



Company Profile

企业简介

江苏新特变科技股份有限公司位于长江南岸的现代化滨江港口工业城市——张家港市，公司前身是创始于1972年的沙洲县特种变压器厂，具有40多年的特种变压器生产经验。目前，公司占地面积3万平方米，标准型生产车间近2.4万平方米，是集研发、制造、销售、服务为一体的特种变压器生产企业。

公司专业提供各类特种变压器和电力变压器。主要产品有：电压等级110kV及以下、容量150000kVA及以下的油浸式电力变压器、环氧树脂干式变压器、整流变压器、电炉变压器、磁性调压器、预装式变电站、电抗器等。产品具有低损耗、低噪音、低局放、低温升、抗短路、耐冲击等优点。产品广泛应用于冶金、冶炼、新能源（光电、风电）、玻璃、电化学（工）、航空航天、变电站、变电所。产品遍及全国，并远销欧美、中东、中亚、非洲等地区。

优质的产品需要先进的技术和设备作为支撑，公司技术力量雄厚，拥有一支专业配置齐全、人员结构合理的人才队伍，本科以上学历达30%以上，拥有多名变压器行业的资深专家。公司拥有全自动真空浇注设备、箔绕机、数控硅钢片横剪与纵剪线、局放测试仪、功率分析仪等具有国际先进水平的生产、试验、检测设备。公司在引进和消化国内外先进技术基础上，自主研发具有本公司特色的工艺和工装，通过不断优化创新，产品技术指标居国内同行领先水平。

公司建立有完整的质量管理与保证体系，相继通过了ISO9001:2008国际质量管理体系认证、江苏省高新技术企业、重合同守信用企业、AAA级信用等级企业、质量信得过企业、江苏省科技型中小企业等荣誉，部分产品通过CTQC（国家变压器质量监督检测中心）检验。公司有信心、有能力为用户提供全方位的售前设计、售中执行和售后服务，保障设备运行稳定、维护及时周到。

公司推崇“创新、重才、优质、高效”为企业精神，秉承“科技电亮未来、责任铸就辉煌”之战略思想，坚持“产品质量为最高标准、科技创新为最强支撑、顾客满意为最终目标”的发展理念，与业界同仁携手合作、共展宏图、共铸辉煌！

Located in Zhangjiagang, the modern harbor coastal industrial city at the southern bank of Yangtze River, Jiangsu Xintebian science&technology Co., Ltd is originated from Shazhou Special Transformer Plant that was established in 1972 with 40 years of experience in the production of special transformer. At present, the company occupies an area of 30000 m², and 24000 m² for the standard production workshop. It is a special transformer manufacturer integrating the R&D, production, sales and service.

The company provides various special transformer and electrical transformer, including oil-immersed transformer with voltage lower than 110kV and capacity lower than 150000kVA, epoxide resin dry transformer, rectification transformer, electrical oven transformer, magnetic voltage adjuster, pre-installed substation and electric reactor. The products feature with low energy consumption, low noise, low PD, low temperature rise, short circuit resistance and impact resistance. The products are widely used in metallurgy, smelt, new energy (photoelectricity, wind power), glass, electrical chemistry (industry), aviation, substation. The products are sold all over the country and exported to Europe, USA, Middle East, Middle Asia and Africa.

High-quality products are supported by advanced technology and equipment. The company has strong technology power with a professional team in reasonable talent structure. 30% of the employees hold university degrees and senior experts in the transformer industry serve for the company. The company has equipment for production, test and inspection of

auto vacuum pouring equipment, foil winding machine, CNC silicon steel sheet lateral cutting and longitudinal cutting line, PD tester and power analyzer. Based on introduction and absorption advanced domestic and overseas technology, the company independently developed the special process and tooling. With continuous optimization and innovation, the technology is leading in the industry.

The company has established complete quality management and assurance system and passed ISO9001:2008 international quality management system certificate, won the honor of Hi-tech Enterprise in Jiangsu, Enterprise with Integrity, AAA credit level enterprise, Enterprise with Reliable Quality and Tech Medium and Small Enterprise in Jiangsu. Some products have passed CTQC (China Transformer Quality Center) inspection. The company has the confidence and ability to provide all-round pre-sales design, in-sales implementation and after-sales service to the user, ensuring the stable operation of the equipment and timely maintenance.

With the enterprise spirit of "innovation, talent-focused, high quality and efficiency", inheriting the strategy concept of "technology enlightening the future and responsibility contributing to the success", insisting the development philosophy of "product quality as the highest standard, technological innovation as the strongest support, customer satisfaction as the ultimate target", the company will cooperate with the peer for joint development and success!



企业精神 Enterprise Spirit

创新、重才、优质、高效

Innovation, Talent-Focused, High Quality and Efficiency

战略思想 Strategy Concept

科技点亮未来、责任铸就辉煌

Technology Enlightening the Future and Responsibility Contributing to the Success

发展理念 Development Philosophy

产品质量为最高标准、科技创新为最强支撑、顾客满意为最终目标

Product Quality as the Highest Standard, Technological Innovation as the Strongest Support, Customer Satisfaction as the Ultimate Target

Honors and Qualifications

荣誉资质

荣耀的道路是辛勤与汗水的堆叠，尊重的背后是艰辛的磨练。
我们的荣誉仅代表我们过去的成绩，未来的荣誉才是我们特变科技人所追求的。时刻树立标杆，时刻激励自己，为特变科技的明天而奋斗！

The way of glory is combination of the diligence and efforts. The hard annealing hides behind the respect.

