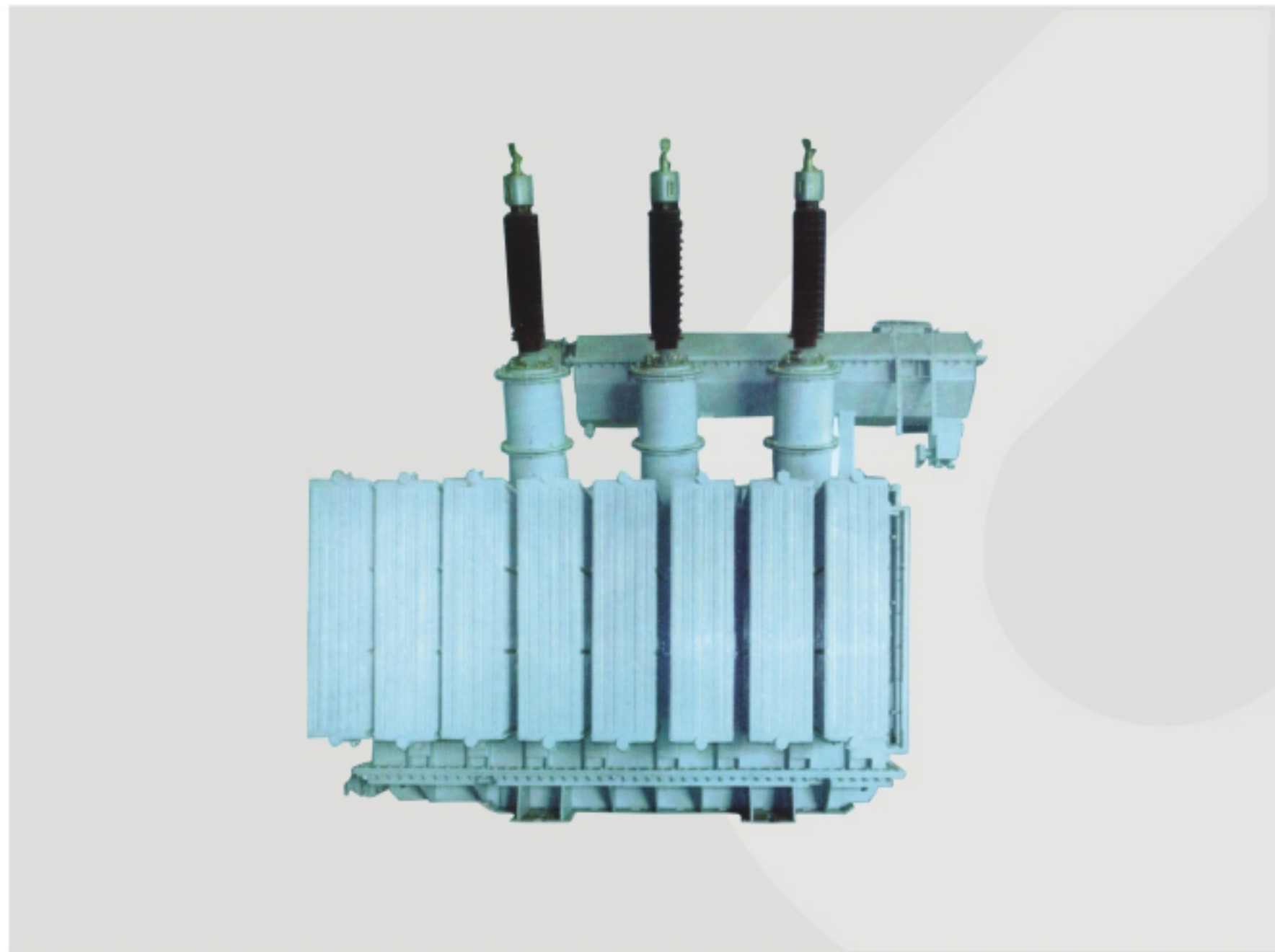


110kV级电力变压器 110KV Power Transformer



YUEQING  
AIBEIKEN ELECTRIC CO.,LTD  
Http://www.cnvcb.com

110kV级电力变压器 110KV Power Transformer

一、概述/General

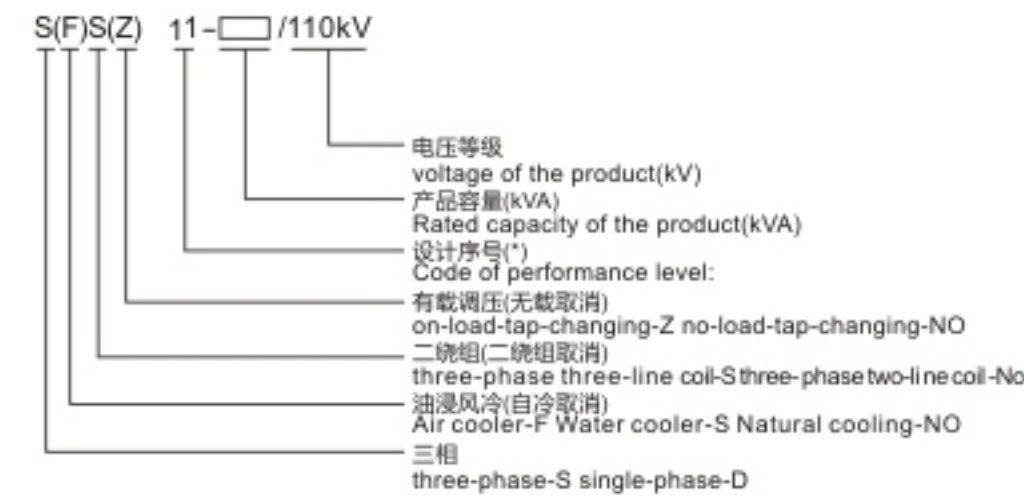
110kV级电力变压器是我公司在消化吸收国内外先进技术的基础上,以提高产品的可靠性为宗旨,通过技术研发和对工艺、结构的不断完善以及严格的质量体系控制,所生产的具有低损耗、低噪音、低局放、高机械、电气强度、全密封免吊芯等特点产品,可以大量节省运行费用,提高电网的经济效益和安全性。

Based on the digestion and absorption of the importing technique, Canin designs and manufactures series of 110kV power transformers with the characters of low loss, low noise, good ability of with standing short-circuit and high operatin reliability.

二、执行标准/Standard

- 2.1 GB1094.0-GB1094.2-1996
- 2.2 GB1094.3-2003
- 2.3 GB1094.5-2003
- 2.4 GB/T6451-1999
- 2.5 IEC76

三、型号含义/Type designation



注:可以根据需要提供9、10、11型或更低损耗的产品  
divided into series 9, 10 and 11 according to national standard.

五、主要技术参数/Specification

"9" 型双绕组无励磁调变压器性能参数  
"9" series double winding transformer with off-circuit tap changing

SF9系列  
SF9 series

额定容量 (kVA) Rated Power kVA	电压组合 Voltage				联结组 标号 Connection symbol	空载损耗 (kW) No-Load loss	负载损耗 (kW) Load loss	空载电流(%) No-Load current (%)	短路阻抗(%) Impedance voltage(%)	重量 (kg) Weight (KG)	外型尺寸 长×宽×高 L×W×H(mm) Outline dimension L x W x H (mm)					
	高压HV (kV)	H.V kV	低压LV (kV)	L.V kV												
10000	110;121 ±2×2.5%		6.3	Ynd11	13.2	53	0.72	10.5		18100	4370×2570×4700					
12500												15.6	63	0.72	24200	4580×2700×4910
16000												18.8	77	0.67	26000	4890×2880×5210
20000												22.0	93	0.67	29800	4930×2920×5420
25000												26.0	110	0.62	31500	4950×3120×5510
31500												30.8	133	0.60	37800	5050×3300×5720
40000												36.8	156	0.56	43200	5220×3350×5820
50000												44.0	194	0.52	57600	5252×3460×5860
63000												52.0	234	0.48	63900	5740×3860×5990

注:以上数据仅供参考,我公司保留更改数据的权力。  
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四、结构特点/Characters

- 4.1 铁心:全斜、多级接缝,采用高导磁硅钢片叠积而成。降低了空载损耗。对铁心柱及铁轭截面采取优化设计,改善铁轭的夹紧程度,降低了变压器噪音。
- 4.2 线圈:由成型纸筒支撑,内线圈增加支撑点,提高机械强度,并且改进换位方式,广泛采用组合导线,有效降低负载损耗。计算机模拟线圈热场以决定散热及导油结构,铜油温差显著降低。
- 4.3 器身及绝缘:关键部位用纸浆成型件,保证空间场强合理分配,所有引线连接均采用冷压接头,有效地控制了变压器的局放量。器向整体干燥加压,并采用新型的压紧结构增加压紧点,保证整个器身紧密可靠。对引线进行了系统的电场计算,使之布置合理牢固,大大提高了产品的抗短路能力。
- 4.4 油箱:采用板式加强铁油箱,外形美观大方,控制箱挂于变压器本体上,不用另设地基安置(可按客户要求提供波纹式油箱)。
- 4.5 附件:所有阀门均采用优质合金钢阀门,杜绝渗漏,保证性能可靠,散热器积油管采用方形无缝钢管,杜绝渗漏,使变压器整体外观得到很大改善。

4.1 Iron core : The core lamination are made up from high magnetic silicon steel sheets with chamfered joints,so that it is effectively improved no-load upper.The optimized design in iron core column and iron voke improve clamping degree of the iron core and reduces noise.

4.2 Winding:Windings are coiled on cardboard cylinder.In all the windings,the interior side is equipped with reinforcing stay to improve mechanical strength.New transposition method and multisplited wire reduce no-load loss effectively. Thermal dissipation and oil ducting mechanism are designed by computer simulation of winding thermal field ,so that the difference between copper and oil is small.

4.3 Transformer body and Insulation:The key part is made of pulp moulded insulating part to make field in reason.All lead are cold pressing which reduce partial discharge .Cold pressing ensures cleanness of body active parts and the reliability of leads,so that the impedance will be more high.

4.4 Oil tank:The oil tank is a panel type enhanced iron tank .The control box is on the transformer and is easy to be operated.(Corrugated oil tank is available.)

4.5 Accessories: All valves are made of high quality alloy steel and radiator oil pipe is made of square seamless pipe to avoid leakage.

S9系列  
S9 series

额定容量 (kVA) Rated Power kVA	电压组合 Voltage				联结组 标号 Connection symbol	空载损耗 (kW) No-Load loss	负载损耗 (kW) Load loss	空载电流(%) No-Load current( %)	短路阻抗(%) Impedance voltage(%)	重量 (kg) Weight (KG)	外型尺寸 长×宽×高 L×W×H(mm) Outline dimension L x W x H (mm)
	高压HV (kV)	H.V kV	低压LV (kV)	L.V kV							
10000	110;121 ±2×2.5%		6.3	11	Ynd11	13.2	53	0.72	10.5	20500	4530×2930×4610
12500						15.6	63	0.72		27000	4810×3090×4890
16000						18.8	77	0.67		28400	5100×3290×5210
20000						22.0	93	0.67		33300	5150×3340×5310
25000						26.0	110	0.62		35100	5210×3450×5440
31500						30.8	133	0.60		41900	5330×3540×5610
40000						36.8	156	0.56		47900	5530×3650×5770
50000						44.0	194	0.52		64000	5700×3780×5890
63000						52.0	234	0.48		70800	5980×3960×6080

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SFZ9系列  
SFZ9 series

额定容量 (kVA) Rated Power kVA	电压组合 Voltage				联结组 标号 Connection symbol	空载损耗 (kW) No-Load loss	负载损耗 (kW) Load loss	空载电流(%) No-Load current( %)	短路阻抗(%) Impedance voltage(%)	重量 (kg) Weight (KG)	外型尺寸 长×宽×高 L×W×H(mm) Outline dimension L x W x H (mm)
	高压HV (kV)	H.V kV	低压LV (kV)	L.V kV							
10000	110;121 ±8×1.25%		6.3	11	Ynd11	14.2	53	0.74	10.5	19300	5410×3440×4690
12500						16.8	63	0.74		22500	5450×3530×4810
16000						20.2	77	0.69		27350	5600×3600×4810
20000						24.0	93	0.69		32300	5810×3780×4930
25000						28.4	110	0.64		37300	5830×4040×5010
31500						33.8	133	0.64		45100	5950×4080×5030
40000						40.4	156	0.58		53150	6250×4760×5080
50000						47.8	194	0.58		61300	6450×4400×5290
63000						56.8	234	0.52		72900	6630×4630×5520

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SZ9系列  
Sz9 series

额定容量 (kVA) Rated Power kVA	电压组合 Voltage				联结组 标号 Connection symbol	空载损耗 (kW) No-Load loss	负载损耗 (kW) Load loss	空载电流(%) No-Load current( %)	短路阻抗(%) Impedance voltage(%)	重量 (kg) Weight (KG)	外型尺寸 长×宽×高 L×W×H(mm) Outline dimension L x W x H (mm)
	高压HV (kV)	H.V kV	低压LV (kV)	L.V kV							
10000	110;121 ±8×1.25%		6.3	11	Ynd11	14.2	53	0.74	10.5	20900	5420×3450×4700
12500						16.8	63	0.74		2440	5500×3550×4780
16000						20.2	77	0.69		29600	5560×3610×4820
20000						24.0	93	0.69		35100	5810×3800×4920
25000						28.4	110	0.64		40600	5900×4050×4970
31500						33.8	133	0.64		48600	5980×4100×5020
40000						40.4	156	0.58		57500	6370×4190×5080
50000						47.8	194	0.58		66500	6490×4410×5320
63000						56.8	234	0.52		79100	6670×4650×5510

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“9”型三绕组无励磁调压变压器性能参数

“9”series three-winding transformer with off-circuit tap changing

SFS9系列  
SFS9 series

额定容量 (kVA) Rated Power kVA	电压组合 Voltage				联结组 标号 Connection symbol	空载损耗 (kW) No-Load loss	负载损耗 (kW) Load loss	空载 电流(kW) No-Load current ( kW)	短路阻抗(%) Impedance voltage(%)		重量 (kg) Weight (KG)	外型尺寸 长×宽×高 L×W×H(mm) Outline dimension L x W x H (mm)		
	高压HV (kV)	H.V kV	中压LV (kV)	M.V kV					低压LV (kV)	L.V kV			升压 Boost	降压 Buck
10000	110;121 ±2×2.5%		35	6.6	YN Yno d11	15.8	66	0.74	17.5-18.5	高-中 高-中	21400	5180×3030×4920		
12500						18.4	78	0.70					25300	5240×3080×5120
16000						22.4	95	0.66					30400	5360×3130×5320
20000						26.4	112	0.65					34700	5450×3180×5480
25000						30.8	133	0.60					39900	5750×3530×5550
31500						36.8	157	0.60					47500	6100×3880×5700
40000						43.6	189	0.55					50500	6450×4000×5810
50000						52.0	225	0.55					65700	6610×4150×5930
63000						61.6	270	0.50					7930	6850×4400×6170

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SS9系列  
SS9 series

额定容量 (kVA) Rated Power kVA	电压组合 Voltage				联结组 标号 Connection symbol	空载损耗 (kW) No-Load loss	负载损耗 (kW) Load loss	空载 电流(kW) No-Load current ( kW)	短路阻抗(%) Impedance voltage(%)		重量 (kg) Weight (KG)	外型尺寸 长×宽×高 L×W×H(mm) Outline dimension L x W x H (mm)		
	高压HV (kV)	H.V kV	中压LV (kV)	M.V kV					低压LV (kV)	L.V kV			升压 Boost	降压 Buck
10000	110;121 ±2×2.5%		35	6.6	YN Yno d11	15.8	66	0.74	17.5-18.5	高-中 高-中	30500	5150×3950×4580		
12500						18.4	78	0.70					35900	5300×4050×4810
16000						22.4	95	0.66					32100	5450×4150×5020
20000						26.4	112	0.65					45500	5500×4180×5130
25000						30.8	133	0.60					52300	5630×4300×5280
31500						36.8	157	0.60					62200	6080×4350×5510
40000						43.6	189	0.55					70200	6410×4400×5610
50000						52.0	225	0.55					79300	6550×4550×5710
63000						61.6	270	0.50					94600	6700×4900×6010

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SFSZ9系列  
SSZ9 series

额定容量 (kVA) Rated Power kVA	电压组合 Voltage					联结组 标号 Connection symbol	空载损耗 (kW) No-Load loss	负载损耗 (kW) Load loss	空载 电流(kW) No-Load current (kW)	短路阻抗(%) Impedance voltage(%)		重量 (kg) Weight (KG)	外型尺寸 长×宽×高 L×W×H(mm) Outline dimension L x W x H (mm)
	高压HV H.V (kV)	中压LV M.V (kV)	中压LV M.V (kV)	中压LV M.V (kV)	低压LV L.V (kV)					升压 Boost	降压 Buck		
10000	110;121 ±8×1.25%	35	38.5	6.6	10.5	YN Yno d11	17.1	66	0.89	高-中 17.5-18.5	高-中 10.5	25700	5450×3800×4480
12500							20.2	78	0.89			30700	5800×3980×4710
16000							24.2	95	0.84			36100	6210×4250×5020
20000							28.6	112	0.84			40100	6350×4450×5180
25000							33.8	133	0.78			45500	6450×4550×5310
31500							40.2	157	0.78			52300	6650×4750×5420
40000							48.2	189	0.73			64900	6850×4900×5570
50000							56.9	225	0.73			76100	7150×5150×5810
63000							67.7	270	0.67			86500	7250×5350×6020

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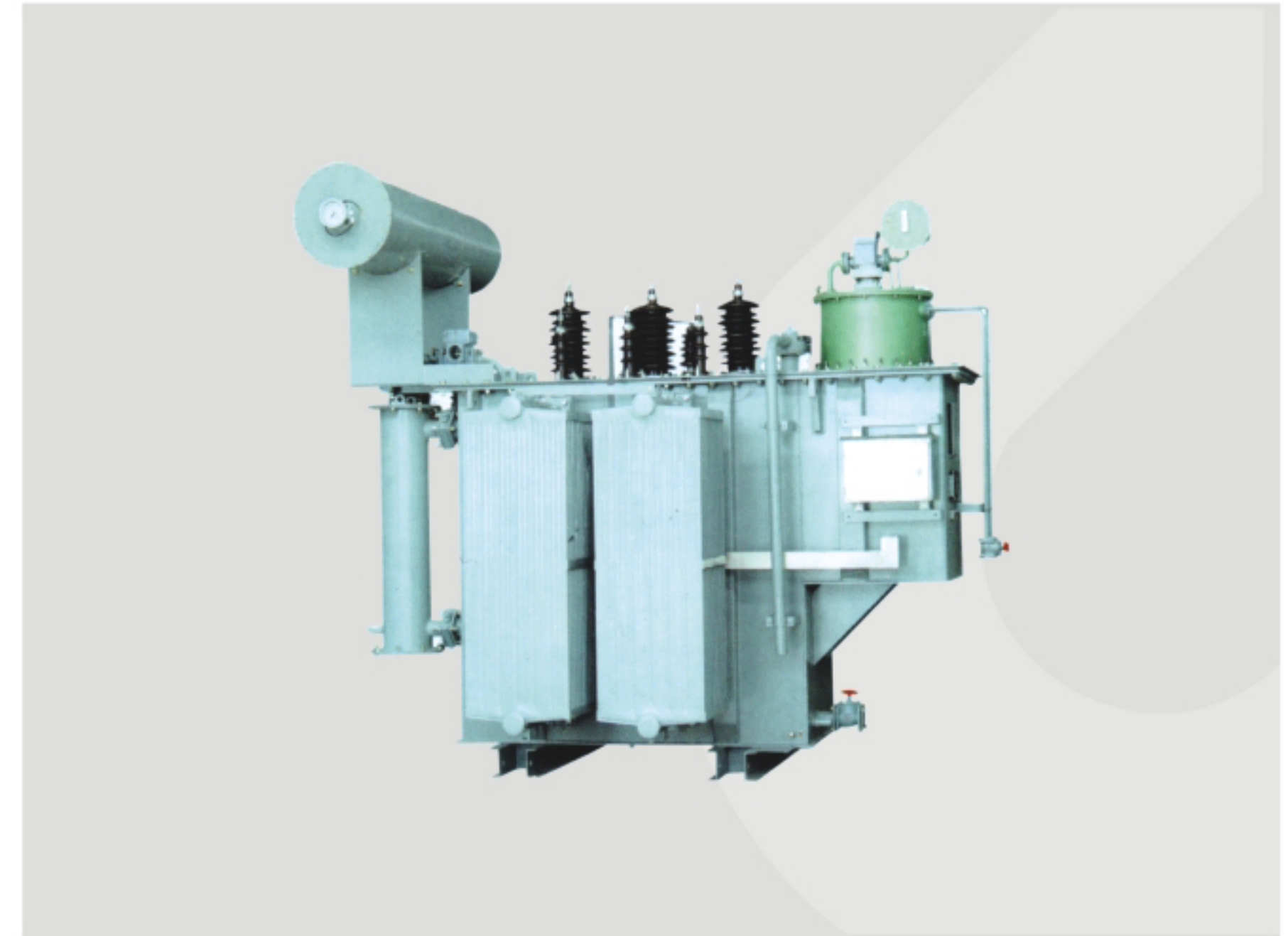
SSZ9系列  
SFSZ9 series

额定容量 (kVA) Rated Power kVA	电压组合 Voltage					联结组 标号 Connection symbol	空载损耗 (kW) No-Load loss	负载损耗 (kW) Load loss	空载 电流(kW) No-Load current (kW)	短路阻抗(%) Impedance voltage(%)		重量 (kg) Weight (KG)	外型尺寸 长×宽×高 L×W×H(mm) Outline dimension L x W x H (mm)
	高压HV H.V (kV)	中压LV M.V (kV)	中压LV M.V (kV)	中压LV M.V (kV)	低压LV L.V (kV)					升压 Boost	降压 Buck		
10000	110;121 ±8×1.25%	35	38.5	6.6	10.5	YN Yno d11	17.1	66	0.89	高-中 17.5-18.5	高-中 10.5	28300	5450×3950×4460
12500							20.2	78	0.89			33700	5810×4200×4710
16000							24.2	95	0.84			39700	6150×4450×5020
20000							28.6	112	0.84			44200	6350×4650×5180
25000							33.8	133	0.78			50100	6450×4750×5320
31500							40.2	157	0.78			57700	6650×4950×5420
40000							48.2	189	0.73			72000	6900×5100×5550
50000							56.9	225	0.73			83400	7150×5350×5820
63000							67.7	270	0.67			95500	7250×5550×6030

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**35kV双绕组有载调压油浸式电力变压器**  
**35KV double winding oil immersed power transformer**  
**with on load tap changing**



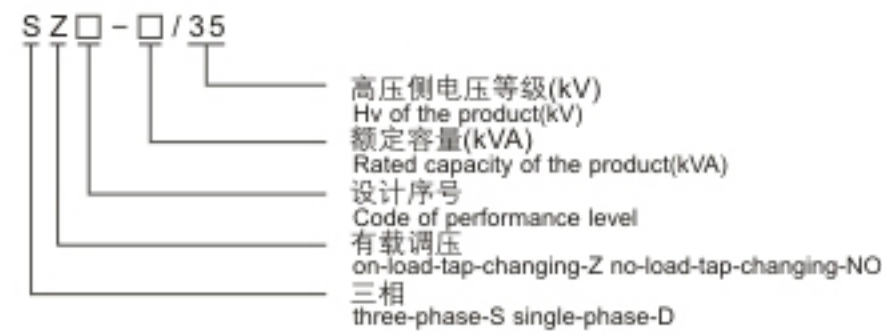
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**35kV双绕组有载调压油浸式电力变压器**  
**35KV double winding oil immersed power transformer with on load tap changing**

**一、适用范围/General**

800~31500/35型油浸式变压器适用于交流50Hz、额定工作电压35kV的电力系统中，作为中小型变电站变电设备。  
 This kind of product 800-31500/35 is applied to power system of 50Hz and 35kV. It is the main transformer equipment of medium and small-sized transformer substation

**二、型号含义/Type designation**



**四、工作条件/Working condition**

安装高度：海拔不超过1000m  
 环境温度：-40℃ ~ +40℃  
 a.Altitude: ≤ 1000m  
 b.Ambient temperature:-40℃~+40℃

**五、主要技术参数/Specification**

额定容量 (kVA) Rated Power kVA	电压组合 Voltage			联结组 标号 Connection symbol	损耗(kW) / Loss (kw)		空载 电流(%) No-Load current (%)	短路 阻抗(%) Impedance voltage(%)	重量(kg) Weight (KG)	
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)		S9型 / S9 series				油重 Oil weight	总重 Total weight
					负载 Load	空载 No-Load				
800	38.5 35	±3 × 2.5%	3.15	Yd11	10.4	1.35	1.3	6.5	1010	3360
1000					12.8	1.6	1.2		1080	3800
1250					15.5	1.9	1.1		1170	4250
1600					18.5	2.3	1.1		1400	5010
2000					20.25	2.88	0.8		1590	5820
2500					21.73	3.4	0.8		1700	6350
3150					26.01	4.04	0.72		1950	7950
4000					30.69	4.84	0.72		2165	9065
5000		36	5.80	0.68	2250	9810				
6300		±4 × 2.5%	10.0	Ynd11	38.7	7.04	0.68	7.5	2610	12010
8000					42.75	9.84	0.6		2890	14790
10000					50.58	11.60	0.6		3830	18750
12500					59.85	13.68	0.56		4270	23530
16000					74.02	16.46	0.54		6200	25600
20000					87.14	19.46	0.54		7500	32670
25000					107.0	23.7	0.5		7800	42020
31500	126.0				27.5	0.4	8960		44330	

**三、结构特点/Characters**

- 3.1 铁芯  
 铁芯选用高导磁晶粒取向冷轧硅钢片。铁芯为心式铁芯，靠斜接缝迭积式铁芯，其铁芯柱为多级阶梯的圆截面，铁轭与铁芯为等截面。
- 3.2 绕组  
 绕组均为同心式线圈；高压绕组具有对应分接电压要求的抽头，引至分接开关上，开关安装在箱盖上，不需切断电源可变换分接电压。开关操作机构具有手动、自动功能。
- 3.3 安全保护装置  
 ① 变压器装有气体继电器；  
 ② 变压器装有压力释放阀；
- 3.4 油保护装置  
 ① 变压器均装有储油柜，其一端装有油位计；  
 ② 变压器储油柜上加装带油封的吸湿器；
- 3.5 油温测量装置  
 ① 变压器均装有玻璃温度计的管座，管座设在油箱顶部，伸入油 内120±10mm；  
 ② 1000kVA及以上变压器装有户外式信号温度计；
- 3.6 变压器油箱及其附件  
 ① 变压器一般不供给小车，箱底支架的焊接位置应符合GB6451-1999的规定；  
 ② 油箱的下部壁上装有油样活门，变压器油箱下部装有足够大的放油阀；
- a. Iron core  
 The iron core is made of cold rolled, granular-oriented, low-loss and high magnetic conductive silicon steel sheet, which is of multi-step completely tilted structure. The iron is core type and the core limb is stepped lap core. The section of yoke is as same as iron core.
- b. Winding  
 All windings are cylindrical. HV winding adopts the tapping terminal to control tapping voltage which the switch is installed on the tank cover and can change voltage without cutting the power. There are manual control and electric control two choose on the driving mechanism.
- c. Safety protection device  
 1. Gas relay  
 2. Pressure relief valve  
 d. Oil protection device  
 1. All transformers are equipped with oil conservator and oil level gauge is on the other side.  
 2. Moisture absorber with oil seal is installed on oil conservator.
- e. Oil temperature measurement device  
 1. All transformers are equipped with glass thermometer holder which is installed in the top of oil box and can be inserted into 120±10mm deep in oil.  
 2. 1000kva and more than transformers are equipped with out signaling thermometer outdoor.
- f. Oil box and accessories  
 1. There is no wheelbarrow for customer and the jointing of box bottom conforms to national standard "GB6451-1999"  
 The lower wall of oil box is equipped with oil sampling valve and the tank bottom is equipped with draining valve.

