



ZTELEC GROUP
Powered Green & Reliability

Dry-type transformer

干式变压器





Epoxy resin cast dry type transformer

环氧树脂浇注干式变压器

Overview 概述

Our company can produce a variety of epoxy resin casting transformers high voltage up to 35kV and capacity up to 6300KVA. The variety includes SC10, SCB10 series and SC11, SCB11 series SC(B)12-SC(B)15 series. The product is widely used in power transmission and transformation systems, such as hotels, restaurants, airports, high-rise buildings, commercial centers, residential quarters and other important places, as well as subways, smelting power plants and other harsh environments.

我公司可生产电压等级 35kV 以下，容量为 6300KVA 以下的系列品种环氧树脂浇注变压器，品种包括 SC10、SCB10 系列以及 SC11、SCB11 系列、SC(B)12-SC(B)15 系列产品，该产品广泛应用于输变电系统，如宾馆饭店、机场、高层建筑、商业中心，住宅小区等重要场所，以及地铁、冶炼电厂等环境恶劣场所。

Implementation standards 执行标准

GB 1094 : Power Transformer

IEC 60076 : Power Transformer

GB/T10228 : Specification and Technical Requirements of
Dry type Power Transformers

JB/T10008 : 6kV~500kV Power Transformer Sound Level

GB/T7354 : Partial Discharge Measurements

GB 1094 《电力变压器》

IEC 60076 《电力变压器》

GB/T10228 《干式电力变压器技术参数和要求》

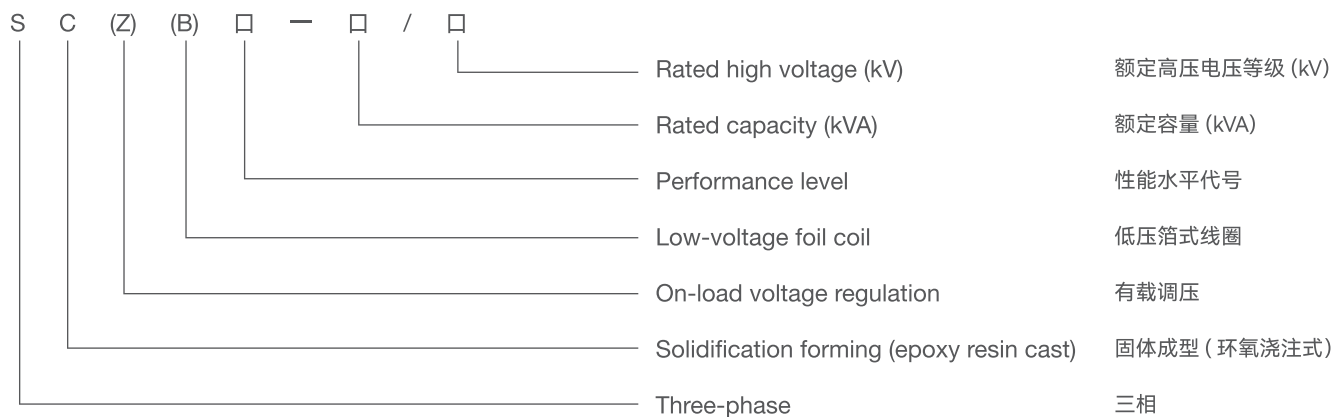
JB/T10008 《6kV~500kV 级电力变压器声级》

GB/T7354 《局部放电量》

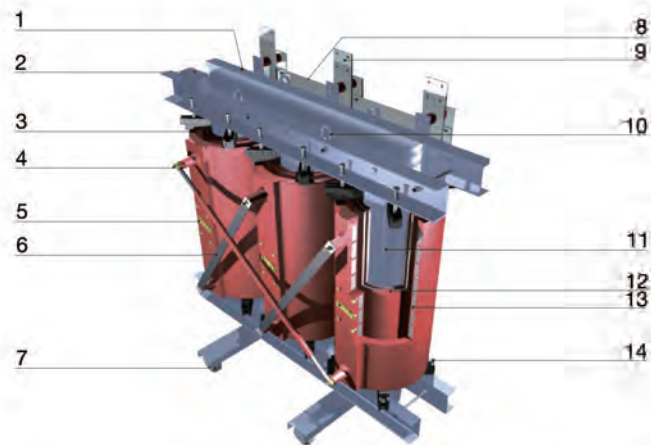
▶ Type description 型号说明

Dry type rectifier transformer (For variable frequency drive)

干式整流变压器 (变频调速用)



▶ Configuration 外形结构



- | | | |
|--|---|---|
| <p>1 Nameplate
铭牌</p> <p>2 Distribution box
配电箱</p> <p>3 Temperature probes Pt 100
Pt100 温度探头</p> <p>4 HV output
高压输出</p> <p>5 For primary coil voltage changing
用于初级线圈电压的调节</p> | <p>6 HV connection-to triangle
高压连接 - 到三角形</p> <p>7 Wheels for longitudinal and transverse movement
车轮纵向和横向运动</p> <p>8 Neutral output
中性的输出</p> <p>9 LV output
低压输出</p> | <p>10 Lifting lugs
吊环</p> <p>11 Magnetic circuit
磁路</p> <p>12 Low voltage
低压</p> <p>13 High voltage
高压</p> <p>14 Ground connection
接地</p> |
|--|---|---|

▶ Features 特点

- + Low consumption, energy saving, low noise, no maintenance, no pollution and can be directly installed in the load center;
低耗节能、噪音低、免维护、无污染,可直接安装在负荷中心;
- + Strong resistance to short circuit, low partial discharge, high reliability;
抗短路能力强、局部放电率低、可靠性高;
- + Strong cooling capacity, can be operated under 140% rated load in the condition of forced air cooling;
散热能力强,在强迫风冷条件下可以在 140% 额定负载下运行;
- + Corrosion resistance, moisture resistance, flame retardant, fireproof, can be operated in high humidity and other harsh environments;
耐腐蚀、耐潮、难燃、防火,可在高湿度和其他恶劣环境中运行;
- + Equipped with intelligent temperature controller, which can be monitored and controlled centrally to ensure the reliable operation of the transformer.
配有智能温控仪,可以集中监视和控制,为变压器可靠运行提供保证。





SC(B)10, SC(B)11-30~4000/10
series dry type transformer
SC(B)10, SC(B)11-30~4000/10 系列干式变压器

► Overview 概述

With filler thin insulation and coil encapsulated by epoxy resin, this series of dry type transformers is flame-retardant, fireproof, explosion-proof, free from maintenance and no pollution and it is compacted and can be installed at load center. Besides, with scientific and reasonable design and coating craftwork, it has advantages of low partial discharge capacity, low noise and good heat dispersion. It can run for a long time with 140% rated load in the circumstance of forced air cooling. It is also equipped with an intelligent temperature controller to conduct centralized monitoring and control.