Our glory only represents the achievement in the past while the glory in the future is what we pursuit for. We will establish benchmark and motivate ourselves to fight for the bright future of Special Transformer Technology!





Talent Management

人才管理

凝聚产生力量，团结诞生希望，团队是根本，团队精神是我们工作的灵魂。

团队是一种精神，是一种力量，是特变科技不可缺少的一部分。

的确，当企业发展到一定阶段之后，要想在竞争激烈的市场中求得持续发展，企业必须有正确的战略、良好的组织管理能力、富有职业道德的人才团队，而人才无疑是整个公司发展的基础。

择良才培养，通过优秀团队的分工协作、富有成效的市场战略执行，企业才能良性发展。作为国内领先的电力设备供应商，特变科技的人力资源培养主要针对研发人员、客服人员、市场人员三类。公司与国际知名人力资源公司合作，制定了科学的人才素质模型。通过明确公司战略对人才能力的要求标准，特变科技在人才招聘中选取能推动公司战略发展的人才进行培养。

The concentration generates the power and the union offers the hope. We work based on team and the teamwork spirit is our soul.

Team is a spirit and a power which is the undividable part of the Special Transformer Technology.

Indeed, the enterprise must develop based on correct strategy, excellent organization management capacity and talent team with enthusiasm. Thus the enterprise could develop in a sustainable manner in the market with severe completion. The talents are the foundation of the whole company.

The enterprise could develop well only when it selects excellent talents and implements efficient marketing strategy through coordination of excellent team. As advanced power equipment supplier in China, the human recourse cultivation of Special Transformer Technology focuses on the R&D staff, customer service staff and marketing staff. The company will cooperate with international famous human resources companies and make scientific talent quality models. Special Transformer Technology could select the talents who can promote the development of the company by clarifying the requirement and standard for the talents.

Main Workshop

主要车间



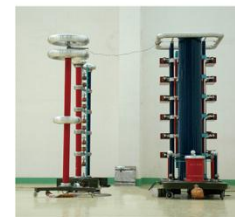


Main Equipment

主要设备

①	
②	
③	⑤
④	⑥

- ① 纵剪线
- ② 横剪线
- ③ 箔绕机
- ④ 煤油气相干燥设备
- ⑤ 试验台
- ⑥ 冲击电压发生器





110kV智能电力变压器 110kV Intelligent Power Transformer

110kV级节能环保型电力变压器是引进国际先进技术，并消化吸收世界著名制造厂成功经验而精心制作的产品，完全符合国家最新标准GB1094.1—2-2013、GB1094.3-2003、GB1094.5-2003及国际电工委员会推荐标准IEC-76,其主要特点简介如下：

- ① 电力设备配备了各种数字化接口，其具备自身信息状态管理、诊断、评估和控制的功能，实现智能化。
- ② 各电气元件的数字化信息以及电网的运行化信息，完成电力系统及设备的监控综合管理，实现传统意义上的系统融合。
- ③ 损耗低，节能显著，尤其是空载损耗大幅度降低，比国家标准GB/T6451-2008下降了35%。
- ④ 高压调压部分设置单独的调压绕组，使各绕组的安匝更趋平衡，有效降低变压器短路时所造成的电动力，提高变压器承受突发短路的能力。
- ⑤ 采用整体组装新工艺。
- ⑥ 宽幅板式夹件与侧梁形成坚固的框架结构，器身与油箱“六面刚性定位”，使器身能承受各种运输条件下冲击试验而不发生位移。
- ⑦ 变压器绕组内部设有曲折油导向结构，能使绕组内部各区域

都能得到充分的冷却。

- ⑧ 铁心片全部采用优质冷轧硅钢片，全斜接缝，不冲孔，板式夹件宽幅结构，并采用不叠上绳工艺，有效地提高了空载性能，同时降低了噪音。
- ⑨ 采用波纹管式储油柜，有效的减缓了变压器油的老化程度，采用磁针式油位计能真实准确地反应油位情况。片式散热器，提高了散热效果，降低了噪音。
- ⑩ 采用优质油漆并进行特殊处理，确保产品美观及长期耐用。
- ⑪ 密封可靠，密封面精加工，并有开槽限位结构。采用优质密封件。箱沿采用双层密封，根据用户要求也可焊死密封。
- ⑫ 主要组部件拥有和各大知名变压器组部件生产商良好的合作关系，可以根据不同用户的要求定制不同的组部件。
- ⑬ 油箱箱壁采用宽幅钢板不拼焊，折成“瓦楞结构”，减少了焊缝，增加了机械强度，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，从而起到降低噪音的作用。
- ⑭ 变压器器身装运和绕组绕制在全封闭的净化车间制作。
- ⑮ 绝缘材料在原材料，半成品及最终装配器身的各个阶段采用了严格、规范的干燥密封保管，避免不可控制的吸潮膨胀变形和尺寸变化。

