 国产) _____ 支 故障指示器 _____ 支 绝缘保护帽 _____ 支
 电源进线电缆为: _____ 芯电缆 电缆为: _____ mm²
 高压计量箱与组合变联络电缆截面积为: _____ mm² 有高压一次系统图 _____ 号图
 备注:

三、变压器要求

- 容量: _____ kVA; 联结组别: _____; 额定电压: _____ kV; 分接范围: _____;
 特殊要求: (阻抗电压 损耗 噪音指标等)

四、低压要求

- 有功计量 _____ 主开关型号及额定电流 _____
 无功计量 _____ 刀开关型号及额定电流 _____
 多功能电子表 _____ 支路开关型号、电流及数量 _____
 三相电流指示 _____ 三相电压指示 _____
 支路指示 计量特殊要求 计量单独密封 电流互感器 (计量用 _____ 级, 指示用 _____ 级)
 电容补偿柜 (有触点式 无触点式) _____ kvar 二次控制方式 _____
 备注:

五、服务要求

- 运输方式 (自提 送货 公路 铁路); 包装方式 (常规 特殊: _____)
 安装方式 (需方自行处理 供方指导安装); 其它要求: _____

六、其他需要说明的需求

感谢贵方的鼎力支持, 我司将以“最周到的服务·最可靠的产品”满足贵方要求!

YBW系列预装式变电站（欧式箱变）

YBW Series Prefabricated Substation (European Type Box Transformer)

产品概述 Product Overview

YBW□-12系列预装式变电站适用于高压侧交流额定电压12kV、变压器最大容量1600kVA、工作频率不大于50Hz的公众能接近的户外预装式变电站设备。该变电站是通过电缆对外连接的，可以从它的外部或内部进行操作，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、矿山石油等场所，作配电系统中接受和分配电能之用。

YBW□-12 series prefabricated substation is an outdoor prefabricated substation equipment which the public are accessible. It is suitable for alternating current rated voltage 12kV of HV side, maximum rated capacity 1600kVA of transformer and working frequency not more than 50Hz. The substation is connective with the outer through cables. It can be operated from his exterior or interior. It is used for city high-rise building,

urban and rural construction, residential quarter, high and new technology development zone, small and medium factories, mine, petroleum and other places. Its use is for accept and distribution of electrical energy in power distribution system.

使用环境 Environmental 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≤95%；月相对湿度平均值≤90%；

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3°；

安装环境：周围空气不受腐蚀性、可燃性气体等明显污染，

安装地点无剧烈震动；

订购本产品超出上述条件的规定时，可与本公司协商。

Ambient temperature: maximum temperature +40℃, minimum temperature -30℃;

Altitude: ≤1000m;

Wind speed: equivalently 34m/s (not more than 700Pa);

Humidity: daily average relative humidity ≤ 95%; monthly average relative humidity ≤ 90%;

Earthquake: horizontal acceleration not more than 0.4m/s², vertical acceleration not more than 0.15m/s²;

Installation site gradient: not more than 3 degrees;

Installation environment: the surrounding air is not corrosive, flammable gases and other significant pollution, the installation site without severe shock;

More than the provisions of the above conditions can be determined in consultation with our company.

产品结构特点 Product Structural Features

外壳参照国外先进技术并根据实际情况进行设计。具有牢固、隔热通风性能好、防尘、防小动物、防潮、外型美观、维护方便等特点，外壳材料有铝合金板、敷铝锌板、复合板等多种材料可供选择。变电站所有黑色材料均经过表面防锈处理，可以保证长时间不锈蚀。

高压侧一般采用负荷开关，也可采用真空断路器，并且具有齐全的防误操作功能。变压器既可采用油浸变压器，全密封变压器，又可采用干式变压器。低压侧采用最新型的塑壳自动空气开关，分段能力高，保护性能好。

变电站保护性能完善，操作方便，具有高低压计量可供使用，用户要求时还可选用自动无功功率补偿装置。

变电站装有自控排风装置，可满足高温地区的要求，在用户有要求时还可加装加热器以满足高寒和高湿地区的特殊要求。

变电站安装方便，在变电站低压室内装有活动地板，维护人员可以直接由此进入电缆沟。

变电站有典型的目字和品字结构布置，具体可按工程要求来设计布置方案。

The enclosure is designed according to the actual situation and with reference to the foreign advanced technology. It has more characteristics, such as fastness, heat insulation, good ventilated performance, dustproof, no small animals enter, moistureproof, good looking and maintenance friendly and so on. The enclosure materials can be chosen from aluminum alloy plates, aluminum zinc coated steel plates, composite boards and other materials. All black materials of the substation are subject to corrosion-resistant surface treatment which ensures no rust long time.