该系列带填料薄绝缘干式变压器，由于线圈被环氧树脂封装，所以难燃、防火、防爆、免维护、无污染、体积小，可直接安装在负荷中心。同时科学合理的设计和浇注工艺，使产品局部放电更小、噪声低、散热能力强，在强迫风冷条件下可以在 140% 额定负载下长期运行，并配有智能温控仪，可以集中监视和控制。



 Technical parameters 技术参数

Rated capacity (kVA) 额定容量	Voltage group 电压组合			Impedance voltage (%) 阻抗电压	SC(B)10			Sound level (dB) 声级	Dimension (mm) 外形尺寸			Weight (kg) 重量				
	HV (kV) 高压	Tap range 分接范围	LV (kV) 低压		No-load loss (W) 空载损耗	Load loss 120°C (W) 负载损耗 120°C	No-load curren (%) 空载电流		L	W	H					
30	10	±2×2.5%	0.4	4	190	710	2.0	44	620	400	600	220				
50					270	1000	2.0	44	650	400	740	320				
80					370	1380	1.5	45	750	500	770	460				
100					400	1570	1.5	45	800	500	830	580				
125					470	1850	1.3	46	950	880	1090	750				
160					540	2130	1.3	46	950	880	1090	780				
200					620	2530	1.1	47	1050	900	1200	850				
250					720	2760	1.1	48	1050	900	1200	1030				
315					10.5	±5%	0.4	4	880	3470	1.0	48	1080	900	1250	1060
400					980				3990	1.0	49	1110	950	1270	1400	
500					1160				4880	1.0	49	1130	950	1380	1550	
630					1340				5880	0.85	49	1200	950	1450	1820	
630					1300				5960	0.85	50	1320	950	1375	1850	
800					1520				6960	0.85	51	1310	1000	1315	2150	
1000					1770				8130	0.85	52	1400	1070	1520	2550	
1250					2090				9690	0.85	53	1440	1150	1570	3020	
1600					2450				11730	0.85	54	1650	1200	1795	4500	
2000					3050				14450	0.7	55	1800	1260	1870	5300	
2500	3600	17170	0.7	56	1950	1260	2035	6200								

Note: Due to continuous product improvement, the dimensions provided in this sample are for reference only. If necessary, our company can design and produce according to user requirements.

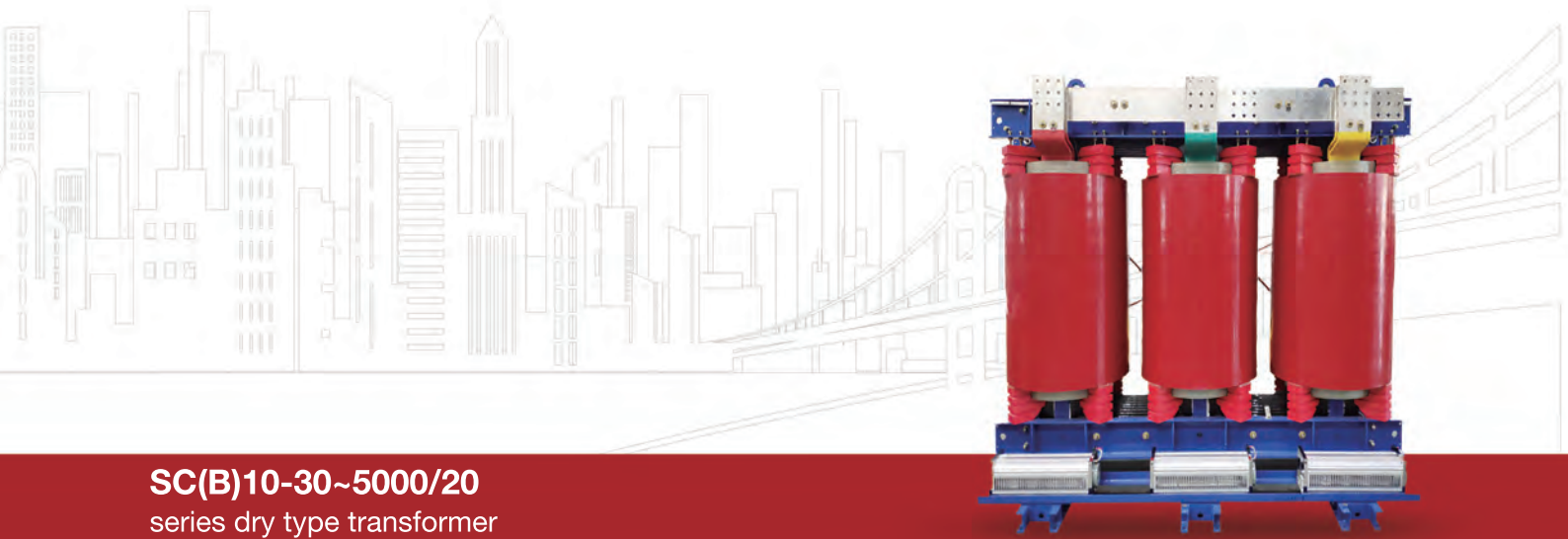
备注：因产品不断改进，本样本提供的尺寸仅供参考，如有需要，我公司可按用户要求进行设计和生产，请及时与本公司联系。

