

PRODUCTS CATALOG

产品选型手册

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中国·台力电气有限公司
TAILI ELECTRIC CO.,LTD.

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Company profile

企业简介

中国·台力电气有限公司成立于1992年，总部坐落在中国电器之都浙江省乐清市，是一家无区域性大型电力产品研发制造企业，累计占地面积3万平方米，现有员工500多人，总公司旗下包括浙江台力电气有限公司、上海台力变压器有限公司、西安二变变压器有限公司、台力电气成套公司、台力电气高压公司、温州台力进出口有限公司。

公司拥有先进的生产设备和精湛的制造工艺，专业生产110KV以下电力变压器、高低压成套设备、箱式变电站、高压真空断路器等输配电产品。台力拥有专业的技术队伍，强大的生产能力，良好的商业信誉和完善的管理体系。公司全面实施ISO9001质量体系保证体系，产品严格按照ISO IEC/GB的标准进行生产和销售，并通过3C认证，使产品质量长效稳定与可靠。

经过多年的发展，台力在全国各省市拥有庞大的销售网络。产品广泛应用于电力、铁路、矿业、船运等领域，一直以来，台力人高度重视产品的质量和客户的满意程度。由于我们产品可靠的质量和诚信的服务态度，台力深得国内外客户的高度青睐，产品远销东南亚、中东、非洲等多个国家与地区。

TAILI Electric Co.,Ltd was established in 1992. It located in Yueqing Wenzhou City Zhejiang Province P. R. China. TAILI company includes Zhejiang TAILI Electric Co.,Ltd, Shanghai TAILI transformer Co.,Ltd, Xi'an Erbian company, TAILI electric complete sets Co.,Ltd, TAILI high voltage electric Co.,Ltd. and Wenzhou TAILI IMP&EXP Co.,Ltd. TAILI has more than 500 workers. The areas of workshops are more than 30000m².The company mainly manufactures power transformer, transformer substation, switch cabinet, vacuum circuit breaker and etc.

TAILI company has specialized technical team, strong production capacity, good commercial reputation and good quality management mechanism. Company has full implementation of ISO9001 quality guarantee system, the production and sales are strictly in accordance with ISO IEC/GB standard, make product quality get the reliable guarantee. And products pass the 3C authentication.

With the development in these years, TAILI has expanded business into more than 30 countries with an annual sales of USD50,000,000. TAILI company attaches great importance to quality guarantee and customer satisfaction. Attributed to our reliable quality and perfect service, TAILI company has won an outstanding reputation from our clients all over the world. TAILI will continue to play an active role in the electric industry and explore new opportunities of business with people from all over the world with the principle of "equality and mutual benefits".

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资质证书



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油浸式变压器 OIL-IMMERSED TRANSFORMER



油浸式配电变压器

OIL-IMMERSED DISTRIBUTION TRANSFORMER

产品特点 Features

我公司生产的三相油浸式配电变压器，器身采用了新型绝缘结构，提高了抗短路能力；铁芯高质量冷轧硅钢片制成；高压绕组均选用优质无氧铜线为材料，并采用产品具有高效率，低损耗的特点，可节省大量的电耗和运行费用，社会效益显著，是国家推广的新技术产品。

The three-phase oil-immersed distribution transformer applies new type insulating structure. The iron core is made of high-quality cold-rolled silicon-steel plate. High-voltage winding group is made up of high-quality oxygen-free copper lines and it adopts multilayered drum type structure. All fasteners have been processed with special treatment to prevent them from loosening.

As high-tech product that promoted by the country, the product has many advantages such as high efficiency, low loss. Its social benefits are remarkable that it will save much of electricity consumption and operating cost.

结构优势 Advantage of structure

- 带纵向油道的螺旋式线圈，内部散热更好；
- 改进了线圈端面的有效支撑，抗短路电流能力更强；
- 采用了新的吊装结构和器身定位结构，保证在长途运输和运行中更为可靠；
- 取消了储油柜，油箱的波翅代替油管作为冷却散热元件，波纹油箱由优质冷轧薄板在专用生产线上制造，增强运行可靠性，正常运行免维护。
- We employ spiral coil with longitudinal oil path to make a better interior cooling effect;
- We improve the effective support of the coil's terminal surface to strengthen the anti-short circuit current capability;
- We employ new hoisting structure and body-positioning frames to guarantee that the long distance transport and movement will be more reliable;
- Cancelled the oil tank, the wave wings of tank instead of the tubing as a cooling device, corrugated tank is made of high quality cold press sheet on dedicated machine and enhance the reliability of running.

材料优势 Advantage of materials

- 选用电阻率更低的无氧铜线，并经过系列附加的表面处理，更光滑，无毛刺尖角，使变压器的负载损耗更低，电气性能更为可靠；
- 选用优质的硅钢片，随着性能水平的提升，采用单位损耗更低的硅钢片，使变压器空载损耗更低；
- 选用优质层压木绝缘件，绝不开裂，即使在短路电流作用下，也纹丝不动；
- 选用经过深层过滤的变压器油，更低的含水、含气、含杂质水平，变压器工作更为可靠；
- 选用优质橡胶密封材料，有效防老化，杜绝渗漏。
- 所有原材料经过质检，所有原材料厂家均经过按照国家标准ISO9000的严格审查。
- Because we use oxygen-free copper lines of lower resistivity, which will become smoother and burr-free after series of additional surface treatment, so the load loss of our transformer is lower and the electric performance is better;
- We use high-quality silicon-steel plates which are of lower unit loss, and the no-load of the transformers is lower;
- We use high-quality wooden laminating insulation pieces, which won't split or move even under the influence of short circuit;
- We use thoroughly filtrated transformer oil containing less water, gas and impurities, which makes our transformer work better;
- We use high-quality rubber sealing material, which can prevent the transformers from aging or leakage;
- All materials have passed the quality testing, and all the raw material factories have passed through the national standard ISO9000 inspection.

技术性能优势 Advantage of technology

- S11系列产品在S9系列的基础上，空载损耗平均降低了30%，空载电流比S9下降70~85%，平均温升降低10K，产品使用寿命增加一倍多，即使在超负载20%的条件下仍可长期运行，产品运行噪音平均降低2~4分贝。
- Improved from S9 series product, S11 series product reduces the no-load loss by 30%, no-load electric current by 70~85%, average temperature by 10K, noise level by 2~4db, and double the products service life. Even under 20% overloads, it can also work for long period of time.

变压器产品标准 Transformers standards

GB 1094.1-1996(IEC 76-1-1993)
GB 1094.3-2003(IEC 60076-3-2000)
GB/T 6451-2008

GB 1094.2-1996(IEC 76-2-1993)
GB 1094.5-2003(IEC 60076-5:2006)电力
GB/T 7595-2008

JB/T 10088-2004 6kV ~ 500kV
GB 10237-1988
GB/T 3837-2010

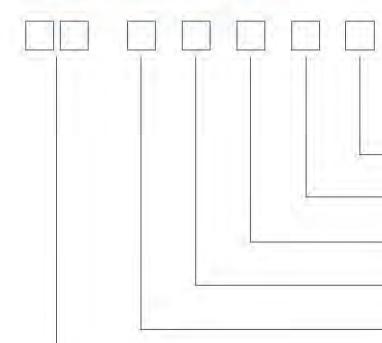
变压器正常使用条件 Transformers service condition

海拔高度不超过1000m; 环境温度:
 • 最高气温40°C • 最热月平均气温30°C • 最高年平均气温20°C • 户外最低气温-25°C
 The height above sea level is below 1000m;
 Ambient temperature:
 • Highest temperature 40°C • Highest daily average temperature 30°C
 • Highest annual average temperature 20°C • Lowest outdoor temperature -25°C

变压器特殊使用条件 Transformers special service condition

海拔高度超过1000m; 环境温度:
 • 最高气温40°C • 最低气温-45°C
 (订货详细说明)
 The height above sea level is above 1000m;
 Ambient temperature:
 • Highest temperature 40°C • Lowest temperature -45°C
 (defines in detail when placing an order)

型号含义 Type meaning



特殊使用环境代号(GY-高原、WF-防腐蚀、TA-干热带、TH湿热带)

电压等级kV

额定容量kVA

特殊用途或特殊结构代号(M-全密封、R-卷铁心)

性能水平代号(9、10、11、12、13)

Symbol of service environment(GY-plateau, WF-antiseptic, TA-dry tropics, TH-humid tropics)

Voltage class(kV)

Rated capacity(kVA)

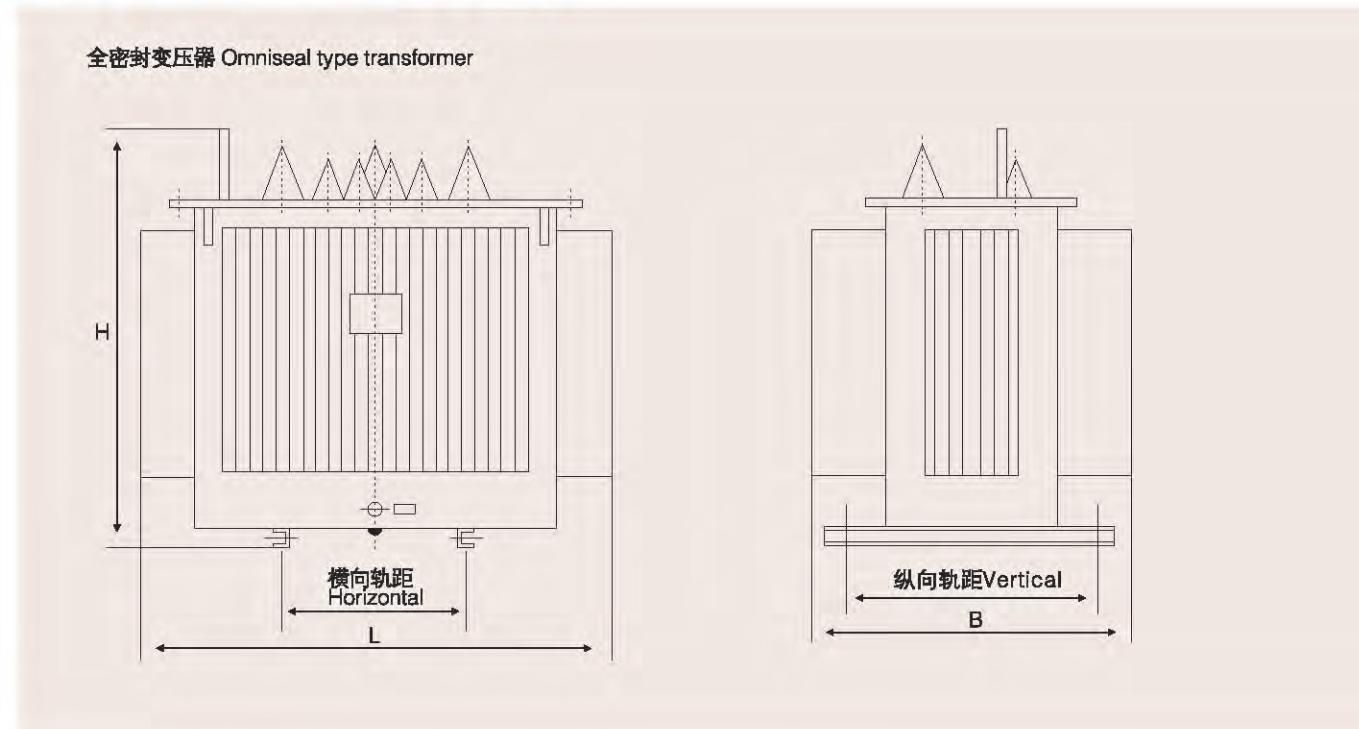
Symbol of special usage or special structure (M-omniseal, R-ribbon-wound core)

Functional level code(9, 10, 11, 12, 13)

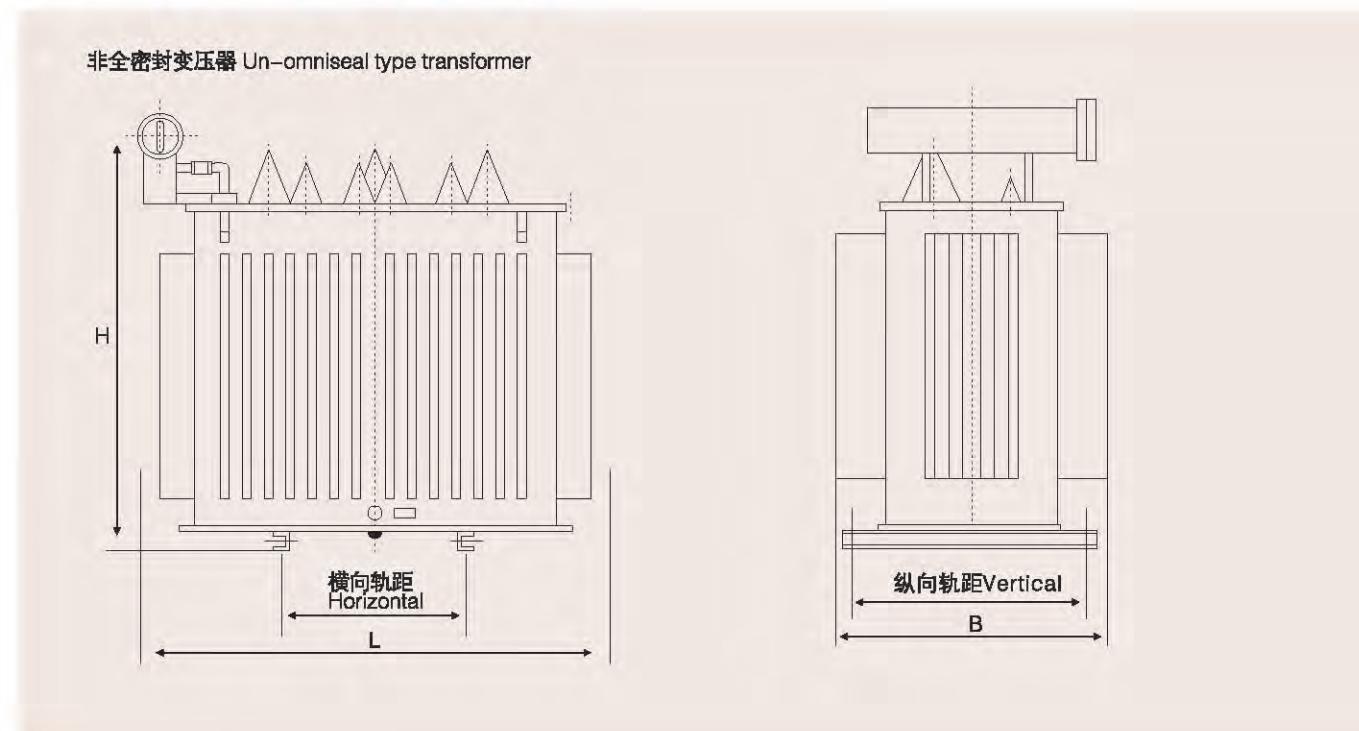
产品型号字母(D-单相、S-三相、F-风冷、Z-有载调压)

Product model(D-single, S-three-phase, F-cool air, Z-voltage tap changer)

外形尺寸及安装尺寸
Outline and installation dimensions



外形尺寸及安装尺寸
Outline and installation dimensions



10kV级S9系列油浸式配电变压器技术参数
Tech data of 10kV S9、S9-M series distribution transformer

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压 (%) Impedance voltage	损耗(kw) Loss		空载电流 (%) No-load current	重量(kg) Weight		外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距 纵/横 Gauge Vertical/ Horizontal	
				No-load	负载 Load		器身重 Body	油重 Oil			
5				0.07	0.35	4	50	45	145	550X450X800	300/300
10				0.09	0.4	3.5	70	55	185	550X450X800	300/300
20				0.11	0.52	3.0	110	60	270	730X660X860	400/400
30	高压(HV)		0.13 0.63/0.6	2.3	130	65	305	745X670X900	400/400		
50	11		0.17 0.91/0.87	2.0	195	80	385	775X660X955	400/400		
63	10.5		0.2 1.09/1.04	1.9	230	80	440	805X690X985	400/400		
80	10		0.25 1.31/1.25	1.9	260	95	510	855X690X1025	400/400		
100	6.3		0.29 1.58/1.5	1.8	300	95	550	850X675X1065	550/550		
125	6		0.34 1.89/1.8	1.7	335	115	635	995X595X1085	550/550		
160	0.4		0.4 2.31/2.2	1.6	405	130	775	1050X645X1115	550/550		
200	0.69	Yyno	0.48 2.73/2.6	1.5	490	150	900	1080x660x1175	550/550		
250		Dyn11	0.56 3.2/3.05	1.4	565	170	1040	1170x725x1205	660/660		
315			0.67 3.83/3.65	1.4	655	200	1210	1240x775x1255	660/660		
400			0.8 4.52/4.3	1.3	840	250	1435	1315x815x1325	660/660		
500			0.96 5.41/5.15	1.2	935	235	1630	1435x930x1360	660/660		
630			1.2 6.2	1.1	1100	330	1990	1505x935x1380	820/820		
800			1.4 7.5	1.0	1360	370	2340	1650x1060x1460	820/820		
1000			1.7 10.3	1.0	1455	475	2600	1735x1165x1525	820/820		
1250			1.95 12.0	0.9	1715	545	3080	1800x1215x1610	820/820		
1600			2.4 14.5	0.8	2095	630	3700	1820x1280x1660	820/820		
2000			2.8 19.8	0.8	2340	715	4190	2060X1740X2050	820/820		
2500			3.3 23.0	0.7	2920	830	5100	2250X1800X2100	1070/1070		

注:高压分接范围:±5%或±2×2.5%; 频率:50Hz
Note:tapping range of HV: ±5% or ±2×2.5%; Frequency:50Hz

10kV级SZ9系列油浸式配电变压器技术参数
Tech data of 10kV SZ9 series distribution transformer

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压 (%) Impedance voltage	损耗(kw) Loss		空载电流 (%) No-load current	重量(kg) Weight		外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距 纵/横 Gauge Vertical/ Horizontal	
				No-load	负载 Load		器身重 Body	油重 Oil			
200				0.48	3.06	1.5	510	210	960	1140X780X1140	550/550
250				0.56	3.6	1.4	600	230	1105	1480X800X1200	660/660
315	高压(HV)		4	0.67	4.32	1.4	690	260	1315	1600X860X1210	660/660
400	11			0.8	5.22	1.3	890	310	1570	1680X940X1300	660/660
500	10.5			0.96	6.21	1.2	990	310	1710	1660X1040X1310	660/660
630	10			1.2	7.65	1.1	1160	400	2050	1810X1140X1350	820/820
800	6.3			1.4	9.36	1.0	1430	430	2480	1890X1210X1380	820/820
1000	6	Dyn11		1.7	10.98	1.0	1530	540	2830	1950X1260X1510	820/820
1250			4.5	1.95	13.05	0.9	1800	610	3460	1960X1280X1660	820/820
1600	0.4			2.4	15.57	0.8	2200	700	4060	2350X1620X2020	820/820
2000	0.69			2.8	21.26	0.8	2460	800	4620	2460X1740X2050	820/820
2500				3.3	24.69	0.7	3070	910	5630	2650X1800X2100	1070/1070