**六、外形及安装尺寸/Outline and Installation**

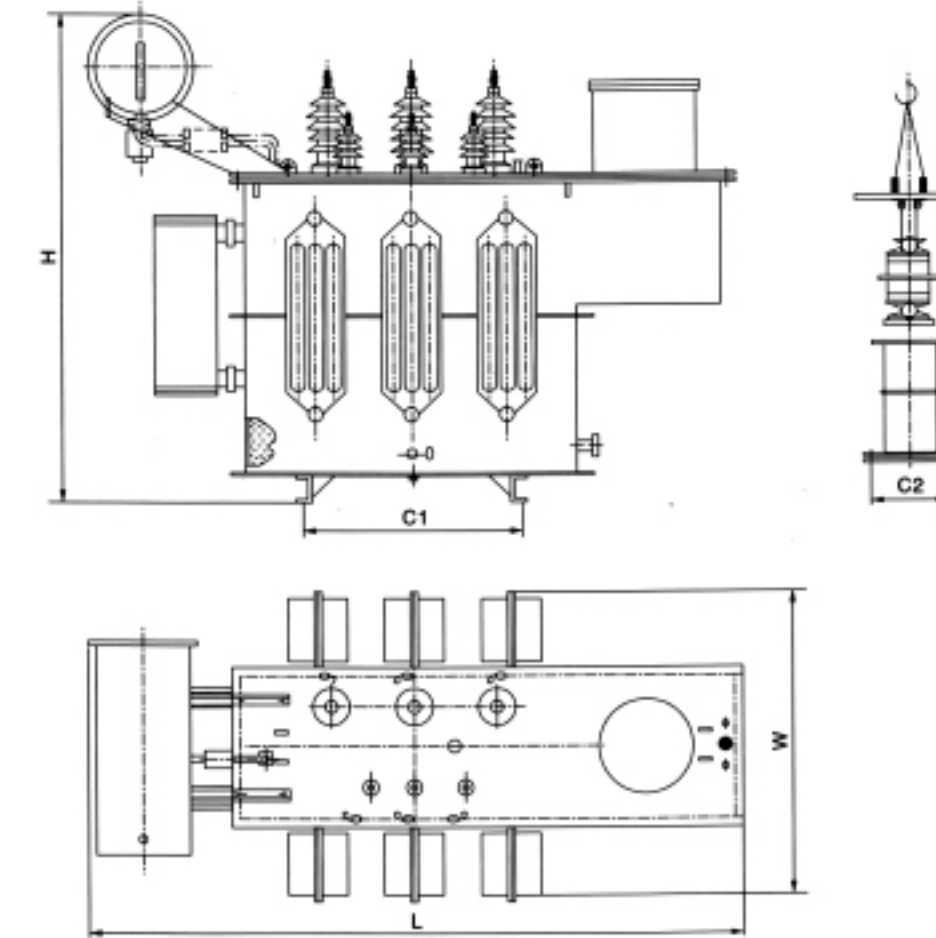


图1 SZ9-800~31500/35变压器外形及安装尺寸  
 Figure1 Outline of SZ9-800~31500/35

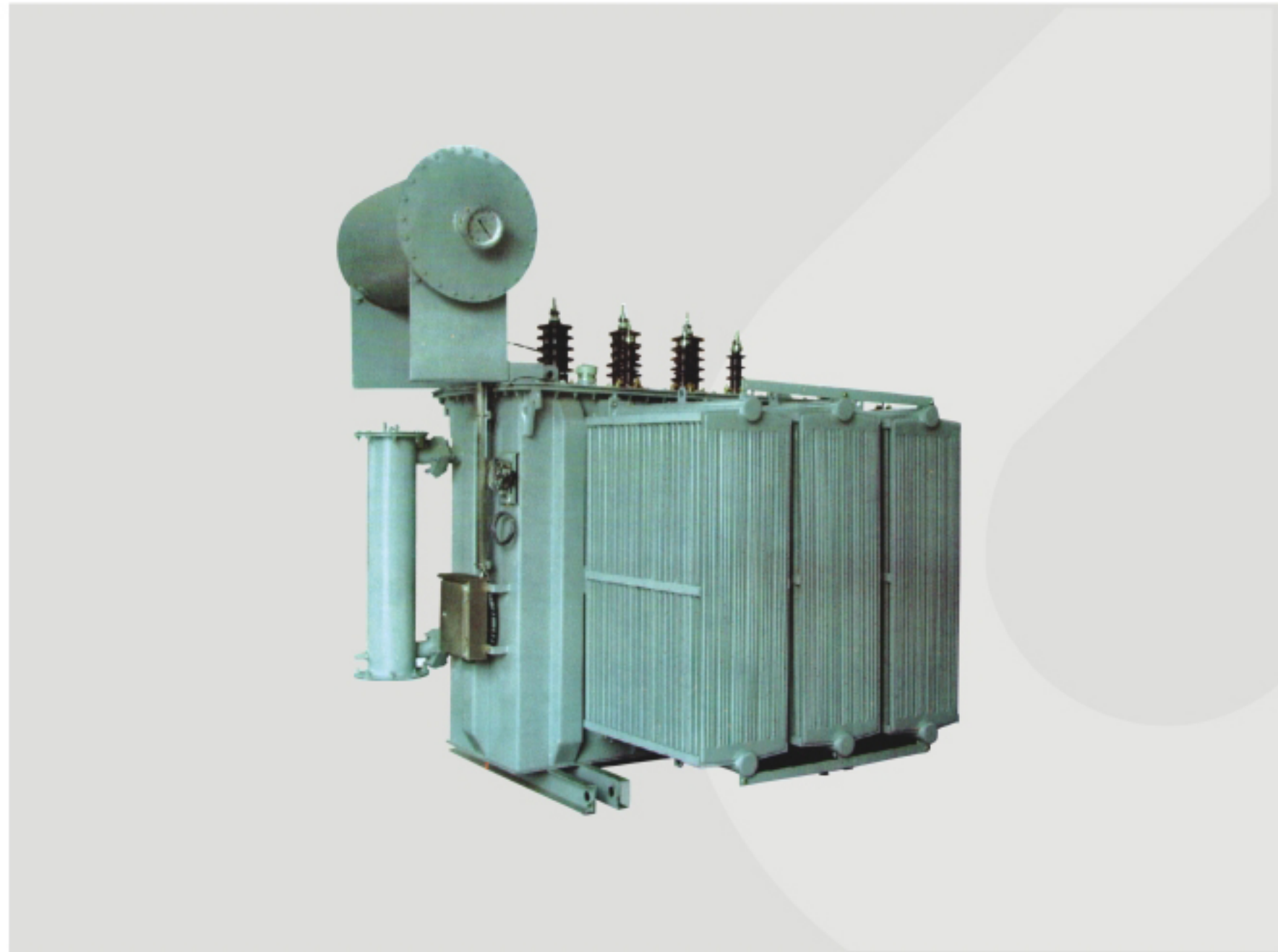
**七、外形及安装尺寸/Outline and Installation**

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
800	2740	970	2120	820	820
1000	3000	990	2170	820	820
1250	3070	1020	2190	820	820
1600	3150	1060	2250	820	820
2000	2700	1100	2300	1070	1070
2500	3120	2300	2365	1070	1070
3150	3220	2350	2410	1070	1070
4000	3300	2560	2490	1070	1070
5000	3350	2750	2550	1070	1070
6300	3580	2800	3080	1475	1475
8000	3790	2610	3210	1475	1475
10000	3870	3220	3400	1475	1475
12500	3990	3260	3540	1475	1475
16000	4370	3480	3680	1475	1475
20000	4850	3050	3970	1475	1475
25000	5470	4000	4010	1475	1475
31500	5900	4450	4100	1475	1475

**八、订货须知/Ordering instructions**

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
 The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

### 35kV双绕组无励磁调压油浸式电力变压器 35KV double winding oil immersed power transformer with off-circuit tap changing



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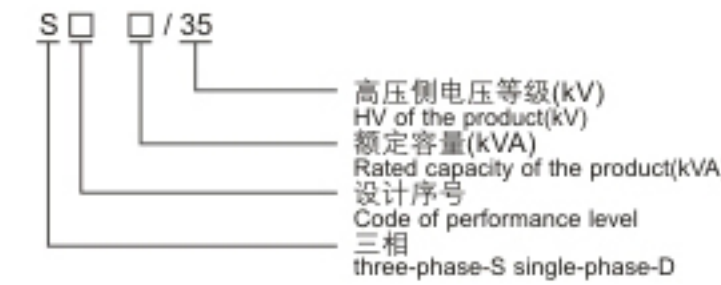
### 35KV双绕组无励磁调压油浸式电力变压器 35KV double winding oil immersed power transformer with off-circuit tap changing

#### 35kV双绕组无励磁调压油浸式电力变压器 35KV double winding oil immersed power transformer with off-circuit tap changing

##### 一、适用范围/General

800~31500/35型油浸式变压器适用于交流50Hz, 额定工作电压35kV及以下的电力系统中, 作为中小型变电站变电设备。  
This kind of product 800-31500/35 is applied to power system of 50Hz and 35kV. It is the main transformer equipment of medium and small-sized transformer substation

##### 二、型号含义/Type designation



##### 四、工作条件/Working condition

安装高度: 海拔不超过1000m;  
环境温度: -40°C~+40°C  
a. Altitude: ≤ 1000m  
b. Ambient temperature: -40°C~+40°C

##### 五、主要技术参数/Specification

额定容量 (kVA) Rated Power kVA	电压组合 Voltage			联结组 标号 Connection symbol	损耗(kW) / Loss (kw)		空载 电流(%) No-Load current (%)	短路 阻抗(%) Impedance voltage(%)	重量(kg) Weight (KG)	
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)		S9型 / S9 series				油重 Oil weight	总重 Total weight
					负载 Load	空载 No-Load				
800	38.5 35	± 5% ± 2 × 2.5%	3.15 6.3 10.5	Yd11	9.9	1.23	1.00	6.5	790	3040
1000					12.15	1.44	1		850	3410
1250					14.67	1.76	0.9		950	3890
1600					17.55	2.12	0.80		1060	4620
2000					19.35	2.72	0.70		1195	5345
2500					20.7	3.20	0.6		1285	5960
3150					24.3	3.8	0.56		1470	6695
4000					28.8	4.52	0.56		1760	8350
5000				33.03	5.4	0.48	1850	9400		
6300				36.90	6.56	0.48	2200	11300		
8000				40.5	9	0.42	2450	13240		
10000				47.7	10.88	0.42	3230	16600		
12500				56.7	12.6	0.40	3585	19400		
16000				69.3	15.2	0.40	4420	23100		
20000				83.7	18	0.40	6060	29700		
25000				99.0	21.28	0.32	6490	38200		
31500	118.80	25.28	0.32	6890	40300					

##### 三、结构特点/Characters

- 铁芯  
铁芯适用高导磁晶粒取向冷轧硅钢片。铁芯为心式铁芯, 全斜接缝迭积式芯, 其铁芯柱为多级阶梯的圆截面, 铁轭与铁芯为等截面。
  - 绕组  
绕组均为同心式线圈, 高压绕组具有对应分接电压要求的抽头, 引至分接开关上, 开关安装在箱盖上, 且需切断电源后方可变换分接电压。
  - 安全保护装置  
○ 变压器装有气体继电器;  
○ 变压器装有压力释放阀;
  - 油保护装置  
○ 变压器均装有储油柜, 其一端装有油位计;  
○ 变压器储油柜上加装带油封的吸湿器;
  - 油温测量装置  
○ 变压器均装有玻璃温度计的管座, 管座设在油箱顶部, 伸入油内120±10mm;  
○ 1000kVA及以上变压器装有户外式信号温度计;
  - 变压器油箱及其附件  
○ 变压器一般不供给小车, 箱底支架的焊接位置应符合GB6451-1999的规定;  
○ 油箱的下部壁上装有油样活门, 变压器油箱下部装有足够大的放油阀;
- a. Iron core  
The iron core is made of cold rolled, granular-oriented, low-loss and high magnetic conductive silicon steel sheet, which is of multi-step completely tilted structure. The iron is core type and the core limb is stepped lap core. The section of yoke is as same as iron core.
- b. Winding  
All windings are cylindrical. HV winding adopts the tapping terminal to control tapping voltage which the switch is installed on the tank cover and can change voltage without cutting the power. There are manual control and electric control two choose on the driving mechanism.
- c. Safety protection device  
1. Gas relay  
2. Pressure relief valve  
d. Oil protection device  
1. All transformers are equipped with oil conservator and oil level gauge is on the other side.  
2. Moisture absorber with oil seal is installed on oil conservator.
- e. Oil temperature measurement device  
1. All transformers are equipped with glass thermometer holder which is installed in the top of oil box and can be inserted into 120±10mm deep in oil.  
2. 1000kva and more than transformers are equipped with out signaling thermometer outdoor.
- f. Oil box and accessories  
1. There is no wheelbarrow for customer and the jointing of box bottom conforms to national standard "GB6451-1999"  
The lower wall of oil box is equipped with oil sampling valve and the tank bottom is equipped with draining valve.

六、外形及安装尺寸/Outline and Installation

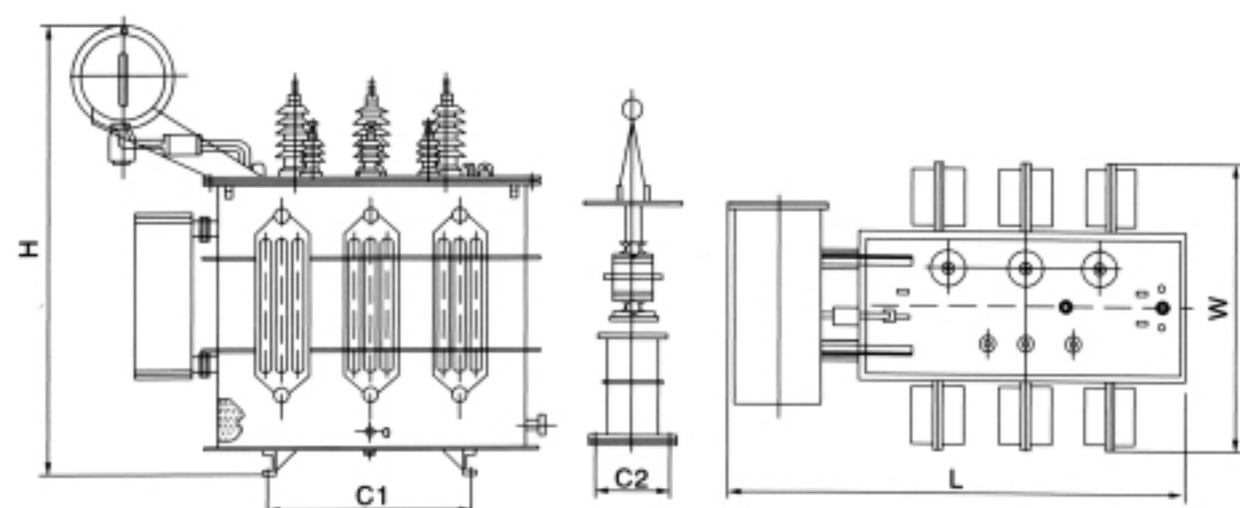


图1 S9-800~31500/35变压器外形及安装尺寸  
Figure1 Outline of S9-800~31500/35

七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
800	2140	1320	2120	820	820
1000	2400	1330	2170	820	820
1250	2470	1350	2190	820	820
1600	2550	1375	2250	820	820
2000	2700	1400	2300	1070	1070
2500	2520	2300	2365	1070	1070
3150	2600	2350	2410	1070	1070
4000	2680	2560	2490	1070	1070
5000	2730	2750	2550	1070	1070
6300	2960	2800	3080	1475	1475
8000	3170	2610	3210	1475	1475
10000	3250	3220	3400	1475	1475
12500	3370	3260	3540	1475	1475
16000	3470	3280	3580	1475	1475
20000	3950	3450	3850	1475	1475
25000	4570	3800	3900	1475	1475
31500	5000	4150	4000	1475	1475

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

**35kV双绕组无励磁调压油浸式配电变压器**  
**35KV double winding oil immersed distribution transformer**  
**with off-circuit tap changing**



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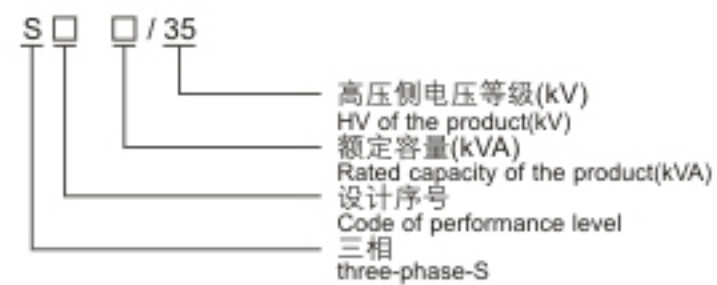
35kV双绕组无励磁调压油浸式配电变压器  
35KV double winding oil immersed distribution transformer with off-circuit tap changing

一、适用范围/General

50-1600 / 35型油浸式变压器适用于交流50Hz, 额定工作电压35kV及以下的电力系统中, 作为中小型变电站及工矿企业、事业单位动力配电及照明负荷的变电设备。

This kind of product 50-1600/35 is applied to power system of 50Hz and 35kV. It is the main transformer equipment of medium and small-sized transformer substation for power distribution and industrial enterprise and so on.

二、型号含义/Type designation



四、工作条件/Working condition

- 安装高度: 海拔不超过1000m;
- 环境温度: -40°C~+40°C
- a. Altitude: ≤ 1000m
- b. Ambient temperature: -40°C~+40°C

五、主要技术参数/Specification

额定容量 (kVA) Rated Power kVA	电压组合 Voltage			联结组 标号 Connection symbol	损耗(kW) / Loss (kw)		空载 电流(%) No-Load current (%)	短路 阻抗(%) Impedance voltage(%)	重量(kg) Weight (KG)	
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)		S9型 / S9 series				油重 Oil weight	总重 Total weight
					负载 Load	空载 No-Load				
50	38.5 35	±5% ±2×2.5%	0.4	Yyno Dyn11	1.27/1.21	0.21	2	6.5	220	610
100					2.12/2.02	0.29	1.8		250	810
125					2.50/2.38	0.34	1.7		255	885
160					2.97/2.83	0.36	1.6		305	1040
200					3.50/3.33	0.43	1.5		403	1400
250					4.16/3.96	0.51	1.4		412	1450
315					5.01/4.77	0.61	1.4		430	1600
400					6.05/5.76	0.73	1.3		460	1700
500					7.28/6.93	0.86	1.2		525	2025
630					8.28	1.04	1.1		580	2315
800					9.9	1.23	1		645	2715
1000					12.15	1.44	1		745	3315
1250					14.67	1.76	0.9		825	3730
1600					17.55	2.12	0.8		955	4420

三、结构特点/Characters

- 3.1 铁芯  
铁芯适用高导磁晶粒取向冷轧硅钢片。铁芯为心式铁芯, 全斜接叠积式铁芯, 其铁芯柱为多级阶梯的圆截面, 铁轭与铁芯为等截面。
- 3.2 绕组  
绕组采用瓦楞油道, 不浸漆工艺, 紧缩带绑扎, 绕组均为同心式线圈, 高压绕组具有对应分接电压要求的抽头, 引至分接开关上, 开关安装在箱盖上, 且需切断电源后方可变换分接电压。
- 3.3 安全保护装置  
 ○ 800~1600kVA变压器装有气体继电器;  
 ○ 800~1600kVA变压器装有压力释放阀;
- 3.4 油保护装置  
 ○ 变压器均装有储油柜, 其一端装有油位计;  
 ○ 变压器储油柜上应加装带油封的吸湿器;
- 3.5 油温测量装置  
 ○ 变压器均装有玻璃温度计的管座, 管座设在油箱顶部, 伸入油内120±10mm;  
 ○ 1000~1600kVA变压器装有户外式信号温度计;
- 3.6 变压器油箱及其附件  
 ○ 变压器一般不供给小车, 箱底支架的焊接位置应符合GB6451-1999的规定;  
 ○ 油箱的下部壁上装有油样活门, 变压器油箱下部装有足够大的放油阀;
- Iron core  
The iron core is made of cold rolled, granular-oriented, low-loss and high magnetic conductive silicon steel sheet, which is of multi-step completely tilted structure. The iron is core type and the core limb is stepped lap core. The section of yoke is as same as iron core.
- b. Winding  
All windings are cylindrical without dipping and are tied up by tighten strap. HV winding adopts the tapping terminal to control tapping voltage which the switch is installed on the tank cover. However, it should cut power when changing voltage.
- c. Safety protection device  
 1. 800-1600kva transformers are equipped with gas relay.  
 2. 800-1600kva transformers are equipped with pressure relief valve.
- d. Oil protection device  
 1. All transformers are equipped with oil conservator and oil level gauge is on the other side.  
 2. Moisture absorber with oil seal is installed on oil conservator.
- e. Oil temperature measurement device  
 1. All transformers are equipped with glass thermometer holder which is installed in the top of oil box and can be inserted into 120±10mm deep in oil.  
 2. 1000 KVA to 1600 KVA are equipped with signaling thermometer outdoor.
- f. Oil box and accessories  
 1. There is no wheelbarrow for customer and the jointing of box bottom conforms to national standard "GB6451-1999"  
 2. The lower wall of oil box is equipped with oil sampling valve and the tank bottom is equipped with draining valve.

六、外形及安装尺寸/Outline and Installation

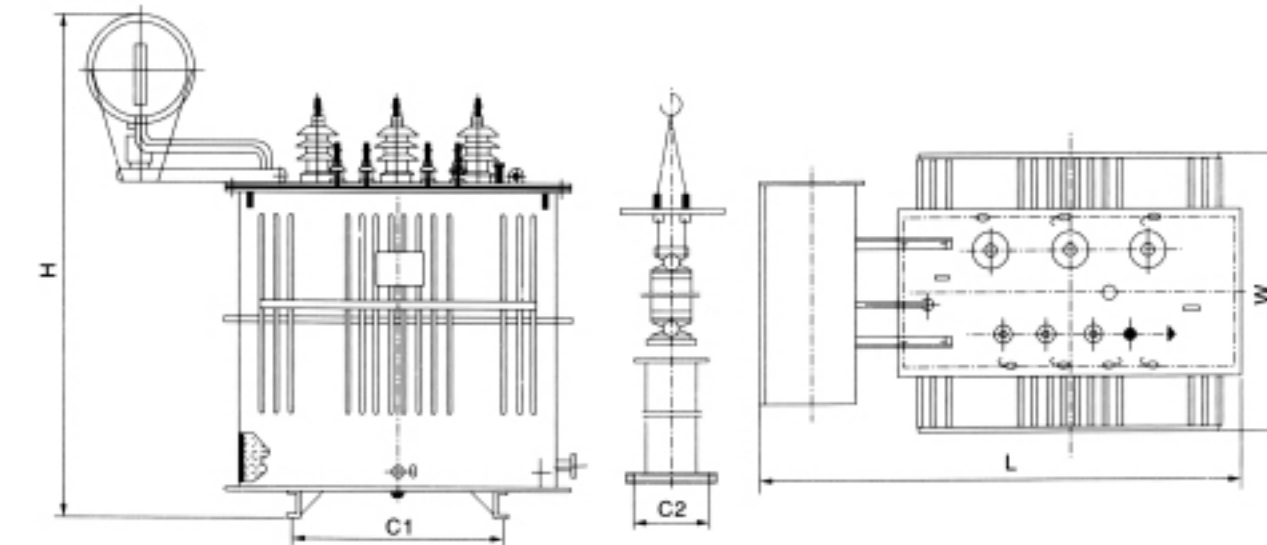


图1  
Figure 1

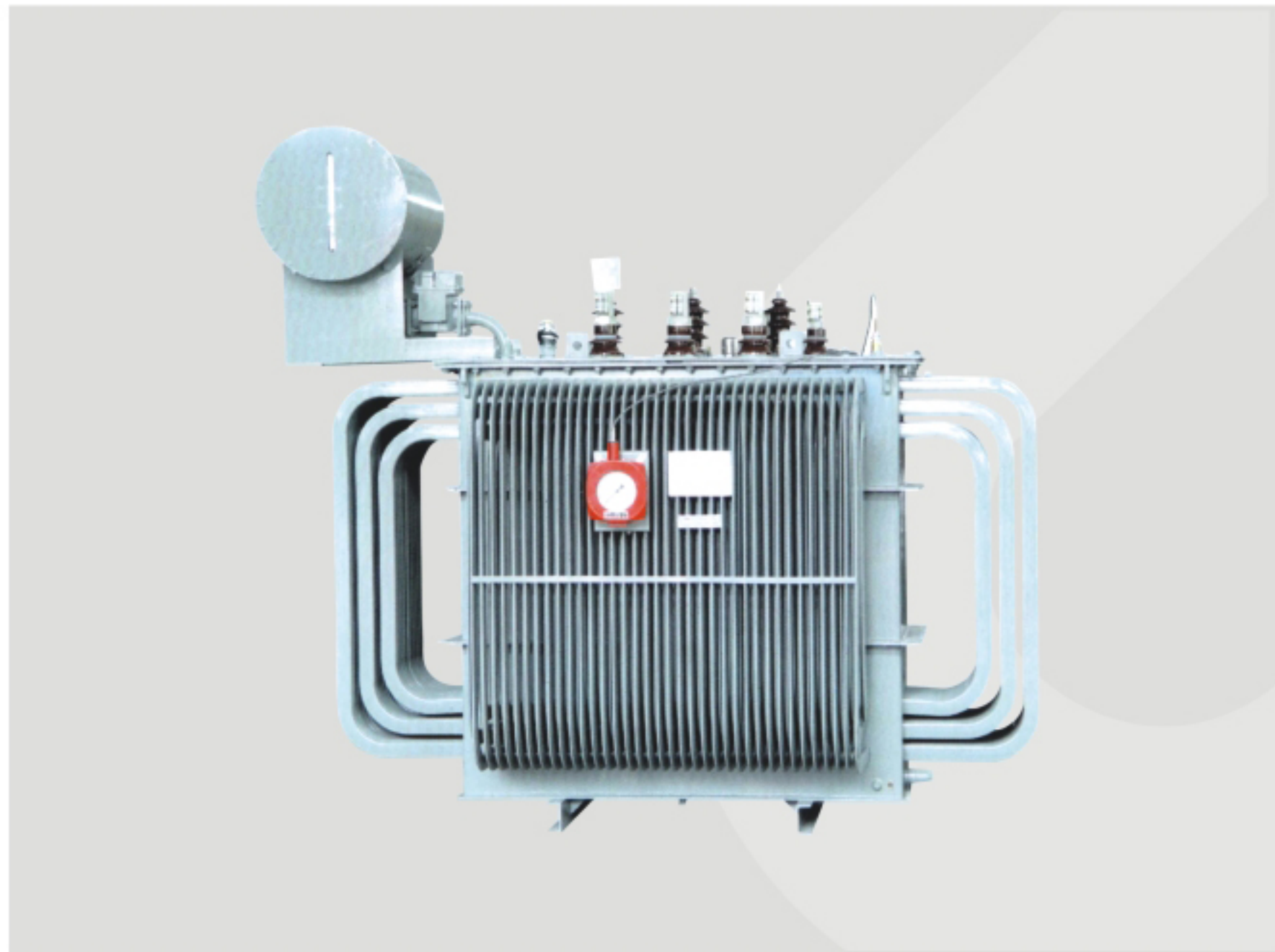
七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
50	1140	915	1430	550	550
100	1140	1040	1550	550	550
125	1140	1040	1580	550	550
160	1660	880	1620	660	660
200	1660	890	1650	660	660
250	1660	900	1690	660	660
315	1745	920	1760	660	660
400	1785	1000	1810	660	660
500	1815	1100	1850	820	820
630	1830	1115	1920	820	820
800	1905	1230	1960	820	820
1000	2260	1250	2135	820	820
1250	2415	1320	2165	820	820
1600	2505	1450	2235	820	820

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

## S11型6-10kV双绕组无励磁调压油浸式配电变压器 S11 series double winding oil immersed distribution transformer with off-circuit tap changing of 6~10KV



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## S11型6-10kV双绕组无励磁调压油浸式配电变压器 S11 series double winding oil immersed distribution transformer with off-circuit tap changing of 6~10KV

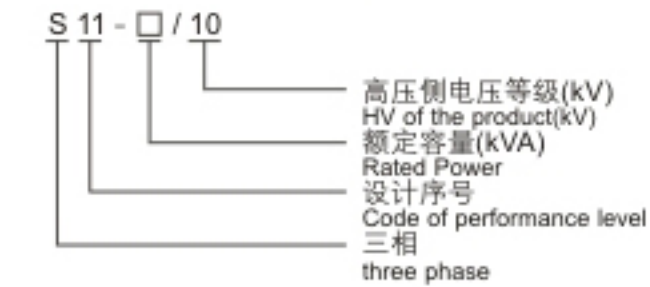
### S11型6-10kV双绕组无励磁调压油浸式配电变压器 S11 series double winding oil immersed distribution transformer with off-circuit tap changing of 6~10KV

#### 一、适用范围/General

S11-10~2000/10型油浸式变压器适用于交流50Hz, 额定工作电压10kV及以下的电力系统中, 作为中小型变电站及工矿企业、事业单位动力配电及照明负荷的变电设备。

This kind of product S11-10~2000/10 is applied to power system of 50Hz and 10kV. It is the main transformer equipment of medium and small-sized transformer substation for power distribution and industrial enterprise and so on.