Hv side may use either load switch or vacuum circuit breaker. It has a complete anti-misoperation function. The transformer may use oil-immersed transformer, hermetically-sealed transformer and dry-type transformer. Lv side uses the latest model of molded case automatic air switch, with high segmentation ability and good protect performance.

Substation has impeccable protection performance and easy operation with Hv and Lv metering available. It can also choose automatic reactive power compensation devices according to the user requirements.

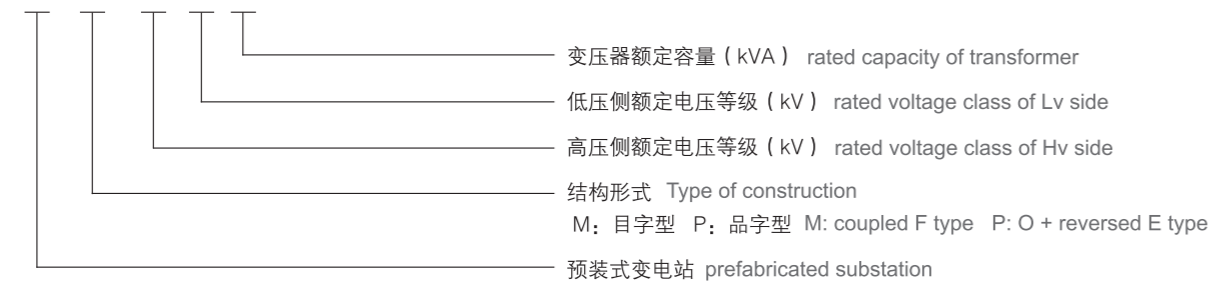
Substation is equipped with self-controlled ventilation devices to meet the requirements of high temperature areas. It can also install heaters to meet the special requirements of cold regions and high humidity areas according to the users' requirement.

Substation is easy to install. Lv chamber is equipped with movable floor in the substation so that the maintenance personnel can direct enter the cable channel from here.

Substation has typical coupled F type and O+reversed E type structure layouts. We can design layout scheme according to the requirement of the specific project.

型号说明 Model Explanation

YBW □ - 12 / □ - □



例：YBWM-12/0.4-630

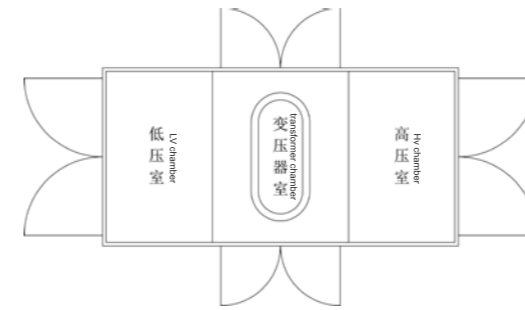
预装式变电站 目字结构 高压侧额定电压等级12kV 低压侧额定电压等级0.4kV 容量630kVA

For example: YBWM-12/0.4-630

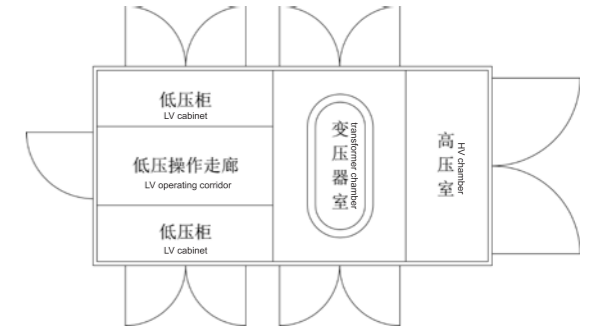
prefabricated substation coupled F type structure rated voltage class of HV side: 12kV rated voltage class of LV side: 0.4kV rated capacity: 630kVA