注:有载调压变压器高压可提供±4×2.5%调压范围
Note:It can supply voltage regulating range of ±4×2.5% for HV on load regulation transformers

10kV级S11、S11M系列油浸式配电变压器技术参数

Tech data of 10kV S11、S11M series distribution transformer

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压 (%) Impedance voltage	损耗(kW) Loss		空载电流 (%) No-load current	重量(kg) Weight		外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距 纵/横 Gauge Vertical/ Horizontal	
				空载 No-load	负载 Load		器身重 Body	油重 Oil			
10				0.065	0.4	3.5	90	55	220	650x450x880	300/300
20				0.08	0.52	3.0	140	60	270	720x490x950	400/400
30				0.1	0.63/0.6	2.3	185	70	330	760x615x930	400/400
50				0.13	0.91/0.87	2.0	260	80	415	770x655x1000	400/400
63				0.15	1.09/1.04	1.9	260	85	475	805x615x1030	400/400
80	高压(HV)			0.18	1.31/1.25	1.9	320	95	550	850x650x1075	400/400
100	11		4	0.2	1.58/1.5	1.8	355	100	610	855x700x1125	550/550
125	10.5			0.24	1.89/1.8	1.7	425	115	695	980x620x1145	550/550
160	10			0.28	2.31/2.2	1.6	510	130	835	1050x655x1200	550/550
200	6.3			0.34	2.73/2.6	1.5	550	145	985	1080x660x1215	550/550
250	6	Yyno		0.4	3.2/3.05	1.4	630	165	1130	1115x685x1280	660/660
315	低压(LV)	Dyn11		0.48	3.83/3.65	1.4	755	190	1305	1220x775x1320	660/660
400	0.4			0.57	4.52/4.3	1.3	910	225	1565	1235x745x1410	660/660
500	0.69			0.68	5.41/5.15	1.2	1050	240	1795	1335x845x1455	660/660
630				0.81	6.2	1.1	1250	310	2185	1425x865x1490	820/820
800				0.96	7.5	1.0	1540	365	2580	1490x910x1595	820/820
1000				1.15	10.3	1.0	1690	405	2895	1655x1105x1625	820/820
1250				1.36	12.0	0.9	1965	560	3370	1775x1205x1705	820/820
1600			4.5	1.64	14.5	0.8	2355	650	4190	1725x1200x1790	820/820
2000				1.96	19.8	0.8	2570	615	4245	2190X1900X1950	820/820
2500				2.31	23.0	0.7	3130	810	5280	2180X1940X2250	1070/1070

注:高压分接范围:±5%或±2×2.5%; 频率:50Hz

Note: tapping range of HV: ±5% or ±2×2.5%; frequency: 50Hz

10kV级SZ11系列有载调压油浸式配电变压器技术参数

Tech data of 10kV SZ11 series on-load regulation distribution transformer

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压 (%) Impedance voltage	损耗(kW) Loss		空载电流 (%) No-load current	重量(kg) Weight		外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距 纵/横 Gauge Vertical/ Horizontal	
				空载 No-load	负载 Load		器身重 Body	油重 Oil			
200				0.34	3.06	1.5	540	270	1110	1400X740X1190	550/550
250				0.4	3.6	1.4	640	290	1270	1420X790X1210	660/660
315	高压(HV)		4	0.48	4.32	1.4	730	320	1500	1540X850X1240	660/660
400	11			0.57	5.22	1.3	940	370	1780	1590X940X1250	660/660
500	10.5			0.68	6.21	1.3	1040	370	1920	1650X1000X1350	660/660
630	6.3			0.81	7.65	1.1	1220	460	2280	1810X1140X1350	820/820
800	6	Yyno		0.96	9.36	1.0	1500	500	2740	1890X1200X1310	820/820
1000	低压(LV)	Dyn11		1.15	10.98	1.0	1610	520	3060	1910X1260X1570	820/820
1250	0.4		4.5	1.36	13.05	0.9	1880	700	3710	1960X1280X1740	820/820
1600	0.69			1.64	15.57	0.8	2290	780	4350	2330X1800X1910	820/820
2000				1.96	21.26	0.8	2560	900	4950	2580X1900X1950	820/820
2500				2.31	24.69	0.7	3170	1010	6020	2580X1940X2250	1070/1070

注:有载调压变压器高压可提供±4×2.5%调压范围

Note: it can supply voltage regulating range of ±4×2.5% for HV on load regulation transformer

概述 Summary

S13变压器节能显著，磁路均匀，空载损耗低、噪声低、温升低、效率高、配电变压器节能效果显著。采用新型铁芯材料，磁路分布均匀，大大降低了空载激磁电流和空载损耗。由于铁芯为全斜三接缝结构，故运行可靠、体积小、重量轻，可供居民区、商业街道、工矿企业和农村动力及照明之用。

S13 transformer significant energy saving, uniform magnetic circuit, low no-load loss, low noise, low temperature rise, high efficiency, significant energy saving effect of distribution transformers. Using the new core material, and uniform distribution of the magnetic circuit, Greatly reduces the load excitation current and no-load loss. As the core of the oblique three-seam construction, so reliable operation, small size, light weight, and available for residential areas, commercial street, industrial and mining enterprises and rural Power and lighting purposes.

产品特点 Features

- 节能。与原S11相比，空载损耗平均降低20%以上，空载电流降低25%以上，运行费用平均下降15%以上。
- 使用寿命长，变压器铁芯采用新型铁芯材料，大大降低损耗，变压器使用寿命大幅延长。
- 占地面积小，由于铁芯由高质量冷轧晶粒取向硅钢片制成；高、低压绕组选用优质无氧铜线并采用多层圆通式工艺结构；所有紧固件均采用特殊放松处理，机械强度高，变压器体积小、重量轻，全密封油箱，可广泛适用于各种环境。
- Energy conservation. Compared with the original S11, the average no-load loss reduced by 20% or more, the no-load current is reduced by 25% or more, operating costs dropped by an average of more than 15%.
- long service life, transformer core with new core material, and greatly reduce the loss significantly extend the life of the transformer.
- Small footprint, the core is made from high quality cold rolled grain oriented silicon steel sheet; high, low voltage winding made of high quality oxygen-free copper wire and multilayer tact process structure; All fasteners are used special relax treatment, the high mechanical strength, and transformer sizes small, light weight, and the fully sealed tank, can be widely used in various environments.

10kV级S13、S13M系列油浸式配电变压器技术参数

Tech data of 10kV S13、S13M series distribution transformer

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压 (%) Impedance voltage	损耗(kW) Loss		空载电流 (%) No-load current	重量(kg) Weight		外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距 纵/横 Gauge Vertical/ Horizontal	
				空载 No-load	负载 Load		器身重 Body	油重 Oil			
30				0.080	0.630/0.600	2.3	185	70	330	760x615x930	400/400
50				0.100	0.910/0.870	2.0	260	80	415	770x655x1000	400/400
63				0.110	1.090/1.040	1.9	260	85	475	805x615x1030	

10kV级S9系列油浸式电力变压器技术参数
Tech data of 10kV S9 series power transformer

额定容量 Rated capacity (kVA)	电压组合(kV) voltage group	联结方式 Vector group	阻抗电压 (%) Impedance voltage	损耗(kW) Loss		空载电流 (%) No-load current	重量(kg) Weight		外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距 纵向/横向 Gauge Vertical/ Horizontal
				空载 No-load	负载 Load		器身重 Body	油重 Oil		
200	高压(HV)	Yd11	4.5	0.42	3.15	1.5	530	180	940	1240X820X1130
250				0.51	3.6	1.4	580	200	1000	1320X840X1150
315				0.61	4.3	1.4	720	230	1210	1380X880X1200
400				0.73	5.2	1.3	810	260	1420	1530X1020X1240
500				0.88	6.2	1.2	910	280	1550	1610X1100X1290
630			5.5	1.03	7.29	1.1	1160	420	2040	1620X1120X1340
800				1.26	8.91	1.0	1350	470	2380	1810X1260X1390
1000				1.48	10.44	1.0	1495	510	2605	1900X1300X1440
1250				1.75	12.42	0.9	1750	615	3090	1910X1260X1620
1600				2.11	14.85	0.8	1980	630	3500	1950X1610X1810
2000			3.15	2.52	17.82	0.8	5410	800	4360	2050X1800X2000
2500				2.97	20.7	0.8	2850	850	5330	2150X1960X2160
3150				3.51	24.3	0.7	3190	1270	6360	2285X2260X2290
4000				4.32	28.8	0.7	3750	1580	7120	2400X2420X2390
5000				5.13	33.03	0.7	4650	1830	8760	2480X2580X2510
6300			3	6.12	36.9	0.6	6020	2310	11460	2530X2760X2725
8000				8.4	40.5	0.6	7310	2520	13680	2600X2800X2980
10000				10.15	47.7	0.6	8670	2860	16150	2720X2820X3180
										1475X1475

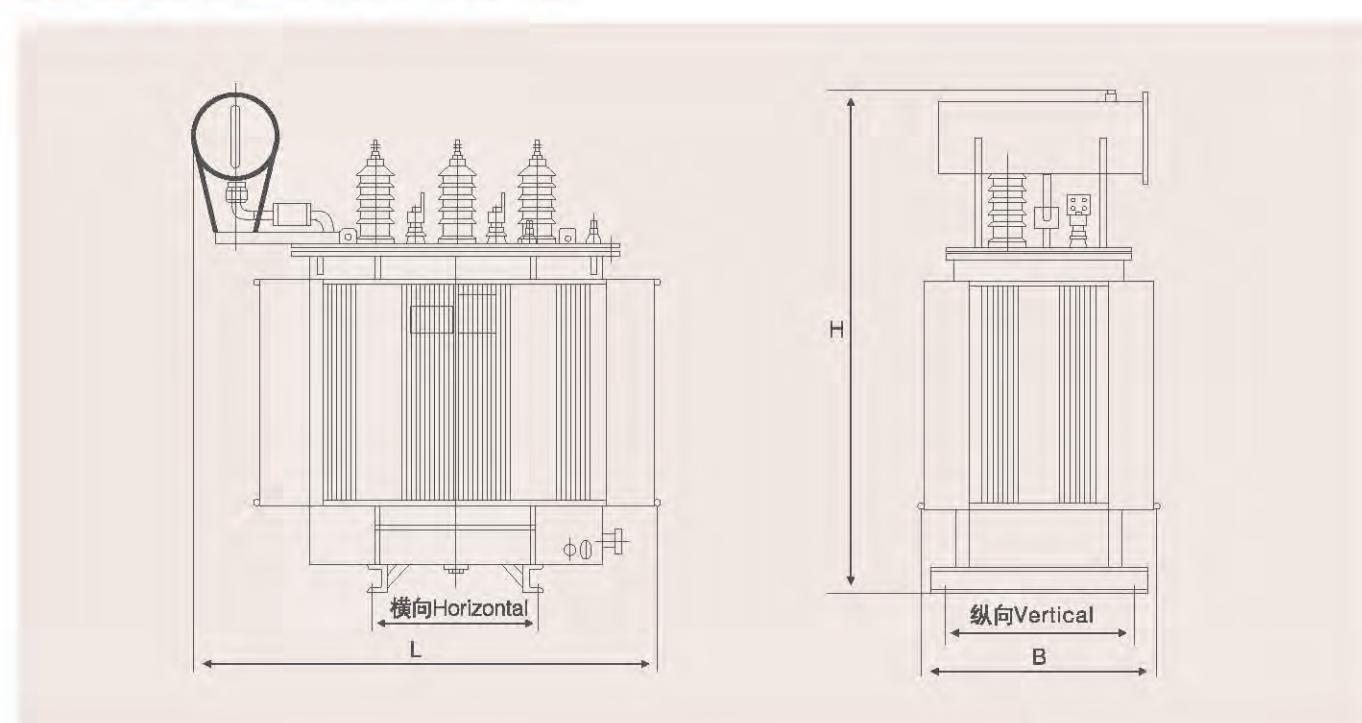
注:高压分接范围:±5%或±2×2.5%; 频率:50Hz
Note:tapping range of HV: ±5% or ±2×2.5%; frequency:50Hz

20kV级S11系列电力变压器技术参数
Tech data of 20kV S11 series power transformer

额定容量 Rated capacity (kVA)	电压组合(kV) voltage group	联结方式 Vector group	阻抗电压 (%) Impedance voltage	损耗(kW) Loss		空载电流 (%) No-load current	重量(kg) Weight		外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距 纵向/横向 Gauge Vertical/ Horizontal
				空载 No-load	负载 Load		器身重 Body	油重 Oil		
50	高压(HV)	Dyn11	5.5	0.17	1.15	2.0	200	145	465	920X610X1000
100				0.23	1.92	1.8	330	165	635	920X680X1100
125				0.27	2.26	1.7	395	185	745	960X780X1120
160				0.29	2.69	1.6	505	205	885	1160X710X1180
200				0.34	3.16	1.5	580	225	995	1190X730X1190
250			3	0.41	3.76	1.4	695	245	1130	1280X820X1210
315				0.49	4.53	1.4	745	260	1285	1380X910X1240
400				0.58	5.47	1.3	865	305	1500	1380X910X1240
500				0.69	6.58	1.2	985	335	1710	1430X950X1320
630				0.83	7.84	1.1	1165	385	2010	1520X1020X1360
800			0.4	0.98	9.41	1.0	1335	415	2315	1680X1150X1380
1000				1.15	11.54	1.0	1655	515	2985	1810X1280X1430
1250				1.4	13.94	0.9	1890	630	3460	1850X1290X1540
1600				1.7	16.67	0.8	2220	710	4015	1920X1350X1790
2000				2.18	20.43	0.8	2530	730	4425	2020X1770X2040
2500				2.56	21.85	0.8	3165	795	5260	2080X1800X2130
										1070/1070

注:高压分接范围:±5%或±2×2.5%; 频率:50Hz
Note:tapping range of HV: ±5% or ±2×2.5%; frequency:50Hz

外形尺寸及安装尺寸
Outline and installation dimensions



35kV级S9系列油浸式配电变压器技术参数
Tech data of 35kV S9 series distribution transformer

额定容量 Rated capacity (kVA)	电压组合(kV) Voltage group	联结方式 Vector group	阻抗电压 (%) Impedance voltage	损耗(kW) Loss		空载电流 (%) No-load current	重量(kg) Weight		外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距 纵向/横向 Gauge Vertical/ Horizontal
				空载 No-load	负载 Load		器身重 Body	油重 Oil		
50	高压(HV)	Yyno	38.5	0.21	1.21	2.0	195	205	590	1000X950X1450
100				0.29	2.02	1.8	320	240	790	1080X1000X1600
125				0.34	2.38	1.7	395	270	950	1100X1030X1630
160				0.36	2.83	1.6	460	285	1020	1130X1060X1630
200				0.43	3.33	1.5	555	325	1170	1190X1060X1670
250			6.5	0.51	3.96	1.4	630	340	1340	1260X1160X1670
315				0.61	4.77	1.4	720	400	1530	1280X1240X1790
400				0.73</td						

35kV级S9系列油浸式电力变压器技术参数
Tech data of 35kV S9 series power transformer

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压 (%) Impedance voltage	损耗(kW) Loss		空载电流 (%) No-load current	重量(kg) Weight		外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距 纵向/横向 Gauge Vertical/ Horizontal
				空载 No-load	负载 Load		器身重 Body	油重 Oil		
200				0.43	3.33	1.5	580	350	1250	1230X1200X1830
250				0.52	3.96	1.4	665	380	1475	1280X1250X1830
315				0.61	4.77	1.4	785	440	1640	1310X1270X1920
400				0.75	5.76	1.3	905	525	1870	1960X830X2010
500	高压(HV)			0.87	6.93	1.2	1060	590	2225	2050X880X2080
630	38.5		6.5	1.04	8.28	1.1	1220	630	2420	2120X1000X2130
800	36.5			1.23	9.9	1.0	1350	700	2780	2290X1120X2150
1000	35			1.44	12.15	1.0	1575	775	3290	2380X1140X2250
1250	33			1.76	14.67	0.9	1810	880	3845	2420X1220X2370
1600	低压(LV)			2.12	17.55	0.8	2190	960	4295	2300X1510X2420
2000	10.5	Yd11		2.72	19.35	0.7	2460	1090	4890	2320X1750X2450
2500	10			3.2	20.7	0.6	3010	1205	5660	2380X1840X2530
3150	6.3			3.8	24.3	0.56	3785	1500	7600	2550X2220X2620
4000	6		7.0	4.52	28.8	0.56	4690	1790	8500	2670X2390X2670
5000				5.4	33.03	0.48	5570	2015	9790	2870X2450X2750
6300				6.56	36.9	0.48	7380	2460	12620	3100X2580X2950
8000			7.5	9.0	40.5	0.42	8870	2650	14100	3250X2680X3150
10000				10.88	47.7	0.42	10020	2930	16500	3320X2720X3230
12500				12.6	56.7	0.4	12880	3710	19780	3410X2950X3410
16000			8.0	15.2	69.3	0.4	16120	4280	23950	3520X3180X3570
20000				18.0	83.7	0.4	18580	5230	29600	3730X3560X3990
25000				21.28	99.0	0.32	22970	6370	35350	4110X4120X4220
31500				25.28	118.8	0.32	27600	7740	41900	4760X4570X4390

注:有载调压变压器高压可提供 $\pm 4 \times 2.5\%$ 调压范围

Note: It can supply voltage regulating range of $\pm 4 \times 2.5\%$ for HV on load regulation transformers.

35kV级SZ9系列有载调压油浸式电力变压器技术参数
Tech data of 35kV SZ9 series on-load regulation power transformer

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压 (%) Impedance voltage	损耗(kW) Loss		空载电流 (%) No-load current	重量(kg) Weight		外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距 纵向/横向 Gauge Vertical/ Horizontal
				空载 No-load	负载 Load		器身重 Body	油重 Oil		
800				1.3	10.4	1.0	1350	700	2780	2790X1220X2150
1000				1.52	12.8	1.0	1575	775	3290	2830X1240X2250
1250	高压(HV)		6.5	1.86	15.4	0.9	1810	880	3845	2870X1310X2370
1600	38.5			2.24	18.43	0.8	2190	960	4295	2900X1510X2420
2000	36.5	Yd11		2.88	20.25	0.7	2460	1090	4890	2920X1750X2450
2500	35			3.4	21.73	0.6	3010	1205	5660	2980X1840X2530
3150	33			4.04	26.01	0.56	3785	1500	7600	3150X2220X2620
4000	低压(LV)		7.0	4.84	30.69	0.56	4690	1790	8500	3270X2390X2670
5000	10.5			5.8	36.00	0.48	5570	2015	9790	3470X2450X2750
6300	10			7.04	38.7	0.48	7380	2460	12620	3700X2580X2950
8000	6.3		7.5	9.84	42.75	0.42	8870	2650	14100	3850X2680X3150
10000	6			11.6	50.58	0.42	10020	2930	16500	3920X2720X3230
12500				13.68	59.85	0.4	12880	3710	19780	4010X2950X3410
16000			8.0	16.46	74.02	0.4	16120	4280	23950	4120X3180X3570
20000				19.46	87.14	0.4	18580	5230	29600	4330X3560X3990

注:有载调压变压器高压可提供 $\pm 4 \times 2.5\%$ 调压范围

Note: It can supply voltage regulating range of $\pm 4 \times 2.5\%$ for HV on load regulation transformers.