#### 二、型号含义/Type designation



#### 四、工作条件/Working condition

- 安装高度: 海拔不超过1000m;  
环境温度: -40°C~+40°C  
a. Altitude: ≤ 1000m  
b. Ambient temperature: -40°C~+40°C

#### 五、主要技术参数/Specification

额定容量(kVA) Rated Power kVA	电压组合 Voltage			联结组别号 Connection symbol	空载损耗(W) No-Load Loss (W)	负载损耗(W) Load Loss (W)	空载电流(%) No-Load current( %)	短路阻抗(%) Impedance voltage(%)	重量(kg) Weight (KG)	
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)						油重 Oil weight	总重 Total weight
10	6	± 5% ± 2 × 2.5%	0.4	Yyno Dyn11	60	260	2.1	4	45	172
20					80	440	1.8		57	230
30					100	630/600	1.2		65	275
50					130	910/870	1.1		80	360
63					150	1090/1040	1		87	415
80					180	1310/1250	1		95	470
100					200	1580/1500	0.9		105	545
125					240	1890/1800	0.9		120	640
160					280	2310/2200	0.8		135	745
200					340	2730/2600	0.8		160	880
250					400	3200/3050	0.7		200	1035
315					480	3830/3650	0.7		235	1220
400					570	4520/4300	0.6		260	1405
500					680	5410/5150	0.6		295	1655
630					810	6200	0.6		360	1975
800					980	7500	0.5		430	2355
1000	1150	10300	0.5	520	2715					
1250	1360	1200	0.5	585	3335					
1600	1640	14500	0.4	660	3855					

注: 表中斜线上方的负载损耗值适用于Dyn11或Yzn11联结组, 斜线下方的负载损耗值适用于Yyn0联结。  
Remark: The 630/600 in the table, 630 is applied to Dyn11 or Yzn11 connection symbol and 630 is for Yyn0 connection symbol.

#### 三、结构特点/Characters

##### 3.1 铁芯

铁芯选用高导磁晶粒取向冷轧硅钢片。铁芯为心式铁芯, 全斜接缝迭积式铁芯, 其铁芯柱为多级阶梯的圆截面, 铁轭与铁芯为等截面。

##### 3.2 绕组

绕组采用瓦楞油道, 不浸漆工艺, 紧缩带绑扎, 绕组均为同心式线圈, 高压绕组具有对应分接电压要求的抽头, 引至分接开关上, 开关安装在箱盖上, 且需切断电源后方可变换分接电压。

##### 3.3 安全保护装置

- 800~2000kVA变压器装有气体继电器;
- 800~2000kVA变压器装有压力释放阀;

##### 3.4 油保护装置

- 变压器均装有储油柜, 其一端装有油位计;
- 变压器储油柜上应加装带油封的吸湿器;

##### 3.5 油温测量装置

- 变压器均装有玻璃温度计的管座, 管座设在油箱顶部, 伸入油内120 ± 10mm;
- 1000~2000kVA变压器装有户外式信号温度计;

##### 3.6 变压器油箱及其附件

- 变压器一般不供给小车, 箱底支架的焊接位置应符合GB6451-1999的规定;
- 油箱的下部壁上装有油样活门, 变压器油箱下部装有足够大的放油阀;

##### a. Iron core

The iron core is made of cold rolled, granular-oriented, low-loss and high magnetic conductive silicon steel sheet, which is of multi-step completely tilted structure. The iron is core type and the core limb is stepped lap core. The section of yoke is as same as iron core.

##### b. Winding

All windings are cylindrical without dipping and are tied up by tighten strap. HV winding adopts the tapping terminal to control tapping voltage which the switch is installed on the tank cover. However, it should cut power when changing voltage.

##### c. Safety protection device

- 800-2000kva transformers are equipped with gas relay.
- 800-2000kva transformers are equipped with pressure relief valve.

##### d. Oil protection device

- All transformers are equipped with oil conservator and oil level gauge is on the other side.
- Moisture absorber with oil seal is installed on oil conservator.

##### e. Oil temperature measurement device

- All transformers are equipped with glass thermometer holder which is installed in the top of oil box and can be inserted into 120 ± 10mm deep in oil.
- 1000 KVA to 2000 KVA are equipped with signaling thermometer outdoor.

##### f. Oil box and accessories

- There is no wheelbarrow for customer and the jointing of box bottom conforms to national standard "GB6451-1999"
- The lower wall of oil box is equipped with oil sampling valve and the tank bottom is equipped with draining valve.

六、外形及安装尺寸/Outline and Installation

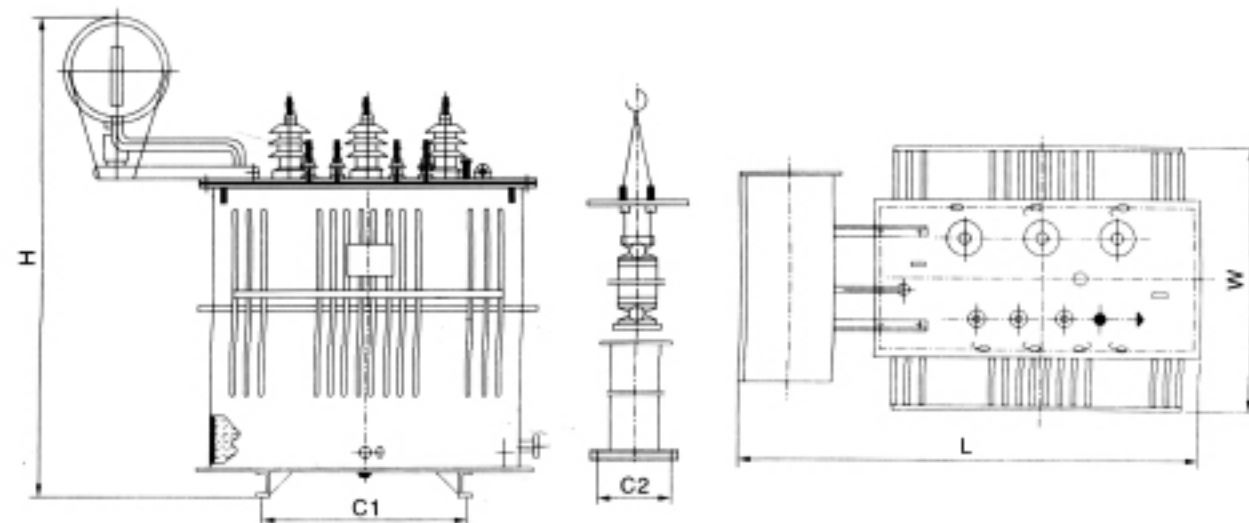


图1 S11-10~2000/10变压器外形及安装尺寸  
Figure1 Outline of S11-10~2000/10

七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
10	915	450	935	400	400
20	915	450	975	400	400
30	930	587	995	400	400
50	995	595	1035	400	400
63	1020	745	1050	400	400
80	1035	750	1095	400	400
100	1040	760	1145	550	550
125	1080	770	1210	550	550
160	1120	785	1230	550	550
200	1210	810	1270	550	550
250	1270	825	1420	550	550
315	1310	840	1490	660	660
400	1365	1010	1525	660	660
500	1395	1025	1590	660	660
630	1515	1060	1625	820	820
800	1850	1180	1780	820	820
1000	1890	1350	1840	820	820
1250	1945	1420	1890	820	820
1600	2295	1400	1980	820	820
2000	2365	1420	2020	820	820

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

**S11-M型6~10kV双绕组无励磁调压油浸式配电变压器**  
**S11 -M series double winding oil immersed distribution transformer with off-circuit tap changing of 6~10KV**



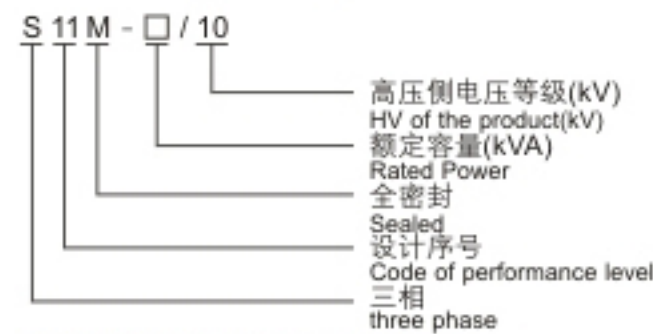
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S11-M型6~10kV双绕组无励磁调压油浸式配电变压器  
S11 -M series double winding oil immersed distribution transformer with off-circuit tap changing of 6~10KV

一、适用范围/General

S11-M-30~2000/10型全密封油浸式变压器适用于交流50Hz, 额定工作电压10kV及以下的电力系统中, 作为石油、冶金、化工、纺织、轻工等企业及粉尘较大场所的配电变压器。  
This kind of product S11-10~2000/10 is applied to power system of 50Hz and 10kV . It is the main power distribution for some big dust location such as petroleum enterprises ,metallurgy enterprise,chemical enterprise,textile enterprise and so on.

二、型号含义/Type designation



四、工作条件/Working condition

- 安装高度: 海拔不超过1000m;
- 环境温度: -40°C~+40°C
- a. Altitude: ≤ 1000m
- b. Ambient temperature: -40°C~+40°C

五、主要技术参数/Specification

额定容量(kVA) Rated Power kVA	电压组合 Voltage			联结组标号 Connection symbol	空载损耗(W) No-Load Loss (W)	负载损耗(W) Load Loss (w)	空载电流(%) No-Load current( %)	短路阻抗(% Impedance voltage(%))	重量(kg) Weight (KG)	
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)						油重 Oil weight	总重 Total weight
30	6	± 5%	0.4	Yyno Dyn11	100	630/600	2.1	4	75	295
50					130	910/870	1.1		88	395
63					150	1090/1040	1		95	420
80					180	1310/1250	1		103	480
100					200	1580/1500	0.9		115	540
125					240	1890/1800	0.9		130	645
160					280	2310/2200	0.8		145	740
200					340	2730/2600	0.8		175	885
250					400	3200/3050	0.7		195	1010
315					480	3830/3650	0.7		230	1205
400					570	4520/4300	0.6		255	1375
500					680	5410/5150	0.6		285	1620
630					810	6200	0.6		350	1960
800					980	7500	0.5		405	2310
1000					1150	10300	0.5		490	1690
1250					1360	12000	0.5		550	3315
1600	1640	14500	0.4	625	3795					

注: 表中斜线上方的负载损耗值适用于Dyn11或Yzn11联结组, 斜线下方的负载损耗值适用于Yyn0联结。  
Remark: The 630/600 in the table, 630 is applied to Dyn11 or Yzn11 connection symbol and 630 is for Yyn0 connection symbol.

三、结构特点/Characters

- 3.1 铁芯  
铁芯选用高导磁晶粒取向冷轧硅钢片。铁芯为心式铁芯, 全斜接缝迭积式铁芯, 其铁芯柱为多级阶梯的圆截面, 铁轭与铁芯为等截面。
- 3.2 绕组  
绕组采用瓦楞油道, 不浸漆工艺, 紧缩带绑扎; 绕组均为同心式线圈; 高压绕组具有对应分接电压要求的抽头, 引至分接开关上, 开关安装在箱盖上, 且需切断电源后方可变换分接电压。
- 3.3 安全保护装置  
 ○ 30~2000kVA变压器装有压力释放阀;  
 ○ 根据用户需求可安装具有报警和跳闸端子的气体继电器;
- 3.4 油温测量装置  
 ○ 变压器均装有玻璃温度计的管座, 管座设在油箱顶部, 伸入油内120 ± 10mm;  
 ○ 1000~2000kVA变压器装有户外式信号温度计;
- 3.5 变压器油箱  
 ○ 变压器油箱由波纹壁构成, 表面采用粉尘喷涂、漆膜牢固。波散热片不但具有冷却功能, 而且具有“呼吸”功能, 波纹散热片的弹性可补偿因温度升降而引起的变压器油体积的变化。因此全密封变压器没有储油柜, 降低了变压器整体高度;  
 ○ 变压器在封装时采用真空注油工艺, 完全去除了变压器中的潮气, 变压器不与空气接触。有效地防止氧气和水分侵入变压器而导致变压器绝缘性能下降和变压器油老化的可能, 因此不定期进行油样试验;
- a. Iron core  
The iron core is made of cold rolled, granular-oriented, low-loss and high magnetic conductive silicon steel sheet, which is of multi-step completely tilted structure. The iron is core type and the core limb is stepped lap core. The section of yoke is as same as iron core.
- b. Winding  
All windings are cylindrical without dipping and are tied up by tighten strap. HV winding adopts the tapping terminal to control tapping voltage which the switch is installed on the tank cover. However, it should cut power when changing voltage.
- c. Safety protection device  
 1. 30-2000kva transformers are equipped with gas relay.  
 2. Transformers can be equipped with gas relay which has warning and tripping function.
- d. Oil temperature measurement device  
 1. All transformers are equipped with glass thermometer holder which is installed in the top of oil box and can be inserted into 120±10mm deep in oil.  
 2. 1000 KVA to 2000 KVA are equipped with signaling thermometer outdoor.
- e. Oil box  
 1. Oil box is corrugated which has advantage of good cooling and make the volume of transformer unchanging. All sealed transformer has no oil tank, so that the height is lower.  
 2. Pouring oil in the vacuum would banish bulb in the winding, which can stable the insulation ability. Customer should have oil sample test casually to check the performance of transformer.

六、外形及安装尺寸/Outline and Installation

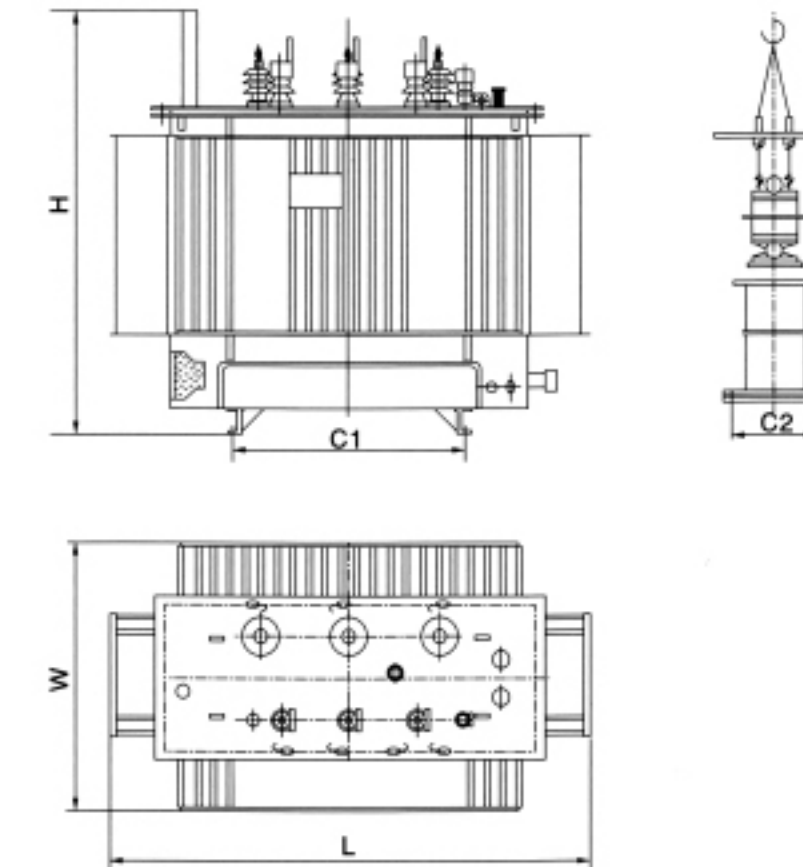


图1 S11-M-30~2000/10变压器外形及安装尺寸  
Figure 1 Outline of S11-M-30~2000/10

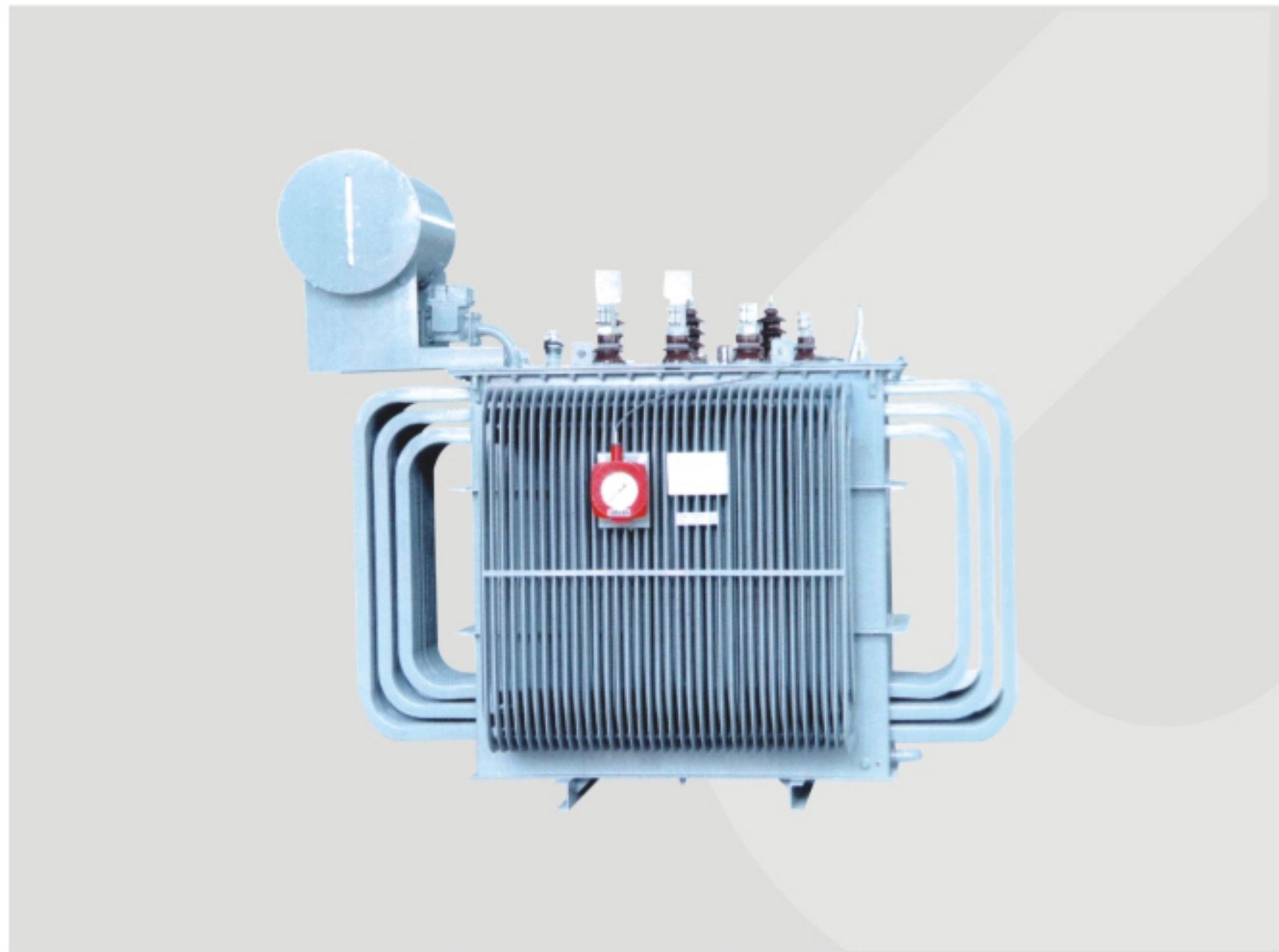
七、外形及安装尺寸/Outline and Installation

额定容量 (kVA)	外形及安装尺寸(mm)				
	L	W	H	C1	C2
30	750	643	974	400	400
50	795	493	1013	400	400
63	800	665	1050	400	400
80	840	680	1075	400	400
100	775	690	1100	550	550
125	1260	900	1045	550	550
160	1090	720	1140	550	550
200	1180	780	1155	550	550
250	1175	750	1180	550	550
315	1315	890	1240	660	660
400	1330	910	1280	660	660
500	1390	930	1340	660	660
630	1545	1030	1410	820	820
800	1570	1020	1535	820	820
1000	1800	1250	1430	820	820
1250	1910	1130	1650	820	820
1600	2010	1220	1740	820	820
2000	2120	1280	1780	820	820

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

## S9型6~10kV双绕组无励磁调压油浸式配电变压器 S9 series double winding oil immersed distribution transformer with off-circuit tap changing of 6~10KV



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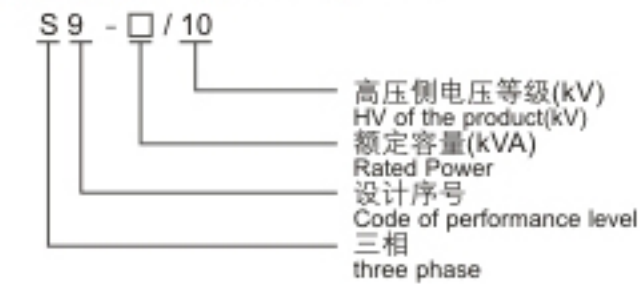
## S9 series double winding oil immersed distribution transformer with off-circuit tap changing of 6~10KV

### S9型6~10kV双绕组无励磁调压油浸式配电变压器 S9 series double winding oil immersed distribution transformer with off-circuit tap changing of 6~10KV

#### 一、适用范围/General

S9-10~2000/10型油浸式变压器适用于交流50Hz, 额定工作电压10kV及以下的电力系统中, 作为中小型变电站及工矿企业、事业单位动力配电及照明负荷的变电设备。  
This kind of product S9-10~2000/10 is applied to power system of 50Hz and 10kV. It is the main transformer equipment of medium and small-sized transformer substation for power distribution and industrial enterprise.

#### 二、型号含义/Type designation



#### 四、工作条件/Working condition

安装高度: 海拔不超过1000m;  
环境温度: -40°C~+40°C  
a. Altitude: ≤ 1000m  
b. Ambient temperature: -40°C~+40°C

#### 五、主要技术参数/Specification

额定容量 (kVA) Rated Power kVA	电压组合 Voltage			联结组 标号 Connection symbol	损耗(kW) / Loss (kw)		空载 电流(%) No-Load current (%)	短路 阻抗(%) Impedance voltage(%)	重量(kg) Weight (KG)	
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)		空载 No-Load	负载 Load			油重 Oil weight	总重 Total weight
10	6	±5	0.4	Dyn11 Yzn11 Yyno	260	0.07	3.2	4	45	172
20					440	0.1	3		57	230
30					0.63/0.60	0.13	2.3		65	275
50					0.91/0.87	0.17	2.0		80	360
63					1.09/1.04	0.20	1.9		87	415
80					1.31/1.25	0.25	1.9		95	470
100					1.58/1.50	0.29	1.8		105	545
125					1.89/1.80	0.34	1.7		120	640
160					2.31/2.20	0.40	1.6		135	745
200					2.73/2.60	0.48	1.5		160	880
250					3.20/3.05	0.56	1.4		200	1035
315					3.83/3.65	0.67	1.4		235	1220
400					4.52/4.30	0.80	1.3		260	1405
500					5.41/5.15	0.96	1.2		295	1655
630					6.20	1.20	1.1		360	1975
800					7.5	1.40	1.0		430	2355
1000	10.30	1.70	1.0	520	2715					
1250	12.00	1.95	0.9	585	3335					
1600	14.50	2.40	0.6	660	3855					

注: 对于额定容量为500kVA及以下的变压器, 表中斜线上方的负载损耗值适用于Dyn11或Yzn11联结组, 斜线下方的负载损耗值适用于Yyno联结。

Remark: The 0.63/0.60 in the table, 0.63 is applied to Dyn11 or Yzn11 connection symbol and 0.60 is for Yyno connection symbol.

#### 三、结构特点/Characters

- 3.1 铁芯**  
铁芯选用高磁晶粒取向冷轧硅钢片。铁芯为心式铁芯, 全斜接缝迭积式铁芯, 其铁芯柱为多级阶梯的圆截面, 铁轭与铁芯为等截面。
  - 3.2 绕组**  
绕组采用瓦楞油道, 不浸漆工艺, 紧缩带绑扎, 绕组均为同心式线圈, 高压绕组具有对应分接电压要求的抽头, 引至分接开关上, 开关安装在箱盖上, 且需切断电源后方可变换分接电压。
  - 3.3 安全保护装置**
    - 800~2000kVA变压器装有气体继电器;
    - 800~2000kVA变压器装有压力释放阀;
  - 3.4 油保护装置**
    - 变压器均装有储油柜, 其一端装有油位计;
    - 变压器储油柜上应加装带油封的吸湿器;
  - 3.5 油温测量装置**
    - 变压器均装有玻璃温度计的管座, 管座设在油箱顶部, 伸入油内120±10mm;
    - 1000~2000kVA变压器装有户外式信号温度计;
  - 3.6 变压器油箱及其附件**
    - 变压器一般不供给小车, 箱底支架的焊接位置应符合GB6451-1999的规定;
    - 油箱的下部壁上装有油样活门, 变压器油箱下部装有足够大的放油阀;
- a. Iron core  
The iron core is made of cold rolled, granular-oriented, low-loss and high magnetic conductive silicon steel sheet, which is of multi-step completely lilled structure. The iron is core type and the core limb is stepped lap core. The section of yoke is as same as iron core.
- b. Winding  
All windings are cylindrical without dipping and are tied up by tighten strap. HV winding adopts the tapping terminal to control tapping voltage which the switch is installed on the tank cover. However, it should cut power when changing voltage.
- c. Safety protection device  
1. 800-2000kva transformers are equipped with gas relay.  
2. 800-2000kva transformers are equipped with pressure relief valve.
- d. Oil protection device  
1. All transformers are equipped with oil conservator and oil level gauge is on the other side.  
2. Moisture absorber with oil seal is installed on oil conservator.
- e. Oil temperature measurement device  
1. All transformers are equipped with glass thermometer holder which is installed in the top of oil box and can be inserted into 120±10mm deep in oil.  
2. 1000 KVA to 2000 KVA are equipped with signaling thermometer outdoor.
- f. Oil box and accessories  
1. There is no wheelbarrow for customer and the jointing of box bottom conforms to national standard "GB6451-1999"  
2. The lower wall of oil box is equipped with oil sampling valve and the tank bottom is equipped with draining valve.