变电站平面布置图（结构示意图）

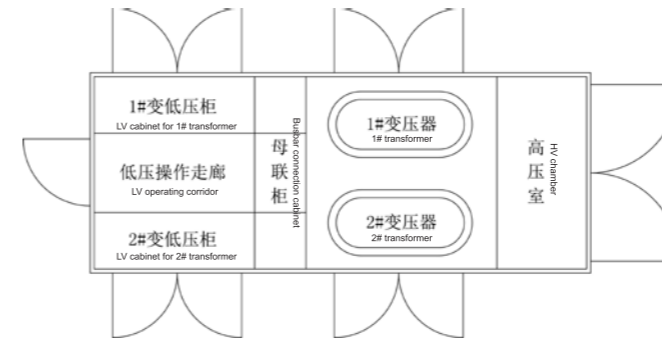
Layout of prefabricated substation (structure schematic diagram)



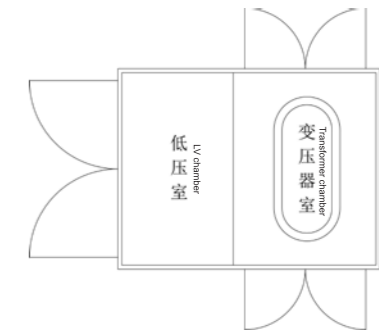
“目”字型结构
coupled F type structure



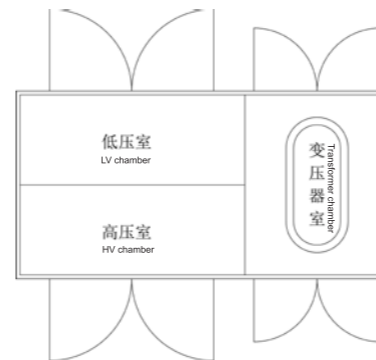
“目”字型结构带低压走廊
coupled F type structure with LV corridor



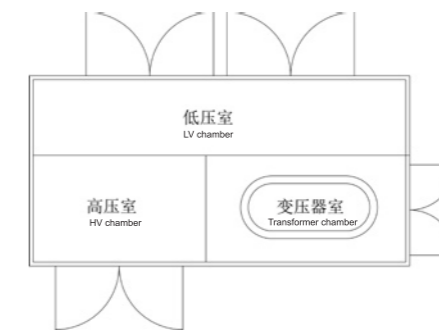
“目”字型结构两台变压器
Coupled F type structure with 2pcs transformers



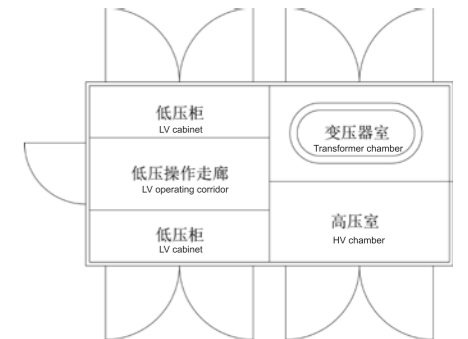
简易型箱变（不带高压室）
Simple type prefabricated substation (no HV chamber)



“品”字型结构1型
O+reversed E type structure type 1



“品”字型结构2型
O+reversed E type structure type 2



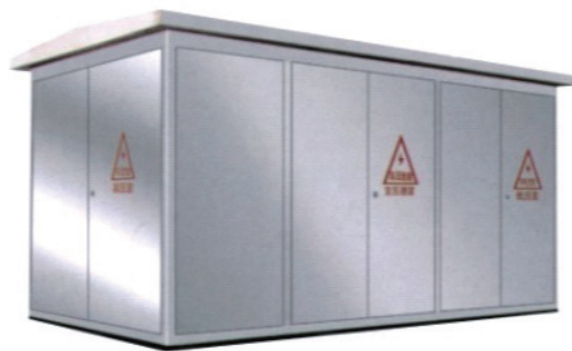
“品”字型结构带低压走廊
O+reversed E type structure with LV corridor

变电站外形图

Outline Enclosures of Prefabricated Substation



铝合金外壳
Aluminium Alloy Enclosure



不锈钢外壳 (本色)
Stainless Steel Enclosure (natural color)