干式变压器
DRY TYPE TRANSFORMER



干式变压器

DRY TYPE TRANSFORMER

产品特点 Features

树脂绝缘干式变压器是我公司引进国外先进技术，自主开发了SC10、SCB10系列带填料薄绝缘干式变压器，由于线圈被环氧树脂包封，所以难燃、防火、防爆，免维护，无污染，体积小，可直接安装在负荷中心。同时科学合理的设计和浇注工艺，使产品局部放电量更小，噪声低，散热能力强，在强风冷条件下可以在140%额定负载下长期运行，并配有智能温控仪，具有故障报警，超温报警，超温跳闸以及黑匣子功能，并通过RS485串行接口与计算机相连，可以集中监视和控制。

由于我公司干式变压器具有以上特点，因此广泛应用于输变电系统，如宾馆饭店、机场、高层建筑、商业中心、住宅小区等重要场所，以及地铁、冶炼电厂、轮船、海洋钻井平台等环境恶劣场所。

With the advanced technology brought in from overseas, we developed SC10, SCB10 series padding thin-insulation dry-type distributing transformer whose winding is sealed up with epoxy, therefore the resin insulating dry-type transformer is flame-retardant, explosion-proof, free from maintenance and pollution, and it is compacted and can go deep into load center. Besides, with scientific and reasonable design and coating craftwork, it has advantages of low partial discharge capacity, low noise, good heat dispersion and it can run over a long time with 140% rated load in the circumstance of cold wind. It applies intelligent thermal controller and has the functions that it will alarm when is fault or the temperature is exceeded and switch off as well as the function of "black box". It can be monitored and controlled by connecting it to the computer through its RS485 serial interface.

Therefore, it is widely used in the places such as hotel, restaurant, airport, power plant, hospital, skyscraper, shopping center, and residential areas and other adverse environments like subways, smelt and power plant, ship, offshore drilling platform, etc.

铁芯 Iron core

- 铁芯采用优质冷轧硅钢片制造，45°全斜接缝结构，心柱采用绝缘带绑扎，铁芯表面采用绝缘树脂漆密封以防潮防锈，夹件及紧固件经表面处理以防止锈蚀。
- 此外，还开发了多阶步叠铁芯工艺，铁芯由剪切线自动堆栈，铁芯成型采用不叠上铁轭方案，有效地降低了空载损耗、空电流和铁芯噪音。
- The iron core is made of high-quality cold silicon steel, with the structure of 45 degree miter joints, the core column is banded up by insulated tape. Core surface sealed with insulated resin is moisture-proof and anti-rust.
- In addition, we developed multi-step core stacking technology, the core is automatically stacked by cutting line, which effectively reduce the load loss, current loss and the noise.

高压绕组 High-voltage winding

- 高压绕组用带填料环氧树脂真空浇注，极大地减小了局放量，提高了线圈电气强度，绕组内外壁用玻璃纤维网格板填充，增强了线圈的机械强度，提高了产品抗突发短路的能力，线圈用不开裂。
- High-voltage winding applies vacuum pouring of padding epoxy resin which, at high level, reduces partial discharge capacity and elevates the electric strength of coils. The inside and outside of the winding is build up with glass fiber mesh strengthens the mechanical robustness and improves the resistance of short-circuits and ensure the coils will never crack.



低压绕组 Low-voltage winding

- 低压绕组采用箔式结构，解决了用线绕时轴向螺旋角问题，使安匝更平衡，同时线圈采用轴向冷却风道，增强了散热能力，绕组层间采用DMD环氧树脂预浸布，整体固化成形。
- Low-voltage winding applies the structure that wound by copper foil which solves the problem that axle would point to the helix angle when winds and make the ampere-turn of winding distribute evenly. Meanwhile, the coils applies axial fan which improves the cooling. Between the layers of winding, it applies DMD epoxy resin preliminary dip cloth and makes it capability cured.



制造工艺

Production technology

● 线圈在高精度绕线机上绕制，低压绕组采用箔式绕制结构。变压器容量较大时有通过风道。绕制完毕后进行真空干燥，整个浇注及固化过程完全按照工艺要求进行操作，所有过程都需要有严格的监视，并视情况进行调整。浇注的精密制造过程使线圈无气泡。空穴，使制成的变压器达到优质运行效果。

● The coil can be wound on the high-accuracy winding machine, the low-winding is made by cooper foil, to cast glass fiber around the external and internal of the windings, there designed to be armed by air passage for transformer of large capacity. Afterward, in vacuum dry it. The whole casting and solidifying process completely according to the craft request. The precise process ensure free bubble and free hole of winding, make the transformer running at the best result.

温控系统和风冷系统

Temperature control system and air Cooling System

- 采用横流顶吹式冷却风机，该冷却风机具有噪声小，风压高，外形美观等特点，增强了变压器的过载能力。温度控制采用智能温控仪，提高了变压器运行安全可靠性。
- It applies crosscurrent top-blown cooling fan which has characteristics of low noise, high wind pressure and good looking, etc. the fan improves the overload capability of the transformer. The intelligent thermal controller improves the reliability of the operation of the transformer.

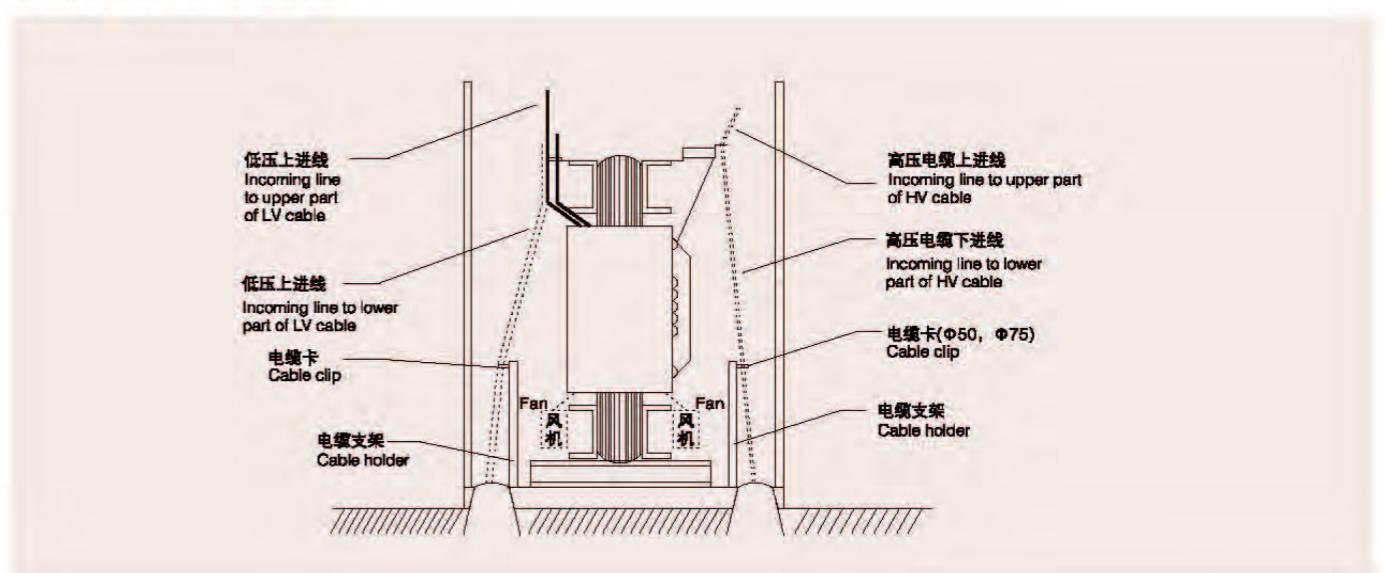
变压器保护外壳

Transformer protection shell

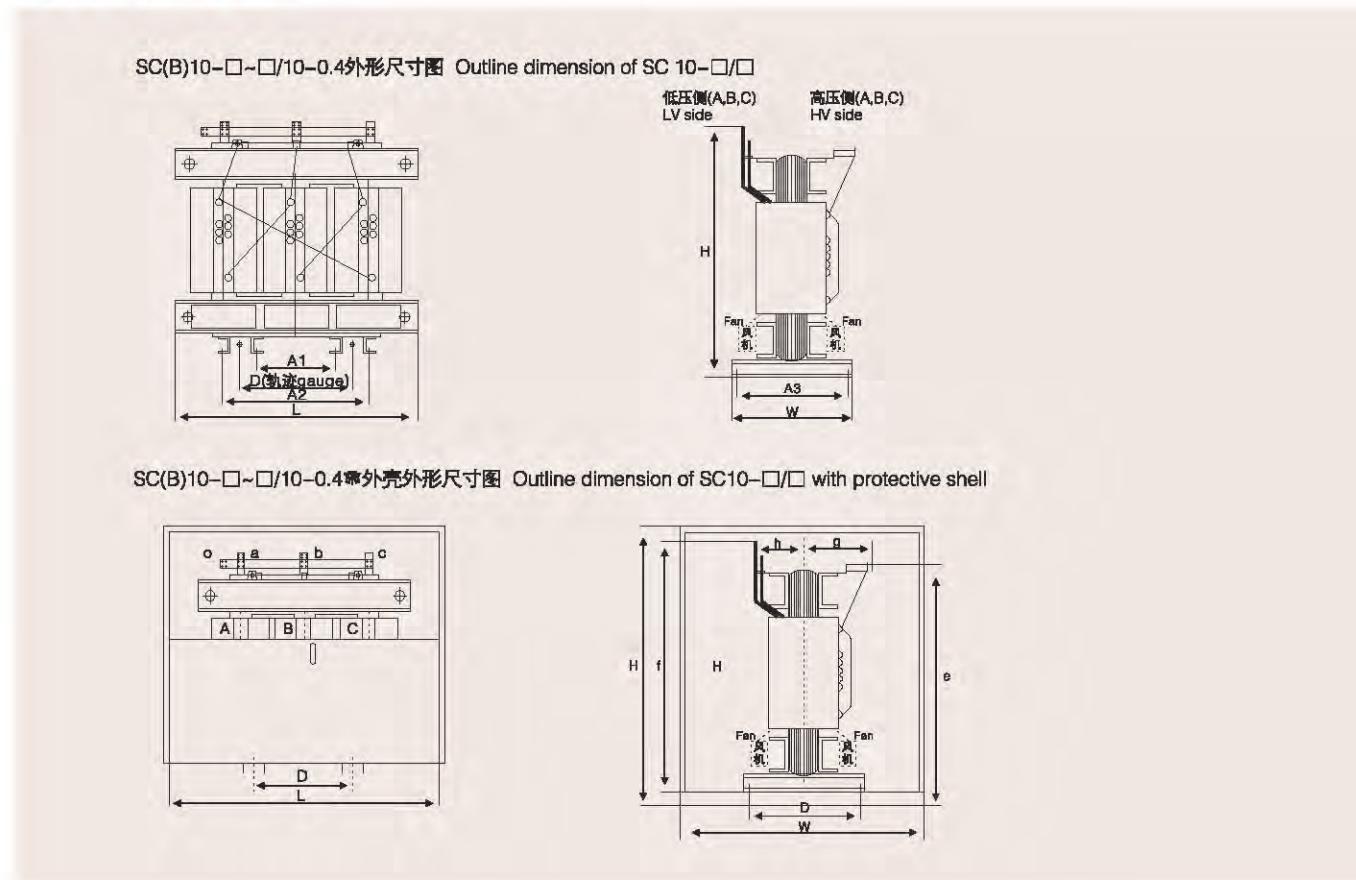
- 保护外壳对变压器作进一步的安全保护，防护等级有IP20、IP23等，外壳材料有冷轧钢板，不锈钢板等供用户选择。低压出线标准母线排除线，侧出线和顶出线均可，也可为用户设计特殊出线方式。
- The shell makes further protection for the transformer. For users option, the grade of protection has IP20, IP23, etc. And the material has sort of cold-rolled steel plates and stainless steel plates, etc. The low-voltage outgoing line can adopt the method of standard busbar outgoing line, outgoing on the transverse side and upper part as well as the very method that designed by the users.

变压器出线方式

Outlet of transformer

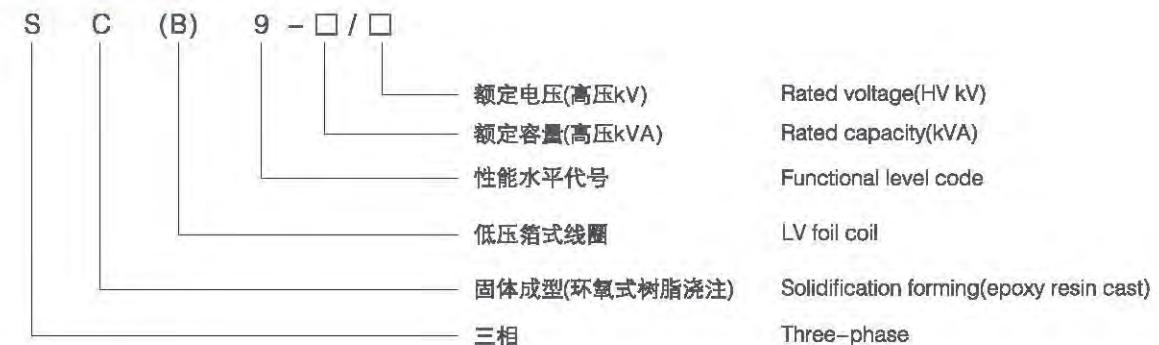


外形尺寸 Outline dimension



额定容量 Rated capacity (kva)	外形尺寸(mm) Outline dimension												带保护外壳外形尺寸(mm) Outline dimension with protective shell											
	L	W	H	D	A1	A2	A3	L	W	H	D	e	f	g	h									
50	620	450	750	400	400	400	450	1050	900	1050	400	700	750	220	180									
63	750	500	760	400	400	400	450	1050	1000	1150	400	710	760	240	185									
80	750	500	760	400	400	400	450	1100	1000	1150	400	710	760	250	195									
100	750	500	890	400	400	400	450	1150	1100	1250	400	800	890	250	195									
125	1060	600	1020	550	550	550	550	1350	1050	1200	550	970	1020	315	260									
160	1060	600	1060	550	550	550	550	1400	1050	1250	550	1020	1060	315	260									
200	1060	710	1120	660	660	660	660	1450	1100	1350	660	1060	1120	320	265									
250	1100	710	1140	660	660	660	660	1500	1150	1400	660	1110	1140	320	275									
315	1150	710	1195	660	660	660	660	1500	1200	1450	660	1150	1195	330	280									
400	1260	870	1285	660	660	660	660	1600	1250	1600	660	1200	1285	360	320									
500	1290	870	1355	820	820	820	820	1600	1300	1650	820	1260	1355	370	330									
630	1450	870	1420	820	820	820	820	1800	1300	1700	820	1350	1415	360	320									
630	1500	870	1370	820	820	820	820	1850	1300	1650	820	1300	1370	350	310									
800	1550	870	1570	820	820	820	820	1900	1300	1800	820	1480	1570	375	330									
1000	1600	1120	1665	820	820	820	820	1950	1300	1950	820	1520	1665	370	325									
1250	1680	1120	1765	1070	1070	1070	1070	2050	1350	2000	1070	1600	1765	385	340									
1600	1750	1120	1860	1070	1070	1070	1070	2100	1400	2100	1070	1690	1860	410	370									
2000	1770	1120	1865	1070	1070	1070	1070	2150	1500	2100	1070	1700	1865	430	405									
2500	1870	1120	1950	1070	1070	1070	1070	2200	1500	2200	1070	1720	1950	440	420									

型号含义 Type meaning



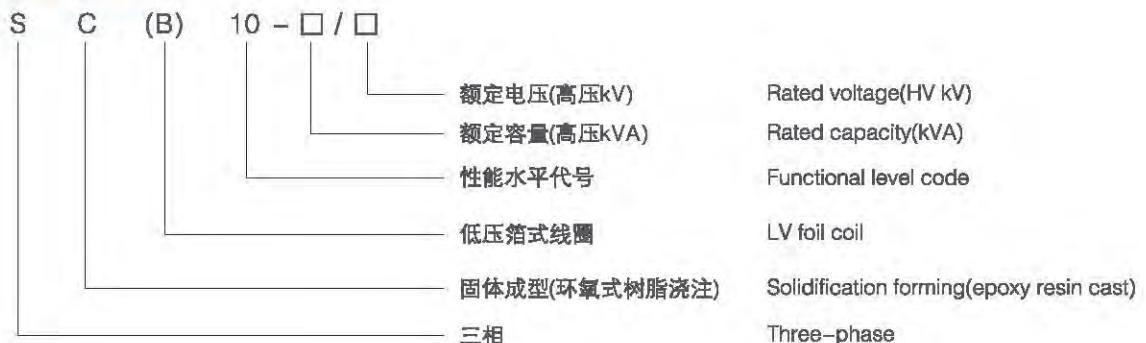
产品标准 Product standard

GB/T10228-2008 GB1094.11-2007 JB/T10088-2004 GB4208-2008
 额定高压 Rated HV: 10(11, 10.5, 6.6, 6.3, 6)kV
 联结组别 Vector group: Dyn11或Yyn0
 绝缘水平 Insulating level: LI 75AC35/LI 0AC5
 额定低压 Rated HV: 0.4kV
 高压分接范围 Tapping range of HV: ±5%或±2X2.5%
 频率 Frequency: 50Hz

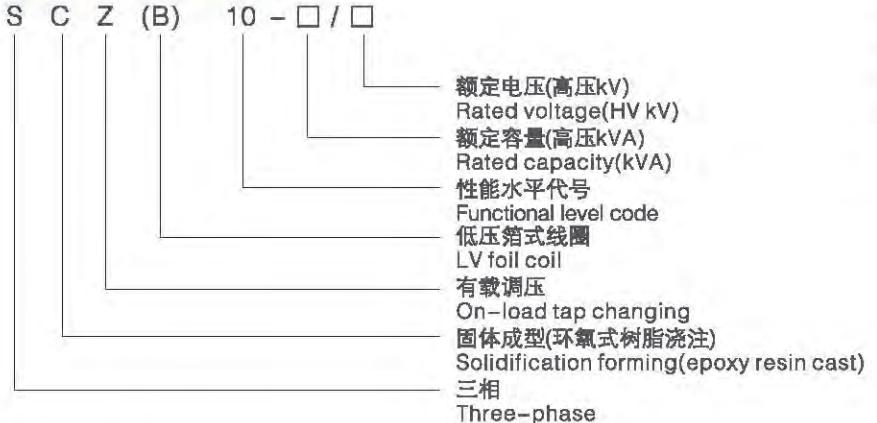
10kV级SC(B)9系列树脂绝缘干式变压器技术参数 Tech data of 10kV SC(B) 9series resin insulation dry type power transformer