▶ Technical parameters 技术参数

Rated capacity (kVA) 额定容量	Voltage group 电压组合			Impedance voltage (%) 阻抗电压	SC(B)11			Sound level (dB) 声级	Dimension (mm) 外形尺寸			Weight (kg) 重量				
	HV (kV) 高压	Tap range 分接范围	LV (kV) 低压		No-load loss (W) 空载损耗	Load loss 120°C (W) 负载损耗 120°C	No-load current (%) 空载电流		L	W	H					
30	10	±2×2.5%	0.4	4	170	710	2.0	44	620	400	600	220				
50					250	1000	2.0	44	650	400	740	320				
80					330	1380	1.5	45	750	500	770	460				
100					360	1570	1.5	45	800	500	830	580				
125					420	1850	1.3	46	950	880	1090	750				
160					490	2130	1.3	46	950	880	1090	780				
200					560	2530	1.1	47	1050	900	1200	850				
250					650	2760	1.1	48	1050	900	1200	1030				
315					10.5	±5%	0.4	4	790	3470	1.0	48	1080	900	1250	1060
400					6.6				880	3990	1.0	49	1110	950	1270	1400
500					6.3				1040	4880	1.0	49	1130	950	1380	1550
630					6				1210	5880	0.85	49	1200	950	1450	1820
630									1170	5960	0.85	50	1320	950	1375	1850
800									1370	6960	0.85	51	1310	1000	1315	2150
1000									1590	8130	0.85	52	1400	1070	1520	2550
1250					6				1880	9690	0.85	53	1440	1150	1570	3020
1600	2210	11730	0.85	54		1650	1200	1795	4500							
2000	2750	14450	0.7	55		1800	1260	1870	5300							
2500	3240	17170	0.7	56		1950	1260	2035	6200							

Note: Due to continuous product improvement, the dimensions provided in this sample are for reference only. If necessary, our company can design and produce according to user requirements.

备注：因产品不断改进，本样本提供的尺寸仅供参考，如有需要，我公司可按用户要求进行设计和生产，请及时与本公司联系。



SC(B)10-30~5000/20

series dry type transformer

SC(B)10-30~5000/20 系列干式变压器

▶ Features 特点

- + Safe, flame retardant, pollution-free, and available to be installed directly in the load center;
安全、阻燃、无污染，可直接安装在负荷中心；
- + Maintenance-free, easy to install and low integrated operation cost;
免维护，安装方便，集成运行成本低；
- + It has good moisture-proof performance and can operate normally under 100% humidity;
具有良好的防潮性能，可在 100% 湿度下正常运行；
- + Low loss, low partial discharge, low noise, strong cooling ability, and 150% rated load operation under forced air cooling conditions;
低损耗、低局部放电、低噪音、冷却能力强，强制风冷条件下可 150% 额定负载运行；
- + It is equipped with perfect temperature protection control system to provide reliable guarantee for transformer safe operation;
配备完善的温度保护控制系统，为变压器安全运行提供可靠保障；
- + High reliability. According to the operation research of the products that have been put into operation, the reliability index of the products has reached the international advanced level;
可靠性高。根据已投运产品的运行研究，产品的可靠性指标已达到国际先进水平；
- + The transformer adopts BWDK series signal thermometer. The temperature measuring element is embedded in the upper part of the low-voltage coil. It can automatically detect and display the working temperature of the phase coil, and has the functions of over-temperature alarm and trip.
变压器采用 BWDK 系列信号温度计。测温元件嵌在低压线圈的上部，可自动检测并显示相线圈的工作温度，并具有超温报警和跳闸功能；

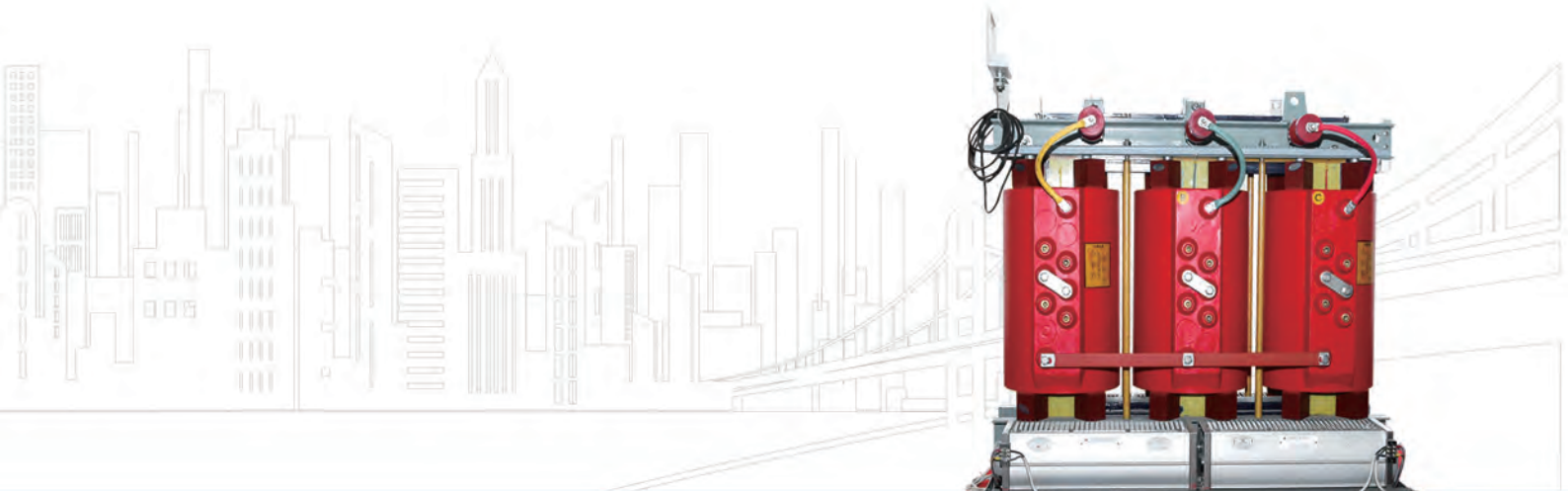
+ Low voltage winding is made of pure copper (or aluminum) foil and manufactured on special low voltage foil winding machine, with turn insulation of class F. Foil coil can solve the problems of low voltage, high short-circuit stress of high current coil winding products, ampere-turn imbalance, poor heat dissipation effect, large spiral angle of winding, unstable quality of manual welding and so on. At the same time, the winding end of our company adopts resin for sealing, solidification, moisture-proof and anti-fouling. Copper bars are welded automatically by argon arc welding. 低压绕组采用全铜（铝）箔绕制，匝绝缘为 F 级，在专用低压箔绕机上绕制。箔式线圈可解决电压低、大电流线圈绕制产品短路应力高、安匝不平衡、散热效果差、绕制螺旋角大、手工焊接质量不稳定等问题。同时本公司绕组端部采用树脂密封、固化、防潮、防污，铜排采用氩弧焊自动焊接。