六、外形及安装尺寸/Outline and Installation

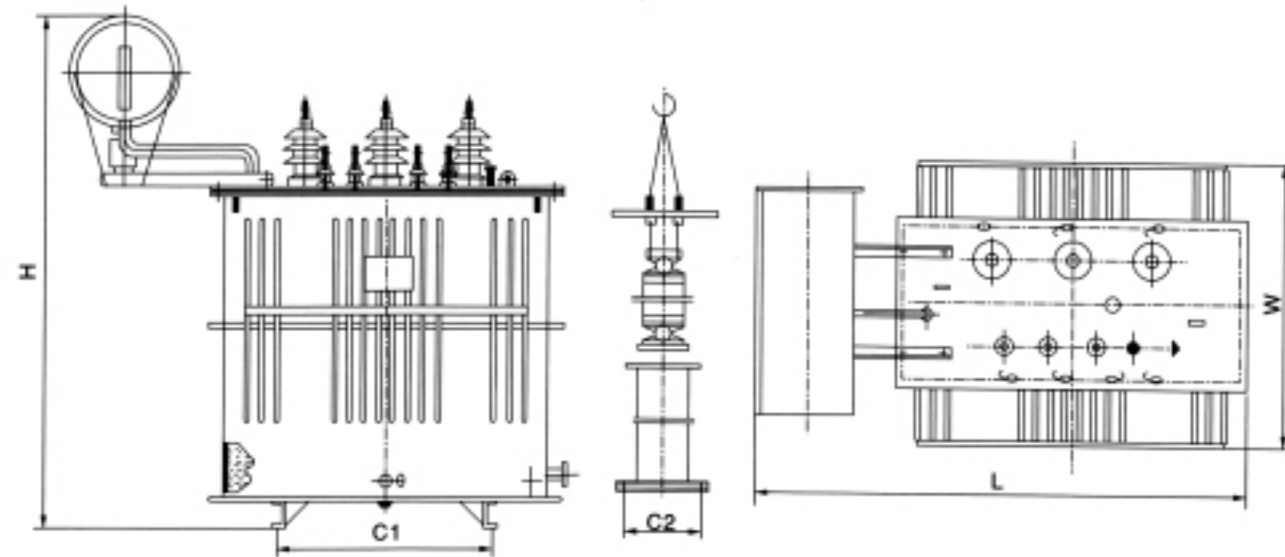


图1  
Figure1

七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
10	915	450	935	400	400
20	915	450	975	400	400
30	930	587	995	400	400
50	995	595	1035	400	400
63	1020	745	1050	400	400
80	1035	750	1095	400	400
100	1040	760	1145	550	550
125	1080	770	1210	550	550
160	1120	785	1230	550	550
200	1210	810	1270	550	550
250	1270	825	1420	550	550
315	1310	840	1490	550	550
400	1365	1010	1525	550	550
500	1395	1025	1590	660	660
630	1515	1060	1625	660	660
800	1850	1180	1780	660	660
1000	1890	1350	1840	820	820
1250	1945	1420	1890	820	820
1600	2295	1400	1980	820	820
2000	2365	1420	2020	820	820

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

**S9-M型6~10kV双绕组无励磁调压全密封油浸式配电变压器**  
**S9-M series double winding sealed oil immersed**  
**distribution transformer with off-circuit tap changing of 6~10KV**



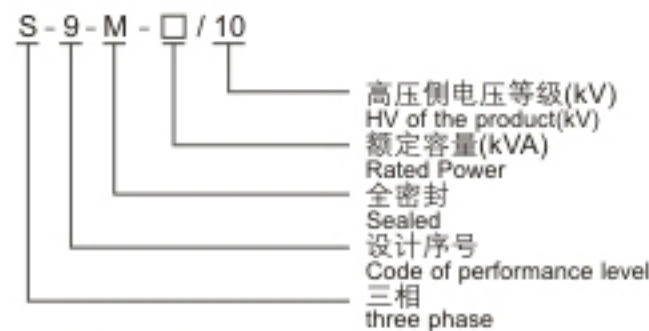
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S9-M型6~10kV双绕组无励磁调压全密封油浸式配电变压器  
S9-M series double winding sealed oil immersed distribution transformer with  
off-circuit tap changing of 6~10KV

一、适用范围/General

S9-M-30~2000/10型全密封油浸式非晶合金变压器适用于交流50Hz, 额定工作电压10kV及以下的电力系统中, 作为石油、冶金、化工、纺织、轻工等企业及粉尘较大场所的配电变压器。

This kind of product S9-M-30~2000/10 is applied to power system of 50Hz and 10kV. It is the main power distribution for some big dust location such as petroleum enterprises, metallurgy enterprise, chemical enterprise, textile enterprise and so on.



四、工作条件/Working condition

安装高度: 海拔不超过1000m;

环境温度: -40°C~+40°C

a. Altitude: ≤ 1000m

b. Ambient temperature: -40°C~+40°C

五、主要技术参数/Specification

额定容量(kVA) Rated Power kVA	电压组合 Voltage			联结组标号 Connection symbol	空载损耗(W) No-Load Loss (W)	负载损耗(W) Load Loss (w)	空载电流(% No-Load current( %)	短路阻抗(% Impedance voltage(%))	重量(kg) Weight (KG)	
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)						油重 Oil weight	总重 Total weight
30	6	± 5	0.4	Dyn11	0.63/0.60	0.13	2.3	4	75	295
50					0.91/0.87	0.17	2.0		88	395
63					1.09/1.04	0.20	1.9		95	420
80					1.31/1.25	0.25	1.9		103	480
100					1.58/1.50	0.29	1.8		115	540
125					1.89/1.80	0.34	1.7		130	645
160					2.31/2.20	0.40	1.6		145	740
200					2.73/2.60	0.48	1.5		175	885
250					3.20/3.05	0.56	1.4		195	1010
315					3.83/3.65	0.67	1.4		230	1205
400					4.52/4.30	0.80	1.3		255	1375
500					5.41/5.15	0.96	1.2		285	1620
630					6.20	1.20	1.1		350	1960
800					7.5	1.40	1.0		405	2310
1000					10.30	1.70	1.0		490	2690
1250					12.00	1.95	0.9		550	3315
1600	14.50	2.40	0.8	625	3985					

注: 对于额定容量为500kVA及以下的变压器, 表中斜线上方的负载损耗值适用于Dyn11或Yzn11联结组, 斜线下方的负载损耗值适用于Yyn0联结。

三、结构特点/Characters

3.1 铁芯

铁芯选用高导电磁晶取向冷轧硅钢片。铁芯为心式铁芯, 全斜接缝透积式铁芯, 其铁芯柱为多级阶梯的圆截面, 铁轭与铁芯为等截面。

3.2 绕组

绕组采用瓦楞油道, 不浸漆工艺, 紧缩带绑扎; 绕组均为同心式线圈; 高压绕组具有对应分接电压要求的抽头, 引至分接开关上, 开关安装在箱盖上, 且需切断电源后方可变换分接电压。

3.3 安全保护装置

- 30~2000kVA变压器装有压力释放阀;
- 根据用户需求可安装具有报警和跳闸端子的气体继电器;

3.4 油温测量装置

- 变压器均装有玻璃温度计的管座, 管座设在油箱顶部, 伸入油内120±10mm;
- 1000~2000kVA变压器装有户外式信号温度计;

3.5 变压器油箱

- 变压器油箱由波纹壁构成, 表面采用粉尘喷涂、漆膜牢固。波散热片不但具有冷却功能, 而且具有“呼吸”功能, 波纹散热片的弹性可补偿因温度升降而引起的变压器油体积的变化。因此全密封变压器没有储油柜, 降低了变压器整体高度;
- 变压器在封装时采用真空注油工艺, 完全去除了变压器中的潮气, 变压器不与空气接触。有效地防止氧气和水分侵入变压器而导致变压器绝缘性能下降和变压器油老化的可能, 因此不定期进行油样试验;

a. Iron core

The iron core is made of cold rolled, granular-oriented, low-loss and high magnetic conductive silicon steel sheet, which is of multi-step completely tilted structure. The iron is core type and the core limb is stepped lap core. The section of yoke is as same as iron core.

b. Winding

All windings are cylindrical without dipping and are tied up by tighten strap. HV winding adopts the tapping terminal to control tapping voltage which the switch is installed on the tank cover. However, it should cut power when changing voltage.

c. Safety protection device

- 30-2000kva transformers are equipped with gas relay.
- Transformers can be equipped with gas relay which has warning and tripping function.

d. Oil temperature measurement device

- All transformers are equipped with glass thermometer holder which is installed in the top of oil box and can be inserted into 120±10mm deep in oil.
- 1000 KVA to 2000 KVA are equipped with signaling thermometer outdoor.

e. Oil box

1. Oil box is corrugated which has advantage of good cooling and make the volume of transformer unchanging. All sealed transformer has no oil tank, so that the height is lower.  
2. Pouring oil in the vacuum would banish bulb in the winding, which can stable the insulation ability. Customer should have oil sample test casually to check the performance of transformer.

六、外形及安装尺寸/Outline and Installation

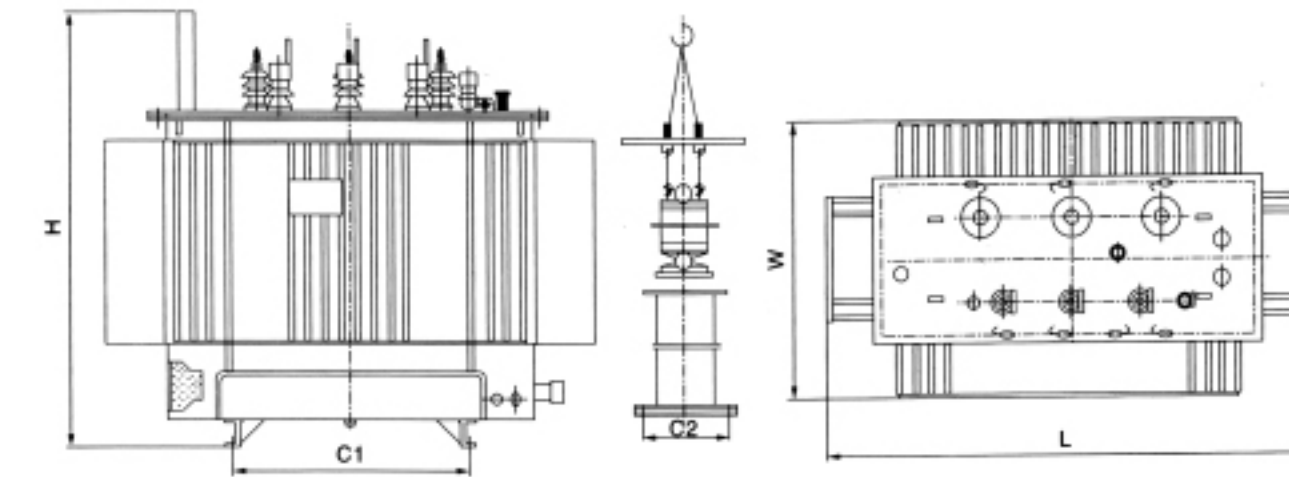


图1 S9-M-30~2000/10变压器外形及安装尺寸  
Figure1 Outline of S9-M-30~2000/10

七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
30	755	655	945	400	400
50	825	665	985	400	400
63	840	675	1000	400	400
80	1020	665	995	400	400
100	1220	750	1015	400	400
125	1260	870	1035	550	550
160	1240	830	1055	550	550
200	1428	1008	1080	660	660
250	1238	818	1123	550	550
315	1380	930	1175	660	660
400	1390	935	1225	660	660
500	1430	970	1230	660	660
630	1550	990	1240	820	820
800	1640	1140	1379	820	820
1000	1830	1320	1400	820	820
1250	1910	1130	1650	820	820
1600	2010	1220	1740	820	820
2000	2120	1280	1780	820	820

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

S9-6~10kV双绕组有载调压油浸式配电变压器  
S9-6~10kV series double winding oil immersed power transformer with on load tap changing



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S9-6~10kV双绕组有载调压油浸式配电变压器  
S9-6~10K series double winding oil immersed power transformer with on load tap changing

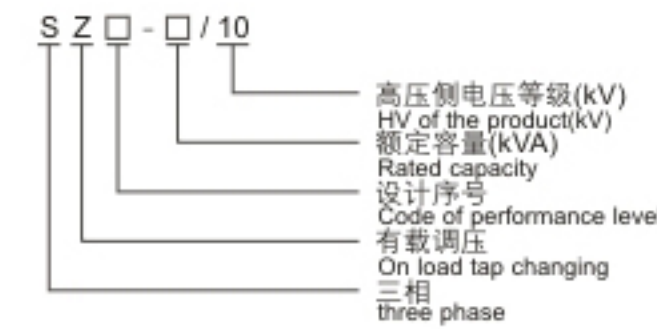
S9-6~10kV双绕组有载调压油浸式配电变压器  
S9-6~10Kseries double winding oil immersed power transformer with on load tap changing

一、适用范围/General

200~1600/10型有载调压变压器适用于交流50Hz, 额定工作电压0kV及以下的电力系统中, 作为中小型变电站及工矿企业、事业单位动力配电及照明负荷的变电设备。

This kind of product 200-1600/10 is applied to power system of 50Hz and 10kV . It is the main transformer equipment of medium and small-sized transformer substation for power distribution and industrial enterprise .

二、型号含义/Type designation



四、工作条件/Working condition

- 安装高度: 海拔不超过1000m;
- 环境温度: -40℃~+40℃
- a.Altitude: ≤ 1000m
- b.Ambient temperature: -40℃~+40℃

五、主要技术参数/Specification

额定容量 (kVA) Rated Power kVA	电压组合 Voltage			联结组 标号 Connection symbol	损耗(kW) / Loss (kw)			空载 电流(%) No-Load current (%)	短路阻抗 (%) Impedance voltage(%)	重量(kg) Weight (KG)	
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)		空载 No-Load	负载 Load	油重 Oil weight (%)			总重 Total weight	
200	6	± 4 × 2.5%	0.4	10.4	3.06	1.35 0.48	1.3 1.5	4	260	1040	
250					3.60	0.56	1.4		290	1160	
315					4.32	0.67	1.4		320	1360	
400					5.22	0.80	1.3		350	1550	
500					6.21	0.96	1.2		400	1820	
630					7.65	1.20	1.1		490	2170	
800					9.36	1.40	1.0		600	2590	
1000					10.98	1.70	1.0		710	3000	
1250					13.05	1.95	0.9		820	3630	
1600					15.57	2.4	0.8		840	4145	

三、结构特点/Characters

- 3.1 铁芯  
铁芯选用高导磁晶粒取向冷轧硅钢片。铁芯为心式铁芯, 靠斜接缝迭积式铁芯, 其铁芯柱为多级阶梯的圆截面, 铁轭与铁芯为等截面。
- 3.2 绕组  
绕组均为同心式线圈; 高压绕组具有对应分接电压要求的抽头, 引至分接开关上, 开关安装在箱盖上, 不需切断电源可变换分接电压。开关操作机构具有手动、自动功能。
- 3.3 安全保护装置  
○ 变压器装有气体继电器;  
○ 变压器装有压力释放阀;
- 3.4 油保护装置  
○ 变压器均装有储油柜, 其一端装有油位计;  
○ 变压器储油柜上应加装带油封的吸湿器;
- 3.5 油温测量装置  
○ 变压器均装有玻璃温度计的管座, 管座设在油箱顶部, 伸入油 内120 ± 10mm;  
○ 1000kVA及以上变压器装有户外式信号温度计;
- 3.6 变压器油箱及其附件  
○ 变压器一般不供给小车, 箱底支架的焊接位置应符合GB6451-1999的规定;  
○ 油箱的下部壁上装有油样活门, 变压器油箱下部装有足够大的放油阀;
- a.Iron core  
The iron core is made of cold rolled, granular-oriented, low-loss and high magnetic conductive silicon steel sheet, which is of multi-step completely tilted structure. The iron is core type and the core limb is stepped lap core. The section of yoke is as same as iron core.
- b.Winding  
All windings are cylindrical. HV winding adopts the tapping terminal to control tapping voltage which the switch is installed on the tank cover and can change voltage without cutting the power. There are manual control and electric control two choose on the driving mechanism.
- c.Safety protection device  
1. Gas relay  
2. Pressure relief valve  
d. Oil protection device  
1. All transformers are equipped with oil conservator and oil level gauge is on the other side.  
2. Moisture absorber with oil seal is installed on oil conservator.
- e. Oil temperature measurement device  
1. All transformers are equipped with glass thermometer holder which is installed in the top of oil box and can be inserted into 120±10mm deep in oil.  
2. 1000kva and more than transformers are equipped with out signaling thermometer outdoor.
- f. Oil box and accessories  
1. There is no wheelbarrow for customer and the jointing of box bottom conforms to national standard "GB6451-1999"  
The lower wall of oil box is equipped with oil sampling valve and the tank bottom is equipped with draining valve.

六、外形及安装尺寸/Outline and Installation

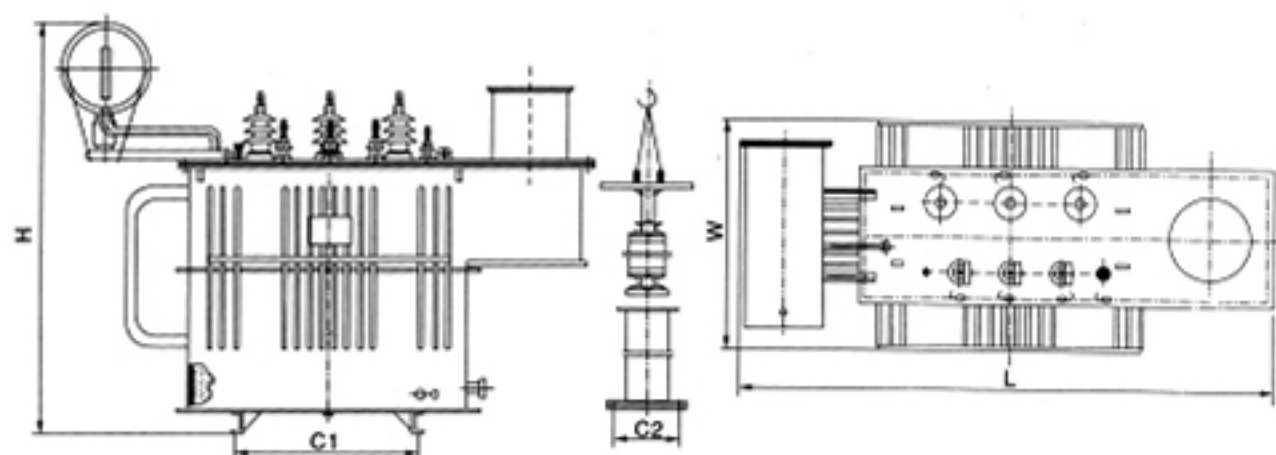


图1 SZ9-200~1600/10变压器外形及安装尺寸

七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
200	1650	870	1340	550	550
250	1700	880	1490	550	550
315	1750	900	1560	660	660
400	1800	1060	1600	660	660
500	1830	1080	1660	660	660
630	1950	1120	1690	820	820
800	2270	1240	1840	820	820
1000	2310	1400	1900	820	820
1250	2360	1460	1940	820	820
1600	2430	1510	1990	820	820

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

SC(B)9型6~10kV环氧树脂浇注干式变压器  
SC(B)9 series epoxy resin cast dry type transformer of 6~10kv



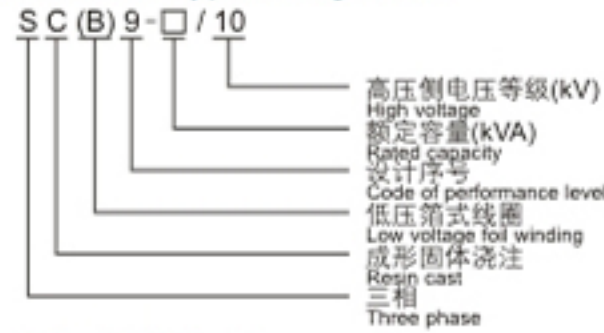
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SC(B)9型6~10kV环氧树脂浇注干式变压器  
SC(B)9 series epoxy resin cast dry type transformer of 6~10kv

一、适用范围/General

本产品具有广泛的使用领域，尤其适用用在防火要求高的场所，如矿井、油田、地铁、发电厂、学校、医院、商业中心、高层建筑及一切户内配置系统中。  
The product is mainly used for location having special fire safety requirements such as underground substation, subways, high building, commercial centers, airport, railway stations wharfs.

二、型号含义/Type designation



四、工作条件/Working condition

安装高度：海拔不超过1000m  
Altitude: ≤ 1000m  
电源电压的波形：似于正弦波  
Wave-form of supply voltage: similar to sine-wave  
多相电源电压的对称性：  
Symmetry of supply voltage: supply voltage of each phase should be close.  
多相变压器所连接的电源电压应近似对称。  
Symmetry of supply voltage: supply voltage of each phase should be close.  
环境温度：  
Temperature  
最高气温+40℃  
Max. ambient temperature: +40℃  
最高日平均气温+30℃  
Max. daily average ambient temperature: +30℃  
最高年平均气温+20℃  
Max. annual average ambient temperature: +20℃  
最低气温-30℃(适用于户内式变压器)  
Min. temperature: -30℃ (indoor installation)

五、主要技术参数/Specification

额定容量 (kVA) Rated Power kVA	电压组合 Voltage			联结组 标号 Connection symbol	损耗(120 kW) Loss (120 kw)		空载 电流(%) No-Load current (%)	短路阻抗 (%) Impedance voltage(%)	重量(kg) Weight (KG)		
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)		负载 Load	空载 No-Load			本体重 Oil weight	带外壳重 Total weight	
30	6	± 5%	0.4	Yyno Dyn11	10.4	0.75	0.2235	0.48	1.3	220	260
50						1.05	0.31	2.8		360	410
80						1.46	0.42	2.6		450	490
100						1.67	0.45	2.4		540	580
125						1.95	0.53	2.2		630	670
160						2.25	0.61	2.2		745	795
200						2.67	0.7	2		850	910
250						2.92	0.81	2.2		1010	1065
315					3.67	0.99	1.8	1235	1295		
400					4.22	1.1	1.8	1370	1430		
500					5.17	1.35	1.8	1565	1625		
630					6.22	1.51	1.6	1855	1930		
630					6.31	1.46	1.6	1800	1875		
800					7.36	1.71	1.6	2140	2215		
1000					8.60	1.99	1.4	2535	2620		
1250					10.26	2.35	1.4	3100	3190		
1600	12.42	2.75	1.4	3705	3830						
2000	15.3	3.74	1.2	4230	4380						
2500	18.18	4.5	1.2	5230	5380						

三、结构特点/Characters

3.1 铁芯  
铁芯采用高导电优质硅钢片，45°全斜步接缝。铁芯采用特殊的方管拉板结构，芯柱采用绝缘带绑扎，铁芯表面采用特殊树脂涂覆以防潮防锈，有效降低了空载损耗、空载电流和铁芯噪音。  
安全，难燃防火，无污染，可直接安装在负荷中心。免维护、安装简便、综合运行成本低。  
防潮性能好，可在100%湿度下正常运行，停运后不经预干燥即可投入运行。  
损耗低、局部放电量低、噪音小、散热能力强，配备有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。  
可靠性高。据对已经投入运行的产品的运行研究，产品的可靠性指标已经达到国际先进水平。  
3.2 箔式线圈  
低压绕组采用整段铝箔，连同F级的绝缘在专用低压箔绕机上绕制。箔式线圈较好地解决了低电压、大电流线圈绕产品短路应力大，安匝不平衡，散热效果差，存在绕制螺旋角，人工焊接质量不稳定的突出问题。同时我公司箔绕组端部用树脂灌封，固化成形，防潮防污。  
3.3 温控装置  
变压器采用BWDC系列信号温度计，测温元件埋在低压线圈上半部，可自动检测并巡回显示三相线圈各自的工作湿度。并且有超温报警和跳闸功能。  
1. Iron core  
The iron core is made of high quality, cold-rolled, granule-oriented silicon-steel sheets and machined with completely automatic cutting line superposed with 45° level bias seams. Core column adopts special banding technique the surface of iron core is painted with the special rustproof coating to resist humidity and rust, which can effectively reduce the no-load losses, no-load current and iron-core noise.  
Safe, reliable, no pollution, can operate directly in the load center.  
Maintenance free, easy installation and low operation.  
High moisture-proof, the transformer can operate normally under 100% relative humidity and can be switched on without pre-drying even after a longer period of service interruption cost.  
Low losses, low partial discharge, low noise level, and ideal dissipation of heat.  
Precise temperature protection and surveillance system assures safe and reliable service of transformer.  
2. Foil winding  
LV winding is mainly made of foils. It adopts interior argon gas protection welding with high precision and reliability as no external welding joint. It solves the winding turns imbalance, effectively improves thermal performance and enhance short circuit withstanding capability.  
3. Temperature control device  
Transformer temperature control protection device adopts BWDC series signal thermometer and temperature measurers are on the upper half of LV foil winding. It has functions of display to show temperature of three phase automatically and also has functions of automatically alarm and trip signal.

六、外形及安装尺寸/Outline and Installation

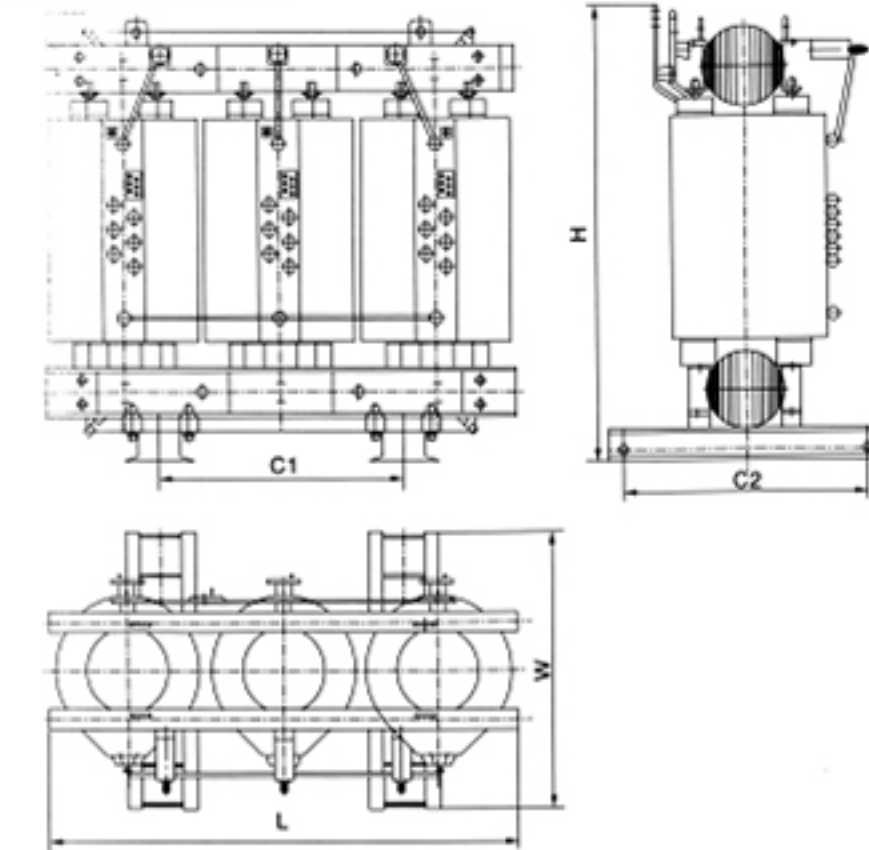


图1 SC(B)9-30~2500/10变压器外形及安装尺寸  
Figure1 Outline of SC(B)9-30~2500/10

七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
30	580	405	600	300	300
50	620	475	730	300	300
80	900	500	820	450	450
100	940	500	860	450	450
125	970	500	890	450	450
160	1060	650	930	550	550
200	1100	650	985	550	550
250	1140	760	1070	660	660
315	1170	760	1130	660	660
400	1260	760	1155	660	660
500	1300	760	1190	660	660
630	1370	760	1220	660	660
630	1370	760	1190	660	660
800	1440	760	1225	660	660
1000	1480	920	1330	820	820
1250	1580	920	1480	820	820
1600	1660	920	1550	820	820
2000	1720	920	1710	820	820
2500	1820	920	1780	1070	1070

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

SC(B)10型6~10kV环氧树脂浇注干式变压器  
SC(B)10 series epoxy resin cast dry type transformer of 6~10kv



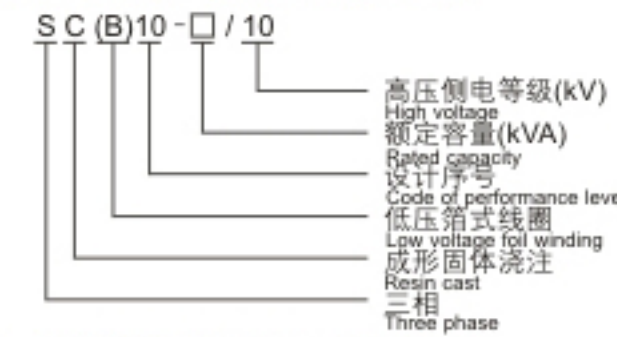
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Http://www.cnvcb.com

SC(B)10型6~10kV环氧树脂浇注干式变压器  
SC(B)10 series epoxy resin cast dry type transformer of 6~10kv

一、适用范围/General

本产品具有广泛的使用领域，尤其适用用在防火要求高的场所，如矿井、油田、地铁、发电厂、学校、医院、商业中心、高层建筑及一切户内配置系统中。  
The product is mainly used for location having special fire safety requirements such as underground substation, subways, high building, commercial centers, airport, railway stations, wharfs.