额定容量 Rated capacity (kva)	电压组合(kv) Voltage group	联结方式 Vector group	损耗(kW) Loss		空载电流(%) No-load current	阻抗电压(%) Impedance voltage	绝缘等级 Insulating level	重量(kg) Weight
			空载 No-load	负载(120°C) Load				
30			0.220	0.750	3.2			330
50			0.310	1.060	2.8			380
80			0.420	1.460	2.6			510
100			0.450	1.670	2.4			590
125			0.530	1.960	2.2			650
160	高压(HV)		0.610	2.250	2.2	4		780
200	11		0.700	2.680	2.0			930
250	10.5		0.810	2.920	2.0			1040
315	10	Dyn11	0.990	3.670	1.8		F/F	1180
400	6.3	或 Yyn0	1.100	4.220	1.8			1450
500	6	Yyn0	1.310	5.170	1.8			1630
630	低压(LV)		1.510	6.220	1.6			1900
630	0.4		1.460	6.310	1.6			1900
800			1.710	7.380	1.6			2290
1000			1.990	8.610	1.4			2700
1250			2.350	10.260	1.4	6		3130
1600			2.750	12.400	1.4			3740
2000			3.400	15.300	1.2			4150
2500			4.000	18.180	1.2			4810

型号含义 Type meaning



型号含义 Type meaning



产品标准 Product standard

GB/T10228-1997 GB6450-1986
JB/T10088-2004 GB4208-1993

额定高压 Rated HV:
10(11, 10.5, 6.6, 6.3, 6)kV

额定低压 Rated LV:
0.4kV

有载调压范围 on-load regulation range:
(±4×2.5%)或(±3×2.5%)

产品标准 Product standard

GB/T10228-2008 GB1094.11-2007 JB/T10088-2004 GB4208-2008

额定高压 Rated HV: 10(11, 10.5, 6.6, 6.3, 6)kV

联结组别 Vector group: Dyn11或Yyn0

绝缘水平 Insulating level: LI 75AC35/LI 0AC5

额定低压 Rated HV: 0.4kV

高压分接范围 Tapping range of HV: ±5%或±2×2.5%

频率 Frequency: 50Hz

10kV级SC(B)10系列树脂绝缘干式变压器技术参数

Tech data of 10kV SC(B) 10series resin insulation dry type power transformer

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	损耗(kW) Loss		空载电流(%) No-load current	阻抗电压(%) Impedance voltage	绝缘等级 Insulating level	重量(kg) Weight
			空载 No-load	负载(120°C) Load				
30			0.190	0.710	2.6			330
50			0.270	1.000	2.2			380
80			0.370	1.380	2.2			510
100			0.400	1.570	2.0			590
125			0.470	1.850	1.8			650
160	高压(HV)		0.540	2.130	1.8	4		780
200	11		0.620	2.530	1.6			930
250	10.5		0.720	2.760	1.6			1040
315	10	Dyn11	0.880	3.470	1.4			1180
400	6.3	或 Yyn0	0.980	3.990	1.4			1450
500	6		1.160	4.880	1.4			1630
630	低压(LV)		1.340	5.880	1.2			1900
630	0.4		1.300	5.960	1.2			1900
800			1.520	6.960	1.2			2290
1000			1.770	8.130	1.1			2700
1250			2.090	9.690	1.1	6		3130
1600			2.450	11.730	1.1			3740
2000			3.050	14.450	1.0			4150
2500			3.600	17.170	1.0			4810

10kV级SCZ(B)10系列有载调压树脂绝缘干式变压器技术参数

Tech data of 10kV SCZ(B) 10 series resin insulation dry type power transformer

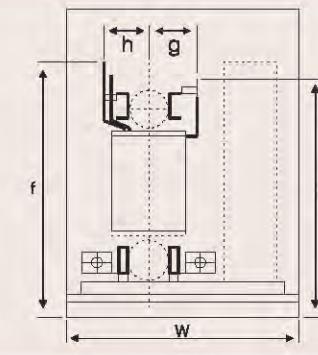
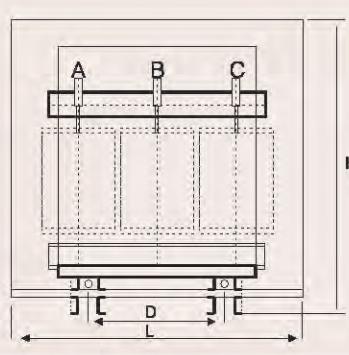
额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	损耗(kW) Loss		空载电流(%) No-load Current	阻抗电压(%) Impedance voltage	绝缘等级 Insulating level	重量(kg) Weight
			空载 No-load	负载(120°C) Load				
200			0.690	2.660	1.6			1180
250			0.790	2.900	1.6			1290
315			0.970	3.610	1.4			1430
400			1.080	4.240	1.4			1700
500	高压(HV)		1.280	5.150	1.4			1880
630	11		1.475	6.270	1.2			2150
800	10.5	Dyn11	1.670	7.400	1.2			2540
1000	10	或 Yyn0	1.950	8.760	1.1			2950
1250	6.3		2.300	10.54	1.1	6		3380
1600	6		2.700	12.41	1.1			3990
2000	低压(LV)		3.680	15.22	1.0			4400
2500	0.4		4.400	18.10	1.0			5060
3150			5.650	23.63	0.8			6050
4000			6.560	28.35	0.8	8		7350

外形尺寸 Outline dimension

SCZ(B)10-□~□/10.04

外形尺寸图

Outline dimension of SCZ(B)
10-□~□10-0.4



环保型干式变压器 ENVIRONMENTAL PROTECTION DRY TYPE POWER TRANSFORMER



环保型干式变压器

ENVIRONMENTAL PROTECTION DRY TYPE POWER TRANSFORMER

产品特点 Features

SG(B)10型H级绝缘干式电力变压器承受热冲击能力强，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、灰尘不敏感、体积小、不开裂、维护简便。因此，最适宜防火要求高，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。

This SG(B)10 series dry-type distributing transformer has strong withstanding of thermal shock,overload capability.Besides,it has many good points such as flame-retardant,low-loss, and low partial discharge capacity,low noise,no harmful gas and no pollution.It is insensitive of humidity and dust,compacted,no crack and so it is easy to be maintained.Therefore,it is suitable for the using in the adverse circumstances of high requirement for fire protection,high degree of load fluctuation and dirty,moist,such as airport,power plant,metallurgy,hospital,skycraper,shopping center, and residential areas and other special environments like oil,chemical industry,nuclear power plant,nuke,etc.

铁芯 Iron core

- 铁芯采用进口晶粒取向优质高导磁性能硅钢片叠装而成。45°全斜接缝结构，绕组与铁芯间采用弹性固定装置，使变压器具有较低的空载损耗和噪声。
- 铁芯表面经特殊的工艺处理，既降低变压器噪声又使变压器在运行过程中铁芯不会锈蚀。
- 铁芯由拉螺杆适度夹紧，上、下夹件由拉板连接并与底座固定为一体，绕组通过弹性垫块固定，缓冲结构可减轻绕的震动程度和降低噪声。
- The iron core applies imported high-performance cold-rolled grain-oriented silicon-steel plate and it applies 45° fully-inclined joint form. Between the layers of winding,it applies flexible fastening device and makes no-load loss and noise low.
- The iron core surface is dealt with special craft which makes the noise low and the iron core rustless during running.
- The iron core is clamped by tensile rod and no punched hole.The upper and lower clamps are connected by drawplate and fixed with the base.By fixed with flexible pad and cushion structure,it makes the winding of lower vibration and noise.

高、低压线圈 HV , LV coil materials

● 高、低压线圈选用Nomex绝缘材料，并经过VPI真空加压设备多次浸渍无溶剂浸渍漆，并多次高温烘培固化。高压线圈采用机械强度高，散热条件好的连续式结构，避免了多层圆筒式线圈层间电压高，散热能力差、容易热击穿，以及机械强度低的缺点，从而提高了产品运行的可靠性；低压线圈采用箔式或纵向气道大电螺旋式结构。浸渍后的线圈防潮性能极佳，更能承受冲击，永无龟裂，无局部放电，寿命期后易于分接回收，保护环境。

● The high-voltage and low-voltage coils are made up of Nomex insulating material and dipped in solvent-free immersion paint many times by VPI vacuum pressure device and is solidified by high temperature baking.The high voltage coil applies continuous mode structure of high mechanical strength and good heat dispersion,avoiding step shaped multilayered drum type structure which makes high voltage,low heat dispersion,easy to be thermal runaway and low mechanical strength.It is therefore that the reliability of the product is ensured.The low-voltage coil applies foil or strong current helix structure of longitudinal air flue.After dipping,the coil has a good moisture proof,impacting resistance and no chapping,no partial discharge.It can be decomposed and recycled.

外壳 Shield Cover

- 如用户需要，我公司可提供防护等级为IP20和IP23的外壳。
- 外壳防护等级IP20的含义为：不容许直径12mm的固体异物进入。为保证冷却空气流通，外壳的底板与顶部由网孔板制成。
- 外壳防护等级IP23的含义除同IP20外，还可防止与垂线成60°角以内的水淋入。
- We could provide the shell of protective grade IP20 and IP23, if it is required by the users.
- IP20 configuration of transformer prevent foreign matter whose diameter is bigger than 12mm from entering into the casing; To ensure the ventilation of cold air, the base plate and the top of the shell are made up of mesh plates.
- IP23 configuration can also prevent water whose angle to vertical line is less than 60° from drenching into casing.

过热保护 Over-thermal protection

- 为对线圈过热采取保护措施，315KVA及以上SG(B)10干式变压器装有一套温度显示保护装置。本装置利用埋入低压绕组内的感温元件作为数显仪的信号源当低压绕组内温度发生变化时，感温数显仪显示出一个新的温度值，并根据此温度值执行控制及报警功能，以起到保护变压器的作用。
- Take thermal safeguard for coil. SG 10 dry-type transformer of 315KV or above employs a set of protective device—temperature display. This device uses the temperature sensor which stays deep in the low-voltage winding as signal source for display will show the new value. According this temperature, it will control and alarm to protect the transformer.

过载能力 Over-load ability

- SG(B)10型干式电力变压器采用新结构、新材料、新工艺，散热条件好、热寿命长、过负荷能力极强。
- 在120%过负荷下可长期安全可靠工作。在旧23环境下无需风机冷却，仍可长期满负荷运行。
- SG (B) 10 type dry type power transformers using the new structure, new materials, new processes, good heat dissipation, thermal long life, over-load ability strong.
- 120% overload, long-term safe and reliable work. Under the old 23 environment without fan cooling, and can still be long-term running at full capacity.

安全 Safe

- SG(B)10型新产品为当今最高安全性能的干式变压器。所有绝缘材料均不助燃、自熄、无毒，可燃物质不到环氧浇注式产品的10%，在800℃高温下长时间燃烧无有毒烟雾产生，从而克服了环氧浇注式变压器燃烧时产生有毒气体的缺陷。SG(B)10型新产品在电力、地铁、船舶、化工冶金等对安全等级要求高、湿热、通风不良的场合更显优越性。
- SG (B) 10 type of new products for today's highest safety performance of dry-type transformers. All insulating materials are not combustion, the self-extinguishing, non-toxic, combustible material is less than epoxy pouring 10% of the products at 800 °C for a long time, the burning non-toxic smoke, thereby overcoming the epoxy cast transformer combustion defects of the toxic gas. SG (B) 10 type products such as electricity, subways, ships, chemical metallurgy level of security requirements, hot and humid, poorly ventilated places even more superiority.

体积更小、重量更轻 Much smaller , much lighter

- SG(B)10型新产品采用了杜邦NOMEX纸为主绝缘材料，并将其作为变压器最热点处的混合绝缘系统，使该产品与同等容量的环氧树脂浇注式变压器产品相比，减少了尺寸和重量。
- SG (B) 10 type new product uses NOMEX paper-based insulation materials, and as a hybrid insulation system of transformers hottest at the product with an equal volume of epoxy resin cast transformer compared to reduce the size and weight.

可靠 Reliability

- SG(B)型新产品的特殊线圈设计、工艺及材料，使产品三防性能极佳(防潮、防霉、防烟雾)，更能承受热冲击，永无龟裂、无局部放点产生。
- 以NOMEX为基础的绝缘系统，在变压器的整个使用寿命期都保持极佳的电性能和机械性能。NOMEX材料不易老化，耐收缩及抗压缩，加上弹力特别强，因此可以确保变压器即使在数年之后线圈仍保持结构紧密，并且能够承受短路的压力。
- SG (B) type of new products, special coil design, technology and materials to make products and three defenses, excellent performance (moisture, mildew, anti-smoke), better to withstand thermal shock, never cracking, no partial discharge point.
- NOMEX-based insulation system in the entire life of the transformer to maintain excellent electrical and mechanical properties. NOMEX material is not easy to aging, resistance to shrinkage and resistance to compression, coupled with particularly strong stretch, so you can ensure that the transformer even in a few years after the coil remains the structure and be able to withstand the pressure of a short circuit.

卓越的耐潮湿性 Excellent damp-proof

- NOMEX绝缘系统干式变压器足以抵挡水分的侵入
- 采用先进的VPI设备和真空浸渍技术
- UL认可的高品质浸渍漆，在180°C及以上的温度可长期连续运行
- NOMEX纸完全由浸渍漆渗透浸渍
- NOMEX insulating dry-type transformers enough to withstand water intrusion
- adoption of stuck in the VPI equipments and vacuum impregnation technique
- the UL recognized high quality impregnating varnish, 180 °C and the temperature above the long-term continuous operation
- NOMEX paper entirely penetration by impregnating varnish impregnation

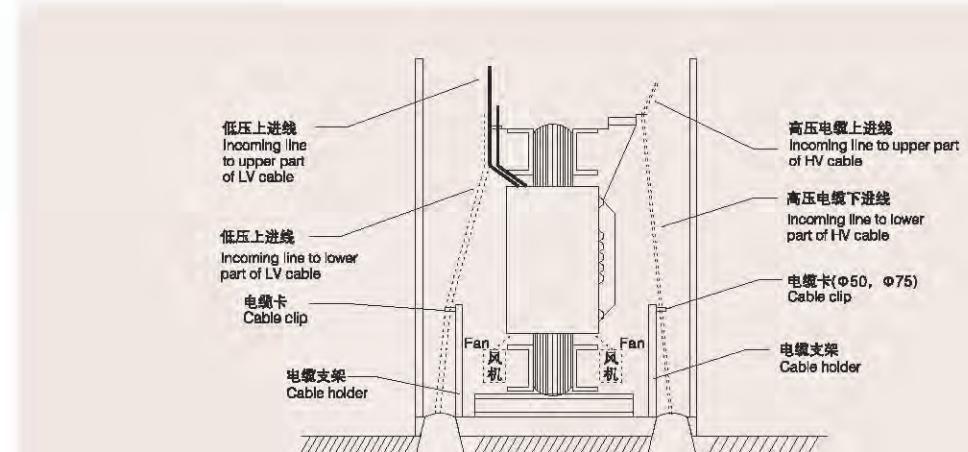
环保 Environmental protection

- SG(B)型新产品寿命期后可以分解回收，克服了环氧树脂浇注干式变压器由于树脂、玻璃丝固话融合成整体，导致寿命期后不可分解，污染环境的缺陷
- SG (B) new product can be broken down recovery, customer service and epoxy resin cast dry-type transformers fixed integration into the overall due to the resin, glass, leading the life of indecomposable, the defects of the pollution of the environment

引出线 Outgoing wire

- 高压出线端子固定在绕组上部，分接头在绕组中部，在断电的情况下通过联结片变换抽头，从而调节输出电压
- 低压出线端子为板式导电排，通过螺栓与引出排可靠连接。

- High pressure outlet terminals fixed in the upper winding, sub connector in the winding central coupler for in case of power failure transform tap, thus regulating the output voltage
- The low-pressure outlet terminals of the plate conductive row through the bolt and leads row reliable connections.

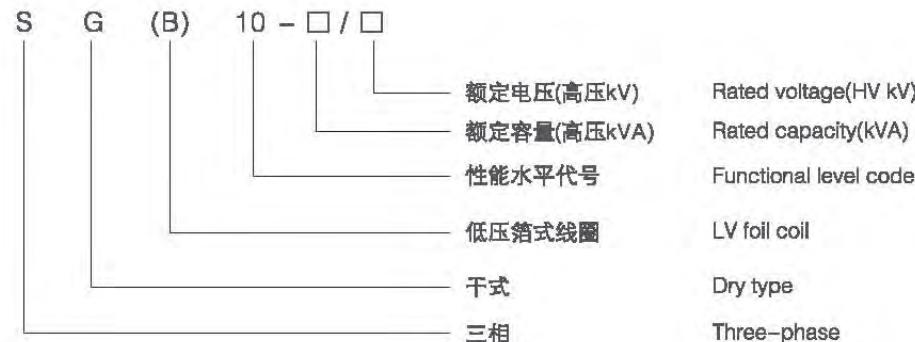


10kV级SG(B)10H级环保型干式变压器技术参数

Tech data of 10kV SG(B) 10 series H-grade environmental protection dry type power transformer

型号含义

Type meaning



使用条件

Using condition

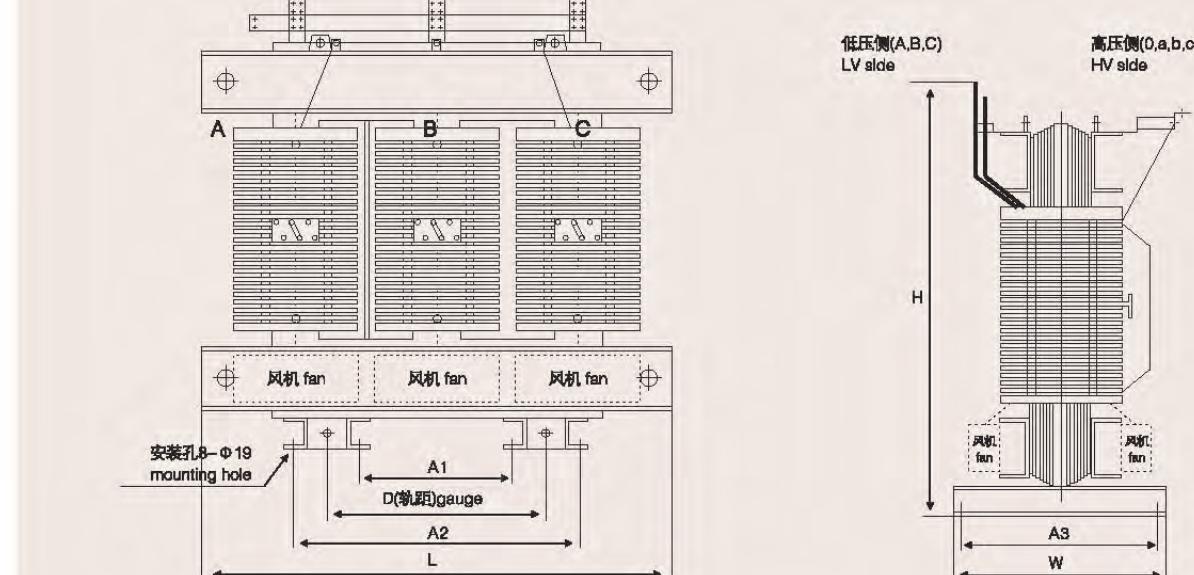
根据GB1094.11-2007《干式变压器》1.2条。当环境最高温度>40℃，海拔高度大于1000m时，按照国际有关规定进行修正。要求用户订货时提出。

According to 1.2 term GB 1094.11-2007, «DRY-TYPE TRANSFORMER», when the highest temperature>40℃, the altitude>1000m, correded in accordance with the relevant provisions of country standard.