▶ Technical parameters 技术参数

Rated capacity (kVA) 额定容量	Voltage group 电压组合			Vector group 联接组别	Impedance voltage (%) 阻抗电压	No-load loss (W) 空载损耗	Load loss F/120°C (W) 负载损耗 F/120°C	Load loss H/145°C (W) 负载损耗 H/145°C	No-load current (%) 空载电流	Dimension (mm) 外形尺寸			Weight (kg) 重量					
	HV (kV) 高压	Tap range 分接范围	LV (kV) 低压							L	W	H						
50	20	±2×2.5% ±5%	0.4	Yyn0 Dyn11	6.0	340	1230	1310	2.0	750	600	800	520					
100						540	1990	2130	1.8	950	700	840	750					
160						670	2470	2640	1.5	1000	950	760	870					
200						730	2940	3140	1.5	1100	950	820	900					
250						840	3420	3660	1.3	1230	950	1450	1250					
315						970	4080	4360	1.3	1260	1000	1500	1420					
400						1150	4840	5180	1.1	1340	1050	1650	1820					
500						22	±5%	0.4	Yyn0 Dyn11	6.0	1350	5790	6190	1.1	1400	1150	1650	2180
630						24					1530	6840	7320	1.0	1410	1150	1650	2380
800						1750					8260	8840	1.0	1470	1250	1750	2640	
1000						2070					9780	10400	0.85	1530	1300	1750	3010	
1250						2380					11500	12300	0.85	1580	1300	1850	3650	
1600						2750					13800	14800	0.85	1680	1400	1850	4450	
2000						3240					16300	17500	0.7	1770	1450	2050	5630	
2500						3870					19300	20700	0.7	1850	1450	2150	6610	

Note: Due to continuous product improvement, the dimensions provided in this sample are for reference only. If necessary, our company can design and produce according to user requirements.

备注：因产品不断改进，本样本提供的尺寸仅供参考，如有需要，我公司可按用户要求进行设计和生产，请及时与本公司联系。



SC(B)10-30~6300/35

series dry type transformer

SC(B)10-30~6300/35 系列干式变压器

▶ Features 特点

- + The series of dry type transformers is used to directly reduce the 35kV grid power supply to 400V distribution power supply for users. Remove 10kV power transmission and transformation, significantly reduce operating costs, reduce multi-level power transformation project construction, and have significant social benefit. The product has improved the distribution of inter-layer voltage and capacitance by optimizing the high voltage coil structure, which greatly improves the product's ability to withstand the impact of atmospheric overvoltage and operational overvoltage, and also improves the distribution of electric field, which further reduces the product's partial discharge.

该系列干式变压器用于将 35kV 电网电源直接降为 400V 配电电源为用户供电，减少 10kV 输变电环节，使运行费用明显降低，减少多级变电工程建设，具有显著的社会效益。该产品通过优化高压线圈结构，改善了层间电压和电容的分布，大大提高了产品耐受大气过电压和操作过电压的冲击能力，同时也改善了电场分布，使产品局放量进一步降低。

▶ Type description 型号说明

S	C	(B)	□	—	□	/	□		
									Rated high voltage (kV)
									额定高压电压等级 (kV)
									Rated capacity (kVA)
									额定容量 (kVA)
									Performance level code
									性能水平代号
									Low voltage foil coil
									低压箔绕
									Resin casting type
									树脂浇注式
									Three-phase transformer
									三相变压器

▶ Technical parameters 技术参数

Rated capacity (kVA) 额定容量	Voltage group 电压组合			Vector group 联接组别	Impedance voltage (%) 阻抗电压	No-load loss (W) 空载损耗	Load loss 120°C (W) 负载损耗 120°C	No-load current (%) 空载电流
	HV (kV) 高压	Tap range 分接范围	LV (kV) 低压					
50	33 35 38.5	±2×2.5%	0.4	Yyn0 or Dyn11	6.0	450	1420	2.3
100						680	2090	2.0
160						790	2810	1.5
200						880	3325	1.5
250						990	3800	1.3
315						1170	4510	1.3
400						1370	5410	1.1
500						1520	6650	1.1
630						1860	7690	1.0
800						2160	9120	1.0
1000						2430	10400	0.75
1250						2830	12700	0.75
1600						3240	15400	0.75
2000						3820	18200	0.75
2500						4450	21800	0.75

Note: Due to continuous product improvement, the dimensions provided in this sample are for reference only. If necessary, our company can design and produce according to user requirements.

备注：因产品不断改进，本样本提供的尺寸仅供参考，如有需要，我公司可按用户要求进行设计和生产，请及时与本公司联系。



SC(B)H15-100~2500/10

series of amorphous dry type transformer

SC(B)H15-100~2500/10 系列非晶合金干式变压器

▶ Features 特点

- + The iron core of amorphous alloy transformers is made of amorphous alloy. Amorphous alloy materials have a disordered amorphous state of the metal atoms and a lower loss than the silicon steel core, achieving high efficiency and energy saving. The area enclosed by the hysteresis loop of the amorphous alloy is much smaller than that of the cold rolled steel sheet, so the hysteresis loss of the amorphous alloy is much smaller than that of the cold rolled silicon steel sheet and its core loss is very low about 70% lower than the no-load loss of traditional silicon steel sheet iron core transformers, Amorphous alloy transformer is an ideal low-loss and energy-saving transformer. Due to low loss, amorphous alloy transformers generate less heat, have low temperature rise, and have very stable performance.