110kV class high efficient and environment protective power transformer is based upon advanced technologies introduced from abroad and the successful experiences of leading manufacturers both domestic and abroad. It conforms entirely with up-to-date National Standard GB1094.1~2-2013, GB1094.3-2003, GB1094.5-2003 and International Standard IEC76 commended by international electrical engineering committee, and are proud of the following outstanding features:

- ① Electrical equipment which has various interfaces can be very clever with its function to manage, diagnose, evaluate and control the information status.
- ② The general management for video surveillance system of electrical system and equipments, which is the traditional meaning of system fusion, can be done With digital information of electrical components and operation information of power grid.
- ③ Low loss, and significantly energy-saving. The average no-load loss is 35% lower than prescribed by National Standard GB/T6451-2008.
- ④ The regulating winding is a separate winding which apart from the high voltage main winding. In this way, total ampere-turn balance between windings; and the axial electrodynamic force during short circuit can be reduced, thus upgrading the short circuit withstand capability of the transformer as a whole.
- ⑤ The windings of one phase are assembled into an integral phase block before placing into the core.
- ⑥ Core frames in the form of a flat plate are used for clamping the core, and are joined together by beams. The

core and coil assembly is fixed in the tank, being positioned against the tank at six sides rigidly, so that there can be no displacement of the assembly due to impacts during transport.

- ⑦ Zigzag directed flow of oil are provided within the windings, so that all parts of the windings can be cooled more evenly.
- ⑧ The core laminations are made up from high-quality cold-rolled grain-oriented silicon steel sheets with chamfered joints and without punched holes, and are stacked without the upper yoke sheets in place, so that they are effectively improved no-load upper together with lower frame.
- ⑨ Diaphragm membrane is provided within the bellows-type conservator, preventing direct contact of oil with air, protecting the oil from aging, thereby prolonging the service life of oil. magnetic oil-level gauge reflects correctly the oil level in bellows-type conservator. Flat plate-type radiator can effectively cool down the transformer.
- ⑩ High quality paint is applied as surface finish of the tank and exposed steel parts, after shot-blasting and pretreatment, thus ensuring a durable life and glossy surface.
- ⑪ Reliably sealed, and fine machined for sealed surface. Used double gasket grooves in their jointing surface and kept tight with high quality gasket material. If required by the customer, the upper and lower part of the tank can also be welded tight.
- ⑫ Main components because of good relationship and long-term co-operation with all well-known sub-suppliers, we can meet the requirements of customers with whatever types of components they wish to have.
- ⑬ Transformer tanks are fabricated with steel plates wide enough so that there are no weld joints on each surface. The steel plates for tank walls are pressed into corrugated shape to increase mechanical strength and to reduce noise due to vibration of the tank wall.
- ⑭ The winding manufacture, winding assembly core and winding assembly work are all proceed in totally closed clean department.
- ⑮ Quality assurance rules are also observed for all insulating parts, from raw material to final assembly. Strict regulations are observed for drying, wrapping and storage, preventing the absorption of moisture, swelling, and deformation.



10kV-110kV整流变压器

10kV-110kV Rectifier Transformer



整流变压器是作为整流装置电源的变压器，一次侧接交流电网，称为网侧；二次侧接整流器，称为阀侧。

我公司运用了世界先进的变压器设计技术和制造工艺，并与国内高校共同开发多项科研课题，采用程序化设计，对绝缘击穿机理、电场的数值分析与绝缘技术、绕组的冲击特性及抗短路强度、漏流场的损耗计算等进行了分析和定量计算，结合我公司多年整流变压器制造经验，在传统技术基础上有较大突破，从而进一步提高产品的可靠性、先进性。

整流变压器的主要特点：

- 1 整流变压器的负载是一非线性阻抗，使整流变压器阀侧绕组含有基波及各次谐波迭加的电流通过，而网侧绕组也具有与整流电路接法有关的相应非正弦电流。
- 2 根据用户的不同工艺要求，整流变压器要求网侧电压(如110kV)直降到很低的阀侧电压(如1kV)，阀侧电压需从5%-105%大范围内有载调压。整流变压器采用自耦调压、主调合一、串变调压等多种调压方式，达到电压直降和大范围调压的目的。
- 3 根据用户的不同要求，整流变压器阀侧有多种特殊联结方式。如双反星形带平衡电抗器、三相桥式、星一角并联、六相桥带平衡电抗器等。
- 4 为了连续调节整流电压，可以采用自饱和电抗器作细调 and 稳流，少数也有采用可控硅细调。
- 5 大功率整流设备为提高功率因数，减少网侧的谐波电流，要求整流变压器采用量角绕组移相、移相绕组移相、自耦

变压器移相等方法，从而提高整流设备的脉波数。

- 6 为了降低大电流在油箱等钢结构件中引起的漏流损耗采取电或磁屏蔽等措施。
- 7 大功率整流设备中变压器阀侧电流很大，达到100kA甚至更大，为了提高功率因数，避免局部过热和整流元件电流分配不均现象，需采用同相逆并联技术。
- 8 随着交流变频调速技术的广泛应用，新开发的三裂解传动整流变压器应运而生，该变压器低压侧绕组裂解为三个独立分支，向一台电动机的每一相变频供电，达到降低损耗，节省占地面积。

多年来我公司为一般工业用、电化电解用、传动用、牵引用、变频调速用、变频电源用、直流输电用等工业部门设计制造了一批110kV级及以下的各种整流变压器，得到用户的一致好评。

Rectifier transformer is a transformer which used as the source of rectifier equipment. And primary side of rectifier transformer connected with AC power is called line side, and secondary side connected with rectifier is called valve side.