额定容量 (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压(%) Impedance voltage	损耗(kW) Loss		空载电流(%) No-load current	重量(kg) Weight	绝缘等级 Insulating level
				No-load	负载(75℃) Load			
80				0.370	1.75	2.2	490	
100				0.400	2.17	2.0	520	
125				0.470	2.59	1.8	650	
160				0.545	3.10	1.8	740	
200	高压(HV) 11	Dyn11 或 Yyn0	4	0.625	3.97	1.6	850	
250				0.720	4.68	1.6	1005	
315	10.5			0.880	5.61	1.4	1270	H/H
400	10			0.975	6.63	1.4	1470	
500	6.3			1.160	7.95	1.4	1750	
630	6			1.300	9.78	1.2	1900	
800				1.520	11.56	1.2	2290	
1000	低压(LV) 0.4		6	1.770	13.35	1.1	2700	
1250				2.090	15.64	1.1	3130	
1600				2.450	18.11	1.1	3740	
2000				3.320	21.25	1.0	4500	
2500				4.000	24.74	1.0	5340	

外形尺寸
Outline dimension

SG(B)10-□~□/10-0.4外形尺寸图 Outline dimension of SG (B) 10-□~□/10-0.4



10kV级SGZ(B)10H级有载调压环保型干式变压器技术参数

Tech data of 10kV SGZ(B)10 series
on-load regulation H-grade environmental protection dry type power transformer

型号含义

Type meaning

S	G	Z (B)	10 - □ / □	额定电压(高压kV) Rated voltage(HV kV)	额定容量(高压kVA) Rated capacity(kVA)
				性能水平代号 Functional level code	
				低压箔式线圈 LV foil coil	
				有载调压 On-load tap changing	
				干式 Dry type	
				三相 Three-phase	

产品标准

Product standard

GB/T10228-2008 GB1094.11-2007 JB/T10088-2004 GB4208-2008

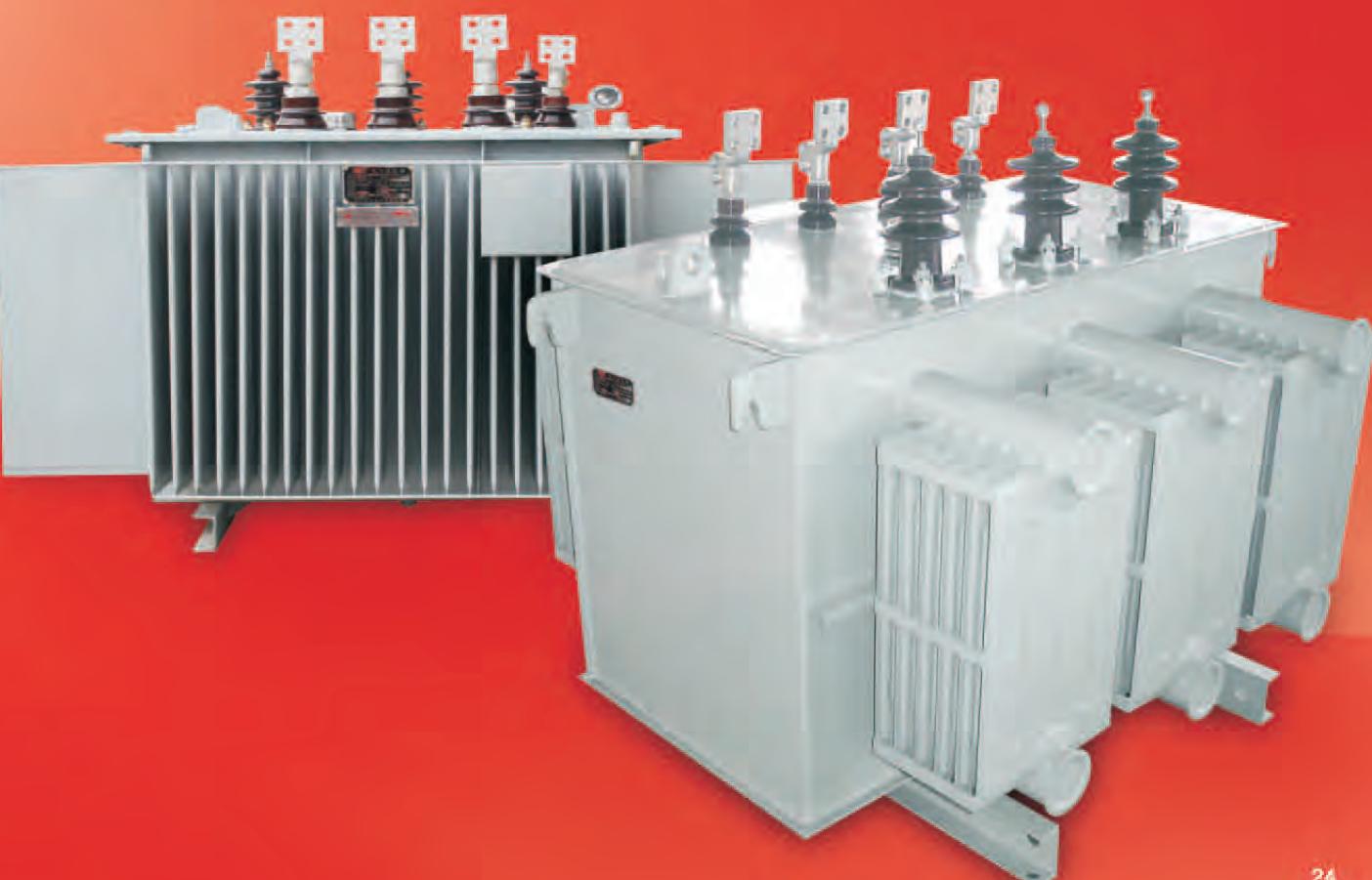
额定高压 Rated HV: 10(11、10.5、6.6、6.3、6)kV

额定低压 Rated LV: 0.4kV

有载调压范围on-load regulation range: ($\pm 4 \times 2.5\%$)或($\pm 3 \times 2.5\%$)

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压(%) Impedance voltage	损耗(kW) Loss		空载电流(%) No-load Current	重量(kg) Weight	绝缘等级 Insulating level
				No-load	Load			
200				0.690	4.27	1.6	1370	
250				0.790	5.11	1.6	1520	
315	高压(HV)			0.970	6.17	1.4	1790	
400	11		4	1.080	7.29	1.4	2000	
500	10.5	Dyn11		1.280	8.75	1.4	2270	
630	10	或		1.475	10.67	1.2	2530	
800	6.3	Yyn0		1.670	12.61	1.2	2930	
1000	6			1.950	14.49	1.1	3200	
1250	低压(LV)		6	2.300	17.11	1.1	3770	
1600				2.700	19.92	1.1	4120	
2000				3.680	23.37	1.0	5170	
2500				4.400	27.18	1.0	5860	H/H

非晶合金油浸式变压器 AMORPHOUS ALLOY OIL-IMMERSED TRANSFORMER



非晶合金油浸式变压器

AMORPHOUS ALLOY OIL-IMMERSED TRANSFORMER

产品说明 Product introduce

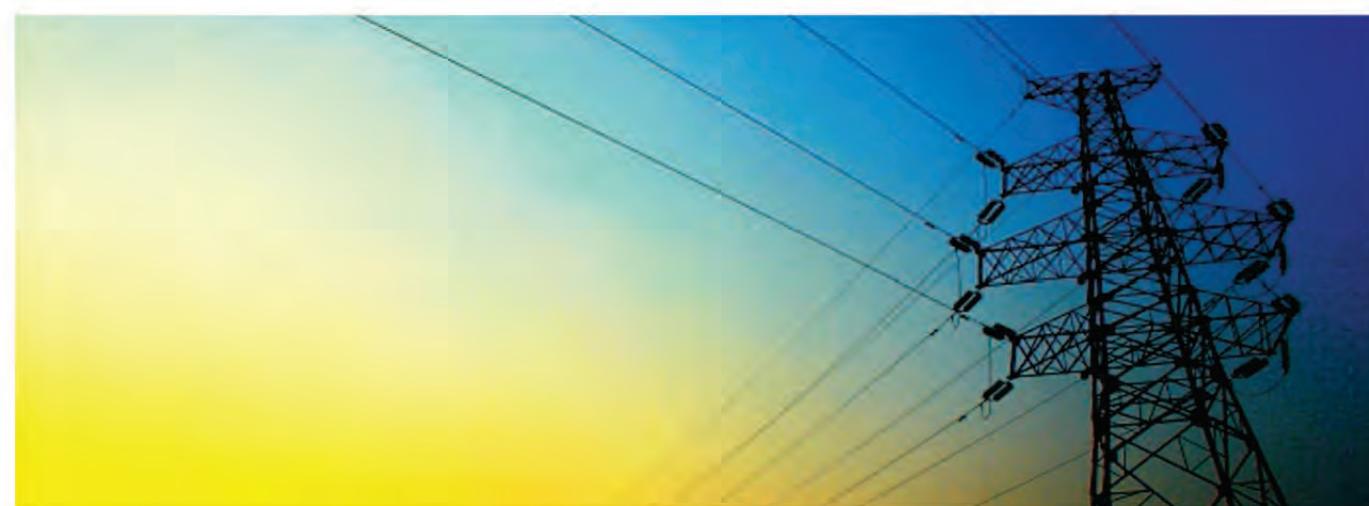
● 变压器可把电网电压换成系统或负载所需要的电压，实现电能的传递与分配。本变压器可取代硅钢片铁芯的变压器而广泛使用于户外的配电系统。本产品的大量入网可取得良好的节能效果并可减少对大气的污染。本产品特别适用于电能不足和负荷波动大以及难以进行日常维护的地区。由于变压器采用全密封结构，绝缘油和绝缘介质不受大气污染，因而在潮湿的环境中运行，是城市和农村广大配电网中理想的配电设备。

● Transformers can transform the voltage of a network into the voltage matching the system or load and fulfill power transferring and distributing. Taking the place of transformers with silicon steel core,AMDT can be widely applied in outdoor power distribution network systems,which is magnificently energy saving and can reduce air pollution.It is especially applicable for areas with insufficient power supply or fluctuating load and where daily maintain is hard.The hermetically sealed construction of AMDT prevents the oil and insulation material from being polluted,so the unit can serve in a humid environment.AMDT are the ideal equipment supplying power for distribution network in urban and rural areas.

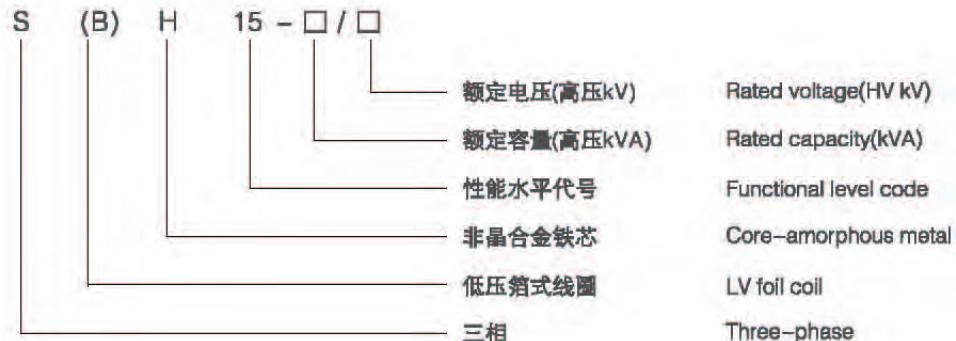
结构优势 Advantage of structure

● 变压器铁芯采用非晶合金带材卷制而成，空载损耗比S9型变压器降低80%左右，比JB/T10318规定值低20%左右；低压采用铜箔线圈，增强变压器承受短路的能力；联结采用Dynll，减少谐波对电网的影响，改善供电质量；油箱采用和箱盖焊为一体的全密封结构，延长使用寿命，免维修；变压器采用真空注油，可完全排除线圈中气泡，确保绝缘性能稳定；每台变压器出厂前都进行峰值电压高于国家标准25%的全波雷电冲击实验，确保变压器安全可靠运行。

● The core is wound with amorphous alloy ribbons,which possesses a no-load loss 80% lower than S9 type transformer(with silicon steel core);The LV coils are wound with copper foil,which reinforces the ability to withstand short circuit for the transformer AMDT with connection Dynll can lighten armonics impact on the network and improve the quality of the power supplied;The tank and cover are welded together,forming a hermrtically sealed construction which lengthens the service life of AMDT and makes it repair-free;The vacuum oil filling eliminates all bubbles in the coils to ensure stable characteristics of insulation;Each tranformer passes a full-wave lighting impulse test before delivery to ensure its safety operation.A peak voltage 25% higher than the value required by national atandard is applied during the test.



型号含义 Type meaning



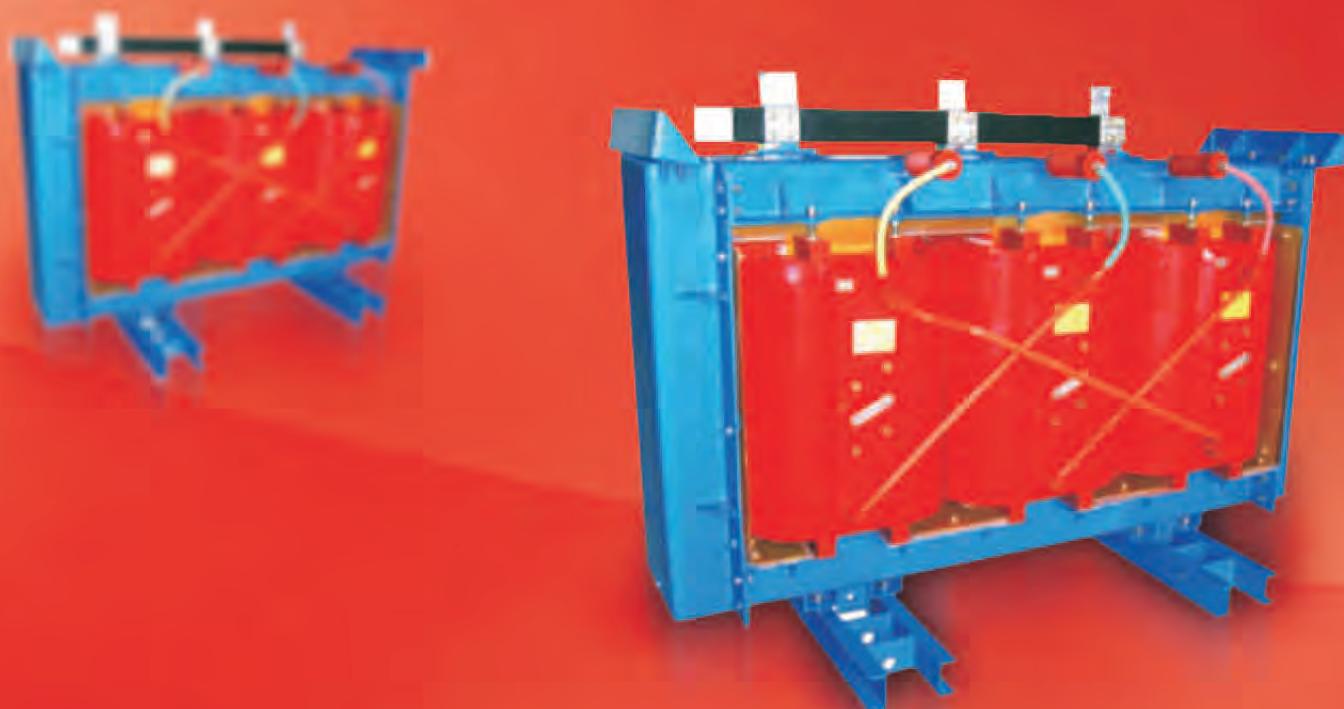
10kV级S(B)H15-M系列非晶合金油浸式变压器技术参数

Tech data of 10kV S(B)H15-M series amorphous alloy distribution transformer

额定容量 Rated capacity (kVA)	电压组合(kV) Voltage group	联结方式 Vector group	阻抗电压 (%) Impedance voltage	损耗(kW) Loss		空载电流 (%) No-load current	重量(kg) Weight	外形尺寸(mm) (长x宽x高H) Outline dimension	轨距 纵/横向 Gauge Vertical/ Horizontal
				No-load	负载(75°C) Load				
30				0.033	0.600	1.7	240	80	410
50				0.043	0.870	1.3	310	110	510
63				0.050	1.040	1.2	350	125	570
80				0.060	1.250	1.1	410	135	630
100				0.075	1.500	1.0	475	150	720
125	高压(HV) High Voltage	Dyn11	0.085	1.800	0.9	550	170	830	1060X900X1070
160			0.100	2.200	0.7	630	190	960	1060X930X1150
200			0.120	2.600	0.7	670	210	1040	1110X930X1170
250			0.140	3.050	0.7	750	240	1160	1180X1010X1180
315			0.170	3.650	0.5	810	265	1240	1180X1010X1180
400			0.200	4.300	0.5	860	290	1330	1200X1010X1180
500			0.240	5.150	0.5	950	320	1460	1270X1160X1200
630			0.320	6.200	0.3	1120	380	1860	1450X1240X1330
800			0.380	7.500	0.3	1340	410	2230	1520X1380X1460
1000			0.450	10.30	0.3	1620	540	2700	1720X1460X1510
1250			0.530	12.00	0.2	1900	640	3180	1780X1500X1690
1600			0.630	14.50	0.2	2560	680	4240	1880X1540X1970
2000			0.750	17.40	0.2	2900	960	4920	2080X1580X1970
2500			0.900	20.20	0.2	3940	1160	6560	2350X1580X2020

注:高压分接范围:±5%或±2×2.5%; 频率:50Hz; 绝缘水平:LI 75AC35/LI 0AC5
Note:tapping range of HV:±5% or ±2×2.5%; frequency:50Hz; Insulating level:LI 75AC35/LI 0AC5

非晶合金树脂绝缘干式变压器 RESIN INSULATION AMORPHOUS ALLOY DRY TYPE POWER TRANSFORMER



非晶合金树脂绝缘干式变压器 RESIN INSULATION AMORPHOUS ALLOY DRY TYPE POWER TRANSFORMER

产品说明 Product introduce

- 非晶合金干式变压器空载损耗比GB/T10228表4组降低75%，负载损耗比GB/T10228表4降低15%，是当代最先进的节能型干式变压器。干式变压器无油，没有燃烧的危险，安装在室内，可深入负荷中心，以适当高密度负荷的现代化大城市发展的需要。
- 本产品具有空载损耗、无油、阻燃自熄、耐潮、抗裂和免维修等优点。凡是现在使用普通干变的场所都可由非晶干变所取代，可用于高层建筑、商业中心、地铁、机场、车站、工矿企业和发电厂。特别适合于易燃、易爆等防火要求高的场所安装使用。
- No-load loss of AMDRT is 75% lower than that of GB/T10228 table 4 group,load loss is 15% lower than that of GB/T10228 table 4.It is contemporary the most advantage energy saving dry type transformer.The dry type transformer is without oil,so it is danger of burning and can be installed indoor as well as be entered into load center to meet the needs of high-density load development in modern metropolises.
- AMDRTs possess such advantages as low no-load loss,no oil,flame retardation and self-extinguishing,moisture resistance,crack resistance,maintenance-free etc.Amorphous dry-type transformers can be used to replace all common dry type transformers which now are used in many places.They can be used in high buildings,commerce centers,subways,airports,train stations,enterprises and power plants.They are especially suitable for installing nad using in such places where strict fireproof requirements,including anti-combustible and anti-explosive, must be met

结构优势 Advantage of structure

- 本产品低压为箔式线圈，采用铜箔绕制，高压线圈用H级高强度漆包线绕制，采用玻璃纤维加强的环氧树脂包封结构，具有优良的耐潮和抗裂性能。铁芯由非晶合金带材卷制而成，采用矩形截面，四框五柱式结构。
- The LV windings of this product are foil windings, they are wound with copper foils. The HV windings are wound with H class high-strength enamel wires, and enveloped by epoxy resin reinforced with the glass-fiber, which possess excellent moisture-resistant and crack-resistant characteristics. The core is wound with amorphous alloy ribbons. A structure of rectangular section and of four-frame and five-leg is adopted for the core.