非晶合金变压器是用非晶合金制作铁芯的变压器。非晶合金材料的金属原子排列呈无序非晶状态，较硅钢材料铁芯损耗降低，达到高效节能效果。非晶合金的磁滞回线所包络的面积远远小于冷轧钢片，因此非晶合金的磁滞损耗比冷轧硅钢片的小很多，其铁芯损耗非常低，比传统硅钢片铁芯变压器的空载损耗低 70% 左右，是目前非常理想的低损耗节能变压器。由于损耗低，非晶合金变压器发热少、温升低，运行性能非常稳定。

▶ Type description 型号说明

S	C	(B)	H	15	—	□	/	□		
									Rated high voltage (kV)	额定高压电压等级 (kV)
									Rated capacity (kVA)	额定容量 (kVA)
									Performance level code	性能水平代号
									Amorphous alloy core	非晶合金铁芯
									Low voltage foil coil	低压箔式线圈
									Resin casting type	树脂浇注式
									Three-phase transformer	三相变压器

▶ Technical parameters 技术参数

Rated capacity (kVA) 额定容量	Voltage group 电压组合		Vector group 联接组别	Loss (W) 损耗		No-load current (%) 空载电流	Impedance voltage (%) 阻抗电压	Weight (Kg) 重量	Boundary dimension (L×W×H, mm) 外形尺寸	Gauge 轨距			
	HV (kV) 高压	LV (kV) 低压		No-load loss (W) 空载损耗	Load loss 75°C 负载损耗					Longitudinal / transverse (mm) 纵向 / 横向			
100	11	0.4	Dyn11	130	1570	1.2	4	890	950×600×960	550×550			
160				170	2130	1.1		1170	1220×600×1060	550×550			
200				200	2530	1.0		1400	1270×710×1160	660×660			
250				230	2760	1.0		1560	1350×760×1240	660×660			
315				280	3470	0.9		1770	1370×870×1360	820×820			
400				310	3990	0.8		2180	1460×870×1360	820×820			
500				360	4880	0.8		2440	1490×870×1430	820×820			
630				10	0.4	Dyn11	420	5880	0.7	6	2850	1760×1120×1490	1070×1070
630				6.3			410	5960	0.7		3015	1710×970×1450	1070×1070
800				6			480	6960	0.7		3430	1850×1120×1600	1070×1070
1000				550			8130	0.6	4050		1900×1120×1170	1070×1070	
1250				650			9690	0.6	4690		2030×1120×1880	1070×1070	
1600				760			11730	0.6	5610		2120×1120×1970	1070×1070	
2000				1000			14450	0.5	5820		2120×1120×1990	1070×1070	
2500				1200			17170	0.5	6730		2190×1120×2110	1070×1070	

Note: Due to continuous product improvement, the dimensions provided in this sample are for reference only. If necessary, our company can design and produce according to user requirements.

备注：因产品不断改进，本样本提供的尺寸仅供参考，如有需要，我公司可按用户要求进行设计和生产，请及时与本公司联系。



SC(B)10-30~2500/20(10)

dry type transformer

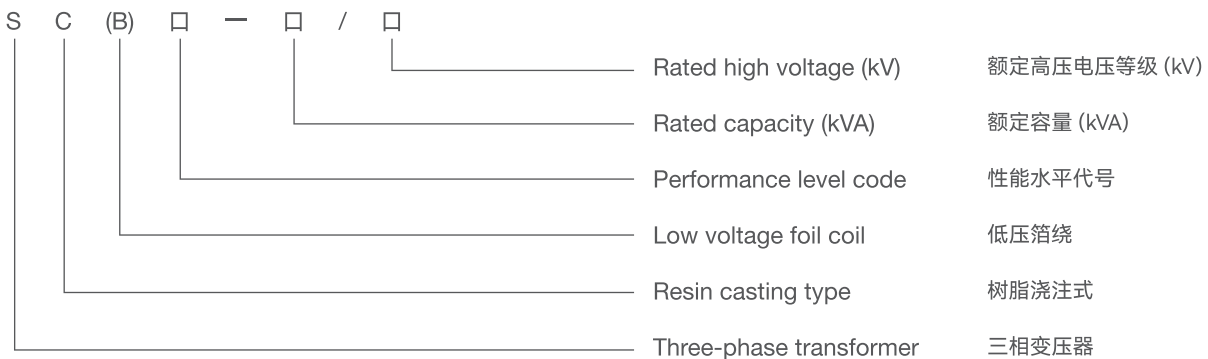
SC(B)10-30~2500/20(10) 20kV 和 10kV 转换干式变压器

► Features 特点

- + When this series of dry type transformers is connected to a grid voltage of 20kV or 10kV, the connection state between two windings of each phase high voltage coil is controlled by a conversion device, achieving the purpose of voltage conversion by series or parallel connection, while keeping the output voltage constant. Thus, one transformer can be connected to two voltage systems of 10kV and 20kV non-simultaneously. It can reduce the repetitive investment but convenient and quick conversion and also has stable product performance.

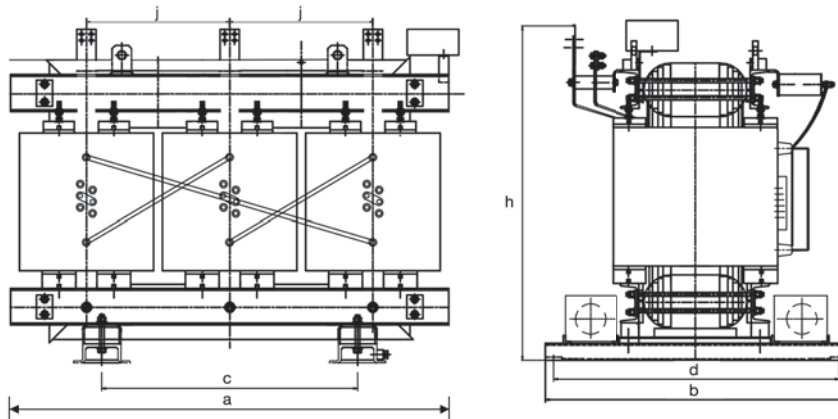
该系列干式变压器在网上电压 20kV 或 10kV 时,通过转换装置控制每相高压线圈两段绕组之间的连接状态,串联或并联达到电压转换的目的,而输出电压不变,从而实现一台变压器产品可非同时接至 10kV、20kV 级两种电压系统。减少了重复投资,而且转换方便快捷,产品性能稳定。