Our company use the advanced techniques and manufacturing process, and with domestic colleges and universities to develop a number of research projects. Using procedural design, insulation breakdown mechanism, the electric field numerical analysis and insulation technology, the impact of characteristics and anti-sudden short-circuit strength of winding, the loss of eddy current filed calculation are analyzed and calculated. With manufacturing experience on rectifier transformer for many years, our company has got major break-through on the basis of the traditional calculation, which will further improve the reliability and advancement of products.

Features about rectifier transformer:

- 1 The rectifier transformer's load is non-linear impedance, and valve side windings of rectifier transformer would get the currents which contain fundamental and other high-order harmonic superposition. And line side also gets corresponding non-sinusoidal currents connected by rectifier circuit coupling method.
- 2 According to the user's process requirements, the rectifier transformer line side voltage is required (such as 110kV) straight down to a very low valve side voltage (such as 1kV). The valve side voltage of rectifier transformer is required within a wide range of on-load tap from 5%-105%. Auto voltage regulator and main theme of unity, string variable voltage regulator and other ways are used in rectifier transformer to achieve the purposes of a wide range voltage.
- 3 According to different requirements of various customers, the valve side of rectifier transformer has a variety of special coupling method, such as: dual-back-star with inter phase reactor, three-phase bridge, star-delta parallel, six-phase bridge by inter phase reactor.
- 4 Self-saturable reactor can be used to change over and stabilize voltage in order to smooth rectify voltage. And some use silicon control to regulate voltage.
- 5 To improve power factor and reduce the line side harmonic currents of high-power rectifier equipments, rectifier transformer is needed to use star-delta winding phase displacement, phase-shift windings by phase displacement, autotransformer phase displacement, to improve the number of pulse of rectifier equipment.

6 In order to reduce the large current in the fuel tank and other structures caused by loss, the rectifier transformer used magnetic shielding technology and so on.

7 Valve side current of high-power rectifier equipment is very large, reaching 100kA and even greater. To improve power factor and avoid partial overheating and uneven distribution of current rectification components, it's required the technology of reverse-phase parallel.

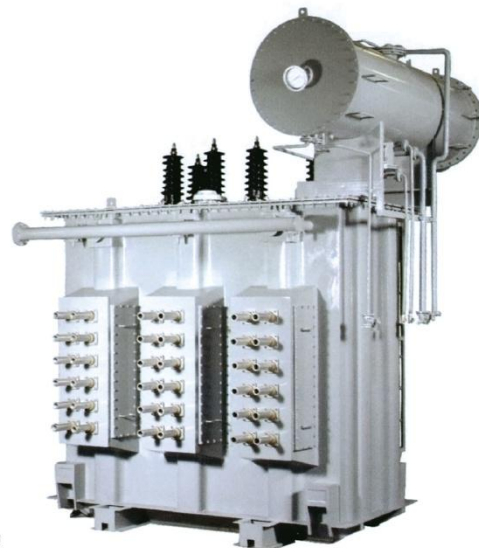
8 With the wide application of AC variable frequency control technology, the new three-split drive rectifier transformer is developed. The low voltage valve winding is split into three independent branches and supplies power to each phase with variable frequency to the generator, featuring with low consumption and less area.

A number of 110kV and below and different kinds of rectifier transformers have been manufactured for the general industrial, electrochemical electrolysis, transmission, traction frequency, variable frequency power supply, DC power transmission and other industrial sectors over ten years, and got the user's high praise.



10kV-110kV电炉变压器

10kV-110kV Furnace Transformer



电炉变压器是与电炉配套的电源设备。它在电、磁、热、机械等方面对电力变压器有更苛刻的要求，并且要符合各种电炉的操作工艺，负荷特性，满足用户使用方便节能减排等条件。电炉变压器种类很多。本公司主要生产下列产品：

高阻抗电弧炉炼钢变压器；直流电弧炉变压器；铜包精炼炉变压器；埋弧炉变压器（包括铁合金炉变压器，电石炉变压器，黄磷炉变压器，单相钛渣炉变压器等）；电渣炉变压器；工频感应炉变压器；单相石墨化电炉变压器等。

以我公司自主开发的量大面广的具有“8”字形绕组的有载调压电弧炉炼钢变压器为例，其特点如下：

该变压器是冶炼优质钢和合金钢的电弧炉用电源变压器。它由串联调变和主变两台变压器组成，同装在一个油箱中，两台变压器的低压绕组制成连体的“8”字，免去了两个低压绕组间繁琐的焊接工艺。