型号含义
Type meaning

S	C	(B)	H	10	-	□ / □	
—— 额定电压(高压kV) Rated voltage(HV kV)							
—— 额定容量(kVA) Rated capacity(kVA)							
—— 性能水平代号 Functional level code							
—— 非晶合金铁芯 Core-amorphous metal							
—— 低压箔式线圈 LV foil coil							
—— 固体成型 (环氧树脂浇注) Solidification forming (epoxy resin cast)							
—— 三相 Three-phase							

矿用隔防爆移动变电站 MINING FLAMEPROOF MOBILE SUBSTATION

10kV级SC(B)H10系列非晶合金绝缘干式变压器技术参数

Tech data of 10kV SC(B)H10 series
resin insulation amorphous alloy dry type power transformer

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压 (%) Impedance voltage	损耗(kW) Loss		空载电流 (%) No-load current	绝缘等级 Insulating level	重量(kg) Weight	外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距 纵向/横向 Gauge Vertical/ Horizontal
				No-load	负载(75°C) Load					
100				0.013	1.570	0.8		890	950X600X960	550X550
160				0.017	2.110	0.8		1170	1220X600X1060	550X550
200	高压(HV)			0.200	2.500	0.7		1400	1270X710X1160	660X660
250	11		4	0.230	2.750	0.7		1560	1350X760X1240	660X660
315	10.5			0.280	3.460	0.6		1770	1370X870X1260	820X820
400	10	Dyn11		0.300	3.980	0.6	F/F	2180	1460X870X1360	820X820
500	6.3			0.360	4.870	0.6		2440	1490X870X1430	820X820
630	6			0.420	5.870	0.5		2850	1760X1120X1490	1070X1070
800	低压(LV)			0.480	6.950	0.5		3430	1850X1120X1610	1070X1070
1000				0.550	8.100	0.4		4050	1900X1120X1770	1070X1070
1250				0.660	9.700	0.4		4690	2030X1120X1880	1070X1070
1600				0.750	11.70	0.4		5610	2100X1120X1970	1070X1070
2000				1.040	14.45			5820	2120X1120X1990	1070X1070
2500				1.250	17.17			6730	2190X1120X2110	1070X1070



矿用隔防爆移动变电站

MINING FLAMEPROOF MOVABLE SUBSTATION

产品特点 Features

矿用隔防爆移动变电站由矿用隔防爆型干式变压器、矿用隔爆型移动变电站用高压负荷开关或矿用隔爆型移动变电站用高压真空开关和矿用隔爆型移动变电站用电缆连接器、矿用隔爆型移动变电站用低压馈电开关或矿用隔爆型移动变电站用低压保护箱组成。具有漏电、漏电闭锁、过载、短路、过压欠压等保护性能。

KBSGZY系列矿用隔爆型移动变电站是一种煤矿井下用可移动的成套供变电设备。它即适用于有甲烷混合气体的煤尘且具有爆炸危险的井矿环境，也适用于不足以腐蚀金属和破坏绝缘气体及蒸汽环境中。

The mineral product separates the explode migration transformer substation separates the explode migration transformer substation by the mineral product with the do-like transformer, the high-pressure load switch either the high pressure and the low pressure switch or the low pressure guarantees is composed. Has the leakage, the leakage, the overload, short-circuits, the performance.

KBSGZY series dry type mining explosion isolation movable transformer transformer substation is a kind of movable whole set distribution and transformation device. It is suitable for not only mines filled with firedamp mixed gas, grime and explosive gas, but also the gas and steam environment that can not erode metal and insulation.

使用环境和工作条件

Using environment and working condition

- 安装高度不超过海拔1000m，特殊环境另作说明
 - 环境温度
 - 最高气温40℃，最热月平均气温30℃，最高年平均气温20℃，最低气温-5℃
 - 周围空气相对湿度不超过90%(25℃)
 - 在有甲烷混合气体和煤尘，且有爆炸危险的矿井中
 - 无强烈颠簸。震动额垂直面的倾斜度不超过15° 的环境中
 - 无足以腐蚀金属和破坏绝缘的气体和蒸汽
 - 无滴水场所
 - 电源电压的波形近似于正弦波
 - 三相电源电压近似对称
- (超出本条件规定时，请另行说明)

- The installment highly does not surpass elevation 1000m, the special environment gives the explanation in addition
 - Ambient temperature
 - Highest temperature 40℃; Highest daily average temperature 30℃;
 - Highest annual average temperature 20℃; Lowest outdoor temperature -5℃
 - The surrounding air relative humidity is not bigger than 90%(+25℃ when)
 - In explosion danger mine pit with methane and the coal dust
 - Dose not have, the vibration as well as with the gradient dose not surpass in 15° environment
 - No-water drop place
 - The supply voltage profile is approximate to the sine wave
 - The three-phase supply voltage approximate is symmetrical
- (When extracts this condition stipulation, separate consultation)

型号含义

Type meaning

K	B	S	G	ZY - □ / □		额定电压	Rated voltage
						额定容量	Rated capacity
						移动变电站	Movable transformer substation
						干式	Dry type
						三相	Three-phase
						隔爆型	Explosion-proof type
						矿用	Mining use

产品标准

Product standard

GB 8266-2005 GB 3836-2000
GB/T10228-2008 GB1094.11-2007

6kV级KBSGZY系列矿用隔爆型移动变电站技术参数

Tech data of 6kV KBSGZY series mining flameproof movable substation

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压(%) Impedance voltage	损耗(kW) Loss		空载电流(%) No-load current	重量(kg) Weight	外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距(mm) Gauge
				No-load	负载(145℃) Load				
50				0.350	0.550	2.5	2350	3290X950X1160	
100				0.520	0.920	2.5	2600	3580X950X1430	
200				0.820	1.550	2	3050	3710X950X1445	
250				0.950	1.800	2	3300	3820X965X1530	
315	高压(HV) (d11)			1.100	2.150	1.8	3500	3870X975X1540	
400	(6±5%)			1.300	2.600	1.8	3600	3890X995X1550	
500	低压(LV)			1.500	3.100	1.5	4100	3910X1050X1570	
630	0.693/0.4			1.800	3.680	1.5	5360	4085X1080X1450	
800	1.2/0.693			2.050	4.500	1.0	5680	4085X1080X1510	600
1000				2.350	5.400	1.0	6500	4100X1130X1540	900
1250	1.2			2.750	6.500	1.0	6700	4190X1160X1610	
1600	3.45			3.350	8.000	0.8	9230	4190X1200X1750	
2000				4.5	3.800	0.6	9930	4570X1220X1790	
2500				5	4.500	0.6	13830	4580X1230X1850	
3150				5.5	5.300	0.6	17250	4820X1260X1890	
4000				6	6.100	0.6	19810	4930X1400X1920	

型号含义
Type meaning

K	B	S	G	ZY - □ / □	
				—— 额定电压	Rated voltage
				—— 额定容量	Rated capacity
				—— 移动变电站	Movable transformer substation
				—— 干式	Dry type
				—— 三相	Three-phase
				—— 隔爆型	Explosion-proof type
				—— 矿用	Mining use

矿用隔爆型干式变压器
MINNING EXPLOSION-PROOF DRY TYPE TRANSFORMER

10kV级KBSGZY系列矿用隔爆型移动变电站技术参数

Tech data of 10kV KBSGZY series mining flameproof movable substation

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压(%) Impedance voltage	损耗(kW) Loss		空载电流(%) No-load current	重量(kg) Weight	外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距(mm) Gauge
				空载 No-load	负载(145℃) Load				
50				0.390	0.680	2.5	2400	3200X950X1295	
100				0.560	1.050	2.5	2800	3580X950X1430	
200				0.950	1.800	2	3200	3990X950X1525	
250				1.100	2.100	2	3500	4020X950X1540	
315	高压(HV) (6±5%)	Yy0 (d11)	4	1.300	2.500	1.8	3800	4050X980X1555	
400				1.500	3.000	1.8	4000	4200X1050X1610	
500	低压(LV)			1.750	3.500	1.5	4300	4200X1050X1610	
630				2.000	4.100	1.5	5400	4370X1080X1450	
800	0.693/0.4			2.300	5.100	1.2	5700	4370X1080X1600	600
1000	1.2/0.693	Yd0(d11) Dyn11	4.5	2.600	6.100	1.2	6900	4400X1110X1675	900
1250	1.2			3.100	7.400	1.0	7300	4480X1125X1740	
1600	3.45		5	3.800	8.500	1.0	9300	4640X1245X1830	
2000				4.500	9.700	0.7	11900	4665X1250X1900	
2500			5.5	5.200	10.800	0.7	14930	4870X1390X1900	
3150			5.5	6.100	12.800	0.7	19350	4880X1390X1900	
4000			6	7.000	15.000	0.7	21910	5210X1450X1900	



矿用隔爆型干式变压器

MINNING EXPLOSION-PROOF DRY TYPE TRANSFORMER

产品特点 Features

KBSG矿用隔爆型干式变压器符合GB8266-2005《矿用隔爆型移动变电站》标准的要求。绝缘材料热稳定性好，采用H级或C级绝缘，冷却方式采用ANAN，适用于有甲烷混合气体和煤尘，且有爆炸危险的矿井、矿山、隧道等环境，也适用于不足以腐蚀金属和破坏绝缘的气体及蒸汽环境中。在额定频率为50Hz，一次侧电压为6kV或10kV，中性点不接地的三相电力系统中运行，为使用环境中的各种动力设备和各种用电装置提供电源。

The KBSG series mining explosion isolation dry transformer conforms to new GB 8266,mineral product separates explode migration transformer substation requests,insulate the material adopts C class or H class to insulate,hot stability good,cooling offway a doption ANAN,be applicable to there are air and coal dust of the methane mixture,and there is the mineral well,mineral moutain,tunnel of explosin danger etc.environment,also be applicable to shotage with air and steam environment which decays metals and breakage to insulate.Settle the frequency as 50Hz,a primary voltage is 6 kVs or 10kVs, and neutergender not to connect ground for the power system,for use various motive equipments in the environment with cvarious use electricity device to provide power supply

使用环境和工作条件

Using environment and working condition

- 安装高度不超过海拔1000m，特殊环境另作说明

- The working height is below,please give additional request if necessary

环境温度

最高气温 40℃，最热月平均气温 30℃；

最高年平均气温 20℃，最低气温 -5℃

周围空气相对湿度不超过90%(25℃)

- Ambient temperature

Highest temperature 40℃; Highest daily average temperature 30℃;

Highest annual average temperature 20℃;

Lowest temperature -5℃;

在有甲烷混合气体和煤尘，且有爆炸危险的矿井中

- The surrounding air relative humidity is not bigger than 90%(25℃)

无强烈颠簸、震动额垂直面的倾斜度不超过15° 的环境中

- In explosion danger mine pit with methane and the coal dust

无足以腐蚀金属和破坏绝缘的气体和蒸汽

- In environment that has no vibration as well as with the gradient doesn't surpass 15℃

无滴水场所

- No water drop place

电源电压的波形近似于正弦波

- The supply voltage profile is approximate to the sine wave

三相电源电压近似对称

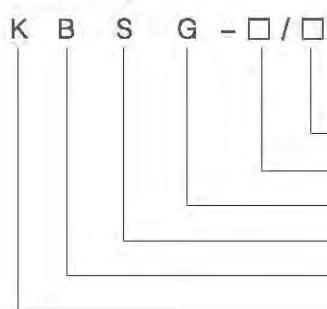
- The three-phase supply voltage approximate is symmetrical

(超出本条件规定时，请另行说明)

(When extracts this condition stipulation,separate consultation)

型号含义

Type meaning



产品标准 Product standard

GB 8266-2005 GB 3836-2000
GB/T10228-2008 GB1094.11-2007

6kV级KBSG系列矿用隔爆型干式变压器技术参数

Tech data of 6kV KBSG series

mining explosion-proof dry type transformer

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压(%) Impedance voltage	损耗(kW) Loss		空载电流(%) No-load current	重量(kg) Weight	外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距(mm) Gauge
				空载 No-load	负载(145℃) Load				
50			4	0.350	0.550	2.5	1350	2225X950X1160	600
100			4	0.520	0.920	2.5	1600	2500X950X1430	
200			4	0.820	1.550	2	2050	2640X950X1445	
250		Yy0 (d11)	4	0.950	1.800	2	2300	2750X965X1530	
315	高压(HV) (6±5%)		4	1.100	2.150	1.8	2500	2830X975X1540	
400	低压(LV) 0.693/0.4		4	1.300	2.600	1.8	2650	2830X995X1550	
500			4	1.500	3.100	1.5	3100	2850X1050X1570	
630			4	1.800	3.680	1.5	4310	3020X1080X1450	
800			4	2.050	4.500	1.0	4650	3020X1080X1510	600
1000			4	2.350	5.400	1.0	5150	3030X1130X1540	900
1250		1.2 Yd0(d11)	4	2.750	6.500	1.0	5900	3120X1160X1610	
1600		3.45 Dyn11	4	3.350	8.000	0.8	7250	3120X1200X1750	
2000			4.5	3.800	9.500	0.6	10820	3225X1220X1790	
2500			5	4.500	10.600	0.6	13850	3580X1230X1850	
3150			5.5	5.300	12.500	0.6	18250	3820X1260X1890	
4000			6	6.100	14.000	0.6	20810	3930X1400X1920	

10kV级KBSG系列矿用隔爆型干式变压器技术参数

Tech data of 10kV KBSG series

mining explosion-proof dry type transformer

额定容量 Rated capacity (kVA)	电压组合(kv) Voltage group	联结方式 Vector group	阻抗电压(%) Impedance voltage	损耗(kW) Loss		空载电流(%) No-load current	重量(kg) Weight	外形尺寸(mm) (长Lx宽Bx高H) Outline dimension	轨距(mm) Gauge
				空载 No-load	负载(145℃) Load				
50			4	0.390	0.680	2.5	1400	2310X950X1295	600
100			4	0.560	1.050	2.5	1800	2430X950X1430	
200			4	0.950	1.800	2	2200	2730X950X1525	
250		Yy0 (d11)	4	1.100	2.100	2	2500	2760X950X1540	
315	高压(HV) (6±5%)		4	1.300	2.500	1.8	2800	2800X980X1555	
400	低压(LV) 0.693/0.4		4	1.500	3.000	1.8	3000	2950X1050X1610	
500			4	1.750	3.500	1.5	3300	2950X1050X1610	
630			4	2.000	4.100	1.5	4400	3200X1080X1450	
800			4	2.300	5.100	1.2	4700	3200X1080X1600	600
1000			4.5	2.600	6.100	1.2	5900	3200X1110X1675	900
1250		1.2 Yd0(d11)	4.5	3.100	7.400	1.2	6500	3250X1125X1740	
1600		3.45 Dyn11	5	3.800	8.500	0.7	8300	3450X1245X1830	
2000			5	4.500	9.700	0.6	10900	3665X1250X1900	
2500			5.5	5.200	10.800	0.6	13930	3780X1390X1900	
3150			5.5	6.100	12.800	0.6	18350	3880X1390X1900	
4000			6	7.000	15.000	0.6	20910	4210X1450X1900	

三相油浸式矿用电力变压器

THREE-PHASE OIL-IMMERSED MINING POWER TRANSFORMER



三相油浸式矿用电力变压器

THREE-PHASE OIL-IMMERSED MINING POWER TRANSFORMER

产品特点 Features

KS9系列矿用变压器，作为矿井的配电设备，该产品具有体积小、易下井、结构合理、损耗低、散热性能好等优点。

本系列产品采用优质的晶粒取向优质高导磁性能硅钢片叠装而成，铁芯为芯式铁芯，全斜接缝迭积式铁芯，其铁芯柱为多级圆截面，确保低噪音低损耗。油箱结构坚固，箱壁两侧焊有高、低压电缆接线盒，作为电缆接线之用，高压线圈须有额定电压 $\pm 5\%$ 的分接电压，利用分接开关变换电压。变换电压时，必须先切断电源，然后去除箱壁上分接开关的风雨罩进行变换电压。变压器低压侧允许“Y”型结成693V或“D”型接成400V供电，在电缆接线盒内直接接装次级端头引出六个瓷套供用户改接。变压器吊装利用焊在箱壁的吊耳，变压器箱底均装有托架，在托架上备有安装孔，可供矿井需要时加装矿车滚轮。

As one kind of distributing transformer for mining use, KS9 series transformer has many advantages, such as compacted body, reasonable structure, low in spoilage, good in heat-dispersion and, easy to go into a well.

This series of product adopt high-permeance cold-rolled grain-oriented silicon-steel plate of high-quality. The iron core applies echelon form iterative accumulation. The core pole which is multilevel circular cross-section can ensure of low noise and low spoilage. The structure of gasoline tank is very firm. Both side of tank are welded with cable junction boxes of high and low voltage which are used for wiring. High-voltage loops need tapping voltage that is $\pm 5\%$ of rated voltage. It is suing the tap switch to change the voltage. When the voltage exchanges, the power must be cut off first, then unveil the wind-rain cover on the tap switch to counterchange the voltage. The low voltage side of the transformer can be connect the type "Y" of 693V or the type "D" 400V to supply power. And inside the cable junction box has a secondary terminal which educes six insulators for users option. The joint hinges that welded on the casing are available and drawing crow-plate is mounted beneath the base. There are mounting holes in the drawing crow-plate used for being addly-installed with mine-car contact roller whenmine needing.

使用范围 Using confines

适用于容量630kVA及以下，电压为10kV及以下的油浸式矿用电力变压器。此类型矿用变压器是一般型油浸式变压器，并无防爆要求，主要作为矿井配电时的矿用照明或电力拖动的电源。凡本系列变压器经运输后，不需作吊心检查，即可装备有关拆卸的零部件，做验收实验项目。

The oil-immersed distributing transformer is applied to the capacity 630kVA or below, and the voltage 10KV or below. This product is normal one which has no mine illumination when distributing power for mining as well as for the driving power. This series of transformer will not need lift-machine examination after transportation. It is allowed to assemble the unshipped spare parts for checking and acceptance.