► Type description 型号说明





Boundary dimension 外形尺寸



Type 型号	Boundary dimension (mm) 外形尺寸					
	a	b	c	d	h	j
SC10-30/20 (10)	770	650	500	500	890	265
SC10-50/20 (10)	790	650	500	500	990	275
SC10-80/20 (10)	830	650	500	500	1050	285
SC10-100/20 (10)	890	650	500	500	1100	300
SC10-160/20 (10)	1350	650	500	500	1250	325
SC10-200/20 (10)	1350	650	500	500	1250	325
SCB10-250/20 (10)	1500	800	680	700	1400	510
SCB10-315/20 (10)	1520	800	680	700	1460	520
SCB10-400/20 (10)	1540	800	680	700	1510	520
SCB10-500/20 (10)	1550	1050	800	800	150	520
SCB10-630/20 (10)	1560	1050	800	800	1580	520
SCB10-800/20 (10)	1620	1050	800	800	1650	545
SCB10-1000/20 (10)	1680	1050	800	800	1700	570
SCB10-1250/20 (10)	1750	1050	800	800	1850	620
SCB10-1600/20 (10)	2200	1300	1050	1050	2150	750
SCB10-2000/20 (10)	2300	1300	1050	1050	2250	800
SCB10-2500/20 (10)	2450	1300	1050	1050	2300	850

▶ Technical parameters 技术参数

Rated capacity (kVA) 额定容量	Voltage group 电压组合			Vector group 联接组别	Impedance voltage (%) 阻抗电压	No-load loss (W) 空载损耗	Load loss 120°C (W) 负载损耗 120°C	No-load current (%) 空载电流
	HV (kV) 高压	Tap range 分接范围	LV (kV) 低压					
30	20 22 24	±2×2.5%	0.4	Dyn11 or Yyn0	6	300	1100	2.2
50						340	1240	2.0
80						420	1500	2.0
100						540	2000	1.8
160						680	2470	1.5
200						740	2950	1.5
250						850	3420	1.3
315						970	4090	1.3
400						1150	4850	1.1
500						1350	5800	1.1
630						1530	6840	1.0
800						1760	8270	1.0
1000						2070	9790	0.85
1250						2390	11540	0.85
1600						2790	13870	0.85
2000						3240	16390	0.7
2500	3870	19380	0.7					

Note: Due to continuous product improvement, the dimensions provided in this sample are for reference only. If necessary, our company can design and produce according to user requirements.

备注：因产品不断改进，本样本提供的尺寸仅供参考，如有需要，我公司可按用户要求进行设计和生产，请及时与本公司联系。



Energy efficiency grade II dry type transformer 能效二级干式变压器

► Overview 概述

We adopt domestic advanced technology and design and produce in strict accordance with the relevant standards for energy-saving dry type transformers in GB20052-2020. The products have the advantages of strong short-circuit resistance, convenient maintenance, small size, small footprint, and low noise. Ideal for factories, hospitals, tunnels, airports, power stations, etc.

我公司采用国内先进技术，严格按照 GB20052-2020 中关于节能型干式变压器的相关标准进行设计和生产，产品具有抗短路能力强，维护方便，体积小，占地少，噪音低等优点，是工厂、医院、隧道、机场、电站等的理想之选。

► Implementation standards 执行标准

GB/T 1094.1: Power transformers - Part 1: General

电力变压器 第 1 部分：总则

GB/T 1094.11: Power transformers - Part 11: Dry type transformers

电力变压器 第 11 部分：干式变压器

GB/T 2900.95: Electrical terms transformers, voltage regulator and reactors

电工术语 变压器、调压器和电抗器

GB/T 10228: Technical parameters and requirements of dry type power transformers

干式电力变压器技术参数和要求

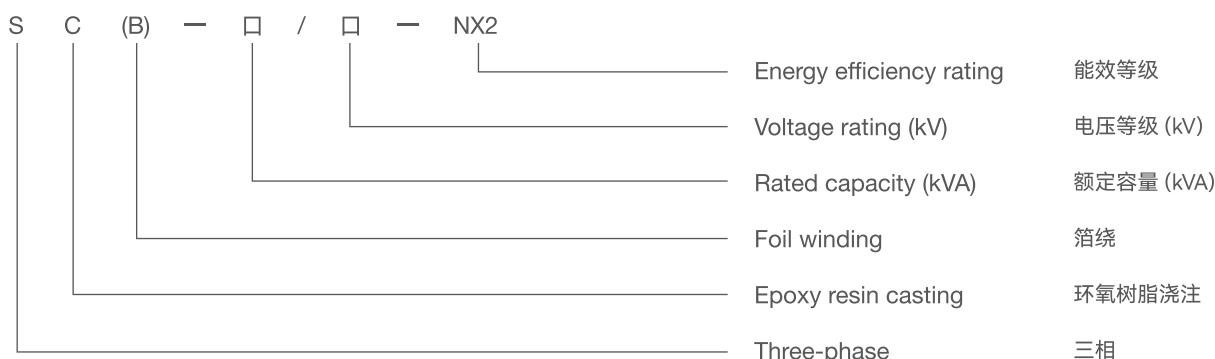
GB/T 22072: Dry type amorphous alloy iron core transformer technical parameters and requirements

干式非晶合金铁心配电变压器技术参数和要求

GB 20052-2020: Power transformer energy efficiency limit value and energy efficiency level

电力变压器能效限定值及能效等级

▶ Type description 型号说明



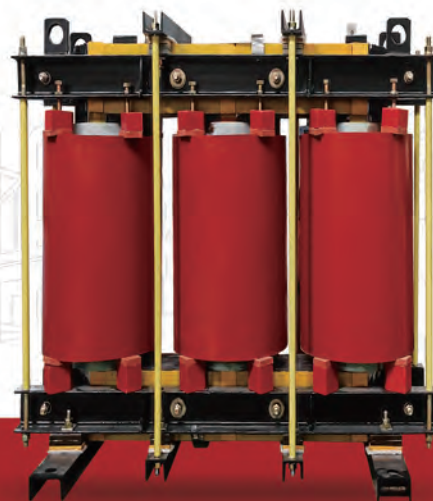
▶ Technical parameters 技术参数

10kV dry type three-phase double-winding non-excitation voltage regulating distribution transformer energy efficiency class
10kV 干式三相双绕组无励磁调压配电变压器能效等级