二、型号含义/Type designation



四、工作条件/Working condition

安装高度：海拔不超过1000m；  
Altitude: ≤ 1000m  
电源电压的波形：类似于正弦波；  
Wave-form of supply voltage: similar to sine-wave  
多相电源电压的对称性；  
Symmetry of supply voltage: supply voltage of each phase should be close.  
多相变压器所连接的电源电压应近似对称。  
Symmetry of supply voltage: supply voltage of each phase should be close.  
环境温度：  
Temperature  
最高气温+40℃  
Max.ambient temperature: +40℃  
最高日平均气温+30℃  
Max.daily average ambient temperature: +30℃  
最高年平均气温+20℃  
Max.annual average ambient temperature: +20℃  
最低气温-30℃(适用于户内式变压器)  
Min. temperature: -30℃(indoor installation)

五、主要技术参数/Specification

额定容量 Rated Power kVA	电压组合 Voltage			联结组 标号 Connection symbol	损耗(120 kw) Loss (120 kw)		空载 电流(%) No-Load current (%)	短路阻抗 (%) Impedance voltage(%)	重量(kg) Weight (KG)	
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)		负载 Load	空载 No-Load			本体重量 Oil weight	带外重量 Total weight
30	6	±5% ±2×2.5%	0.4	Yyno Dyn11	0.71	0.19	1.6	4	220	250
50					1	0.27	1.4		360	410
80					1.38	0.37	1.2		450	490
100					1.57	0.4	1.1		540	580
125					1.85	0.47	1.0		630	670
160					2.13	0.54	1.0		745	795
200					2.52	0.62	0.9		850	910
250					2.75	0.72	0.8		1010	1065
315					3.47	0.88	0.8	1235	1295	
400					3.99	0.98	0.7	1370	1430	
500					4.88	1.16	0.7	1565	1625	
630					5.87	1.34	0.6	1855	1930	
630					5.96	1.3	0.6	1800	1875	
800					6.95	1.52	0.5	2140	2215	
1000					8.13	1.77	0.45	2535	2620	
1250					9.69	2.09	0.45	3100	3190	
1600	11.73	2.45	0.45	3705	3830					
2000	14.45	3.32	0.4	4230	4380					
2500	17.17	4.0	0.4	5230	5380					

六、外形及安装尺寸/Outline and Installation

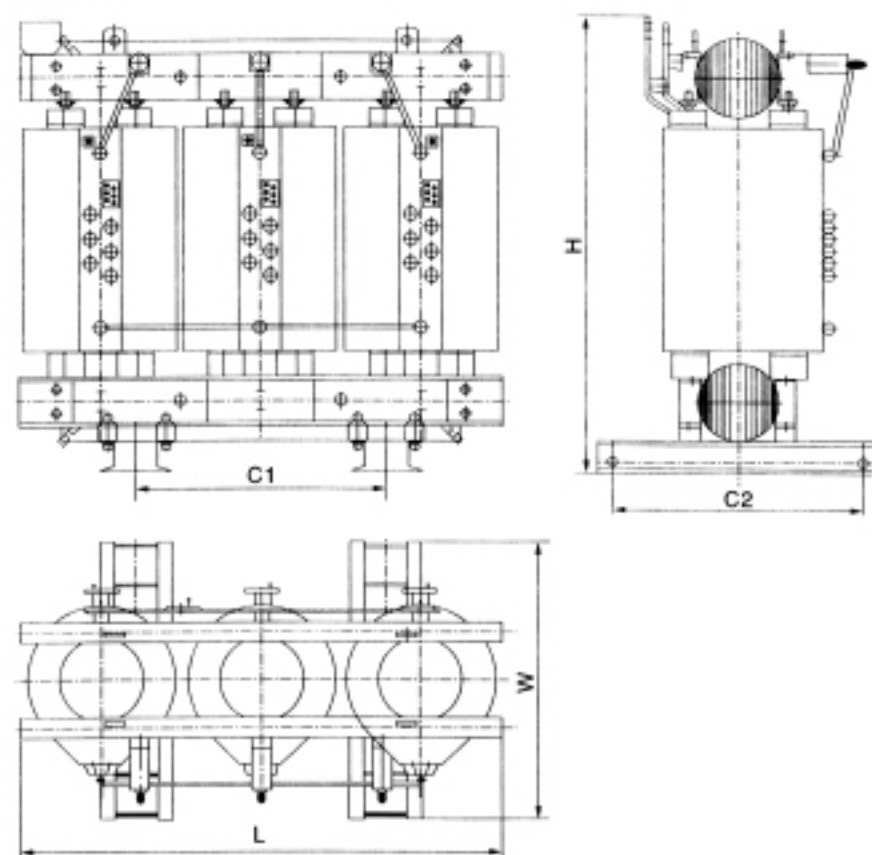


图1 SC(B)10-30~2500/10变压器外形及安装尺寸  
Figure1 Outline of SC(B)10-30~2500/10

七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
30	580	405	600	300	300
50	620	475	730	300	300
80	900	500	820	450	450
100	940	500	860	450	450
125	970	500	890	450	450
160	1060	650	930	550	550
200	1100	650	985	550	550
250	1140	760	1070	660	660
315	1170	760	1130	660	660
400	1260	760	1155	660	660
500	1300	760	1190	660	660
630	1370	760	1220	660	660
630	1370	760	1190	660	660
800	1440	760	1225	660	660
1000	1480	920	1330	820	820
1250	1580	920	1480	820	820
1600	1660	920	1550	820	820
2000	1720	920	1710	820	820
2500	1820	920	1780	1070	1070

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

SC(B)9型35kV环氧浇注干式变压器  
SC(B)9 series epoxy resin cast dry type transformer of 35kv



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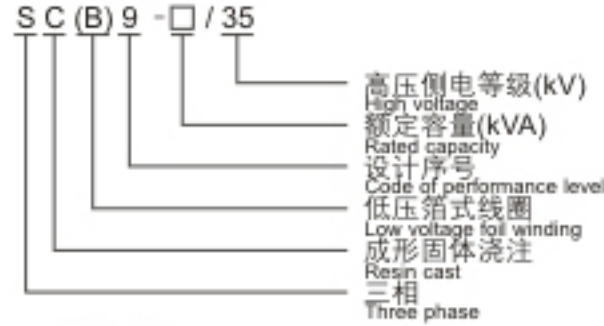
SC(B)9型35kV环氧浇注干式变压器

SC(B)9 series epoxy resin cast dry type transformer of 35kv

一、适用范围/General

本产品具有广泛的使用领域，尤其适用使用在防火要求高的场所，如矿井、油田、地铁、发电厂、学校、医院、商业中心、高层建筑及一切户内配置系统中。  
The product is mainly used for location having special fire safety requirements such as underground substation, subways, high building, commercial centers, airport, railway stations wharfs.

二、型号含义/Type designation



四、工作条件/Working condition

安装高度：海拔不超过1000m；  
Altitude: ≤ 1000m  
电源电压的波形：类似于正弦波；  
Wave-form of supply voltage: similar to sine-wave  
多相电源电压的对称性；  
Symmetry of supply voltage: supply voltage of each phase should be close.  
多相变压器所连接的电源电压应近似对称。  
Symmetry of supply voltage: supply voltage of each phase should be close.  
环境温度：  
Temperature  
最高气温+40℃  
Max. ambient temperature: +40℃  
最高日平均气温+30℃  
Max. daily average ambient temperature: +30℃  
最高年平均气温+20℃  
Max. annual average ambient temperature: +20℃  
最低气温-30℃(适用于户内式变压器)  
Min. temperature: -30℃ (indoor installation)

五、主要技术参数/Specification

额定容量 (kVA) Rated Power kVA	电压组合 Voltage			联结组 标号 Connection symbol	损耗(120°kw) Loss (120° kw)		空载 电流(%) No-Load current (%)	短路阻抗 (%) Impedance voltage(%)	本体重量 Oil weight	带外壳重量 Total weight
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)		负载 Load	空载 No-Load				
30	35	± 5%	0.4	Yyno	0.85	0.35	2.8	6	680	730
50					1.1	0.45	2.8		720	770
63					1.45	0.5	2.6		780	830
80					1.95	0.58	2.5		810	860
100					2.3	0.65	2.4		890	950
125					2.6	0.73	2.3		950	1010
160					2.9	0.86	2.2		1000	1060
200					3.35	1.0	2.2		1260	1320
250					3.85	1.15	2.2		1420	1480
315					4.2	1.32	2		1730	1790
400					5.4	1.55	2		1840	1900
500					6.65	1.82	2		2200	2270
630					7.73	2.09	1.8		2630	2700
800					9.1	2.45	1.8		3260	3330
1000					10.5	2.72	1.8		3990	4060
1250	12.8	3.18	1.6	4470	4540					
1600	15.5	3.64	1.6	5570	5540					
2000	18.2	4.72	1.4	6410	6480					
2500	21.5	5.0	1.4	6930	7030					

三、结构特点/Characters

3.1 铁芯  
铁芯采用高导磁优质晶粒取向冷轧硅钢片，45°全斜步接缝。铁芯采用特殊的方管拉板结构，芯柱采用绝缘带绑扎，铁芯表面采用特殊树脂涂覆以防潮防锈，有效降低了空载损耗、空载电流和铁芯噪音。  
安全，难燃防火，无污染，可直接安装在负荷中心。免维护、安装简便、综合运行成本低。  
防潮性能好，可在100%湿度下正常运行，停运后不经预干燥即可投入运行。  
损耗低、局部放电率低、噪音小、散热能力强，配备有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。  
可靠性高。据对已经投入运行的产品的运行研究，产品的可靠性指标已经达到国际先进水平。

3.2 箔式线圈  
箔式线圈采用整段铜箔，连同F级的匝绝缘在专用低压箔绕机上绕制。箔式线圈较好地解决了低电压，大电流线圈绕产品短路应力大，匝间不平衡，散热效果差，存在绕制螺旋角，人工焊接质量不稳定的突出问题。同时我公司箔绕端部用树脂灌封，固化成形，防潮防污。

3.3 温控装置  
变压器采用BWDK系列信号温度计，测温元件埋设在低压线圈上半部，可自动检测并巡回显示三相线圈各自的工作湿度。并且有超温报警和跳闸功能。

1. Iron core  
The iron core is made of high quality, cold-rolled, granule-oriented silicon-steel sheets and machined with completely automatic cutting line superposed with 45° six-level bias seams. Core column adopts special banding technique the surface of iron core is painted with the special rustproof coating to resist humidity and rust, which can effectively reduce the no-load losses, no-load current and iron-core noise.  
Safe, reliable, no pollution, can operate directly in the load center.  
Maintenance free, easy installation and low operation.  
High moisture-proof, the transformer can operate normally under 100% relative humidity and can be switched on without pre-drying even after a longer period of service interruption cost. Low losses, low partial discharge, low noise level, and ideal dissipation of heat.  
Precise temperature protection and surveillance system assures safe and reliable service of transformer.

2. Foil winding  
LV winding is mainly made of foils. It adopts interior argon gas protection welding, with high precision and reliability as no external welding joint. It solves the winding turns imbalance, effectively improves thermal performance and enhance short circuit withstanding capability.

3. Temperature control device  
Transformer temperature control protection device adopts BWDK series signal thermometer and temperature measurers are on the upper half of LV foil winding. It has functions of display to show temperature of three phase automatically and also has functions of automatically alarm and trip signal.

六、外形及安装尺寸/Outline and Installation

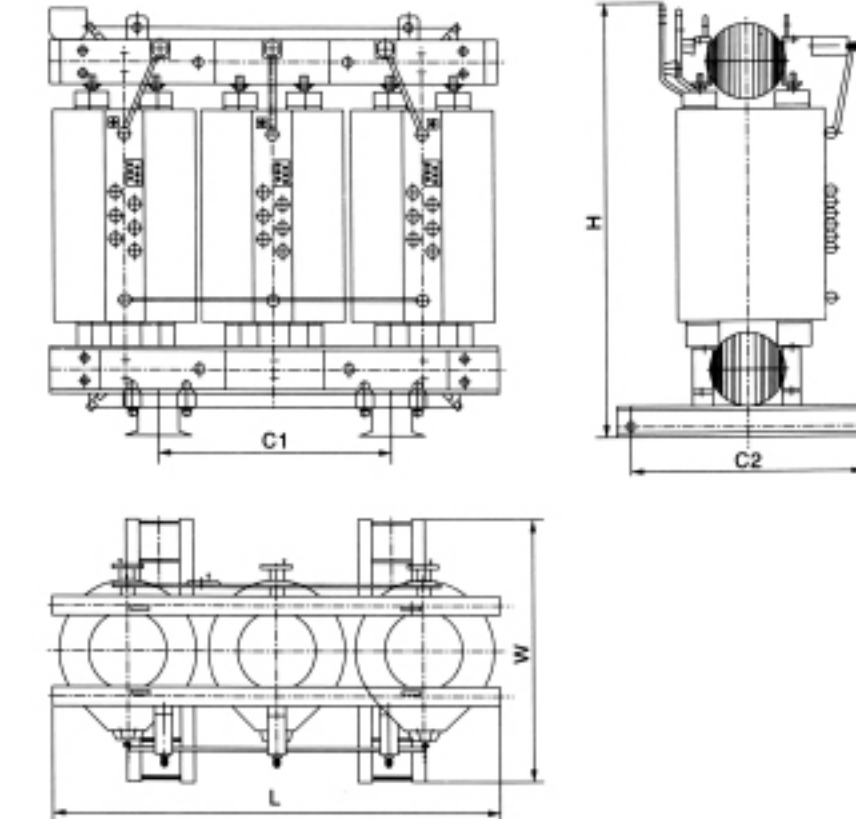


图1 SC(B)9-35kV变压器外形及安装尺寸  
Figure 1 Outline of SC(B)9-35kV

七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
30	1070	890	1050	660	660
50	1180	890	1050	660	660
63	1220	890	1250	660	660
80	1230	890	1350	660	660
100	1250	900	1350	660	660
125	1430	900	1500	660	660
160	1540	920	1660	820	820
200	1620	920	1750	820	820
250	1650	940	1800	820	820
315	1670	940	1850	820	820
400	1720	1150	1900	820	820
500	1810	1150	1940	820	1070
630	1850	1150	1990	820	1070
800	1990	1150	2010	820	1070
1000	2020	1150	2040	1070	1070
1250	2080	1150	2120	1070	1070
1600	2130	1150	2320	1070	1070
2000	2180	1150	2480	1070	1070
2500	2200	1150	2600	1070	1070
3150	2580	1320	2610	1070	1070
4000	2680	1320	2650	1070	1070
5000	2890	1350	2680	1475	1070
6300	2980	1700	2800	1475	1070

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

SCZ(B)9型6~10kV环氧浇注干式有载变压器  
SCZ(B)9 series epoxy resin cast dry type transformer of 6~10KV



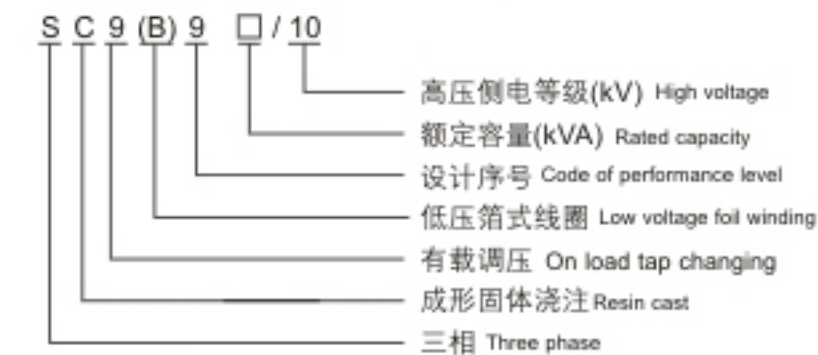
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SCZ(B)9型6~10kV环氧浇注干式有载变压器  
SCZ(B)9 series epoxy resin cast dry type transformer of 6~10KV

一、适用范围/General

本产品具有广泛的使用领域，尤其适用用在防火要求高的场所，如矿井、油田、地铁、发电厂、学校、医院、商业中心、高层建筑及一切户内配置系统中。  
The product is mainly used for location having special fire safety requirements such as underground substation, subways, high building, commercial centers, airport, railway stations wharfs.

二、型号含义/Type designation



四、工作条件/Working condition

安装高度：海拔不超过1000m；  
Altitude: ≤ 1000m  
电源电压的波形：似于正弦波；  
Wave-form of supply voltage: similar to sine-wave  
多相电源电压的对称性：各相电源电压应近似对称。  
Symmetry of supply voltage: supply voltage of each phase should be close.  
多相变压器所连接的电源电压应近似对称。  
Symmetry of supply voltage: supply voltage of each phase should be close.  
环境温度：  
Temperature  
最高气温+40℃  
Max.ambient temperature: +40℃  
最高日平均气温+30℃  
Max.daily average ambient temperature: +30℃  
最高年平均气温+20℃  
Max.annual average ambient temperature: +20℃  
最低气温-30℃(适用于户内式变压器)  
Min. temperature: -30℃(indoor installation)

五、主要技术参数/Specification

额定容量 (kVA) Rated Power kVA	电压组合 Voltage			联结组 标号 Connection symbol	损耗(120℃) Loss (120℃)		空载 电流(%) No-Load current (%)	短路阻抗 (%) Impedance voltage(%)	本体重 (kg) Oil weight	带外壳重 (kg) Total weight
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)		负载 Load	空载 No-Load				
315	6	± 4 × 2.5%	0.4	Yyno Dyn11	3.9	1.05	2.1	4	1235	1295
400					4.5	1.23	2		1370	1430
500					5.5	1.45	1.9		1565	1625
630					6.55	1.68	1.8	6	1855	1930
630					6.55	1.70	1.7		1800	1875
800					7.75	1.81	1.6		2140	2215
1000					9.15	2.15	1.5		2570	2660
1250					10.8	2.5	1.4		3100	3230
1600					13.15	2.9	1.3		3710	3840
2000					16.2	3.88	1.2	4230	4380	
2500					19.8	4.67	1.1	5230	5380	

三、结构特点/Characters

3.1 铁芯

铁芯采用高导磁优质硅钢片，45°全斜步进接缝。铁芯采用特殊的方管拉板结构，芯柱采用绝缘带绑扎，铁芯表面采用特殊树脂涂层以防潮防锈，有效降低了空载损耗、空载电流和铁芯噪音。  
安全，难燃防火，无污染，可直接安装在负荷中心。免维护、安装简便、综合运行成本低。  
防潮性能好，可在100%湿度下正常运行，停运后不经预干燥即可投入运行。损耗低、局部放电量低、噪音小、散热能力强，配备有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。  
可靠性高。据对已经投入运行的产品的运行研究，产品的可靠性指标已经达到国际先进水平。

3.2 箔式线圈

低压绕组采用整段铜箔，连同F级的匝绝缘在专用低压箔绕机上绕制。箔式线圈较好地解决了低电压、大电流线圈绕产品短路应力大，安匝不平衡，散热效果差，存在绕制螺旋角，人工焊接质量不稳定的突出问题。同时我公司绕组端部用树脂灌封，固化成形，防潮防污。

3.3 温控装置

变压器采用BWDK系列信号温度计，测温元件埋设在低压线圈上半部，可自动检测并巡回显示三相线圈各自的工作湿度。并且有超温报警和跳闸功能。

1. Iron core

The iron core is made of high quality, cold-rolled, granule-oriented silicon-steel sheets and machined with completely automatic cutting line superposed with 45° six-level bias seams. Core column adopts special banding technique the surface of iron core is painted with the special rustproof coating to resist humidity and rust, which can effectively reduce the no-load losses, no-load current and iron-core noise.

Safe, reliable, no pollution, can operate directly in the load center.

Maintenance free, easy installation and low operation.

High moisture-proof, the transformer can operate normally under 100% relative humidity and can be switched on without pre-drying even after a longer period of service interruption cost.

Low losses, low partial discharge, low noise level, and ideal dissipation of heat.

Precise temperature protection and surveillance system assures safe and reliable service of transformer.

2. Foil winding

LV winding is mainly made of foils. It adopts interior argon gas protection welding, with high precision and reliability as no external welding joint. It solves the winding turns imbalance, effectively improves thermal performance and enhance short circuit withstanding capability.

3. Temperature control device

Transformer temperature control protection device adopts BWDK series signal thermometer and temperature measurers are on the upper half of LV foil winding. It has functions of display to show temperature of three phase automatically and also has functions of automatically alarm and trip signal.

六、外形及安装尺寸/Outline and Installation

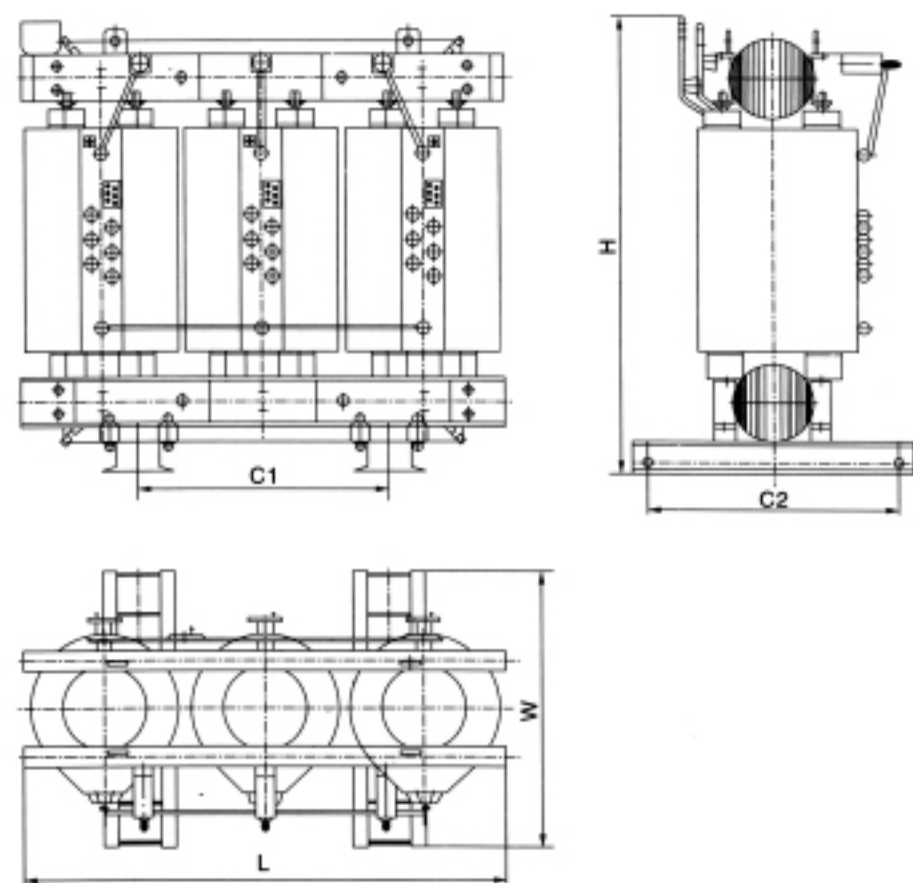


图1 SCZ(B)9-6~10kV变压器外形及安装尺寸

七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
315	1170	760	1180	660	660
400	1260	760	1205	660	660
500	1300	760	1240	660	660
630	1370	780	1265	660	660
630	1370	780	1265	660	660
800	1440	780	1415	660	660
1000	1480	1000	1450	820	820
1250	1580	1000	1590	820	820
1600	1650	1000	1665	820	820
2000	1720	1000	1720	820	820
2500	1820	1000	1790	820	820

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

**SCZ(B)10型6~10kV环氧浇注干式有载变压器**  
**SCZ(B)10 series epoxy resin cast dry type transformer**  
**of 6~10KV**



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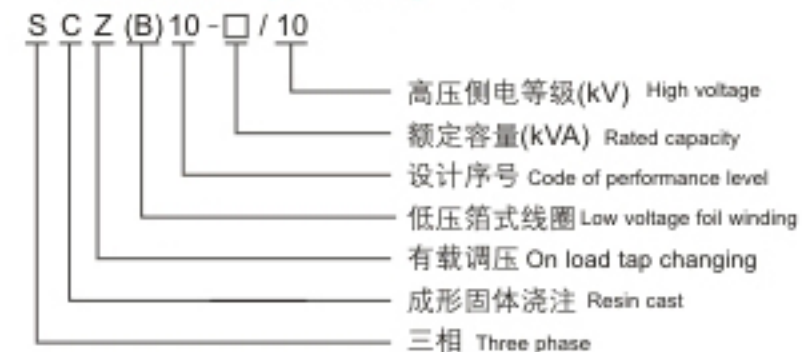
SCZ(B)10型6~10kV环氧浇注干式有载变压器  
SCZ(B)10 series epoxy resin cast dry type transformer of 6~10KV

一、适用范围/General

本产品具有广泛的使用领域，尤其适用用在防火要求高的场所，如矿井、油田、地铁、发电厂、学校、医院、商业中心、高层建筑及一切户内配置系统中。

The product is mainly used for location having special fire safety requirements such as underground substation, subways, high building, commercial centers, airport, railway stations wharfs.

二、型号含义/Type designation



四、工作条件/Working condition

安装高度：海拔不超过1000m；  
Altitude: ≤ 1000m  
电源电压的波形：似于正弦波；  
Wave-form of supply voltage : similar to sine-wave  
多相电源电压的对称性；  
Symmetry of supply voltage: supply voltage of each phase should be close.  
多相变压器所连接的电源电压应近似对称。  
Symmetry of supply voltage: supply voltage of each phase should be close.  
环境温度：  
Temperature  
最高气温+40℃  
Max. ambient temperature: +40℃  
最高日平均气温+30℃  
Max. daily average ambient temperature : +30℃  
最高年平均气温+20℃  
Max. annual average ambient temperature: +20℃  
最低气温-30℃(适用于户内式变压器)  
Min. temperature: -30℃(indoor installation)

五、主要技术参数/Specification

额定容量 (kVA) Rated Power kVA	电压组合 Voltage			联结组 标号 Connection symbol	损耗(120°kW) Loss (120°kw)		空载 电流(%) No-Load current (%)	短路阻抗 (%) Impedance voltage(%)	本体重 Oil weight	带外壳重 Total weight
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)		负载 Load	空载 No-Load				
315	6 6.3 6.6 10 10.5 11	±4×2.5%	0.4	Yyno Dyn11	3.68	0.98	0.98	4	1235	1295
400					4.23	1.08	1.08		1370	1430
500					5.17	1.28	1.28		1565	1625
630					6.2	1.49	1.49		1855	1930
630					6.32	1.49	1.49		1800	1875
800					7.37	1.69	1.69		2140	2215
1000					8.62	1.96	1.96	6	2570	2660
1250					10.3	2.32	2.32		3100	3230
1600					12.43	2.72	2.72		3710	3840
2000					15.3	3.68	3.68		4230	4380
2500					18.2	4.44	4.44		5230	5380

三、结构特点/Characters

3.1 铁芯  
铁芯采用高导磁优质晶粒取向冷轧硅钢片，45°全斜步进接缝，铁芯采用特殊的方管拉板结构，芯柱采用绝缘带绑扎，铁芯表面采用特殊树脂涂层以防潮防锈，有效降低了空载损耗、空载电流和铁芯噪音。  
安全，难燃防火，无污染，可直接安装在负荷中心。免维护、安装简便、综合运行成本低。  
防潮性能好，可在100%湿度下正常运行，停运后不经预干燥即可投入运行。  
损耗低、局部放电量低、噪音小、散热能力强，配备有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。  
可靠性高。据对已经投入运行的产品的运行研究，产品的可靠性指标已经达到国际先进水平。  
3.2 箔式线圈  
低压绕组采用整段箔箔，连同F级的匝绝缘在专用低压箔绕机上绕制。箔式线圈较好地解决了低电压，大电流线圈绕产品短路应力大，匝间不平衡，散热效果差，存在绕制螺旋角，人工焊接质量不稳定的突出问题。同时我公司绕组端部用树脂灌封，固化成形，防潮防污。  
3.3 温控装置  
变压器采用BWDK系列信号温度计，测温元件埋设在低压线圈上半部，可自动检测并巡回显示三相线圈各自的工作湿度。并且有超温报警和跳闸功能。

1. Iron core  
The iron core is made of high quality, cold-rolled, granule-oriented silicon-steel sheets and machined with completely automatic cutting line superposed with 45° six-level bias seams. Core column adopts special banding technique the surface of iron core is painted with the special rustproof coating to resist humidity and rust, which can effectively reduce the no-load losses, no-load current and iron-core noise.  
Safe, reliable, no pollution, can operate directly in the load center.  
Maintenance free, easy installation and low operation.  
High moisture-proof, the transformer can operate normally under 100% relative humidity and can be switched on without pre-drying even after a longer period of service interruption cost. Low losses, low partial discharge, low noise level, and ideal dissipation of heat.  
Precise temperature protection and surveillance system assures safe and reliable service of transformer.  
2. Foil winding  
LV winding is mainly made of foils. It adopts interior argon gas protection welding, with high precision and reliability as no external welding joint. It solves the winding turns imbalance, effectively improves thermal performance and enhance short circuit withstanding capability.  
3. Temperature control device  
Transformer temperature control protection device adopts BWDK series signal thermometer and temperature measurers are on the upper half of LV foil winding. It has functions of display to show temperature of three phase automatically and also has functions of automatically alarm and trip signal.