特点：

① 调压范围广。二次电压为等级差调压，适应电弧炉炼钢的工艺要求。

- ② 采用同相逆并联、电（或磁）屏蔽、换位导线等技术措施，降低损耗，提高效率。
- ③ 主变在恒磁密下工作，充分利用材料，经济性好。
- ④ 可接补偿电容器，以提高网络功率因数。
- ⑤ 便于选择合适电压等级的有载分接开关，经济又安全。
- ⑥ 高压电压不受开关绝缘水平限制，高压（如110kV）可直接降到低压，省去了中间变电站，节约投资30%以上。
- ⑦ 采用单独调压线圈，安匝平衡好，加上采用油缸压钉结构，增加其承受短路能力，可靠性高。
- ⑧ 利用三次侧开断代替一次侧开断，从而可以实现用价格低廉寿命高的低压断路器代替价格昂贵寿命低的高压断路器。

以31500/110电炉炼钢变压器为例，其负载损耗、空载损耗、空载电流，比原有产品分别下降13%，17%，26%，是名副其实的节能减排创新产品。

Furnace Transformer is a power equipment which is supporting for EAF. It has more stringent requirements in electric, magnetic, thermal, mechanical and other aspects compared with other transformers, and has to comply with the operation process of various furnace transformers and load characteristics, so that it can meet users, and facilitate energy-saving emission reduction and other conditions. There are many kinds of furnace transformers. The company mainly produce the following products:

High impedance furnace transformer, DC arc furnace transformer, ladle refining furnace transformer, submerged arc furnace transformer (including ferroalloy furnace transformer, calcium carbide furnace transformer, yellow phosphorus furnace transformer, single phase titanium slag furnace transformer etc.), electro slag furnace transformer, frequency induction furnace transformer, single-phase graphite furnace transformer, etc.

Take on-load tap furnace transformer with "8"-shaped winding which is developed independently for example, the features as follows:

The transformer is an arc furnace power transformer which is used to make a high-quality steel and alloy smelting arc furnace. It consists of series voltage regulator transformer and main transformer which are mounted on the same tank. The two low-voltage windings are made of the "8", replacing the cumbersome welding process between two low-voltage windings.

Features:

- ① Wide range of voltage-regulate. Secondary voltage of differential voltage levels meets the arc furnace steel-making process requirements.
- ② Using the same reverse-phase parallel, electric (or magnetic) shielding, transposed conductors and so on to reduce losses and improve efficiency.
- ③ The main transformer works in constant flux density. Make full use of materials and have a good conservation.
- ④ It can be accessed compensation capacitor in order to improve network power factor.
- ⑤ Easy to choose suitable voltage-level load tap changer, economic and safe.

⑥ High-voltage has no restriction of switching insulation level, and it (e.g. 110kV) can be reduced to low-voltage directly, eliminating the intermediate substation and saving more than 30% invested.

⑦ A separate voltage coil is used so that ampere-turn balance is good, coupled with cylinder pressure nail structure, its ability to withstand short-circuit is also increased and has high reliability.

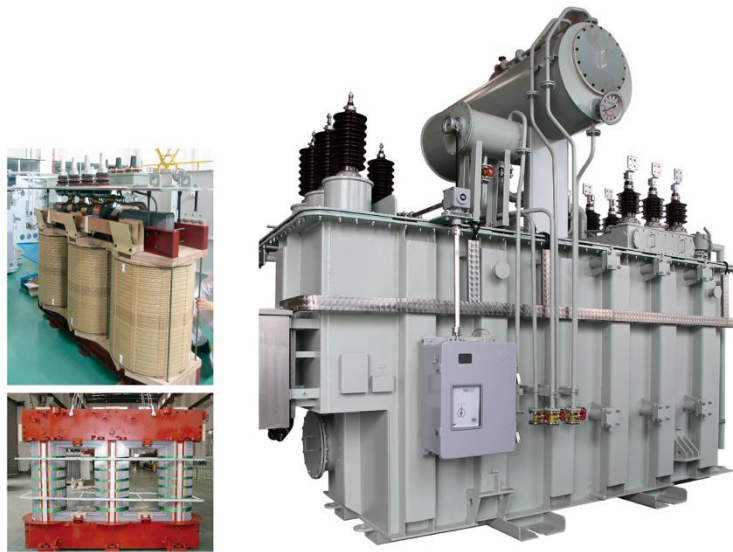
⑧ Using third breaking off instead of primary breaking off so that it can be achieved with low price and high life of low-voltage circuit breakers instead of high price and low life of high-voltage circuit breakers.

Take 31500/110 arc furnace transformer for example, the load loss, no-load loss, no-load current is dropped 13%, 17%, 26% compared with the original product respectively. It is a real energy-saving emission reduction innovative product.