复合彩钢外壳
Compounded Color Steel Enclosure



敷铝锌板木饰外壳
Aluminum Zinc Coated Steel Plate
Wood Trim Enclosure



水泥外壳
Cement Enclosure



非金属外壳
Nonmetallic Enclosure

主回路方案图 The main loop scheme diagram

典型方案一 终端型 Typical scheme 1 terminal type

柜号 cabinet no.	H1	H2		L1	L2	L3	L4		
柜型 cabinet model	HXGN-12	HXGN-12		GGD	GGD	GGD	GGD		
柜体尺寸: 宽X深X高 Cabinet Body Size Width X Depth X Height	600X900X2000	600X900X2000		800X600X2000	800X600X2000	800X600X2000	800X600X2000		
一次系统图 Primary system scheme									
用途 usage	进线 input wire	出线 output wire	变压器 transformer	低压进线计量 LV input wire metering	低压出线1# LV output wire 1#	低压出线2# LV output wire 2#	电容器柜 capacitor cabinet		
高压元件 Hv components	负荷开关(load switch) FN12-12D/T125-31.5		1						
	熔断器(fuse)XRNT-12		63A *3						
	电流互感器(current transformer) LZZBJ9-10 0.2/0.5								
	电压互感器(potential transformer) JDZ10 10/0.1 0.2级								
	高压熔断器(HV fuse) XRNP-10/0.5A								
	带电显示器(charged monitor) GSN-10/T	1	1						
低压元件 Lv components	避雷器(lightning arrester) HY5WS-17/50	3							
	刀开关(knife switch) HD13BX-□/3				1000A *1	1000A *1	HR5-400/3,400A *1		
	框架断路器(frame type circuit breaker) CW1-2000M/3,2000A			1					
	塑壳断路器(moulded case circuit breaker) CM1-630L/3300,630A				1				
	塑壳断路器(moulded case circuit breaker) CM1-400L/3300,400A					1			
	塑壳断路器(moulded case circuit breaker) CM1-250L/3300,250A						1		
	浪涌保护器(surge protector) CDY1-100/3P+N				1				
	小型断路器(miniature circuit breaker) DZ47-63/3P,50A						FYS-0.22 *3		
	接触器(cocontactor) CJ19-43A,AC380V						10		
	电容器(capacitor) BZMJ-0.45-20-3						10		
备注 Remarks	计量互感器(Measurement transformer) BH-0.66□			800/5 *3					
	电流互感器(current transformer) BH-0.66□			800/5 *4	600/5 *1	400/5 *1	400/5 *1	250/5 *1	400/5 *3
	表计(measuring meter) (6L2-□)			-A,800/5 *3,-V *1	-A 600/5	-A 400/5	-A 400/5	-A 250/5	-A,400/5 *3, GOS表 *1

主回路方案图 The main loop scheme diagram

典型方案二 环网型 Typical scheme 2 ring net type

柜号 cabinet no.	H1	H2	H3	L1	L2	L3	L4	
柜型 cabinet model	HXGN-12	HXGN-12	HXGN-12	GGD	GGD	GGD	GGD	
柜体尺寸: 宽X深X高 Cabinet Body Size Width X Depth X Height	600X900X2000	600X900X2000	600X900X2000	800X600X2000	800X600X2000	800X600X2000	800X600X2000	
一次系统图 Primary system scheme								
用途 usage	进线 input wire	出线 output wire	出线 output wire	变压器 transformer	低压进线计量 LV input wire metering	低压出线1# LV output wire 1#	低压出线2# LV output wire 2#	电容柜 capacitor cabinet
高压元件 Hv components	负荷开关(load switch) FN12-12D/T125-31.5	1						
	负荷开关(load switch) FN12-12D/T630-20	1	1					
	熔断器(fuse)XRNT-12		63A *3					
	电流互感器(current transformer) LZBJ9-10 0.2/0.5							
	电压互感器(potential transformer) JDZ10 10/0.1 0.2级							
	高压熔断器(Hv fuse) XRNP-10/0.5A	1	1	1				
	带电显示器(charged monitor) GSN-10/T	3						
低压元件 Lv components	刀开关(knife switch) HD13BX-□/3				1000A *1	1000A *1	HR5-400/3,400A *1	
	框架断路器(frame type circuit breaker) CW1-2000M/3,2000A			1				
	塑壳断路器(moulded case circuit breaker) CM1-630L/3300,630A				1	1		
	塑壳断路器(moulded case circuit breaker) CM1-400L/3300,400A					1	1	
	塑壳断路器(moulded case circuit breaker) CM1-250L/3300,250A				1		1	
	浪涌保护器(surge protector) CDY1-100/3P+N							FYS-0.22 *3
	小型断路器(miniature circuit breaker) DZ47-63/3P,50A							10
	接触器(cocontactor) CJ19-43A,AC380V							10
	电容器(capacitor) BZMJ-0.45-20-3							10
	计量互感器(Measurement transformer) BH-0.66,□				800/5 *3			
	电流互感器(current transformer) BH-0.66,□				800/5 *4	600/5 *1 400/5 *1 400/5 *1 250/5 *1 600/5 *1 400/5 *1 400/5 *1 250/5 *1		400/5 *3
	表计(measuring meter) (6L2-□)				-A,800/5 *3,-V *1	-A 600/5 -A 400/5 -A 400/5 -A 250/5		-A,400/5 *3, GOS表 *1
备注 Remarks				计量表计由供电部门提供 measuring meter is provided by power supply department			控制器JKF-10, 10路共补, 共计200kvar controller,JFK-10, 10 way compensation together,total	