六、外形及安装尺寸/Outline and Installation

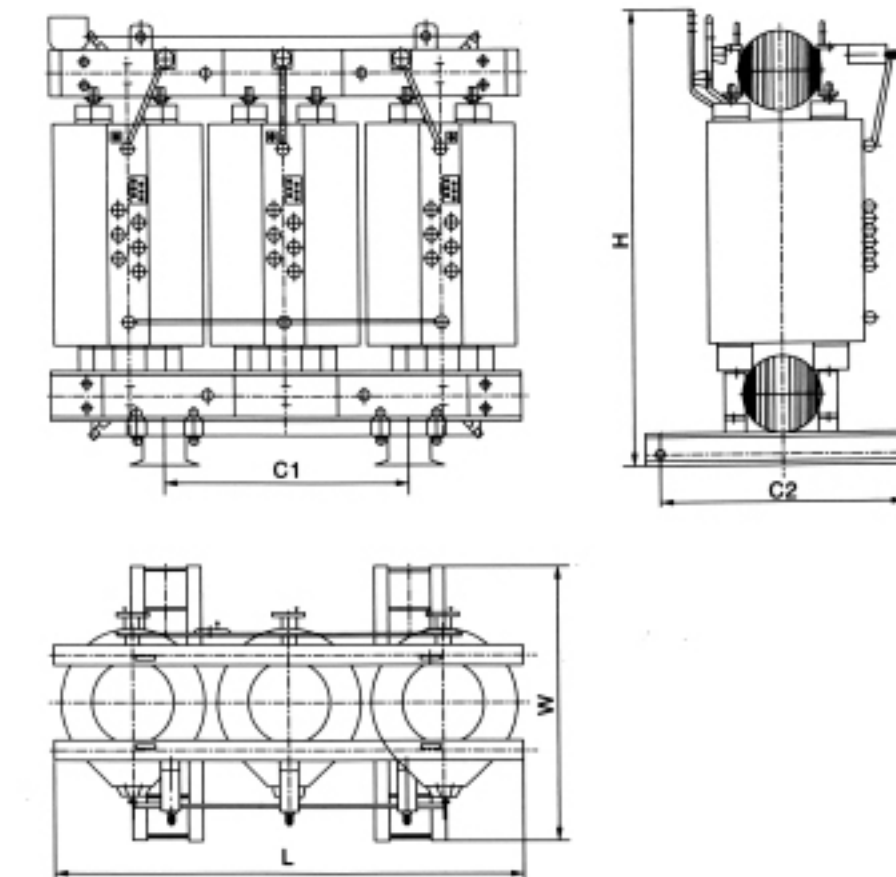


图1 SCZ(B)10-6~10kV变压器外形及安装尺寸

七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
315	1170	760	1180	660	660
400	1260	760	1205	660	660
500	1300	760	1240	660	660
630	1370	780	1265	660	660
630	1370	780	1265	660	660
800	1440	780	1415	660	660
1000	1480	1000	1450	820	820
1250	1580	1000	1590	820	820
1600	1650	1000	1665	820	820
2000	1720	1000	1720	820	820
2500	1820	1000	1790	820	820

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

## SGZB(H)10型6~10kV环保型干式有载变压器 SGZB(H)10 series environmental protection dry type transformer of on load tap changing of 6~10kv



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## SGZB(H)10型6~10kV环保型干式有载变压器 SGZB(H)10 series environmental protection dry type transformer of on load tap changing of 6~10kv

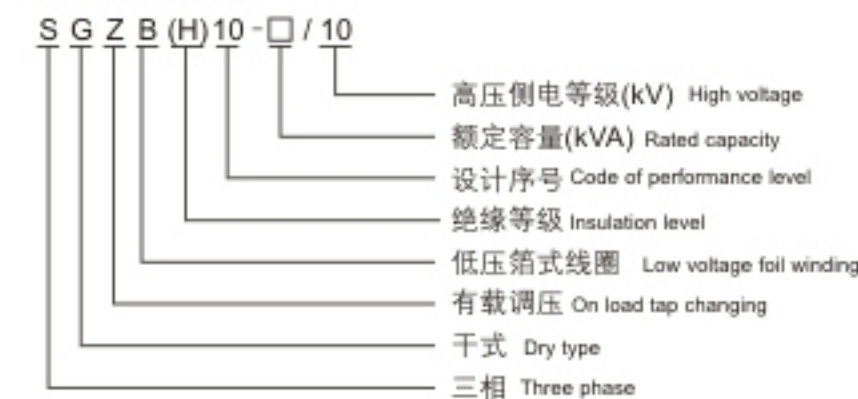
### SGZB(H)10型6~10kV环保型干式有载变压器 SGZB(H)10 series environmental protection dry type transformer of on load tap changing of 6~10kv

#### 一、适用范围

SGZB(H)10型H级绝缘干式电力变压器承受冲击能力强, 过载能力大、难燃、防火性能高、低损耗、局部放电小、噪声低、不产生有害气体、不污染环境、对湿度/灰尘不敏感、体积小、不开裂、维护简便, 因此, 最适用于防火要求高, 负荷波动大以及污秽潮湿的恶劣环境中, 如: 机场、发电厂、冶金作业、医院、高层建筑、购物中心、居民密集区以及石油化工、核电站、核潜艇等特殊环境中。

The product is mainly installed in humid environment and also suitable for areas that require high fireproof capability and high load, such as high building, air port, dock, hospital, electric power plant, metallurgy industry, residential area, petrochemical industry, nuclear power station, nuclear submarine.

#### 二、型号含义



#### 三、结构特点

##### 3.1 铁芯

铁芯选用日本优质的30ZH120高导磁性硅钢片, 空载损耗低, 铁芯表面涂以H级绝缘树脂, 防潮、防锈; 线圈的绝缘系统采用美国杜邦公司的NOMEX®绝缘材料, 经VPI真空压力浸漆设备多次浸渍无溶剂绝缘漆, 并高温烘焙固化, 机械强度高, 电气强度高。

承受热冲击能力强; 绝缘材料难燃、自熄、防火性能高低损耗、低噪音、低局放; 对温度、灰尘不敏感体积小、重量轻、维护方便、使用寿命长采用真空有载调压开关, 电压调整灵敏度, 输出稳定运行安全、可靠、节能, 寿命期后易回收, 无污染。

The iron core is made of high quality, Japanese '30ZH120', granule-oriented silicon-steel sheets. The surface of iron core is painted with the special rustproof coating to resist humidity and rust. The winding adopts NOMEX® paper wrapped flat copper wire and continuous winding process. The winding made after dry treatment by VPI vacuum pressure device, several times impregnated in special H class insulating paint, and baking features high mechanical strength, good heat dispersion.

#### 四、工作条件

安装高度: 海拔不超过1000m;  
Altitude: ≤ 1000m  
电源电压的波形: 似于正弦波;  
Wave-form of supply voltage: similar to sine-wave  
多相电源电压的对称性;  
Symmetry of supply voltage: supply voltage of each phase should be close.  
多相变压器所连接的电源电压应近似对称。  
Symmetry of supply voltage: supply voltage of each phase should be close.  
环境温度:  
Temperature  
最高气温+40°C  
Max. ambient temperature: +40°C  
最高日平均气温+30°C  
Max. daily average ambient temperature: +30°C  
最高年平均气温+20°C  
Max. annual average ambient temperature: +20 °C  
最低气温-30°C(适用于户内式变压器)  
Min. temperature: -30 °C(indoor installation)

#### 五、主要技术参数

额定容量 (kVA) Rated Power kVA	电压组合 Voltage			联结组 标号 Connection symbol	损耗(120 kW) Loss (120 kw)		空载 电流(%) No-Load current (%)	短路阻抗 (%) Impedance voltage(%)	本体重量 Oil weight	带外壳重量 Total weight
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)		负载 Load	空载 No-Load				
315	6 6.3 6.6 10 10.5 11	± 4 × 2.5%	0.4	Yyno Dyn11	5.4	1.025	0.9	4	1280	1340
400					6.35	1.21	0.8		1420	1480
500					7.6	1.41	0.8		1620	1680
630					8.85	1.61	0.7	6	1910	1980
630					8.85	1.61	0.7		1890	1965
800					11	1.97	0.6		2210	2285
1000					12.75	2.3	0.6		2650	2740
1250					15	2.78	0.5		3190	3320
1600					17	3.2	0.5		3800	3940
2000					20.3	3.9	0.4		4330	4480
2500	23.6	4.7	0.4	5330	5480					

六、外形及安装尺寸/Outline and Installation

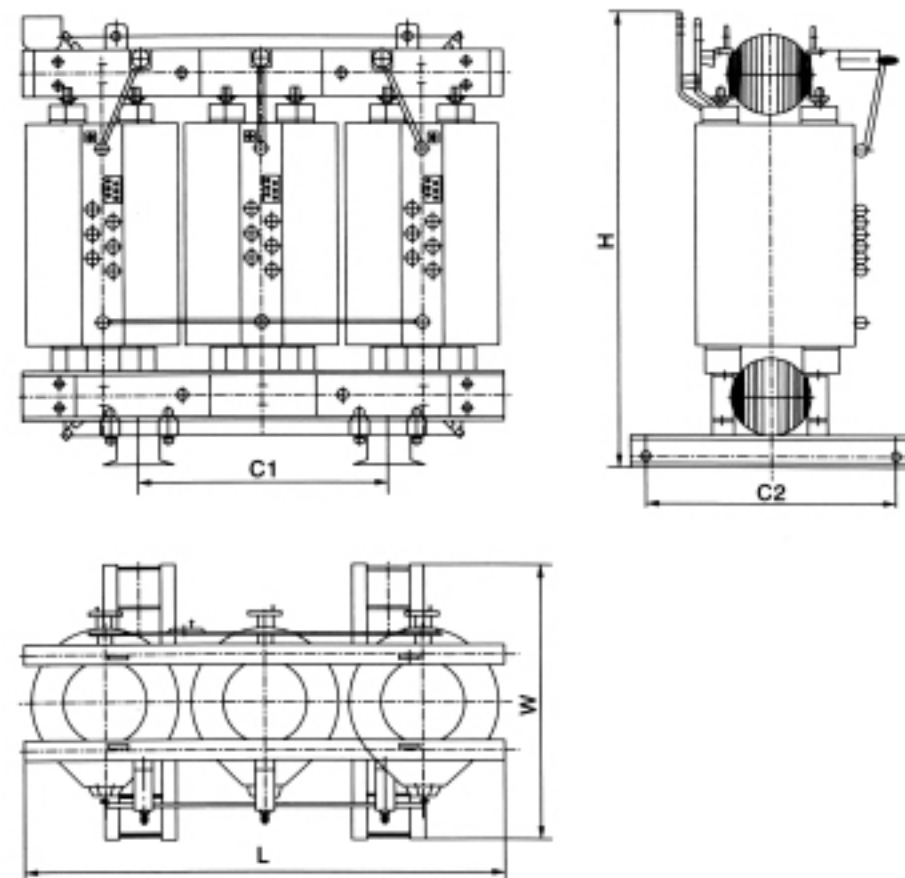


图1 SGZB(H)10-6~10kV变压器外形及安装尺寸

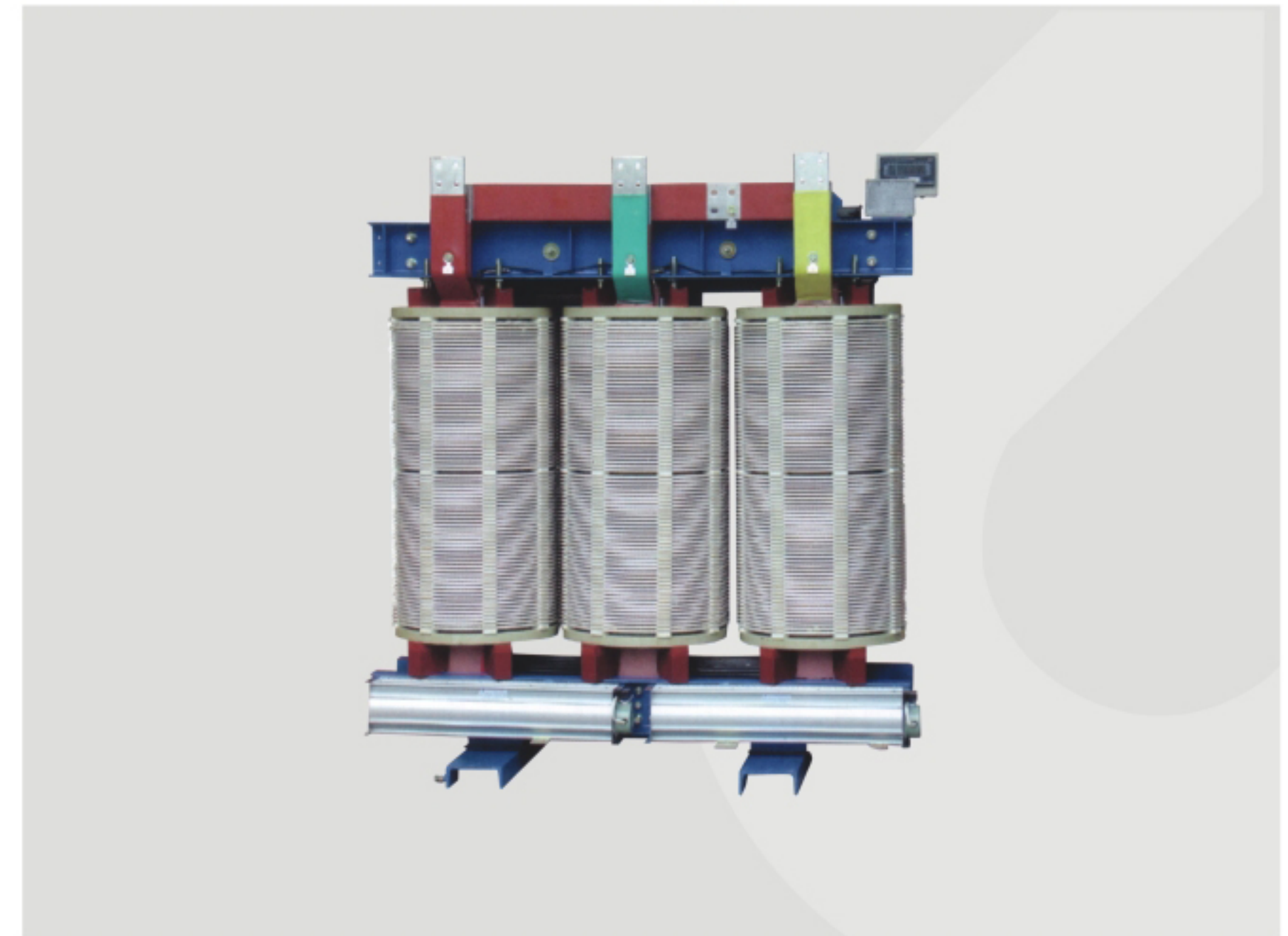
七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
315	1170	760	1200	660	660
400	1260	760	1230	660	660
500	1300	760	1260	660	660
630	1370	780	1300	660	660
630	1370	780	1300	660	660
800	1440	780	1310	660	660
1000	1480	1000	1490	820	820
1250	1580	1000	1630	820	820
1600	1650	1000	1700	820	820
2000	1720	1000	1760	820	820
2500	1820	1000	1860	820	820

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

**SGB(H)10型6~10kV环保型干式变压器**  
**SGB(H)10 series environmental protection**  
**dry type transformer of 6-10kv**



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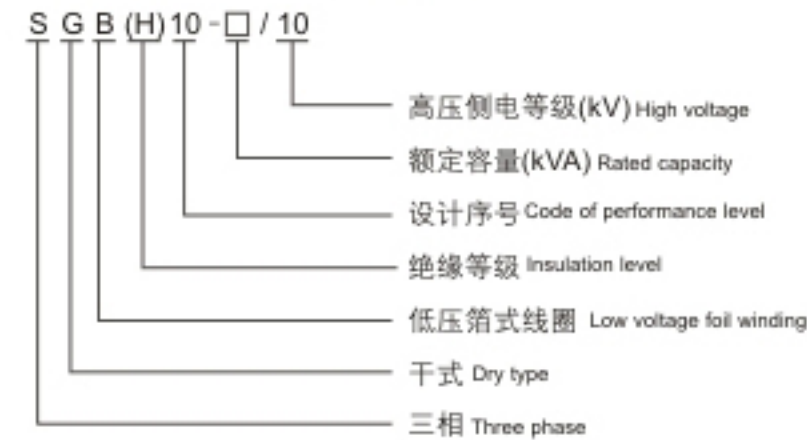
SGB(H)10型6~10kV环保型干式变压器  
SGB(H)10 series environmental protection dry type transformer of 6-10kv

一、适用范围/General

SGZB(H)10型H级绝缘干式电力变压器承受冲击能力强, 过负载能力大、难燃、防火性能高、低损耗、局部放电量小、噪声低、不产生有害气体、不污染环境、对湿度不敏感、体积小、不开裂、维护简便, 因此, 最适宜于防火要求高, 负荷波动大以及污秽潮湿的恶劣环境中, 如: 机场、发电厂、冶金作业、医院、高层建筑、购物中心、居民密集区以及石油化工、核电站、核潜艇等特殊环境中。

The product is mainly installed in humid environment and also suitable for areas that require high fireproof capability and high load, such as high building, air port, dock, hospital, electric power plant, metallurgy industry, residential area, petrochemical industry, nuclear power station, nuclear submarine.

二、型号含义/Type designation



五、主要技术参数/Specification

额定容量 (kVA) Rated Power kVA	电压组合 Voltage			联结组 标号 Connection symbol	损耗(120 <sup>o</sup> kW) Loss (120 <sup>o</sup> kw)		空载 电流(%) No-Load current (%)	短路阻抗 (%) Impedance voltage(%)	本体重 Oil weight	带外壳重 Total weight
	高压 H.V (kV)	高压分接范围 H.V tap range	低压 L.V (kV)		负载 Load	空载 No-Load				
100	6 6.3 6.6 10 10.5 11	±5% ±4×2.5%	0.4	Yyno Dyn11	2.2	0.4	0.8	4	565	615
160					3.1	0.56	0.8		795	850
200					3.98	0.65	0.8		975	1075
250					4.65	0.76	0.7		1235	1285
315					5.61	0.88	0.7		1295	1345
400					6.63	1.04	0.6		1690	1740
500					7.95	1.2	0.6		1780	1830
630					9.25	1.4	0.6		1950	2010
630					9.78	1.34	0.6	2050	2110	
800					11.56	1.7	0.5	2560	2620	
1000					13.35	1.98	0.5	2940	3000	
1250					15.64	2.38	0.5	3620	3680	
1600					18.1	2.74	0.5	4400	4470	
2000					21.25	3.32	0.4	4865	4935	
2500					24.74	4	0.4	5650	5720	

三、结构特点/Characters

SGB10系列是采用杜邦NOMEX®纸为基础的绝缘系统, 在变压器的整个使用寿命期间都保持极度佳的电气性能和机械性能。NOMEX®不易老化, 耐收缩及抗压缩, 加上弹力特强, 因此可以确保变压器即使使用数年之后, 线圈仍保持结构紧密, 并且能够承受短路的压力。高标准的的安全性, 无可燃性树脂, 无有毒气体, 不助燃。单位kVA的体积和重量减少, 紧急过负载的能力增加, 修理、维护方便, 噪音低, 对湿度、灰尘、污染不敏感, 运行无局部放电及永无“龟裂”的可能, 设计灵活, 可按客户的要求设计制成所需要的任何规格。

The winding of this series transformer adopts NOMEX paper wrapped flat copper wire and continuous winding process which keep good electrical and mechanical performance of transformer. NOMEX has elasticity and will not be aged, so that no crack performance will be found during the whole service life and its insulation level will be kept as good as beginning. Fire-retardant, explosion-proof, less maintenance compact design and light weight. Customized products are available.

四、工作条件/Working condition

安装高度: 海拔不超过1000m;  
Altitude: ≤ 1000m  
电源电压的波形: 似于正弦波;  
Wave-form of supply voltage: similar to sine-wave  
多相电源电压的对称性:  
Symmetry of supply voltage: supply voltage of each phase should be close.  
多相变压器所连接的电源电压应近似对称。  
Symmetry of supply voltage: supply voltage of each phase should be close.  
环境温度:  
Temperature  
最高气温+40°C  
Max. ambient temperature: +40°C  
最高日平均气温+30°C  
Max. daily average ambient temperature: +30°C  
最高年平均气温+20°C  
Max. annual average ambient temperature: +20 °C  
最低气温-30°C(适用于户内式变压器)  
Min. temperature: -30 °C (indoor installation)

六、外形及安装尺寸/Outline and Installation

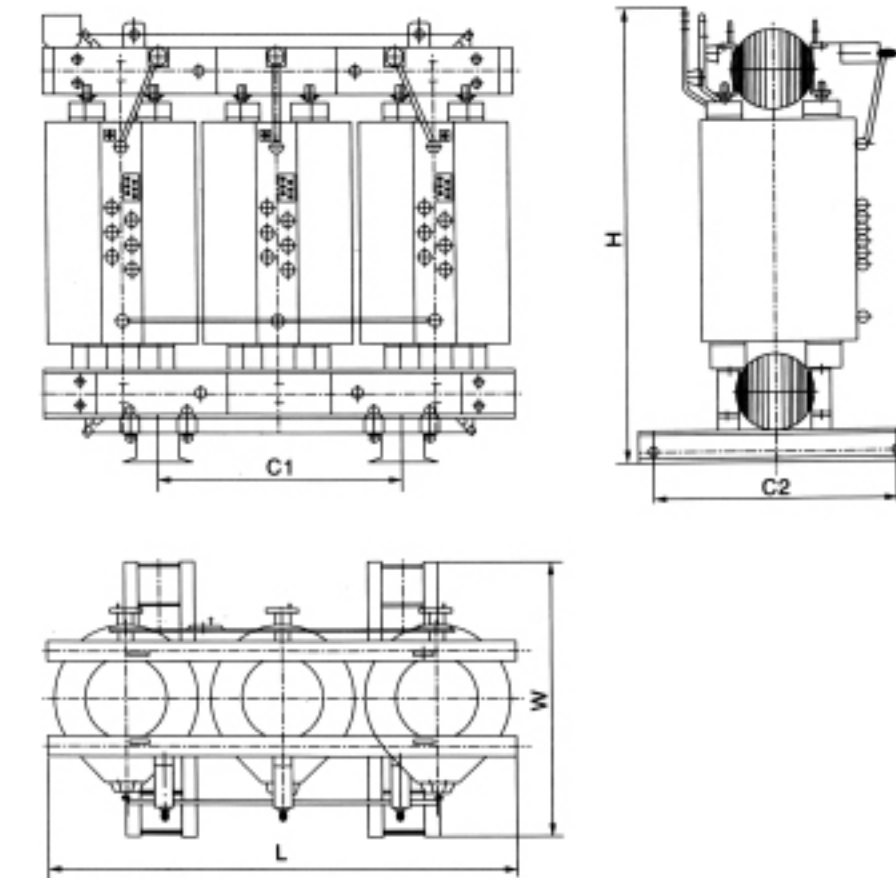


图1 SGB(H)10-6~10kV变压器外形及安装尺寸  
Figure1 Outline of SGB(H)10-6~10KV

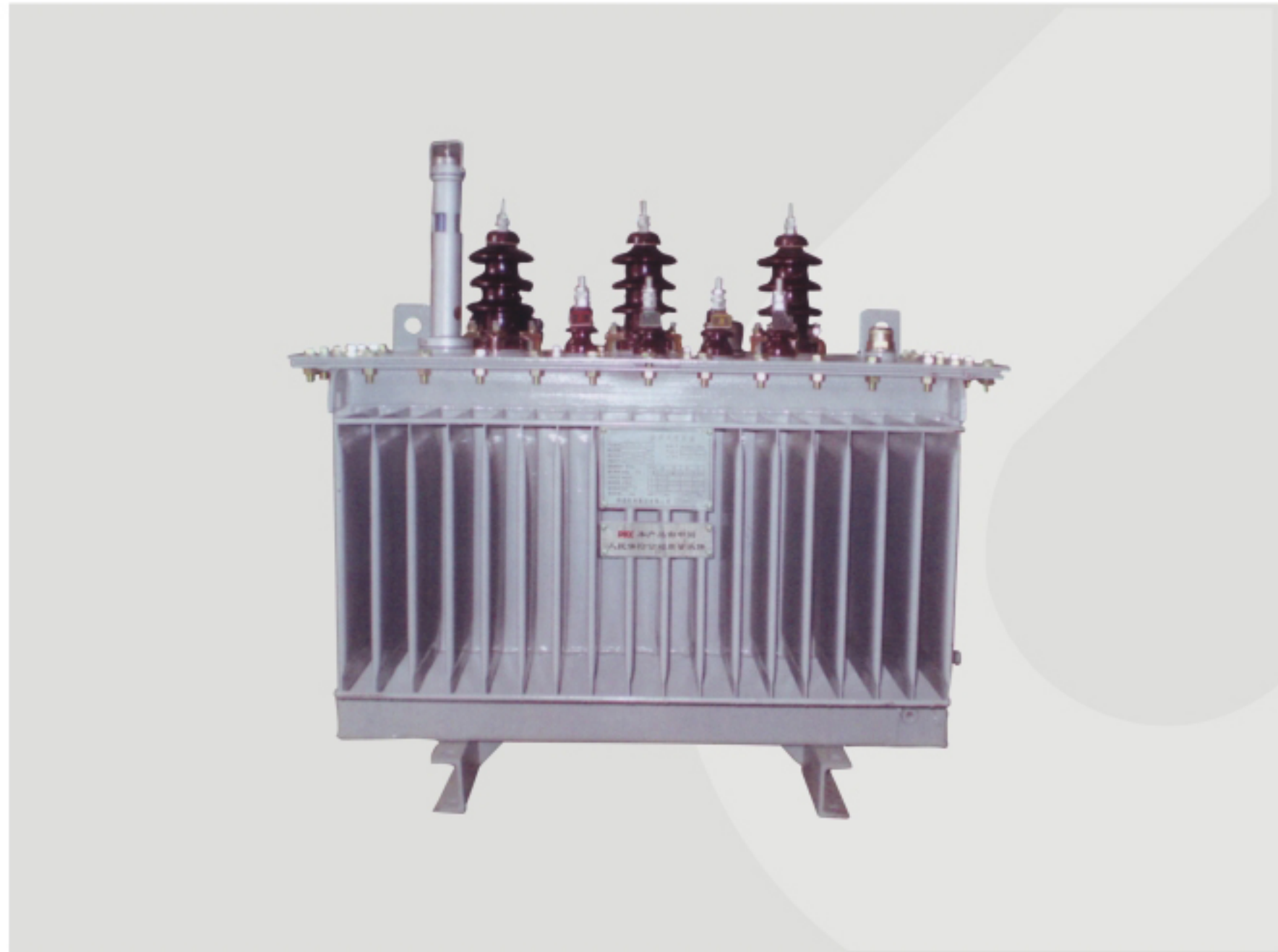
七、外形及安装尺寸/Outline and Installation

额定容量(kVA) Rated Power kVA	外形及安装尺寸(mm) / Outline and Installation				
	L	W	H	C1	C2
100	1070	750	880	660	660
160	1150	750	1070	660	660
200	1180	750	1160	660	660
250	1210	750	1170	660	660
315	1240	750	1190	660	660
400	1360	750	1295	660	660
500	1350	750	1460	660	660
630	1480	960	1380	820	820
800	1560	1100	1570	820	820
1000	1560	1100	1670	820	820
1250	1630	1100	1685	820	820
1600	1710	1250	1760	1070	1070
2000	1770	1250	1900	1070	1070
2500	1830	1250	1995	1070	1070

八、订货须知/Ordering instructions

订货时应提供产品型号、额定容量、高低压额定电压及高压分接范围、相数、频率、联结组标号。  
The order shall be provides type, rated power, HV, LV, HV tap range, phase number, frequency and Connection symbol.