使用环境和工作条件

Using environment and working condition

- 安装高度不超过海拔1000m，特殊环境另作说明
- 环境温度
最高气温40℃，最热月平均气温25℃，
最高年平均气温20℃，最低气温-20℃
- 周围空气相对湿度不超过90%(+25℃)
- 安装在矿井下虽有煤尘、瓦斯，但无爆炸危险的场所
- 电源电压的波形近似于正弦波

遵循标准 Comply standards

本系列变压器所遵循的标准：

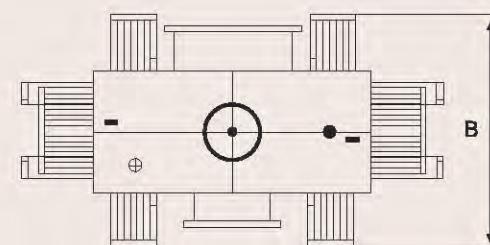
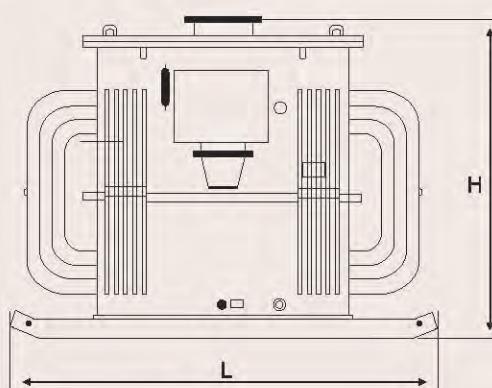
GB1094.1~21996、GB1094.3, 5-2003、
GB/T6451-2008、GB12173-2008

Standards for this series of product:
GB1094.1~2-1996、GB1094.3, 5-2003、
GB/T6451-1999、GB12173-1990

- The installment highly dose not surpass elevation 1000m, the special environment gives the explantion in addition.
- Ambient temperature
Highest temperature 40℃; Highest daily average temperature 25℃;
Highest annual average temperature 20℃;
Lowest outdoor temperature -20℃;
- The surrounding air relative humidity is not bigger than 90%(+25℃ when)
- Installs under the mine pit although has the coal dust, the gas, but non-explosion hazard place
- The supply voltage profile is approximate to the sine wave

型号含义
Type meaning

K	S	9 - □ / □	高压侧电压等级(kV)	Voltage class of HV side(kV)
			额定容量(kVA)	Rated capacity (kVA)
			设计序号	Design number
			三相	Three-phase
			矿用	Mining use



KS9系列油浸式矿用变压器

KS9 series oil immersed mining transformer

额定容量 Rated capacity (kVA)	电压组合(kV) Voltage group (kV)	联结方式 Vector group	阻抗电压(%) Impedance voltage	损耗(kW) Loss		空载 No-load	负载(75°C) Load	重量(kg) Weight			外形尺寸(mm) (长Lx宽Bx高H) Outline dimension
				空载 No-load current	负载 Load			器身重 Body	油重 Oil	总重 Total	
50				0.17	0.87	2.0	230	80	390	1200X950X900	
80				0.25	1.25	1.8	310	100	530	1300X950X950	
100				0.29	1.50	1.6	360	110	600	1300X950X1000	
125	高压(HV)			0.34	1.80	1.5	425	120	690	1300X950X1000	
160	10			0.40	2.20	1.4	480	140	810	1350X950X1040	
200	6	Yyo-d11	4	0.48	2.60	1.3	580	170	955	1400X970X1080	
250	低压(LV)			0.56	3.05	1.2	670	180	1100	1450X1000X1100	
315	0.693/0.4			0.67	3.65	1.1	775	240	1305	1500X1000X1150	
400				0.80	4.30	1.0	940	280	1570	1600X1050X1150	
500				0.96	5.10	1.0	1155	300	1970	1650X1050X1200	
630				4.5	1.20	6.20	1310	345	2150	1650X1120X1220	

客户询价单(外贸)
INQUIRY LIST

*= Required

Customer*:	Impedance:	.	%
Delivery Location*: (City, State)	No-Load loss*:	(W)	
E-Mail*:	Full-Load loss*:	(W)	
Phone*:	Primary tap changer*:	<input type="radio"/> On-Load type <input type="radio"/> Off Circuit type	
Quantity:	Primary taps*:	<input type="radio"/> No Taps <input type="radio"/> 1 Tap 5% Above and Below (+5%, -5%) <input type="radio"/> 2 Taps 2.5% Above and Below (2 x ± 2.5%)	
Date quote is to be completed:	Other:		
Standard	<input type="radio"/> IEC <input type="radio"/> OBS <input type="radio"/> Other:		
Type*:	<input type="radio"/> Dry Type <input type="radio"/> Oil immersed type Other: _____	Max ambient temp*:	(°C)
Phase number*:	<input type="radio"/> one <input type="radio"/> three	Temperature rise*:	Top oil (°C), winding (°C)
Rated capacity* (kVA):	(kVA)	Humidity:	(%)
Primary Voltage *:	(V)	Max.altitude:	(M)
Secondary Voltage *:	(V)	Noise level:	DB
Frequency*:	(Hz)	Winding materials*:	<input type="radio"/> Primary / Secondary: Copper/Copper <input type="radio"/> Primary / Secondary: Copper/Aluminum <input type="radio"/> Primary / Secondary: Aluminum/Aluminum
Vector group*:	<input type="radio"/> Dyn11 <input type="radio"/> Yyn0 other:	Core materials*:	<input type="radio"/> Amorphous metal core <input type="radio"/> Silicon steel metal core (C.R.G.O core)
Cooling method:		Number of primary/ Secondary bushings:	<input type="radio"/> 3/4 <input type="radio"/> Other: _____
Insulation level:	Class:	Limits*:	<input type="radio"/> No special requirements <input type="radio"/> Special requirements (list below)
		Tank height limit:	Tank diameter limit: Weight limit:
Special requirements:			

Note Because the product unceasingly improves, this sample only provides a reference; TAI will keep the right for alteration of all the figures, besides, they are also available for un-conventional products which are able to design according to the requirement of the user.

FITTINGS AND ACCESSORIES:

Oil-immersed transformer

- Oil Level indicator Air Relay Thermometer Pressure Meter And Relief Valve
- Lifting Lugs Terminal Marking Plate Earthing Terminal On Tank oil conservator
- Other: _____

Dry type transformer

- Transformer Fan Temperature Indicating And Control Device
- Protective Enclosure(Stainless Steel/Mild Steel)
- Other: _____

Term of payment

- Sight L/C T/T Advance T/T + Sight L/C

高低压成套 HV,LV COMPLETE SETS



KYN28A-12(Z)铠装移动式交流金属封闭开关设备 KYN28A-12(Z)ARMORED MOBILE AC METAL ENCLOSED SWITCHGEAR



概述 Introduction

KYN28A-12型(GZS1)户内金属铠装中置移开式开关设备(以下简称开关柜)系三相交流50Hz的户内成套配电装置，用于接受和分配3-12千伏的网络电能并对电路实行控制保护及监测。本产品继电器小室面板上可安装各种类型的微机型综合继电保护装置，并可实现系统的智能化控制，具有遥控、遥测、遥信及遥调功能，通过带有通信接口的CAN总线控制现场网络。并具有防止误操断路器、防止带负荷推拉手车、防止带电关合接地开关、防止接地开关在接地位置送电和防止误入带点间隔，即简称的“五防”功能。该柜既能配用VSI(即ZN63)、ZN12V真空断路器，也可配置进口的VD4真空断路器与VC系列真空接触器。

KYN28A-12 type (GZS1) Indoor metal armored-withdrawable switchgear (hereafter referred to as the switch cabinet) is three-phase AC 50Hz indoor power distribution device for receiving and distributing 3-12 kV networkpower and circuit implementation of the control and protection and monitoring. Relay chamber panel of this product can be installed on all types of microprocessor-based protection devices, and can realize the intelligent control of the system, with remote control,telemetry, remote signalling and remote adjustment function, with a communication interface CAN bus control on-site network. And has a circuit breaker to prevent mistaken operation to prevent the loading pulling handcart, to prevent the charged closing grounding switch, to prevent the transmission grounding switch position in the ground and prevent strayed a little interval, that is referred to as the "defense" function. The cabinet not only equipped with VSI (ZN63),ZN12V vacuum circuit breakers, imported Vd4 vacuum circuit breaker and VC series vacuum contactors can also be configured.

技术参数(12kV) Technology parameter(12kV)

名称 Item	单位 Unit	数据 Data		
额定绝缘水平 Rated insulation level	kV	3.6	7.2	1.2
1min工频耐压 Power frequency withstand voltage	kV	24	32	42
雷电冲击耐压(全波) Lightning impulse withstand voltage (full wave)	kV	40	60	75
额定频率 Rated frequency	Hz		50	
额定电流 Rated current	A	630,1250,1600,2000,2500,3150		
4s短时耐受电流 4s short-time withstand current	kA	20,25,31,31.5,40,50		
额定峰值耐受电流 Rated peak withstand current	kV	50,63,80,100,125		
防护等级 Protection level		外壳(shell)IP4X 各隔室间隔板(clapboard)为IP2X		
重量 Weight	Kg	800~1200		

HXGN2-12(Z)固定式交流金属封闭开关柜 HXGN2-12(Z)FIXED METAL ENCLOSED SWITCHGEAR



概述 Introduction

HXGN2-12(Z)型环网柜固定式交流金属封闭开关设备(简称环网柜)，适用于工矿企业、住宅小区、高层建筑和学校公园等配电系统，作为户内交流三相10kV、50Hz的环网柜电单元和终端配电设备。可开断或关合额定负荷电流及变压器空载电流，并能开断或关合一定距离的架空线路、电缆线路或电容器组的电容电流。负荷开关-熔断器组合柜可一次性开断额定短路电流。在电力系统中作为配电设备的保护、电能分配和控制之用。主要选用FZN21、FZN25真空负荷开关。

HXGN2-12 (Z) RMU fixed AC metal-enclosed switchgear (hereinafter referred to as RMU), AC three-phase 10kV distribution system suitable for industrial and mining enterprises, residential district, high-rise buildings and schools Park as indoor 50Hz RMU electric unit and terminal distribution equipment. Breaking or closing rated load current and transformer no-load current, and cut off or closing a certain distance from overhead lines, cable lines or capacitor bank capacitance current. Load switch - fuse combination cabinet can be a one-time rated short-circuit breaking current. In the power system as the protection of power distribution equipment, power distribution and control purposes. Main selection FZN21 vacuum load switch FZN25.

技术参数 Technology parameter

名称 Name	单位 Unit	数据 Data
额定电压 Rated voltage	kV	12
额定电流 Rated current	A	630
额定短时耐受电流(4s) Rated short-time withstand current(4s)	kA	20
额定峰值耐受电流 Rated peak withstand current	kA	50
接地开关额定短时耐受电流(2s) Earthing switch rated short-time withstand current(2s)	kA	20
接地开关额定峰值耐受电流 Earthing switch rated peak withstand current	kA	50
接地开关额定短路关合电流(峰值) Earthing switch rated short-circuit making current(peak)	kA	50
1min工频耐受电压 1min Power frequency withstand voltage	相间、相对地 phase to phase, to ground	42
1min工频耐受电压 1min Power frequency withstand voltage	隔离断口 Isolated fracture	48
防护等级 Protection level		IP2X

XGN15-12(F·R)固定式交流金属封闭开关设备 XGN15-12(F·R)FIXED VOLTAGE SWITCHGEAR



概述 Introduction

XGN15-12固定式交流金属封闭开关设备(以下简称“环网柜”)是新一代以六氟化硫负荷开关作为主开关而整柜采用空气绝缘，适用于配电自动化，既紧凑又可扩充的金属封闭开关设备。

环网柜具有结构简单、操作灵活、联锁可靠等特点，对各种不同的应用场合、不同的用户要求均能提供令人满意的技术方案。传感技术和最新保护继电器的采用，加上先进的技术性能及轻便灵活的装配方案。可以完全满足市场不断变化的要求。

XGN15-12 Fixed AC metal-enclosed switchgear (hereinafter referred to as "RMU") is the new generation of sulfur hexafluoride load switch as the main switch and the entire cabinet with air insulation, suitable for distribution automation, compact and extensible metal-enclosed switchgear.

RMU has a simple structure, flexible operation, reliable interlock features a variety of different applications, different user requirements are able to provide satisfactory technical solutions. Sensor technology and the latest protection relay, coupled with state-of-the-art technical performance and a lightweight, flexible assembly program. Can fully meet the changing requirements of the market.

技术参数 Technology parameter

名称 Name	单位 Unit	数据 Data
额定电压 Rated voltage	kV	12
额定电流 Rated current	A	630
额定频率 Rated frequency	Hz	50/60
额定短时耐受电流 Rated short-time withstand current	kA	20
额定短时持续时间 Rated short-time duration	s	4
额定短时耐受电流 Rated short-time withstand current	kA	50
接地开关额定短时持续时间 Earthing switch rated short-time duration	s	2
接地开关额定峰值耐受电流 Earthing switch Rated peak withstand current	kA	50
额定绝缘水平 Rated insulation level	1min工频耐受电压 1min Power frequency withstand voltage	(相间、相对地 phase to phase, to ground)42; (断口/Fracture)48
	雷电冲击耐受电压(峰值) Lightning impulse withstand voltage(peak)	(相间、相对地 phase to phase, to ground)75; (断口/Fracture)85
SF6气体额定压力(SF6表压) SF6 gas rated pressure(20°C Gauge pressure)	Mpa	0.04
SF6气体年泄露率 SF6 gas annual leak rate		1%
防护等级 Protection level		IP3X

XL-21型动力柜

XL-21 POWER DISTRIBUTION CABINET



概述 Introduction

XL-21型动力柜适用于发电厂及工矿企业中，在交流电压200V及以下的三相四线或三相五线系统作动力配电用。XL-21型低压动力配电箱系户内装置靠墙安装，屏前检修。可根据用户需要，选用不同型号，不同电流等级的断路器，满足不同用户的需求。

XL-21 power distribution cabinet is suitable for power distribution, lighting distribution, industry, construction and electromotor control which the AC frequency is 50~60Hz, rating voltage is 220/380~440V, and four wire three phase, five wire three phase.

技术参数 Technology parameter

名称 Name	单位 Unit	数据 Data
额定电压 Rated voltage	V	AC380、AC660
额定频率 Rated frequency	Hz	50/60
额定短时耐受电流 Rated short time withstand current	kA	30 50
额定峰值耐受电流 Rated peak withstand current	kA	63 105
介电强度 Dielectric strength	V/1min	2500
额定绝缘电压 Rated insulation voltage	V	660
防护等级 Protection level		IP30/IP40
外形尺寸(宽X深X高) Width X Depth X Height	mm	(600~1000)X370(470)X(1600~2000)

GGD低压配电柜

GGD LOW VOLTAGE DISTRIBUTION CABINET



概述 Introduction

GGD型交流低压配电柜适用于发电厂、变电站、厂矿企业等电力用户的交流50Hz，额定工作电压380V，额定工作电流至3150A的配电系统，作为动力、照明及配电设备的电能转换、分配与控制之用。

GGD型交流低压配电柜是根据能源部主管上级与广大电力用户及设计部门的要求，本着安全、经济、合理、可靠的原则设计的新型低压配电柜。产品具有分段力高、动热稳定性好、电气方案灵活、组合方便、系列性、实用性强、结构新颖、防护等级高等特点。可作为低压成套开关设备的更新换代产品使用。

GGD low voltage distribution cabinet is used for power plants, substations, factories and mines, power users exchange 50Hz, rated working voltage 380V, rated current up to 3150A of the distribution system as a power, lighting and power distribution equipment, power conversion, distribution and control.

GGD low-voltage distribution cabinet is a new low-voltage distribution cabinet according to the requirements of the competent superiors of the Department of Energy and the majority of electricity users and the design department, in a safe, economic, reasonable, reliable design principles. The product has a high segmentation, dynamic and thermal stability, electrical program is flexible, convenient combination series, radical, novel structure, high protection class. Can be used as the replacement of low voltage switchgear products.

技术参数 Technology parameter

名称 Name	单位 Unit	数据 Data
额定电压 Rated voltage	V	AC380、AC660
额定频率 Rated frequency	Hz	50/60
额定电流 / 水平母线 Level of bus	A	≤4000
额定短时耐受电流 Rated short time withstand current	kA	30 50 80
额定峰值耐受电流 Rated peak withstand current	kA	63 105 176
介电强度 Dielectric strength	V/1min	2500
额定绝缘电压 Rated insulation voltage	V	660 1000
防护等级 Protection level		IP30/IP40
外形尺寸(宽X深X高) Width X Depth X Height	mm	600(800、1000)X600(800、1000)X2200

GCS低压抽出式开关柜

GCS LOW VOLTAGE DRAW-OUT SWITCHGEAR



概述 Introduction

装置适用于发电厂、石油、化工、冶金、纺织、高层建筑等行业的配电系统。在大型发电厂、石化系统等自动化程度高，要求与计算机接口的场所，作为三相交流频率为50(60)Hz，额定工作电压为380V(400)，(600)，额定电流为4000A及以下的发、供电系统中的配电、电动机集中控制、无功功率补偿使用的低压成套配电装置。

The device is suitable for the distribution system of power plants, petroleum, chemical industry, metallurgy, textile, high-rise buildings and other industries. In large power plants, petrochemical and other high degree of automation requirements and place of the computer interface as a three-phase AC frequency of 50 (60) Hz, rated working voltage of 380 V (400) (600), rated current is 4000A and below, power supply systems, power distribution, motor centralized control, low voltage power distribution equipment used by the reactive power compensation.

技术参数 Technology parameter

名称 Name	单位 Unit	数据 Data
主电路额定电压 The main circuit rated voltage	V	交流380(400)、(600)
辅助电路额定电压 Auxiliary circuit rated voltage	V	交流(AC)220, 380(400) 直流(DC)110, 120
额定频率 Rated frequency	Hz	50(60)
额定绝缘电压(V)Rated insulation voltage	V	660(1000)
额定电流 Rated Current	A	≤4000 1000
母线额定短时耐受电流 Busbar rated short time withstand current	kA/1s	50,80
母线额定峰值耐受电流 Busbar rated peak withstand current	kA/0.1s	105,176
工作实验电压 Work experiments voltage	V/min	2500 1760
母线Bus bar		A.B.C.N A.B.C.P.E.N
防护等级 Protection level		IP30 IP40

GGJ低压无功补偿配电装置

GGJ LOW VOLTAGE REACTIVE POWER COMPENSATION DEVICE



概述 Introduction

适用于城乡配电网公用配变低压出线侧，以并联电容器方式实现低压无功补偿，用于380V低压无功补偿，广泛适用于户外台式变压器、室内配电站、箱式变电站以及冶金、机械、矿山、铁路、化工等企业或低压用户进行无功自动跟踪补偿，用以降低网络损耗，改善电能质量。

Used in the outlet side of city power grid and village power grid , connected with capacitor in parallel to realizes low voltage reactive compensation for the 380 V, widely used in outdoor desktop transformer, indoor power distribution station, box-type substations , metallurgy, machinery, mining, railway,chemical industry or low voltage users of automatic tracking the reactive power compensation for reducing the network loss, improve the quality of power.