主回路方案图 The main loop scheme diagram

典型方案三 高供高计型1 Typical scheme 3 Hv power supply Hv metering type 1

柜号 cabinet no.	H1	H2	L1	L2	L3	L4		
柜型 cabinet model	HXGN-12	HXGN-12	GGD	GGD	GGD	GGD		
柜体尺寸: 宽X深X高 Cabinet Body Size Width X Depth X Height	600X900X2000	600X900X2000	800X600X2000	800X600X2000	800X600X2000	800X600X2000		
一次系统图 Primary system scheme								
用途 usage	进线计量 input wire	出线 output wire	变压器 transformer	低压进线计量 LV input wire metering	低压出线1# LV output wire 1#	低压出线2# LV output wire 2#	电容柜 capacitor cabinet	
高压元件 Hv components	负荷开关(load switch) FN12-12D/T125-31.5							
	负荷开关(load switch) FN12-12D/T630-20	1						
	熔断器(fuse)XRNT-12		63A *3					
	电流互感器(current transformer) LZBJ9-10 0.2/0.5	40/5 *2						
	电压互感器(potential transformer) JDZ10 10/0.1 0.2级	2						
	高压熔断器(Hv fuse) XRNP-10/0.5A	3						
	带电显示器(charged monitor) GSN-10/T	1	1					
避雷器(lightning arrester) HY5WS-17/50	3							
低压元件 Lv components	刀开关(knife switch) HD13BX-□/3				1000A *1	1000A *1	HR5-400/3,400A *1	
	框架断路器(frame type circuit breaker) CW1-2000M/3,2000A			1				
	塑壳断路器(moulded case circuit breaker) CM1-630L/3300,630A				1	1		
	塑壳断路器(moulded case circuit breaker) CM1-400L/3300,400A					1	1	
	塑壳断路器(moulded case circuit breaker) CM1-250L/3300,250A				1		1	
	浪涌保护器(surge protector) CDY1-100/3P+N							FYS-0.22 *3
	小型断路器(miniature circuit breaker) DZ47-63/3P,50A							10
	接触器(cocontactor) CJ19-43A,AC380V							10
	电容器(capacitor) BZMJ-0.45-20-3							10
	计量互感器(Measurement transformer) BH-0.66,□				800/5 *3			
	电流互感器(current transformer) BH-0.66,□				800/5 *4	600/5 *1 400/5 *1 400/5 *1 250/5 *1 600/5 *1 400/5 *1 400/5 *1 250/5 *1		400/5 *3
	表计(measuring meter) (6L2-□)				-A,800/5 *3,-V *1	-A 600/5 -A 400/5 -A 400/5 -A 250/5		-A,400/5 *3, GOS表 *1
备注 Remarks				计量表计由供电部门提供 measuring meter is provided by power supply department			控制器JKF-10, 10路共补, 共计200kvar controller,JFK-10, 10 way compensation together,total	