S(B)H15~10kV非晶合金油浸式变压器  
S(B)H15-10 series amorphous alloy oil immersed transformer of 10kv



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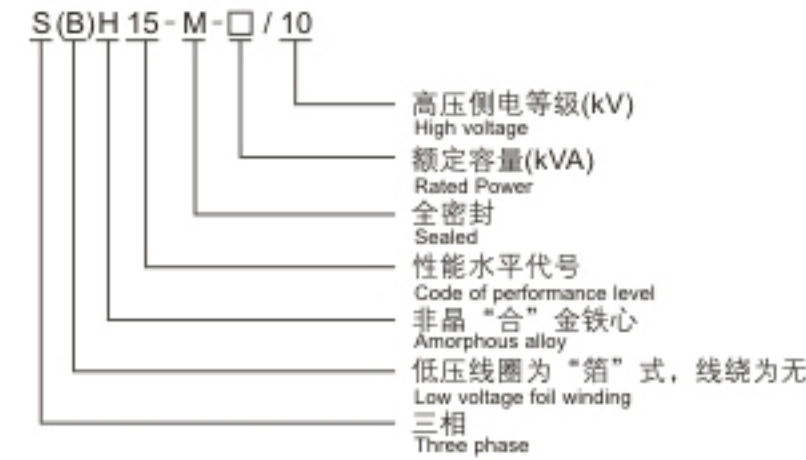
S(B)H15~10kV非晶合金油浸式变压器  
S(B)H15-10 series amorphous alloy oil immersed transformer of 10kv

一、适用范围/General

S(B)H15-30~2000/10型H全密封油浸式非晶合金变压器适用于交流50Hz, 额定工作电压10kV及以下的电力系统中, 作为石油、冶金、化工、纺织、轻工等企业及粉尘较大场所的配电变压器。

This kind of product S(B)H15-10KV is applied to power system of 50Hz and 10kV. It is the main power distribution for some big dust location such as petroleum enterprises, metallurgy enterprise, chemical enterprise, textile enterprise and so on

二、型号含义/Type designation



SH15-M□/10(6)三相全密封变压器技术参数  
Three Phase sealed Specification

额定容量 (kVA) Rated Power kVA	电压组合 Voltage Combination		联结组 标号 Connection symbol	损耗/Loss		空载 电流(%) No-Load current (%)	短路 阻抗 (%) Impedance voltage(%)	重量(kg) Weight (KG)			外形尺寸 Outline dimension			轨距 纵向/横向 Gauge Vertical/Horizontal	
	高压 H.V (kV)	低压 L.V (kV)		空载 No-Load	负载 Load			器身 Tank Weight	油重 Oil weight	总重 Total weight	长(m) L(m)	宽(m) B(m)	高(m) H(m)		
															额定Rated
10			0.4	Dyn11	19	0.35	3.2	4	80	70	220	0.79	0.65	0.88	400/400
20					26	0.48	2.7		130	80	290	0.81	0.71	0.9	400/400
30					33	0.6	1.7		170	80	340	0.83	0.79	0.93	400/400
50					43	0.87	1.3		230	100	440	0.88	0.8	0.99	400/400
63					50	1.04	1.2		290	110	530	0.89	0.81	1.02	450/400
80					60	1.25	1.1		330	120	590	0.9	0.82	1.05	450/400
100					75	1.5	1		380	140	680	0.96	0.87	1.09	450/450
125	11				85	1.8	0.9		440	160	790	1.19	0.87	1.13	550/550
160	10.5	±5%			100	2.2	0.7		520	190	920	1.3	0.96	1.11	550/550
200	10	±2×			120	2.6	0.7		620	220	1070	1.39	1.01	1.11	550/550
250	6.3	2.5%			140	3.05	0.7	730	250	1250	1.48	1.07	1.15	550/550	
315	6				170	3.65	0.5	880	300	1510	1.5	1.05	1.21	550/550	
400					200	4.3	0.5	1070	360	1790	1.54	1.08	1.28	550/550	
500					240	5.15	0.5	1240	390	2050	1.63	1.14	1.31	660/660	
630					320	6.2	0.3	1570	510	2580	1.67	1.14	1.41	820/820	
800					380	7.5	0.3	1880	590	3080	1.89	1.18	1.48	820/820	
1000					450	10.3	0.3	2040	690	3370	1.85	1.38	1.58	820/820	
1250					530	12	0.2	2480	850	4260	2	1.54	1.68	820/820	
1600					630	14.5	0.2	3010	1070	5180	2.14	1.6	1.75	820/820	
2000					750	17.4	0.2	3540	1150	6180	2.29	1.76	1.87	820/820	

- 3.1 铁芯  
铁芯采用非晶合金带材卷绕而成, 空载损耗仅为S9型配电变压器的25%。
- 3.2 绕组  
绕组采用瓦楞油道, 不浸漆工艺, 紧缩带绑扎; 绕组均为方形带圆角式线圈; 高压绕组具有对应分接电压要求的抽头, 引至分接开关上, 开关安装在箱盖上, 且需切断电源后方可变换分接电压。
- 3.3 安全保护装置  
30~2000kVA变压器装有压力释放阀;  
根据用户需求可安装具有报警和跳闸端子的气体继电器;
- 3.4 油温测量装置  
变压器均装有玻璃温度计的管座, 管座设在油箱顶部, 伸入油内120±10mm;  
1000~2000kVA变压器装有户外式信号温度计;
- 3.5 变压器油箱  
变压器油箱由波纹壁构成, 表面采用粉尘喷涂、漆膜牢固。波纹散热片不但具有冷却功能, 而且具有“呼吸”功能, 波纹散热片的弹性可补偿因温度升降而引起的变压器油体积的变化。因此全密封变压器没有储油柜, 降低了变压器整体高度;  
变压器在封装时采用真空注油工艺, 完全去除了变压器中的潮气, 变压器油不与空气接触, 有效地防止氧气和水分侵入变压器而导致变压器绝缘性能下降和变压器油老化的可能, 因此不必定期进行油样试验。
- a. Iron core  
The iron core is made of cold rolled, granular-oriented, low-loss and high magnetic conductive silicon steel sheet, which is of multi-step completely tilted structure. The iron is core type and the core limb is stepped lap core. The section of yoke is as same as iron core.
- b. Winding  
All windings are cylindrical without dipping and are tied up by tighten strap. HV winding adopts the tapping terminal to control tapping voltage which the switch is installed on the tank cover. However, it should cut power when changing voltage.
- c. Safety protection device  
1. 30-2000kva transformers are equipped with gas relay.  
2. Transformers can be equipped with gas relay which has warning and tripping function.  
d. Oil temperature measurement device  
1. All transformers are equipped with glass thermometer holder which is installed in the top of oil box and can be inserted into 120±10mm deep in oil.  
2. 1000 KVA to 2000 KVA are equipped with signaling thermometer outdoor.
- e. Oil box  
1. Oil box is corrugated which has advantage of good cooling and make the volume of transformer unchanging. All sealed transformer has no oil tank, so that the height is lower.  
2. Pouring oil in the vacuum would banish bulb in the winding, which can stable the insulation ability. Customer should have oil sample test casually to check the performance of transformer.

## ZS中频电炉整流变压器

## ZS series medium frequency furnace rectifier transformer



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## ZS中频电炉整流变压器

## ZS series medium frequency furnace rectifier transformer

### 一、适用范围/Application

中频电炉用整流变压器是为中频电炉提供整流电源的专用变压器，根据中频电炉的负荷特点，该变压器具有过载能力强，谐波电流少，冷却效果好等特点。

ZS series transformer is application for converting the voltage of the power system into the voltage required by medium frequency furnace. According to the load the resistance capacity is strong, harmonic current is less and cooling effect is good.

### 二、技术参数/Specification

型号 Model	额定容量(kVA) Rated Power kVA	额定电压Rated Voltage		联结组标号 Connection symbol	产品重量(kg)/Weight (T)			外型尺寸 长×宽×高 L×W×H(mm) Outline dimension L x W x H (mm)
		高压 H.V (kV)	低压 L.V (kV)		器身重 Tank Weight	油重 Oil weight	总重 Total weight	
ZS-500/10	500	6.0	0.575	D,y11	970	380	1800	1630 × 1130 × 1620
ZS-630/10	630				1260	450	2210	1750 × 1150 × 1740
ZS-800/10	800				1620	580	2880	1820 × 1360 × 1880
ZS-1000/10	1000				1850	750	2450	1950 × 1630 × 2012
ZS-1250/10	1250				2080	780	3660	2040 × 1840 × 2120
ZS-1400/10	1400				2240	800	3950	2060 × 2030 × 2170
ZS-1600/10	1600				2550	850	4300	2100 × 2060 × 2220
ZS-1800/10	1800				2650	1100	5200	2280 × 2120 × 2270
ZS-2000/10	2000				2950	1140	5310	2300 × 2240 × 2320
ZS-2500/10	2500				3350	1515	6500	2350 × 1780 × 2650
ZS-3000/10	3000	3600	1600	7600	2550 × 2160 × 2710			
ZS-3500/10	3500	4350	2100	8850	2650 × 2200 × 2750			
ZS-1000/10	1000	6.0	2 × 0.575	D,y11	2200	1180	3950	2300 × 1700 × 2200
ZS-1250/10	1250				2430	1230	4530	2360 × 1750 × 2270
ZS-1600/10	1600				2600	1400	5200	2430 × 1800 × 2000
ZS-1800/10	1800				2940	1460	5800	2430 × 2040 × 2430
ZS-2000/10	2000				3050	1550	6030	2400 × 2240 × 2500
ZS-2150/10	2150				3050	1570	6150	2400 × 2300 × 2500
ZS-2500/10	2500				3350	1850	7300	2400 × 1950 × 2600
ZS-3000/10	3000				3580	1880	7600	2480 × 2120 × 2600
ZS-3150/10	3150				3960	1900	7970	2550 × 2170 × 2600
ZS-4000/10	3600				4480	2150	8600	2800 × 2200 × 2820
ZS-5200/10	4000	6.3	2 × 0.66	D,y11 D,do	4650	2350	9500	3000 × 2700 × 2750
ZS-6300/10	5200				5900	2600	11500	3130 × 2900 × 2930
ZS-6300/10	6300				6650	2900	12800	2950 × 2390 × 2920
ZS-1000/10	1000	10	1.25	D,y11	2200	1180	3950	2300 × 1700 × 2200
ZS-1250/10	1250				2430	1230	4530	2360 × 1750 × 2270
ZS-1600/10	1600				2600	1400	5200	2430 × 1800 × 2000
ZS-1800/10	1800				2940	1460	5800	2430 × 2040 × 2430
ZS-2000/10	2000				3050	1550	6030	2400 × 2240 × 2500
ZS-2150/10	2150				3050	1570	6150	2400 × 2300 × 2500
ZS-2500/10	2500				3350	1850	7300	2400 × 1950 × 2600
ZS-3000/10	3000				3580	1880	7600	2480 × 2120 × 2600
ZS-3150/10	3150				3960	1900	7970	2550 × 2170 × 2600
ZS-4000/10	3600				4480	2150	8600	2800 × 2200 × 2820
ZS-5200/10	4000	35	2 × 1.25	D,y11	4650	2350	9500	3000 × 2700 × 2750
ZS-6300/10	5200				5900	2600	11500	3130 × 2900 × 2930
ZS-6300/10	6300				6650	2900	12800	2950 × 2390 × 2920

型号 Model	电压 Voltage Combination		损耗(W)		短路阻抗 (%) Impedance voltage(%)	空载电流(%) No-Load current (%)	联结组标号 Connection symbol	重量(kg)/Weight (T)		
	高压 HV	低压 LV	空载 No-Load	短路 Short circuit				器身重 Tank Weight	总重 Total weight	
ZS-30/0.5	0.38		130	600	4.5	2.1	D.Yn.11	100	312	900
ZS-50/0.5	0.38		170	870	4.5	2.0	D.Yn.11	245	410	100
ZS-100/0.5	0.38		290	1500	4.5	1.6	D.Yn.11	356	650	1380
ZS-180/0.5	0.38		450	2400	5	1.3	D.Yn.11	510	810	1520
ZS-160/0.5	0.38		400	2200	5	1.4	D.Yn.11	500	900	1440
ZS-200/0.5	0.38		480	2600	5	1.3	D.Yn.11	4560	890	14801
ZS-260/0.5	0.38		560	3050	5	1.2	D.Yn.11	645	1150	1590
ZS-315/0.5	0.38		670	3650	5	1.1	D.Yn.11	625	1275	1760
ZS-400/0.5	0.38		800	4300	4.5	1	D.Yn.11	854	1575	1600
ZS-200/10	10 6.3 6		460	2500	10	1.4	D.Yn.11	435	1030	165
ZS-320/10	10 6.3 6		650	3400	8	1.2	D.Yn.11	1085	2215	2070
ZS-420/10	10 6.3 6		800	4300	8	1.1	D.Yn.11	1096	2495	2070
ZS-560/10	10 6.3 6		1050	5300	8	0.9	D.Yn.11	1520	2850	2320
ZS-650/10	10 6.3 6		1200	6200	8	0.9	D.Yn.11	1600	3300	2360
ZS-780/10	10 6.3 6		1400	7500	8	0.8	D.Yn.11	1615	3510	2380
ZS-1000/10	10 6.3 6		1700	10300	10	0.7	D.Yn.11	1840	3760	2520
ZS-1250/10	10 6.3 6		1950	12000	10	0.6	D.Yn.11	2190	4250	2550
ZS-1600/10	10 6.3 6		2600	14500	10	0.6	D.Yn.11	2400	4120	2710
ZS-2000/10	10 6.3 6		3400	19800	12	1.1	D.Yn.11	3730	6455	2800
ZS-2500/10	10 6.3 6		5000	22000	9.5	0.9	D.Yn.11	3630	6490	2775
ZS-3150/10	10 6.3 6		5500	39000	8	0.8	D.Yn.11	3330	7880	3060
ZS-4000/10	10 6.3 6		6500	42000	8	0.6	D.Yn.11	4300	8200	2730

根据用户要求定制 According to customer requirements

**KBSGZY-T、KBSG-T、KBSG-T.YZ  
矿用隔爆型移动变电站、矿用隔爆型干式变压器、  
移动变电站用干式变压器**  
KBSGZY-T mining flameproof movable substation,  
KBSG-T mining flameproof dry type transformer,  
KBSG-T.YZ dry type transformer of movable substation



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**KBSGZY-T、KBSG-T、KBSG-T.YZ**  
**矿用隔爆型移动变电站、矿用隔爆型干式变压器、移动变电站用干式变压器**  
**KBSGZY-T mining flameproof movable substation, KBSG-T mining flameproof dry type transformer, KBSG-T.YZ dry type transformer of movable substation**

**一、产品简介/Application**

本产品为煤矿井下供、变电设备，H级绝缘等级，矿用隔爆型干式变压器与高压负荷开关及低压馈电电缆连接器开关组成矿用隔爆型移动变电站。移动变电站与干式变压器在容量相同情况下隔爆壳体可互换，通用。

移动变电站用高压负荷开关、低压馈电开关，同样具有防爆证书、煤矿安全证书，并可根据用户指定的其他型号产品配套。

产品集国内、外隔爆型变压器优点，选用高品质NOMEX®等H级绝缘材料的椭圆型高、低压线圈，经真空压力干燥，浸渍H级无溶剂漆。高温固化机械强度高；铁芯采用优质高磁率冷轧硅钢片，椭圆型截面，全斜接缝，铁轭拉板，拉带紧固，结构先进，紧凑可靠。有效低了空载电流和空载损耗。

隔爆壳体采用波纹筒式，散热好、强度高、体积小、重量轻、隔爆性能好，其他性能指标达到或高于国家标准。

This series are application for mines and H class insulation .Mining flameproof movable substation is associated by mining flameproof dry type transformer, high voltage load switch, and low voltage feeder cable connector switch. Movable substation can interchange the flameproof shell with dry type transformer if the power voltage is the same.

Both the high voltage load switch and low voltage feeder cable connector switch have the flameproof and mines safety certificates and can satisfy the customer's requirements.

It adopts NOMEX paper wrapped flat copper wire and continuous winding process. The winding made after dry treatment by VPI vacuum pressure device, several times impregnated in special H class insulating paint, and baking features high mechanical strength, good heat dispersion. The iron core is made of high quality, cold-rolled, granule-oriented silicon-steel sheets and machined with completely automatic cutting line which can effectively reduce the no-load losses.

Flameproof shell is corrugation cylindrical and good dissipate heating, high strength, small size, light weight, good flameproof. All the other performance conforms to national standard.

**二、执行标准/Standard**

GB8286-2005矿用隔爆型移动变电站；GB38361-4-200爆炸性气体环境用电气设备。

This series conforms to GB8286-2005 the requirement of "mining flame proof movable substations" and GB38361-7 the requirement of "explosive gas environment electrical equipment"

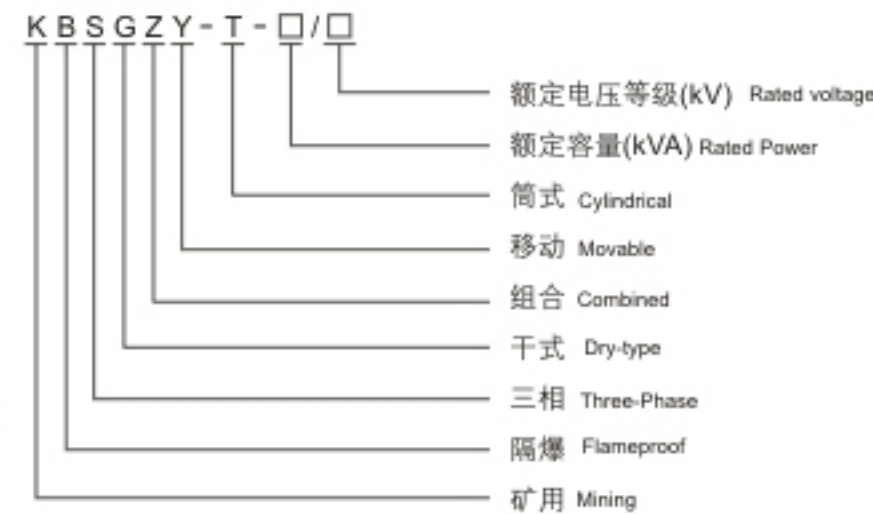
**五、技术参数/Technical Parameter**

6kV级矿用隔爆型移动变电站(含干式变压器)额定性能数据表  
 Data of 6kv mining flameproof movable substation (dry type transformer)

额定容量 (kVA) Rated Power kVA	电压组合 Voltage Combination		联结组标号 Connection symbol	损耗(W)/Loss(W)		短路阻抗 (%) Impedance voltage(%)	空载电流(%) No-Load current (%)		
	一次电压(V) Primary Voltage	二次电压(V) Secondary Voltage		空载损耗 No-Load	负载损耗 On-load				
50	6000 ± 5%	693/400	Y.y0/d11	4	350	550	2.5		
100					520	920	2.5		
200					820	1550	2		
315					1100	2150	1.8		
400					1300	2600	1.8		
500		1200/693			1500	3100	1.5		
630					1800	3660	1.5		
800					2050	4500	1.0		
1000					1200	Y.y0	2350	5400	1.0
1250							2750	6500	1.0

注：负载损耗和短路阻抗为145℃(绝缘耐热等级为H时的参考温度)时之值。  
 Remark: The data of on-load and impedance are 145℃(H level insulation material)

**二、型号含义/Type designation**



**四、使用条件/Working Condition**

- 海拔不超过1000m;  
a)Altitude: ≤1000m
- 环境温度：最高气温+40℃  
b)Max Ambient temperature: 40℃
- 最低气温-5℃;  
c)Min Ambient temperature:5℃
- 空气相对湿度不超过95%(+25℃时);  
d)Relative humidity: ≤95%(25℃)
- 在有甲烷混合气体和爆尘且有爆炸危险的矿井中;  
e)In the mine, with methane, dust explosion danger is well.
- 无强烈颠簸、震动和垂直面的倾斜度不超过15°的环境中;  
f)No vibration the gradient is less than 15°.
- 无足以腐蚀金属和破坏绝缘的气体或蒸汽;  
g)No gas or steam to corrode metal needed or destroy insulation
- 无滴水的地方;  
h)Non-water drop sit
- 电源电压的波形近似于正弦波;  
i)Power supply voltage profile approximate to a sine wave
- 三相电源电压近似对称;  
j)The three-phase supply voltage approximate symmetrical

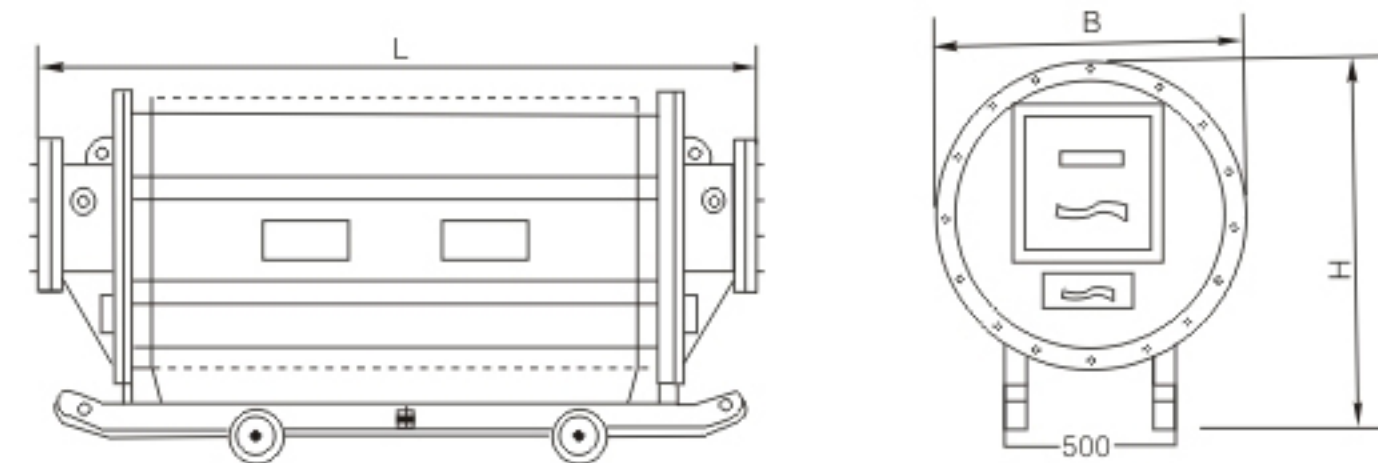
**KBSGZY-T、KBSG-T、KBSG-T.YZ**  
**矿用隔爆型移动变电站、矿用隔爆型干式变压器、移动变电站用干式变压器**  
**KBSGZY-T mining flameproof movable substation, KBSG-T mining flameproof dry type transformer, KBSG-T.YZ dry type transformer of movable substation**

10kV级矿用隔爆型移动变电站(含干式变压器)额定性能数据表  
 Data of 10kv mining flameproof movable substation (dry type transformer)

额定容量 (kVA) Rated Power kVA	电压组合 Voltage Combination		联结组标号 Connection symbol	损耗(W)/Loss(W)		短路阻抗 (%) Impedance voltage(%)	空载电流(%) No-Load current (%)		
	一次电压(V) Primary Voltage	二次电压(V) Secondary Voltage		空载损耗 No-Load	负载损耗 On-load				
50	6000 ± 5%	693/400	Y.y0/d11	4	390	680	2.5		
100					560	1050	2.5		
200					950	1800	2		
315					1300	2500	1.8		
400					1500	3000	1.8		
500		1200/693			1750	3500	1.5		
630					2000	4100	1.5		
800					2300	5100	1.2		
1000					1200	Y.y0	2600	6100	4.5
1250							3100	7400	4.5

注：负载损耗和短路阻抗为145℃(绝缘耐热等级为H时的参考温度)时之值。  
 Remark: The data of on-load and impedance are 145℃(H level insulation material)

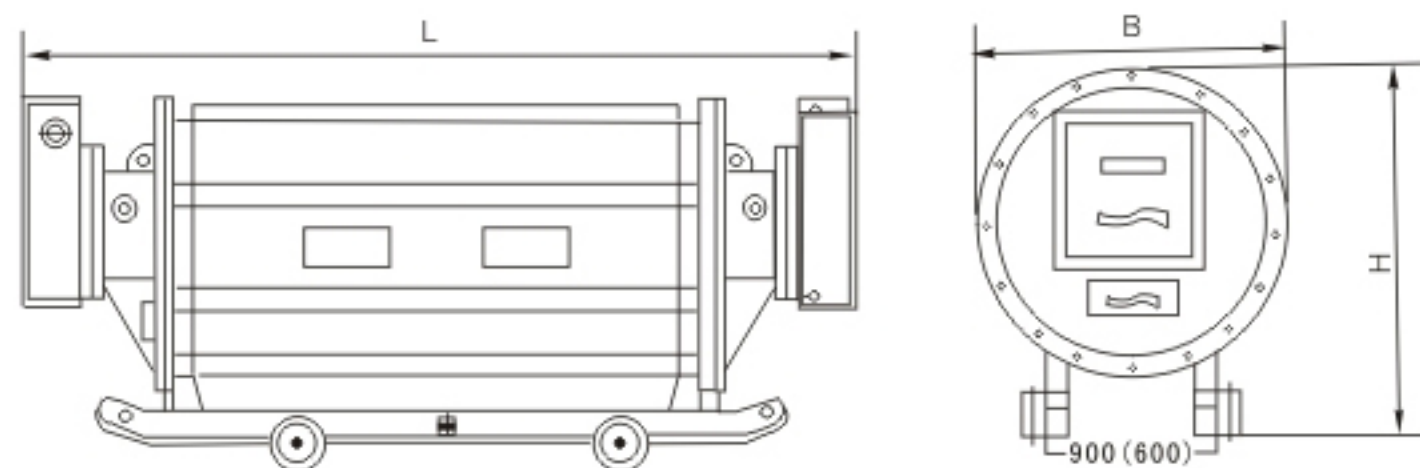
**六、外形尺寸/Overall Dimension**  
**KBSG-T系列/KBSG-T series**



序号 NO	型号 Model	L (mm)	B (mm)	H (mm)	Kg	序号 NO	型号 Model	L (mm)	B (mm)	H (mm)	Kg
1	KBSG-T 100/6	2450	820	915	1220	1	KBSG-T 100/10	2755	1000	1050	1710
2	KBSG-T 200/6	2540	860	900	2178	2	KBSG-T 200/10	2755	1000	1050	2570
3	KBSG-T 315/6	2640	900	940	2332	3	KBSG-T 315/10	2755	1000	1050	2751
4	KBSG-T 400/6	2690	1000	1050	3810	4	KBSG-T 400/10	2895	1060	1100	3315
5	KBSG-T 500/6	2720	1000	1050	3055	5	KBSG-T 500/10	3035	1120	1170	3650
6	KBSG-T 630/6	2860	1060	1110	3234	6	KBSG-T 630/10	4085	1120	1170	4492
7	KBSG-T 800/6	3000	1120	1170	3750	7	KBSG-T 800/10	3235	1220	1270	4600
8	KBSG-T 1000/6	3290	1220	1270	4863	8	KBSG-T 1000/10	3315	1300	1270	5000
9	KBSG-T 1250/6	3290	1300	1360	5311	9	KBSG-T 1250/10	3475	1360	1410	5683

注：因技术改进，表中的外形尺寸及重量有所改变时，以实际产品为准。  
 Remark: If there are any differences between the data in the table and the product, please take the product as standard.