Rated capacity (kVA) 额定容量	Electrical steel belt 电工钢带				Amorphous alloy 非晶合金				Short-circuit impedance (%) 短路阻抗
	No-load loss (W) 空载损耗	Load loss (W) 负载损耗			No-load loss (W) 空载损耗	Load loss (W) 负载损耗			
		B (100°C)	F (120°C)	H (145°C)		B (100°C)	F (120°C)	H (145°C)	
30	130	605	640	685	60	605	640	685	4.0
50	185	845	900	965	75	845	900	965	
80	250	1160	1240	1330	100	1160	1240	1330	
100	270	1330	1415	1520	110	1330	1415	1520	
125	320	1565	1665	1780	130	1565	1665	1780	
160	365	1800	1915	2050	145	1800	1915	2050	
200	420	2135	2275	2440	170	2135	2275	2440	
250	490	2330	2485	2665	195	2330	2485	2665	
315	600	2945	3125	3355	235	2945	3125	3355	
400	665	3375	3590	3850	265	3375	3590	3850	
500	790	4130	4390	4705	305	4130	4390	4705	
630	910	4975	5290	5660	360	4975	5290	5660	
630	885	5050	5365	5760	350	5050	5365	5760	
800	1035	5895	6265	6715	410	5895	6265	6715	
1000	1205	6885	7315	7885	470	6885	7315	7885	
1250	1420	8190	8720	9335	550	8190	8720	9335	
1600	1665	9945	10555	11320	645	9945	10555	11320	
2000	2075	12240	13005	14005	850	12240	13005	14005	
2500	2450	14535	15445	16605	1020	14535	15445	16605	
									6.0

Note: Due to continuous product improvement, the dimensions provided in this sample are for reference only. If necessary, our company can design and produce according to user requirements.

备注：因产品不断改进，本样本提供的尺寸仅供参考，如有需要，我公司可按用户要求进行设计和生产，请及时与本公司联系。



Energy efficiency grade I dry type transformer

能效一级干式变压器

▶ Overview 概述

Compared with energy efficiency level II products, the energy efficiency level I has more obvious advantages in terms of performance. The no-load loss is reduced by about 20% on average, and it is safe and fireproof. It can be directly operated in high-load power-consuming places. It is an ideal choice for factories, hospitals, tunnels, airports, powerstations and so on.

能效一级相较于能效二级产品，在性能方面具有更明显的优势，其中空载损耗平均下降约 20%，且安全防火，可直接运行于高负荷用电场所，是工厂、医院、隧道、机场、电站等的理想之选。

▶ Implementation standards 执行标准

GB/T 1094.1: Power transformers - Part 1: General

电力变压器 第 1 部分：总则

GB/T 1094.11: Power transformers - Part 11: Dry type transformers

电力变压器 第 11 部分：干式变压器

GB/T 2900.95: Electrical terms transformers, voltage regulator and reactors

电工术语 变压器、调压器和电抗器

GB/T 10228: Technical parameters and requirements of dry type power transformers

干式电力变压器技术参数和要求

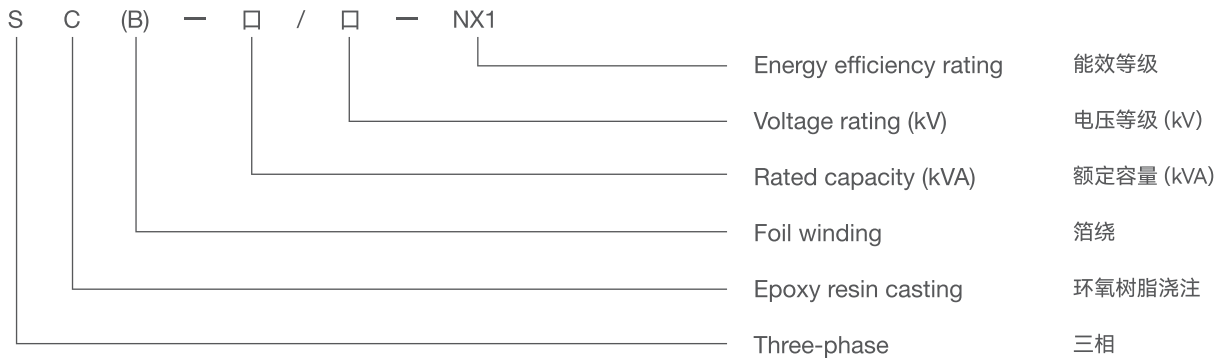
GB/T 22072: Dry type amorphous alloy iron core transformer technical parameters and requirements

干式非晶合金铁心变压器技术参数和要求

GB 20052-2020: Power transformer energy efficiency limit value and energy efficiency level