10kV-110kV电力变压器

10kV-110kV Power Transformer



本产品符合国家标准GB1094《电力变压器》和GB/T6451《三相油浸式电力变压器技术参数和要求》。本产品有载调压范围为 $1.0 \pm 4 \times 2.5\%kV$ ； $110 \pm 3 \times 2.5\%kV$ 可在一次侧借助于有载调压开关在调压范围内手动、电动或自动调整电压，以保证输出电压的稳定性。因此，被广泛应用于对电压质量要求较高的科研、大楼、宾馆及企事业单位。本产品为更新换代产品，具有较好的经济效益。

The transformers are in accordance with National Standards GB1094 Power Transformers and GB/T6451 Technical Specifications and Requirements for Three Phase Oil-immersed Power Transformers. The voltage regulation range is $10 \pm 4 \times 2.5\%kV$ for 10 kV class and $5 \pm 3 \times 2.5\%kV$ for 110 kV class. Voltage regulation is effected by adjusting the on-load tap changer on the high voltage side. Adjustment can be made manually or motor-operated, the output voltage on the secondary side at a required stable level. Therefore they are widely used in places where requirement of voltage quality is emphasized, such as institutes, building, hotels, hospital and factories. These transformers are new products and have better economy in operation.

10kV-35kV干式变压器

10kV-35kV Dry-type Transformer

**应用范围**

玻璃纤维增强薄绝缘浇注SC(B)10、SC(B)11型干式变压器，可作为油浸式配电变压器的更新换代产品。特别适用于电厂、高层建筑、商业中心、剧院、医院、实验室、博物馆、石油钻井平台、船舶、港口、车站、机场、石油化工厂、地下铁道、隧道、矿井下和其他的重要场所。

Application scope

Glass fiber enhanced thin insulation resin pouring SC(B)10, SC(B)11 dry transformer is the next generation of oil-immersed distribution transformer, specially applicable for the power plant, high building, commercial center, theater, hospital, lab, museum, oil drill platform, ship, port, station, airport, oil chemical plant, underground railway, tunnel, mine well and other important places.

技术规范

- 电压等级：10-35kV
- 容量范围：30-6300kVA
- 调压方式：无励磁调压或有载调压
- 分接范围： $\pm 5\%$ ， $\pm 2 \times 2.5\%$
- 频率：50Hz或60Hz
- 相数：3相
- 联结组标号：YynO；Dyn11（或按客户要求）
- 短路阻抗：标准阻抗（见性能参数表）
- 使用环境：相对湿度100%，环境温度不高于40℃
- 最高温升：100k
- 冷却方式：自冷（AN）
- 防护等级：IP00，IP20（户内），IP23（户外）
- 绝缘等级：F级
- 绝缘水平：1）10kV级产品工频耐压35kV/冲击耐压75kV
2）20kV产品工频耐压50kV/冲击耐压125kV
3）35kV产品工频耐压70kV/冲击耐压170kV

Technical specification

- Voltage grade：10-35kV
- Capacity scope：30-6300kVA
- Voltage regulation mode: no excitation voltage regulation or loaded voltage regulation
- Branching scope: $\pm 5\%$ ， $\pm 2 \times 2.5\%$ (or according to the user's demand)
- Frequency: 50Hz or 60Hz
- Phase: 3 phases
- Linkage group label: YynO; Dyn11 (or according to the user's demand)
- Short circuit resistance: standard resistance
- Application environment: relative temperature 100%, ambient temperature not higher than 40℃
- Max temperature rise: 100k
- Cooling mode: automatic cooling(AN)
- Protection class: IP00, IP20(indoors), IP23(outdoors)
- Insulation class: F
- Insulation level:
 - 1) 10kV product industrial frequency withstand voltage 35kV, impact withstand voltage 75kV
 - 2) 20kV product industrial frequency withstand voltage 50kV, impact withstand voltage 125kV
 - 3) 35kV product industrial frequency withstand voltage 70kV, impact withstand voltage 170kV

10kV-35kV箱式变电站

10kV-35kV Box type substation

光伏或风电组合式变压器是为满足日益增长的新能源发电的供电要求，在消化和吸收国内外的先进技术并结合国内需求自行开发设计的系列产品。该产品是将变压器，负荷开关，高压限流全范围保护熔断器安装在变压器的油箱内，利用变压器油作为绝缘和散热介质；采用全密封结构，具有体积小、重量轻、安装方便等优点。

变压器能够长途运输的震动和颠簸，发送到用户安装场所后无需进行常规的吊芯检查。

箱体采用特殊工艺处理，具有良好的防腐能力，能有效防止风沙和沿海盐雾的侵蚀。

高低压柜分别设置防风雨外壳，两者采用“L”型排列，高压柜门采用网门电磁锁保护措施。可根据用户要求设置避雷器和带电显示器等其它电气元件。低压柜内按用户的不同要求可安装框架式断路器或熔断器等保护、测量和显示装置。



ZBW(YB)系列组合式变电站，由高压室，变压器室，低压室三大部分组成。它具有运行安全、可靠、成套性强、综合造价低、安装周期短、操作维护简便、造型美观等优点。

产品既可用于环网供电的配电系统中，也可作为放射式电网的终端供电。

Photovoltaic or Combined type wind power transformers are the self-developed and self-designed products which to meet the growing new energy power generation requirements by digesting and absorbing the advanced technologies combined with domestic demand. The products are the transformers which installed on-load switch and full range protected fuses of high voltage current-limit in the tanks, using transformer oil as an insulating and cooling medium. The entirely sealed structure has the excellence, such as: small size, light weight, convenient installation, etc.