KBSGZY-T系列/KBSGZY-T series



序号 NO	型号 Model	L (mm)	B (mm)	H (mm)	Kg	序号 NO	型号 Model	L (mm)	W (mm)	H (mm)	Kg
1	KBSGZY-T 100/6	3150	820	990	1620	1	KBSGZY-T 100/10	3285	1000	1210	3267
2	KBSGZY-T 200/6	3200	860	1070	2850	2	KBSGZY-T 200/10	3285	1000	1210	3008
3	KBSGZY-T 315/6	3170	900	1110	2889	3	KBSGZY-T 315/10	3285	1000	1210	3130
4	KBSGZY-T 400/6	2950	1000	1210	3368	4	KBSGZY-T 400/10	3595	1060	1210	3290
5	KBSGZY-T 500/6	3300	1000	1210	3376	5	KBSGZY-T 500/10	3725	1120	1330	4308
6	KBSGZY-T 630/6	3500	1060	1260	4034	6	KBSGZY-T 630/10	3725	1120	1330	5150
7	KBSGZY-T 800/6	3660	1120	1320	4408	7	KBSGZY-T 800/10	3935	1220	1430	5400
8	KBSGZY-T 1000/6	3880	1220	1420	5493	8	KBSGZY-T 1000/10	3965	1300	1510	5452
9	KBSGZY-T 1250/6	3880	1300	1500	5868	9	KBSGZY-T 1250/10	4125	1360	1570	5490

注：因技术改进，表中的外形尺寸有所更改，以实际产品为准。产品重量因高压负荷开关、低压馈电开关型号不同而不同。  
 Remark: If there are any differences between the data in the table and the product, please take the product as standard.  
 The data of weight is subject to the model of high voltage load switch and low voltage feeder cable connector switch.

特种变压器/Special transformer



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特种变压器/Special transformer

一、型号含义

电炉变压器

HC S S P S - 3150 / 10

电压等级(kV)  
Rated voltage  
额定容量(kVA)  
Rated power  
设计序号  
Design code  
强油循环  
Forced oil circulation  
水冷  
Water cooling  
三相(D为单相)  
Three-phase (D for signal phase)  
电“石”炉用(H为电弧炉用, HK为矿热炉用, HT为铁合金炉用)  
Carbide Furnace ("h" for arc furnace, "HK" for ore furnace, "HT" for ferroalloy furnace)

整流变压器

Z H S Z K S - 4000 / 10

电压等级(kV)  
Rated voltage  
额定容量(kVA)  
Rated power  
设计序号  
Design code  
内附平衡电抗器  
Balancing reactor  
有载调压  
on-load tap changing  
三相(D为单相)  
Three-phase (D for signal phase)  
电化学电解用  
Electrochemical  
(B为一般工业用, Q为引用, S为传动用)  
("B" for industrial, "Q" for locomotive, "S" for transmission)  
整流  
Rectifier

二、技术参数/Technical Parameter

电石炉变压器JB/T6303-92 / Carbide Furnace transformer JB/T6303-92

额定容量 (kVA) Rated Power kVA	一次电压(V) Primary Voltage	二次电压(V) Secondary Voltage	联结组 标号 Connection symbol	冷却 方式 Cooling	国标 National standard.				企标 Company Standard		
					空载损耗 (kW) No-Load	负载损耗 (kW) Load	空载电流(% No-Load current (%)	短路阻抗(% Impedance voltage(%))	空载损耗 (kW)	负载损耗 (kW)	空载电流(% No-Load current (%)
HCS-1000	6	57-73	D.do-12	油浸风冷 oil-immersed	3.27	21.4	3	6-8	2.62	17	1.5
HCS-1250					4.08	26.7	3	6-8	3.3	21.3	1.5
HCS-1600					4.4	28.8	3	6-8	3.5	23	1.5
HCS-1800					4.95	32.4	3	6-8	4	24.3	1.5
HCS-2000	10.5	72-96	D.do-12	油浸风冷 oil-immersed	5.5	36	3	6-8	4.4	27	1.3
HCS-2500					6.85	40.6	3	6-8	5.5	30.5	1.3
HCS-3150	35	90-110	D.do-12 Y.do-11	强油 水冷 Water cooling	7.8	51.2	3	6-8	6.3	35.9	1.2
HCS-3600					8.9	58.5	3	6-8	7.15	41	1.2
HCS-4000					9.1	65	3	6-8	7.3	46	1.2

一般工业、电解冶金行业ZB、ZN系列/ZB, ZN series for industrial, electrochemical

产品 型号 Model	额定容量 (kVA) Rated Power kVA	额定电压(V) Rate voltage			联结组 标号 Connection symbol	损耗 Loss(kW)		空载电流(% No-Load current (%)	短路阻抗(% Impedance voltage(%))
		高压 H.V (kV)	中压 M.V (kV)	低压 L.V (kV)		空载 No-Load	负载 Load		
ZHSZK-630/10	630	10000,6000			Y/Y-λ	1.4	8.3	2	6
ZBSZK-1000/6.3	1000	6300			Y/Y-λ				
ZHSZK-1200/6.3	1200	6300 ± 5%			Y/Y-λ				
ZBS-1600/10	1600	6300 ± 5%			D.Yn11 D.do				7.5
ZHSZK-1800/35	1800	35000			Y.Δ/Y-λ Y-λ	8.2	29.8		7.1
ZHSZK-2000/10	2000	10000 ± 10%			Y/Y-λ, Δ/Y-λ	3.54	18.32		8.0
ZHSZK-2000/35	2000	35000			Y/Y-λ				
ZHSZK-4000/35	4000	35000			Δ/(Y/Y)Y-λ, Y-λ	6.93	42.87		8
ZHSZK-4400/10	4400	10000			Y/Y-λ, Y-λ				
ZSTK-5100/10	5100	10000			Y/Y-λ				
ZHSSP-5900/35	5900	35000			D.Yn D.Y5	7.72	64.62		7
ZSTK-6200/35	6200	35000			Δ/Y-λ	8.2	69.3		9.38

黄磷炉变压器JB/T85606-1996/Yellow phosphorus furnace transformer JB85606-1996

额定容量 (kVA) Rated Power kVA	额定电压(V) Rate voltage		国标 National standard.			
	高压 H.V (kV)	低压 L.V (kV)	空载损耗 (kW) No-Load	负载损耗 (kW) Load	空载电流(% No-Load current (%)	短路阻抗(% Impedance voltage(%)
HLS-2000	6 6.3 10 35	180,167.5,155,142.5,130	4.8	29	3	7-8
HLS-2500		215,200,185,168,130	5.7	34	3	7-8
HLSSP-2150		230,215,200,180,130	6.8	41	3	7-8
HLSSP-4000		245,231,218,203,196,178,140	8.2/9.4	51/58	2.8	7-8
HLSSP-5000		260,245,232,220,199,182,140	9.8/11.5	59/68	2.6	6-8

电渣炉变压器JB/T8447-1996/Electroslag furnace transformer JB/T8447-1996

额定容量 (kVA) Rated Power kVA	一次电压(kV) Primary Voltage	二次电压范围(kV) Secondary Voltage Range	调压方式 Type of tap changing	调压等级 Level of tap changing	外附饱和电抗器 容量(kvar) Reactor capacity	短路阻抗(% Impedance voltage(%)
HZ-200	6 6.3 10 35	30-60	无励磁调压 off-circuit tap changer	5-7		10kV时5-7 35kV时6-8
HZ-630		35-70				
HZ-800		40-80				
HZ-1250		45-90	有载调压(采 用有载分接 开关) on-load tap changer	19-27		
HZ-1600		45-90				
HZ-2000		50-100				
HZ-2500	55-110					
HZ-3150	60-120					

矿热炉变压器 铁合金、结晶硅、电熔刚玉、冰铜、生铁、碳化硼

额定容量 (kVA) Rated Power kVA	一次电压(kV) Primary Voltage	二次电压(kV) Secondary Voltage	联结组 标号 Connection symbol	冷却 方式 Cooling	调压方式 Type of tap changing	国标JB/T6306-92 National standard JB/T6306-92			
						空载损耗 (kW) No-Load	负载损耗 (kW) Load	空载电流(% No-Load current (%)	短路阻抗(% Impedance voltage(%)
HKS-1000	6 6.3 10 35	73 69	D.do-12	油浸 自冷 Oil-im mersed	无励磁调压 off-circuit tap changer	3.27	21.4	3	6-8
HKS-1250		65 61				4.08	26.7	3	
HKS-1600		57				4.4	28.8	3	
HKS-2000		93 70				5.5	36	3	
HKS-2500		75 71				6.85	40.6	3	
HKSSP-3150		67				7.8	51.2	3	
HKSSP-4000	10.5	98 94				9.1	65	3	
HKSSP-5000	35	90 86				10.2	71.4	3	
HKSSP-6300	113-90	11.8				90	2.5		
	126-100								

电弧炉变压器JB/T 9640-1999/Arc furnace transformer JB/T9640-1999

额定容量(kVA) Rated Power kVA	一次电压(V) Primary Voltage	二次电压(V) Secondary Voltage	调压方式 Type of tap changing	联结组 标号 Connection symbol	冷却 方式 Cooling	空载损耗 (kW) No-Load	负载损耗 (kW) Load	空载电流(% No-Load current (%)	短路阻抗 小大(% cast iron	电抗器容 量(kvar) boron carbide)
HS-630	6 6.3 10 10.5 11	200 170 160 98	无励磁调压 off-circuit tap changer	D-Y do-11	油浸 自冷 Oil-im mersed	2.2	11	3	10.5/25	
HS-800						2.7	13.5	2.9		
HS-1000		3.1				16	2.8			
HS-1250		3.7				18.5	2.6			
HS-1600		4.6				24	2.5			
HS-2000		5.6			28	2.4				
HS-2500		6.7			34.5	2.3				
HSSP-3150		8.0			41.5	2.2	8.5/20			
HSSP-4000		8.25			51.5	2.1				

### 八、订货须知/Ordering instructions

#### 特种变压器订货须知 Ordering instruction

3.1 一般根据用户要求，写出技术协议，内容包括额定容量、一二次电压、调压方式及级数、联结组标号、短路阻抗、试验数据要求和其它特殊技术要求。

3.2 若有异议，由我公司解释。

a) The plans should include rated power, primary voltage, secondary voltage, type and class of tap changing, connection symbol impedance, test data and other special requirements.

b) Canin company has the finally explanation right.

注：随着我公司技术进步和生产发展，产品在更新换代。本目录中所列各种安装尺寸及其它非性能参数数据允许在生产中进行调整，不另行通知，用户如有特殊技术要求，订货时可具体商定。

Remark: The data of dimension and other parameter may be changed when we update product and we will not inform separately. Please tell us your special requirements when you need.

## CSD型防滴式船用变压器/CSD series marine transformer



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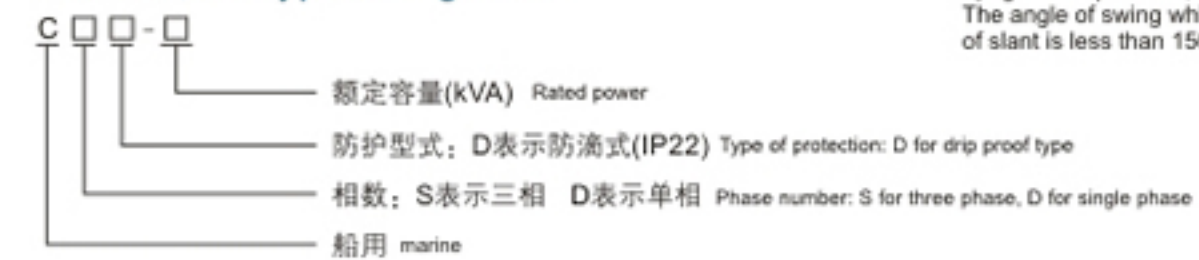
## CSD型防滴式船用变压器/CSD series marine transformer

### 一、结构简介/Application

船用变压器铁心为心式结构，用优质冷轧硅钢叠制而成，在正常条件下，产品无明显振动现象，噪声低；具有性能优良，明显的节能效果。线圈由漆包线、玻璃丝包线绕制而成，绝缘等级为B级、F级、H级；变压器箱体由优质钢板制成，结构上既充分考虑到空气流通，又有有效地防滴水及防接线柱在变压器箱体内部，引入电缆可方便地通过箱体左侧的填料盒接到线柱上。

The iron core is made of high quality, cold-rolled, granule-oriented silicon-steel sheets and machined with completely automatic cutting line. There is no shake and noise under no normal condition. Winding is made of enameled wrapped conductor and glass-fibre covered conductor and the insulation class is B, F and H class. Transformer box is high quality steel plate which the structure is drip-proof and good air mobility and the line can be connected through the right side of box.

### 二、型号含义/Type Designation



矿热炉变压器 铁合金、结晶硅、电熔刚玉、冰铜、生铁、碳化硼

型号 Model	初级额定电压 Primary Voltage		次级额定电压 Secondary Voltage		联结组 标号 Connection symbol	损耗 Loss(kW)		空载电流(%) No-Load current (%)	短路阻抗(%) Impedance voltage(%)	重量 Weight (kg)	外型尺寸 Dimension			安装轨距 Gauge		
	50Hz	60Hz	50Hz	60Hz		空载 No-Load	负载 Load				长 L	宽 W	高 H			
CSD-5					Yy0	110	165	12	3.5	70	560	340	580	220×210		
CSD-7						130	200	11	3.5	80	560	340	580	220×210		
CSD-10						160	290	11	3.5	105	630	360	630	280×230		
CSD-15						210	370	10	3.5	130	710	410	680	280×275		
CSD-20						230	480	8	3.5	155	710	410	680	280×275		
CSD-25	400	450	400	450		250	530	7	3.5	190	760	410	730	280×275		
CSD-30			230	230		280	600	6	3.5	215	760	410	730	500×290		
CSD-40			115	115		290	750	5	3.5	250	810	460	780	550×335		
CSD-50								300	1045	4	3.5	300	860	510	830	550×385
CSD-63								340	1250	4	3.5	360	910	510	880	600×385
CSD-80							420	1450	3	3.5	430	960	560	930	600×435	
CSD-100							510	1840	3	3.5	530	1160	630	1020	650×485	

注：以上数据仅供参考，我公司保留更改数据的权力。

Remark: The above data is just for reference

订货时请注意以下事项 Ordering instruction

1、产品型号 2、额定容量 3、初次级额定电压 4、联结组标号 5、使用中的其它特殊要求 6、频率 7、绝缘等级

1.Model, 2.Rated power, 3. Primary Voltage, 4. Connection Symbol, 5.Other special requirements, 6.Frequency 7.Insulation class

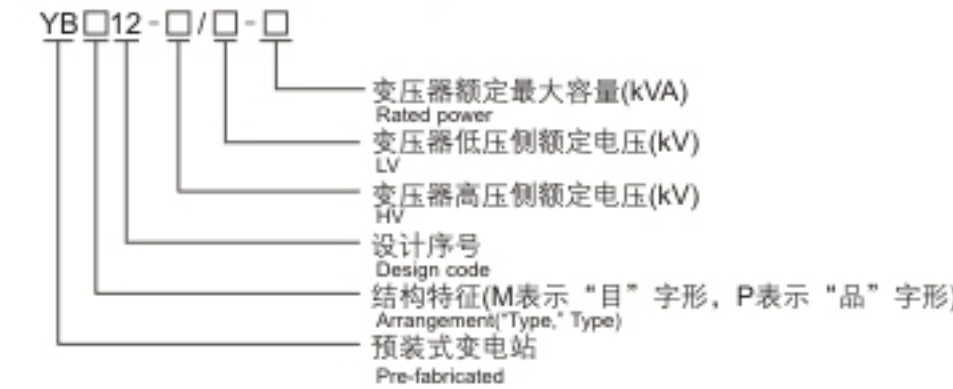
YB□12-0.4系列预装式变电站(欧式箱变)  
YB□12-0.4 series pre-fabricated European type substation



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YB□12-0.4系列预装式变电站(欧式箱变)  
YB□12-0.4 series pre-fabricated European type substation

二、型号含义/Type designation



二、概述/General

YB□系列预装式变电站系我公司为满足城网建设的需求,自行设计开发的系列产品。该产品是一种将中压开关设备、变压器、低压配电设备按一定接线方案组合一体的成套配电设备。本系列预装式变电站适用于12kV, 额定频率为50HZ的三相交流系统, 容量配置在2500kVA以下的住宅小区、商厦宾馆、大型工地、高层建筑、工矿企业及临时性的施工场所, 适用于环网供电, 也适用于放射式终端供电。本系列预装式变电站具有结构紧凑、成套性强, 运行安全可靠, 维护方便, 造型美观等优点; 具有体积小, 占地面积小, 可选择性大, 现场安装最小, 安装调试周期短, 以及随负荷中心移动等特点。

The prefabricated substation is a complete distribution substation that has been widely used in recent years. It is combined with MV switchgear, transformer, LV electrical element, capacitive compensative element and automatic control unit according to a certain connection scheme, with the flexible combination and complete functions, it realizes the energy transmission and distribution from HV system to LV system. The components of this substation adopt the domestic and oversea excellent elements. It is featured with reliable performance and compact structure, not only suitable for ring net operation, but also for terminal operation. Especially, it is applicable for urban public distribution, high-tech development area, industrial and mining enterprise, residential area, etc., to receive and distribute the energy in distribution system. The whole products show us superior technique, safe for operation, non-faults, free of maintenance, energy-saving and control. The substation is application for 12kv,50HZ ,three phase and rated power(less than 2500kva) power system.



五、主要技术参数/Technical Parameter

名称 Name	单位 Unit	高压电器设备 High voltage unit	变压器 Transformer	低压电器设备 Low voltage unit
额定电压 Rated voltage	kV	12	10/0.4	0.4
额定电流 Rated current	A	630	144/3600	3600
额定频率 Rated frequency	HZ	50	50	50
额定容量 Rated capacity	kVA	对地、相间42, 断口48 Phase-earth and phase-phase, Across open contacts	50-2500	
1min工频耐受电压 Power frequency withstand voltage	kV	75	35/28	2.0/2.5
雷电冲击耐受电压 Lightning impulse withstand voltage	kV		75	
壳体防护等级 Protection degree			Ip23	
噪音水平 Noise level	dB		油变≤55, 干变≤65 Oil-immersed≤55, Dry type≤65	
外形尺寸(长宽高三) Dimension	mm	4000×2300×2500~8600×3300×3000		

三、正常使用条件/Working condition

- 周围空气温度不超过+40℃, 最低周围空气温度-25;
  - 海拔不超过1000米, 若使用特殊订购的变压器和低元件, 可达海拔3000米;
  - 垂直倾斜度不超过5°, 无剧烈振动及冲击的场所;
  - 空气湿度不大于90%(+25℃);
  - 无导电尘埃, 无爆炸危险, 无腐蚀性金属和电器元件的气体场所;
  - 户外风速不超过35m/s.
- Ambient temperature: -25 °C~+40°C ;
  - Altitude: ≤ 1000m (3000m if need)
  - Occasions without fiercely shake and corrosiveness, as well as without flaming and explosive matter, the verticality is no more than 5 degree
  - Humidity: ≤90%(25°C)
  - Wind: ≤35m/s

四、产品设计特点/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、外形美观、维护方便等特点。外壳材料有多种选择。如: 铝合金板、钢板、复合板、不锈钢板、非金属材料(玻璃纤维水泥)等。

高压侧一般采用负荷开关, 也可采用真空断路器, 并且有齐全的防误操作功能。还可选配: XGN20-12L六氟化硫环网柜, HXGN15A、HXGN17等环网开关设备。变压器可采用油浸式变压器, 全密封变压器, 又可采用干式变压器。变电站保护性能完善, 操作方便, 高低压计量可供选择, 可根据用户要求配备自动无功率补偿装置。

箱体顶盖设计为双层结构, 夹层间充满泡沫塑料, 具有良好的隔热作用。高、低压室在其内部设计有独立的顶板, 变压器室内设防凝露及自动温控监视、加热、降温装置。

箱体采用自然通风, 也可加装强迫通风设备。门板及侧板外侧对应百叶窗位置上装有防尘装置。

- The shell adopts environmental protecting non-metal case, having the advantage of fastness, good performance, guards against the micro-organisms, nice looking, heat insulation and so on. There are many choose for shell such as aluminum alloy, steel plate, composite board, stainless steel, non-metallic(glass fiber reinforced cement) .
- At the high voltage side, use breaking switch and current limited fuse as the protector for the transformer. When the current limited fuse was fused, the three-phase load breaking switch will cut off. The high voltage side also can adopt the vacuum breaker as the protector. The substation can be equipped with XGN20-12L SF6, HXGN15A, HXGN17 loop-network switch cabinet if need. The transformer can be oil immersed, sealed and dry type.
- The whole product show us good protection performance and easy to control .HV and LV measurement and auto reactive power compensation is available according to requirement.
- The double layer structure with plastic foam has the advantage o good f heat insulation. HV room and LV room has their own roof and transformer room is equipped with automatic temperature monitor and anti condensation device.
- The box is a natural ventilation and also can be installed another equipment for ventilate. Dusty proof devices are on the window shades of door and side plate.

**紧凑型美式变电站 Compact American type substation,  
不锈钢外壳美式变电站 Stainless steel American type substation  
YB□系列预装式变电站 YB□series pre-fabricated substation**



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**Compact American type substation,Stainless steel American type substation  
YB□series pre-fabricated substation  
紧凑型美式变电站 不锈钢外壳美式变电站  
YB□系列预装式变电站**

**紧凑型美式变电站  
Compact American type substation**

**概述/General**

本系列预装式变电站，其结构为品字形排列，变压器与高低压设备相互紧密连为一体，其中变压器之面外露在空气中，散气条件好，且能与高低压设备壳体分离，便于维护，检修。  
箱体外壳可采用普通钢板，夹层彩色钢板，或非金属材料，具有较高的机械强度，从整体上看，有线条明快流畅的感觉，表面处理着色后与周边环境相协调。  
具有结构紧凑、体积小、重量轻、损耗低等特点。

- 1.The structure of compact American type substation is type .The substation has the parts of high voltage room , low voltage room and transformer which is outdoor for ventilating and convenient maintenance.
- 2.The covering adopts the steel plate,color mezzanine steel plate and non-metallic and has the advantage of high mechanical ,nice looking. It has the features of strong complete set, small volume, low cost and light weight

**不锈钢外壳式变电站  
Stainless steel American type substation**

**概述/General**

- 该系列预装式变电站外壳材质选用优质不锈钢板，极大提高了箱变的防腐性能。
- 不锈钢蜂窝式双层结构，具有良好的隔热及散热功能。
- 科学的设计，精湛的加工工艺，使不锈钢外壳美式箱变充满典雅现代气息。
- 箱体可以采用亮光或亚光，还可以根据客户要求喷涂成各种颜色。

- 1.The shell is made of high quality stainless steel and has the feature of high anti-corrosion.
- 2.Honeycomb type and double layer structure has low temperature rise function.
- 3.The substation has nice looking and is designed scientifically .  
The color of box is subject to customer such as gloss paint, flat paint

**YB□系列预装式变电站  
YB□series pre-fabricated substation**

**一、订货须知/Ordering instruction**

客(用)户订购预装式变电站时，须提供下列资料

- 顶装式变电站型号；
- 变压器类型及容量；
- 高压室、低压室接线方案及电气原理图，列出电器元件的型号、规格、数量和主要技术参数；
- 外壳颜色，如用户无要求时，则采用浅驼灰色(标准色)；
- 需要的备品备件如有其它特殊要求，可在订货时与制造商联系。

The following information should be provided when ordering

- 1.Substation model
- 2.Transformer type and capacity
- 3.HV and LV circuit and the information of electrical components.
- 4.Color of box (or the color will be decided by our company)
- 5.Other special requirements

## YB□系列预装式变电站(美式箱变) YB□12-0.4 series pre-fabricated American type substation



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## YB□系列预装式变电站(美式箱变) YB□12-0.4 series pre-fabricated American type substation

### YB□系列预装式变电站(美式箱变) YB□12-0.4 series pre-fabricated American type substation

#### 二、概述/General

YB□系列预装式变电站适用于7.2KV和12KV环网供电，双电源供电或终端供电系统，作为高压配电计量，补偿控制和保护装置。高压侧还装有四工位负荷开关或二工位负荷开关，后备保护熔断器及插入式熔断器；低压侧按用户要求装配控制电器，配电电器。补偿装置及电能计量表等。

YB□系列预装式变电站可用于室内，又可用于室外，广泛用于工业园区，居民小区，商业中心，及高层建筑等各种场所。This series product is application for 7.2KV and 12KV power supply network. The high voltage is equipped with load switch of four or two station, fuse backup and pull-out fuse. The low voltage can be installed control and distribution device power compensation and so on if need. It is applicable for urban public distribution, high-tech development area, industrial enterprise, residential area, etc., to receive and distribute the energy in distribution system

#### 二、结构特点/Features

该系列产品箱体结构分为前后两部分。前面为高低压操作间隔。高压间隔内包括高压端子、负荷开关、无载调压分接开关、插入式熔断器，压力释放阀、油温计、油位计、放油阀。低压间隔内包括低压端子。后部为注油箱及散热片，变压器绕组和铁芯、高压负荷开关及保护用熔断器都在储油箱中。It has two parts that are: HV, LV room and transformer room. Oil thermometer, pressure gauge, pressure release valve, oil drain valve monitors, load switch, HV terminal, pull-out fuse and so on are in HV room. LV terminal is in LV room. Winding, iron core high voltage load switch, fuse backup are in oil storage tank.

#### 三、性能特点Performance

- 体积小、结构紧凑，仅为国内同容量欧式箱变的1/3左右；
  - 全密封、全绝缘、无需绝缘距离，可靠保证人身安全；
  - 即可用于环网，又可用于终端，转换十分方便，提高了供电的可靠性；
  - 损耗小，低于国内S9型变压器损耗；
  - 电缆接头可操作200A负荷电流，在紧急情况下可作为负荷开关操作，并且有隔离开关的特点；采用双熔丝保护，降低了运行成本。插入式熔断器熔丝为双熔丝（温度、电流）；采用了Δ/Y。接法及三相三柱式结构，优点是电压质量高、中性点不漂移、箱体不发热、噪音低、防雨性好。
- 1.Compact structure, the volume is the same as 1/3 of European substation;
  - 2.Fully sealing and fully insulated, needn't insulated gap;
  - 3.The wiring management can be used in the ring main unit and terminal
  - 4.Low wastage, noise and temperature rise
  - 5.Zinc oxides arresters, 200A electric with load insert which can be used as disconnecting switch
  - 6.There are two fuse to protect for safety

#### 六、主要技术参数

名称 Name	单位 Unit	高压电器设备 High voltage unit	变压器 Transformer	低压电器设备 Low voltage unit
额定电压 Rated voltage	kV	12	10/0.4	0.4
额定电流 Rated current	A	630	72/1800	
额定频率 Rated frequency	HZ	50	50	50
额定容量 Rated capacity	kVA	50~1250 <small>对地、相间42- 极口48 Phase-earth and phase-phase, Across open contacts</small>	50~1250	
1min工频耐受电压 Power frequency withstand voltage	kV		35/28	2.5/2.0
雷电冲击耐受电压 Lightning impulse withstand voltage	kV	75	75	
壳体防护等级 Protection degree			全密封	Ip23
噪音水平 Noise level	dB		油变≤55, Oil-immersed≤ 55	
外形尺寸(长宽高三) Dimension	mm	1825 × 1400 × 2020 3945 × 1560 × 2020		

#### 四、正常使用条件/Working Condition

- 海拔≤1000米(超过此范围另行设计)
  - 风压：不大于70Pa(相当35m/s)
  - 湿度：日平均值不大于95%；月平均值不大于90%；
  - 环境温度：最高气温+40℃；最低气温-25℃；
  - 防震水平：水平加速度0.4m/s<sup>2</sup>；垂直加速度0.15m/s<sup>2</sup>；
  - 地震烈度：8度；
  - 安装地点倾斜度：不大于3°；
  - 安装环境：周围空气不受腐蚀性、可燃性气体及水蒸气等明显污染。安装地点无剧烈震动。
1. Ambient temperature: -25℃ ~+40℃;
  2. Altitude: ≤1000m;
  3. Wind speed: 34m/s(Wind pressure: 70Pa);
  4. Humidity: Daily average 95%, monthly average 90%;
  5. Shake-proof: Level acceleration 0.4m/s<sup>2</sup>, and the vertical acceleration 0.15m/s<sup>2</sup>;
  6. Earthquake intensity: 8 degree
  7. Gradient of installation place: 3 degree;
  8. Occasions without fiercely shake and corrosiveness, as well as without flaming and explosive matter;

#### 五、型号含义/Type designation