主回路方案图 The main loop scheme diagram

典型方案三 高供高计型2 Typical scheme 3 Hv power supply Hv metering type 2

柜号 cabinet no.	H1	H2	H3	L1	L2	L3	L4		
柜型 cabinet model	HXGN-12	HXGN-12	HXGN-12	GGD	GGD	GGD	GGD		
柜体尺寸: 宽X深X高 Cabinet Body Size Width X Depth X Height	600X900X2000	600X900X2000	600X900X2000	800X600X2000	800X600X2000	800X600X2000	800X600X2000		
一次系统图 Primary system scheme									
用途 usage	进线 input wire	出线 output wire	计量 metering	变压器 transformer	低压进线计量 LV input wire metering	低压出线1# LV output wire 1#	低压出线2# LV output wire 2#	电容柜 capacitor cabinet	
高压元件 Hv components	负荷开关(load switch) FN12-12D/T125-31.5	1							
	负荷开关(load switch) FN12-12D/T630-20	1		1					
	熔断器(fuse)XRNT-12		63A *3						
	电流互感器(current transformer) LZJB9-10 0.2/0.5			40/5 *2					
	电压互感器(potential transformer) JDZ10 10/0.1 0.2级			2					
	高压熔断器(Hv fuse) XRNP-10/0.5A			3					
	带电显示器(charged monitor) GSN-10/T	1	1	1					
	避雷器(lightning arrester) HYSWS-17/50	3							
	刀开关(knife switch) HD13BX-□/3					1000A *1	1000A *1	HR5-400/3,400A *1	
	框架断路器(frame type circuit breaker) CW1-2000M/3,2000A				1				
低压元件 Lv components	油浸式变压器 (oil-immersed type transformer) S11-M-630/10 10/0.4 ± 2 × 2.5% D,yn11					1	1		
	塑壳断路器(moulded case circuit breaker) CM1-630L/3300,630A					1			
	塑壳断路器(moulded case circuit breaker) CM1-400L/3300,400A					1	1		
	塑壳断路器(moulded case circuit breaker) CM1-250L/3300,250A					1		1	
	浪涌保护器(surge protector) CDY1-100/3P+N							FYS-0.22 *3	
	小型断路器(miniature circuit breaker) DZ47-63/3P,50A							10	
	接触器(cocontactor) CJ19-43A,AC380V							10	
	电容器(capacitor) BZMJ-0.45-20-3							10	
	计量互感器 (Measurement transformer) BH-0.66, □					800/5 *3			
	电流互感器(current transformer) BH-0.66, □					800/5 *4	600/5 *1, 400/5 *1, 400/5 *1, 250/5 *1, 600/5 *1, 400/5 *1, 400/5 *1, 250/5 *1		400/5 *3
表计(measuring meter) (6L2-□)					-A,800/5 *3,-V *1	-A, 600/5, -A, 400/5, -A, 400/5, -A, 250/5, -A, 600/5, -A, 400/5, -A, 400/5, -A, 250/5		-A,400/5 *3, GOS表 *1	
备注 Remarks				计量表计由供电部门提供 measuring meter is provided by power supply department				控制器JKF-10, 10路共补, 共计200Kvar controller,JKF-10, 10 way compensation together,total	

预装式变电站 (欧式箱变) 订货规范书

合同编号: _____ 工程名称: _____ 需方全称: _____
 联系人: _____ 联系电话: _____ 承接人: _____ 签订日期: _____
 交货地点: _____ 交货时间: _____ 规格型号: _____ 数量: _____ 台

一、常规要求

- 铝合金外壳
- 非金属外壳
- 颜色
- 敷铝锌板木饰外壳
- 不锈钢外壳
- 海拔高度 _____ m
- 复合彩钢外壳
- 水泥外壳

二、高压要求

- 有功计量 _____ 电流互感器 型号: _____ 比值: _____ 精度: _____ 级
- 无功计量 _____ 电流互感器 型号: _____ 比值: _____ 精度: _____ 级
- 终端供电 环网供电 (进 出) 进口元件 国产元件
- 空气绝缘 (压气式负荷开关 真空负荷开关 真空断路器) SF6绝缘 (绝缘开关 整柜绝缘)
- 电源进线电缆为: _____ 芯电缆 电缆为: _____ mm² 有高压一次系统图 _____ 号图
- 备注: _____

三、变压器要求

- 干式变压器 油浸式变压器 纯铜线圈 纯铝线圈
- 容量: _____ kVA; 联结组别: _____; 额定电压: _____ kV; 分接范围: _____;
- 特殊要求: (阻抗电压 损耗 噪音指标等)

四、低压要求

- 有功计量 _____ 主开关型号及额定电流 _____
- 无功计量 _____ 刀开关型号及额定电流 _____
- 多功能电子表 _____ 支路开关型号、电流及数量 _____
- 三相电流指示 _____ 三相电压指示 _____
- 支路指示 计量特殊要求 计量单独密封 电流互感器 (计量用 _____ 级, 指示用 _____ 级)
- 电容补偿柜 (有触点式 无触点式) kvar 二次控制方式 _____
- 备注: _____

五、服务要求

- 运输方式 (自提 送货 公路 铁路); 包装方式 (常规 特殊: _____)
- 安装方式 (需方自行处理 供方指导安装); 其它要求: _____

六、其他需要说明的需求

感谢贵方的鼎力支持, 我司将以“最周到的服务•最可靠的产品”满足贵方要求!



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