The transformers can withstand shake and bumps in long-distance transportation way, and routine core inspection are not needed when the transformers sent to installation place.

Boxes are adopted the special process, and they have good anti-corrosion ability to effectively prevent wind erosion and coastal salt spray.

The cabinets of high-voltage and low-voltage are set with anti-wind and anti-rain crust, and both are used the "L"-type arrangement. The door of high-voltage cabinet is adopted web electromagnetic lock protection. It could be set surge arresters and displays and other electrical components by the users' requirements. Low-voltage cabinet could be installed the protection, measurement and display devices such as framed-breaker or fuse according to the different requirements of users.

ZBW (YB) Series modular substation is combined with high-voltage room, transformer room, low-voltage chamber. It has excellencies such as run a safe, reliable, complete and strong, lower total cost, short installation, operation and maintenance simple, handsome in appearance and so on.

This product can be used for loop power supply distribution system, also can be used as the terminal radial grid electricity.



10kV-35kV磁性调压器

10kV-35kV Magnetic Control Voltage Regulator



磁性调压器是一种没有机械传动无触点的调压器，电压的调节是由直流激磁来控制的，可以开环手控，也可以按不同的控制信号实现闭环自控，它是自动控制系统中的一种新型执行元件。斯科特（T接）磁性调压器是将三相电源变为二相电源，它不仅可以同时调节二个单相负载的阻抗电压，又可根据二个单相负载的不同要求单独调节其阻抗电压。在单相负载的情况下，可以有效改善三相电网的不平衡度。

Magnetic control voltage regulator is a no mechanical transmission, non-contact voltage regulator. Voltage regulation is controlled by direct current excitation. It can be open-loop manual controlled, and can also achieve closed-loop control under different control signal, it is a new type of system components in the automatic control system. Scott (T connection) magnetic voltage regulator makes three-phase power grid become two-phase power, it can regulate not only the two single-phase load impedance voltage drop, but also two single-phase load in accordance with the different requirements of a separate regulation the impedance voltage drop. It can improve the imbalance of three-phase power grid effectively under single-phase load.

电抗器

Reactor



电抗器是一种电感器件，广泛应用于电力系统和电气传动方面，电抗器在电路中主要作限流稳流滤波、无功补偿、移相、储能、功率放大等。

无气隙直流电抗器：属国家专利产品，它与有气隙电抗器相比，重量轻、体积小、调试方便、过载能力强、限制短路电流性能好、无噪声等优点。

三相进线电抗器：可控硅整流供电的直流电气传动系统；当供电装置由电源直接供电时，串联于各相的进线电抗器可以抑制电流上升率，以保护可控硅整流元件，且对电网起谐波抑制作用。

启动电抗器：交流电动机在额定电压下启动时，启动电流将会加大，串联一个启动电抗器使启动电压降低，从而减少启动电流。

PKDGK系列干式空心平波电抗器：在正常情况下用来减少直流系统中电压和电流的谐波分量，在故障情况下能抑制故障电流的上升速度，限制短路电流的值。经常被使用在高压直流系统或与钢铁有色冶金企业的大型整流馈电式直流电动机串联使用。

有源滤波器用电抗器（APF电抗器）：主要接在电网侧和有源滤波器之间，其作用是产生一个与系统中的谐波成分相反相位的同样的谐波分量注入系统，从而抵消系统中的谐波成分。与无源滤波补偿装置相比，APF电抗器能够对变化的谐波继续快速的动态跟踪补偿，且补偿特性不受电网阻抗的影响。APF电抗器将是今后发展的趋势。



Electric reactor is an inductance device, widely used in the power system and electrical drive. The electric reactor is used for current limit, current stabilizing, filtering, reactive compensation, phase shift, energy reservation and power amplification.

DC reactor without air gap: national patent product, compared with the reactor with gas gap, it has lighter weight, smaller volume with easy commissioning, overload capacity, good performance of limiting short circuit current and no noise.

Three-phase in-line reactor: thyrode power supply DC electrical drive system; when the power supply device offers the power via the power supply directly, the in-line reactor of each phase in series can restrain the rise of the current to protect the thyrode components with harmonic suppression for the grid.

Start reactor: when the AC motor starts with the rated voltage, the start current will increase. A start reactor is placed in series to reduce the start voltage and thus the current.

PKDGK dry hollow flat current reactor: it is used to reduce the harmonic component in the voltage and current of DC system. In case of fault, it can restrain the rise speed of the current and limit the short circuit current. It is used in high voltage DC system or with the large rectifier-driven DC motor of steel nonferrous metallurgy enterprise in series.

Active power filter reactor (APF reactor): connected between the grid and active power filter, it is used to generate a harmonic component injection system with the same reverse phase in the system to counteract the harmonious wave component in the system. Compared with the passive filter compensation device, APF reactor will carry out quick dynamic following compensation to the changing harmonious wave and the compensation feature will not be impacted by the grid resistance. APF reactor is the trend in the future.