电力变压器能效限定值及能效等级

▶ Type description 型号说明



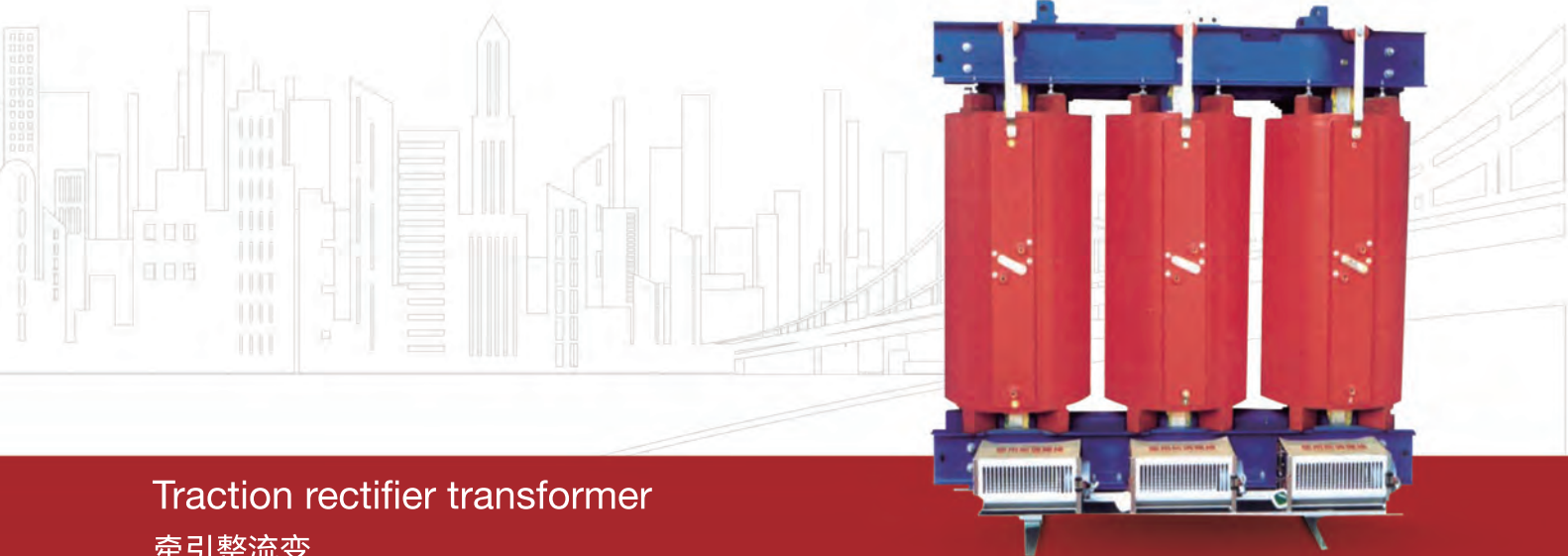
▶ Technical parameters 技术参数

10kV dry type three-phase double-winding non-excitation voltage regulating distribution transformer energy efficiency class
10kV 干式三相双绕组无励磁调压配电变压器能效等级

Rated capacity (kVA) 额定容量	Electrical steel belt 电工钢带				Amorphous alloy 非晶合金				Rated capacity (kVA) 额定容量
	No-load loss (W) 空载损耗	Load loss (W) 负载损耗			No-load loss (W) 空载损耗	Load loss (W) 负载损耗			
		B (100°C)	F (120°C)	H (145°C)		B (100°C)	F (120°C)	H (145°C)	
30	105	605	640	685	50	605	640	685	4.0
50	155	845	900	965	60	845	900	965	
80	210	1160	1240	1330	85	1160	1240	1330	
100	230	1330	1415	1520	90	1330	1415	1520	
125	270	1565	1665	1780	105	1565	1665	1780	
160	310	1800	1915	2050	120	1800	1915	2050	
200	360	2135	2275	2440	140	2135	2275	2440	
250	415	2330	2485	2665	160	2330	2485	2665	
315	510	2945	3125	3355	195	2945	3125	3355	
400	570	3375	3590	3850	215	3375	3590	3850	
500	670	4130	4390	4705	250	4130	4390	4705	
630	775	4975	5290	5660	295	4975	5290	5660	6.0
630	750	5050	5365	5760	290	5050	5365	5760	
800	875	5895	6265	6715	335	5895	6265	6715	
1000	1020	6885	7315	7885	385	6885	7315	7885	
1250	1205	8190	8720	9335	455	8190	8720	9335	
1600	1415	9945	10555	11320	530	9945	10555	11320	
2000	1760	12240	13005	14005	700	12240	13005	14005	
2500	2080	14535	15445	16605	840	14535	15445	16605	

Note: Due to continuous product improvement, the dimensions provided in this sample are for reference only. If necessary, our company can design and produce according to user requirements.

备注：因产品不断改进，本样本提供的尺寸仅供参考，如有需要，我公司可按用户要求进行设计和生产，请及时与本公司联系。



Traction rectifier transformer 牵引整流变

Overview 概述

The traction rectifier transformer is to transmit the electric energy of the three-phase power system to two single-phase traction lines with respective loads. The two single-phase traction lines supply power to the up and down locomotives respectively, which are widely used in urban traffic, inter-city express trains, mine transport vehicles, etc. The rectifier unit provides traction DC power for them. The rectifier unit is usually composed of a traction rectifier transformer and a rectifier, which mainly adjusts the AC voltage on the grid side to the required DC voltage on the valve side to supply power to the load. The traction rectifier units currently on the market are usually 12-pulse and 24-pulse. Our company has been able to manufacture traction rectifier transformer products with superior performance.

牵引整流变压器是将三相电力系统的电能传输给二个各自带负载的单相牵引线路。二个单相牵引线路分别给上下行机车供电，广泛应用于城市交通、城市间的快速列车、矿山运输车等，而整流机组为其提供了牵引直流电源。整流机组通常由牵引整流变压器和整流器组成，主要是将网侧交流电压调节成所需的阀侧直流电压来给负载供电。目前市面采用的牵引整流机组通常为12脉波和24脉波。我公司已完全能制造出性能优越的牵引整流变压器产品。

Type description 型号说明

ZQ	S	C	(B)	—	□	/	□		

									Voltage rating (kV)
								_____	电压等级 (kV)
								_____	Rated capacity (kVA)
								_____	额定容量 (kVA)
								_____	Low voltage foil coil
								_____	低压箔绕线圈
								_____	Solid molding (epoxy casting)
								_____	固体成型 (环氧树脂浇注)
								_____	Three-phase
								_____	三相
								_____	Traction rectifier
								_____	牵引整流

▶ Features 特点

Main functions of the traction rectifier transformer are:

牵引整流变压器主要功能为：

- + Reduce (or increase) the power supply voltage on the AC grid side to the AC valve side voltage that meets the output DC voltage requirements.

将交流网侧的电源电压降低（或升高）到满足输出直流电压要求的交流阀侧电压。

- + Realize the electrical isolation between the AC valve side and the grid side.

实现交流阀侧与网侧的电气隔离。

- + Convert the three-phase AC power on the AC grid side into multi-phase AC power on the AC valve side to reduce the harmonic content on the AC grid side and improve the DC voltage waveform. Due to the limitations of the use environment and the obvious advantages of dry type traction rectifier transformers, dry type traction rectifier transformers are widely used in subway traction substations, and oil immersed traction rectifier transformers can be used in harsh or outdoor environments.

将交流网侧的三相交流电源转换为交流阀侧的多相交流电能，以降低交流网侧的谐波含量及改善直流电压波形。由于使用环境的限制和干式牵引整流变压器的明显优势，干式牵引整流变压器大量应用在地铁牵引变电站中，油浸式牵引整流变压器可应用在环境较为恶劣或户外环境下。