晶闸管调压器及 各种非标控制柜

Thyristor voltage regulator and various non-standard control cabinet



产品简介

数字化调压器分为数字化单相调压器和数字化三相调压器，其是采用数字化三相功率控制器与负载匹配变压器相结合的一体化设计，通过负载匹配变压器的一次侧移相调压的方式实现输出交流功率连续调节的交流调压器。具有开环或多种闭环控制形式、多种给定控制信号选择。

数字化调压器根据实际负载功率和电压的要求，通过改变负载匹配变压器的功率和变比实现负载功率和电压的匹配，可广泛应用于各种工业加热、热处理等自动控温系统的单相或三相交流功率的连续调节控制。

我公司能为真空炉、氢气炉、单晶炉、多晶硅铸锭炉等多种工业炉提供各种非标控制柜。直流控制单元选用德国EBRO、功率控制单元选用瑞典P+H、电器选用ABB、SIEMENS等国际名牌产品，柜体选用优质板材经数控加工而成，柜体的防护等级能满足各种苛刻的环境要求。

Product Introduction

Digital voltage regulator includes digital single-phase voltage regulator and digital three-phase voltage regulator, as an AC voltage regulator, it adopts an integrated design combining digital three-phase power controller and load-matching transformer and it realizes the continuous regulation of output AC power by the way of phase shift & voltage regulation at the primary side of the load-matching transformer. It has open-loop or various closed-loop control forms and multiple given control signal selections.

Digital voltage regulator realizes the matching of load power and voltage by changing the power and transformation ratio of the load-matching transformer according to the requirements of actual load power and voltage and it can be widely used in the continuous regulation and control of single-phase or three-phase AC power of automatic temperature control systems such as various industrial heating and heat treatment system etc.

Our company offers non-standard control cabinet for multiple industrial furnaces, including vacuum furnace, hydrogen furnace, single crystal furnace and polycrystalline silicon ingot production furnace. German EBRO DC control unit, Sweden P+H power control unit and ABB, SIEMENS electrical devices are used. The cabinet is made of high quality sheet by CNC machining. The protection class of the cabinet can meet the strict requirement in various environments.



性能指标

- 采用柜式一体化设计
- 可任意设定恒压、恒流、恒功率闭环控制功能以及开环控制、调功控制、移相/调功综合控制功能。
- 具有高精度AD转换，恒压、恒流、恒功率精度高于0.5%，系统分辨率高于1‰。
- 配置LED数码管，便于各种功能参数设定和电参数显示。
- 自动限流功能，输出电流≥1.1倍额定电流时，电流被限制。
- 具有缺相、过流、过热、晶闸管故障、负载断线或不平衡保护功能。
- 故障自动诊断功能。
- 相序自动确认功能。
- 具有软启动、软关断功能。
- RS485通讯接口，MODBUS通讯协议，可与PLC、上位机通讯，方便远程监控。

Performance Indexes

- It adopts cabinet-type integrated design.
- Integrated control functions such as constant voltage, constant current and constant power closed-loop control and open-loop control, power regulation control, phase shift/power regulation control functions can be set freely.
- With high-precision AD conversion, the constant voltage, constant current and constant power precision is higher than 0.5% and the system resolution ratio is higher than 1‰.
- It is equipped with a LED numeral display tube, which is convenient for setting various functional parameters and displaying electrical parameters.
- It has an automatic current-limiting function, when the output current is equal to or greater than 1.1 times of the rated current, the current will be limited.
- It has phase-deficient, overcurrent, overheating, SCR fault, load disconnection or unbalance protection functions.
- Fault self-diagnosis function.
- Automatic phase-sequence confirmation function.
- It has soft start and soft turn-off functions.
- With RS485 communication interface and MODBUS communication protocol, it can communicate with PLC and the host computer, which is convenient for remote monitoring.

Service and Sales

服务与销售



本着方便用户、服务大众的原则，并根据客户的需要不断创新，提高整体服务水平，以优质的服务提升了品牌的价值，在国内有着良好的口碑。产品还远销欧美、中东、中亚、非洲等国家和地区，竭诚欢迎广大客户选用我公司产品，期待与您携手合作，共同发展。

With principle of user first and serving for public, we keep the innovation, increase the service level based on customer needs and improve the value of our products with high quality service. Our products enjoy high reputation in the country. The products are sold to Europe, Middle East, Middle Asia, Africa and other countries and regions. We hope that more and more customers will select our products. We wish to cooperate with you for joint development.





特变科技 TEBIAN S&T

产品质量为最高标准。

科技创新为最强支撑。

顾客满意为最终目标。

强者恒强，激流暗藏，领先源于方向，创造源于实力，领航未来，并肩上前线。

The product quality is the highest standard.
The technical and scientific innovation is the strongest support
The customer satisfaction is the final target.
The powerful player will keep its strength constantly and succeed in the severe competition! The advance origins from the direction and the innovation roots from the power. We will lead our future and develop together.



Future Prospect 未来展望



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