技术参数 Technology parameter

规格 Specifications	额定电流 Rated current(A)	规格 Specifications	额定电流 Rated current(A)
GGJ-0.4/3	4.3	GGT-0.4/36	52
GGJ-0.4/4	5.8	GGT-0.4/40	57.7
GGJ-0.4/5	7.2	GGT-0.4/42	60.7
GGJ-0.4/6	8.7	GGT-0.4/45	65
GGJ-0.4/8	11.6	GGT-0.4/50	72.2
GGJ-0.4/10	14.4	GGT-0.4/56	80.9
GGJ-0.4/12	17.3	GGT-0.4/60	86.7
GGJ-0.4/14	20.2	GGT-0.4/63	92.4
GGJ-0.4/15	21.7	GGT-0.4/70	101.2
GGJ-0.4/18	26	GGT-0.4/75	108.4
GGJ-0.4/20	28.9	GGT-0.4/80	115.6
GGJ-0.4/25	36.1	GGT-0.4/84	121.4
GGJ-0.4/28	40.5	GGT-0.4/90	130.1
GGJ-0.4/30	43.3	GGT-0.4/100	144.5
GGJ-0.4/32	46.2		

DWB-□/□ > 120kVAR special designed as per require

MNS低压抽出式开关柜

MNS LOW VOLTAGE DRAW-OUT SWITCHGEAR



概述 Introduction

本系列低压抽出式开关柜是一种用标准模块由工厂组装(FBA)的组合式柜型，其技术已达到九十年代末国际水平。

本系列低压抽出式开关柜适用于发电厂、变电站、石油化工、冶金轧钢、交通、能源、轻工纺织等厂矿企业和住宅小区、高层建筑等场所，作为交流50~60Hz，额定工作电压交流660V及以下的电力系统的配电设备的电能转换、分配及控制之用。

This series of low voltage switch cabinet is a standard modular cabinet-type module assembled by the factory (FBA), its technology has reached international level in the late nineties.

This series of low-voltage withdrawable switchgear for power plants, substations, petrochemical, metallurgy, steel rolling, transportation, energy, light industry and textile factories and enterprises, and residential neighborhoods, high-rise buildings and other places, as a AC 50~60Hz, rated operating voltage AC 660V and the following power distribution equipment, power conversion, distribution and control.

技术参数 Technology parameter

名称 Name	单位 Unit	数据 Data
额定绝缘电压 Rated insulation voltage	V	660
额定工作电压 Rated working voltage	V	380、660
主母线最大工作电流 The main bus maximum working current	A	5000
主母线额定耐受电流 Main busbar rated withstand current	kA	100
主母线额定峰值耐受电流 Main busbar rated peak withstand current	kA	220
配电母线(垂直母线)最大工作电流 Maximum working current of the power distribution bus (vertical bus)	A	1000
配电母线(垂直母线)峰值电流 Maximum operating current of the power distribution bus (vertical bus)	kA	105(最大值Maximum)
标准型 Standard		176(最大值Maximum)
加强型 Enhanced		

GCK低压抽出式开关柜

GCK LOW VOLTAGE DRAW-OUT SWITCHGEAR



概述 Introduction

GCK低压抽出式开关柜由动力配电中心(PC)柜和电动机控制中心(MCC)二部分组成，适用于发电厂、变电站、工矿企业等电力用户作为交流50Hz，最大工作电压至660V，最大工作电流至3150A的配电系统中，作为动力配电，电动机控制及照明等配电设备的电能转换分配控制之用。

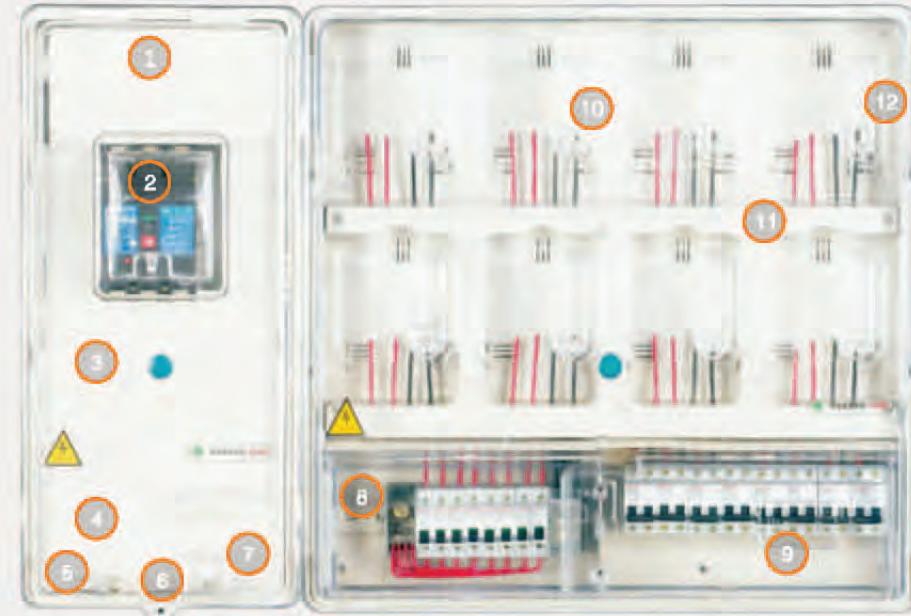
GCK low voltage switch cabinet is composed by two parts of the power distribution center (PC) cabinet and motor control center (MCC), applicable to power plants, substations, industrial and mining enterprises and other electricity users as a means of communication 50Hz, maximum working voltage to 660V, the maximum working current up to 3150A distribution system, the allocation and control of electrical energy conversion devices as power distribution, motor control and lighting distribution.

技术参数 Technology parameter

名称 Name	单位 Unit	数据 Data
额定工作频率 Rated working frequency	Hz	50
额定工作电压 Rated working voltage	V	380,660
额定绝缘电压 Rated insulation voltage	V	660
额定工作电流 Rated working current	A	630~3200
额定短时耐受电流 Rated short time withstand current	A	1000
额定峰值耐受电流 Rated peak withstand current	A	80kA(有效值Values)/1秒
主电路接插件 The main circuit connector	A	80kA(有效值Values)/1秒
辅助电路接插件 Auxiliary circuit connectors	A	176kA
工频耐压1min Power frequency withstand voltage1min	V	110kA
控制电机最大容量 Control motors maximum capacity	kW	200, 400, 630
防护等级 Protection level		2500
操作方式 Mode of operation		155
		IP40
		就地、远方、自动(Local, Distance, Automatic)

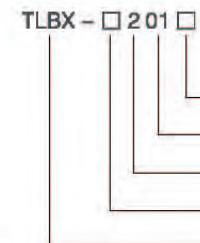
透明电表箱结构图

TRANSPARENT ELECTRIC METER BOX CONSTRUCTION



- | | |
|-----------|-----------------------------|
| 1.开关室 | 1. Switch room |
| 2.总开关 | 2. Main switch |
| 3.隔板 | 3. Clapboard |
| 4.采集器位 | 4. Collector |
| 5.上盖螺丝铅封孔 | 5. Lead seal |
| 6.挂锁孔 | 6. Padlock hole |
| 7.表前开关室 | 7. Switch room before table |
| 8.表前开关室 | 8. Switch room before table |
| 9.表后开关室 | 9. Switch room before table |
| 10.电表室 | 10. Meter room |
| 11.线槽盖 | 11. Slot cover |
| 12.散热窗 | 12. Window radiator |

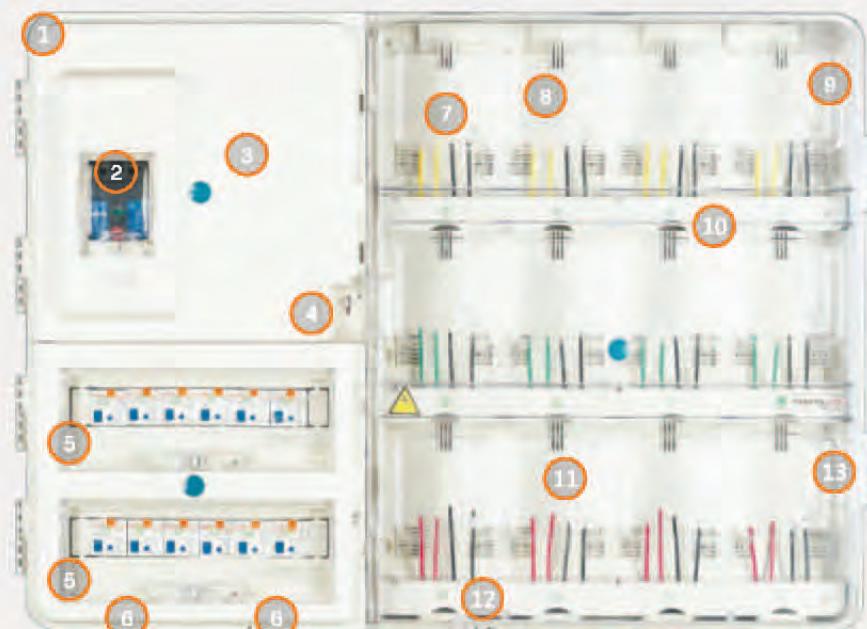
型号含义 Type meaning



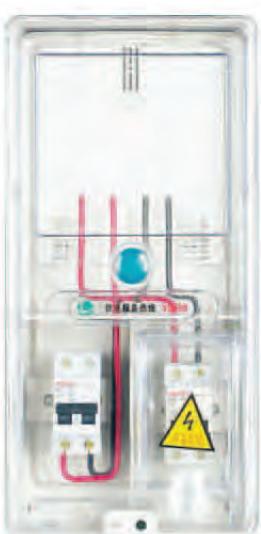
结构(上下、左右)	Structure(up-down, left-right)
配置方案	Configuration
表位数	Table number
带插卡功能(预付费式)	With the card function(Prepaid type with card)
企业代号	Corporate code

技术参数 Technology parameter

- 主母线额定电流In: 225A~10A
- 主母线额定短时耐受电流Icw: 3kA
- 绝缘电阻: 不小于20MΩ
- 额定绝缘电压UI: 800V
- 频率: 50Hz或60Hz
- 安全防护等级: 34
- Main busbar rated current In: 225A ~ 10A
- The main busbar rated short time withstand current Icw: 3kA
- Insulation resistance: not less than 20MΩ
- Rated insulation voltage UI: 800V
- Frequency: 50Hz or 60Hz
- Security levels: 34



- | | |
|---------|------------------------|
| 1.进线口 | 1.Inlet |
| 2.总开关室 | 2. Main switch room |
| 3.进线开关室 | 3. In switch room |
| 4.挂锁位 | 4. Padlock |
| 5.出线开关室 | 5. Outlet switch room |
| 6.出线孔 | 6. Outlet hole |
| 7.复位按钮孔 | 7. Reset button hole |
| 8.电表室 | 8. Meter room |
| 9.防水通风口 | 9. Waterproof vents |
| 10.压线槽 | 10. Line pressing slot |
| 11.插卡口 | 11. The slot |
| 12.铅封位 | 12. Seals |
| 13.铰链 | 13. Hinge |

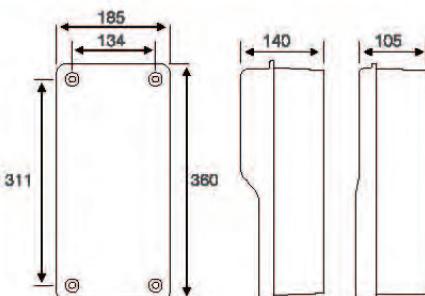


单相一位预付费式电表箱(上下结构)

Single-phase w1 series prepaid meter box
(up and down)

企业代号 Co.code	预付费式 Prepaid	表位数 Table NO.	配置代号 Code
TLBX	K	1	01

外形尺寸及安装图 Outline and installation dimensions



智能型一体欧式变电站

INTELLIGENT INTEGRATION EUROPEAN TYPE SUBSTATION

- 外壳材料：不锈钢板、铝合金、冷轧板、复合彩钢板、玻璃纤维增强水泥板等。
- 型式：通用型、别墅型、紧凑型等多种样式。

YB□-40.5组合式变电站
YB□-12智能型一体化变电站

- Cabinet material: Stainless steel plate, aluminium alloy, cold-rolled steel, composite color plate, Glass fiber reinforced cement board and etc.
- Style: Popular type, villa type, compact type and other various types.

YB□-40.5 combined type
transformer substation(Euro)
YB□-12 Intelligent integrating
transformer substation(Euro)



- 顶盖为仿琉璃瓦
The roof is made of imitation glazed tile
- 墙板、门板为彩钢板或不锈钢彩钢板
Wallboard and door panel are made of color plate or stainless steel color plate
- 箱体默认为圆角，四角立柱为型材包边
Cabinet defaults to round corner, four-corner columns are sealed the edge
- 顶盖为暗红色，墙体为荷叶绿色
The roof is dark red, the wall is green



- 顶盖为四角斜边仿琉璃瓦
The roof is four-corner bevel edge and made of imitation glazed tile
- 墙板、门板为彩钢板或不锈钢彩钢板
Wallboard and door panel are made of color plate or stainless steel color plate
- 箱体默认为圆角，四角立柱为型材包边
Cabinet defaults to round corner, four-corner columns are sealed the edge
- 顶盖、墙体为荷叶绿色；门板为乳白色
The roof and wall are green, door plate is milk white

- 顶盖为钢版、铝板或不锈钢金属双夹层
The roof is made of steel plate, aluminium plate or double walled stainless steel plate metal
- 墙板、门板为彩钢板或不锈钢彩钢板
Wallboard and door panel are made of color plate or stainless steel color plate
- 箱体默认为圆角，四角立柱为型材包边
Cabinet defaults to round corner, four-corner columns are sealed the edge
- 顶盖为电脑灰色，墙体为荷叶绿色
The roof is grey, the wall is green



- 顶盖为钢版、铝板或不锈钢金属双夹层
The roof is made of steel plate, aluminium plate or double walled stainless steel plate metal
- 墙板、门板为彩钢板或不锈钢彩钢板
Wallboard and door panel are made of color plate or stainless steel color plate
- 四角立柱为铁板或不锈钢板折弯
Four-corner columns are bended by iron plate and stainless steel color plate
- 顶盖、立柱为天蓝色，墙体为乳白色
The roof and column are sky blue, the wall is milk white



- 顶盖为钢版、铝板或不锈钢金属双夹层
The roof is made of steel plate, aluminium plate or stainless steel plate metal double sandwiches
- 墙板、门板为彩钢板或不锈钢彩钢板
Wallboard and door panel are made of color plate or stainless steel color plate
- 箱体默认为圆角，四角立柱为型材包边
Cabinet defaults to round corner, four-corner columns are sealed the edge
- 顶盖为天蓝色，墙体为乳白色
The roof is sky blue, the wall is milk white



- 顶盖、墙体全部为钢板、铝板或不锈钢板金属双层夹
Both roof and wall are made of steel plate, aluminium plate or double walled stainless steel plate metal
- 四外层板材厚度可采用1.0mm以上
The thickness of outer panel is above 1.0mm
- 四角立柱为铁板、不锈钢板折弯
Four-corner columns are bended by iron plate and stainless steel color plate
- 箱体通体为军绿色
Whole cabinet is army green



- 顶盖为仿琉璃瓦
The roof is made of imitation glazed tile
- 墙体为立柱2.00mm镀锌板、不锈钢板、钢板
Wall column is 2.00mm aluminum zinc coated steel,stainless steel plate,steel plate
- 箱体四周贴仿木塑板
Cabinet surrounding with wooden plastic sheet
- 顶盖、立柱为青色，其他为原色
The roof and column are cyan, the other is primary color



- 顶盖为四斜边景观式
The roof is four-bevel landscaping type
- 墙体、顶盖为水泥预制
The wall and roof are made of precast cement
- 墙体贴瓷砖，颜色样式如图
The wall sticks ceramic tile, about the color and style, please see the picture



- 顶盖为四斜边景观式
The roof is four-bevel landscaping type
- 墙体、顶盖为水泥预制
The wall and roof are made of precast cement
- 墙体贴瓷砖，颜色样式如图
The wall sticks ceramic tile, about the color and style, please see the picture



- 内部布局：目字型、品字型
Internal layout:type '目'、type '品'
- 外墙装饰：白色全贴砖蓝条相间
Exterior wall decoration: White full tiling with blue stripes
- 外墙色彩：白蓝二色
Exterior wall color:white、blue
- 屋顶款式：蓝瓦尖顶
Roof styles:blue tile steeple



预装式美式变电站

PREFABRICATED AMERICAN TRANSFORMER SUBSTATION

ZGS27系列预装式变电站

- 广泛应用于城市电网改造，住宅小区等各类公共场所及厂矿、宾馆、机场、铁路、码头、高速公路等户内外场所。具有结构紧凑、全绝缘、全密封、少维护、可靠保护人身安全。

ZGS27 series prefabricated transformer

- It is widely applicable for city power reconstruction,resident area and other various public places,factories and hotel, airport,railway,highway. With advantage of compact structure,fully-sealed and insulated,less maintenance,reliable and safe.

ZGS27G-12/0.4系列改进型预装式变电站

- 适用于城市高层建筑、城乡建筑、豪华别墅、广场公园、居民小区、工厂、矿山油田及临时施工用电等场所。作为配电系统中接受和分配电能之用。
- 结构紧凑、安装方便、性能可靠、便于维护和检验。
- 可以实现高供高计、高供低计及高压环网供电等功能。

ZGS27G-12/0.4 series improved prefabricated transformer substation

- It is applicable to urban high-rise building,urban and rural construction,luxury villa,square park,resident area,factories,mine and oil field,temporary construction electricity. It is made for receiving and distributing electric energy.
- Compact structure,easy installation,reliable performance,convenient for maintenance and inspection
- It can realize high supply high measure,high supply low measure and high voltage ring network power supply function.

预装地下式箱变

- 具有耐腐蚀，防水，温升低，噪音小，安装方便，免维护等特点，是一种典型的节能产品。
- 采用全密封结构，高、低压端子的裸露部分通过进口密封防水材料与环保隔离，可抵御洪涝灾害。
- 低压柜的保护外壳采用专利户外灯箱式保护外壳，两面可安装全天候广告版，采用体积小，绿色节能的LED发光组件。

Prefabricated underground transformer substation

- It has advantage of corrosion resistant,waterproof,low temperature rise,low noise,easy installation,free maintenance. It is a typical energy-saving product.
- It uses fully sealed structure,the exposed portion of high & low voltage terminal is isolated from the environment by imported sealed water proof material to prevent from floods.
- Low voltage switchgear's protective case applies patented outdoor light-box type protective case. Both sides can install all-weather poster board and uses small size and green energy saving LED light-emitting component.

外壳材料

有不锈钢、普通钢板、铝合金板，复合彩钢板等。

Cabinet material

Stainless steel、general steel plate、aluminium alloy plate and compound color plate and etc.

- ZGS27系统预装式变电站

YB27 series prefabricated transformer substation

- ZGSG-12/0.4系列改进型预装式变电站

ZGSG-12/0.4 series improved prefabricated transformer substation

- 预装地下室箱变

Prefabricated underground transformer substation

预装式(美式)箱式变电站(钢板, 军绿色)

Prefabricated(American)transformer substation(Steel plate,Army green)



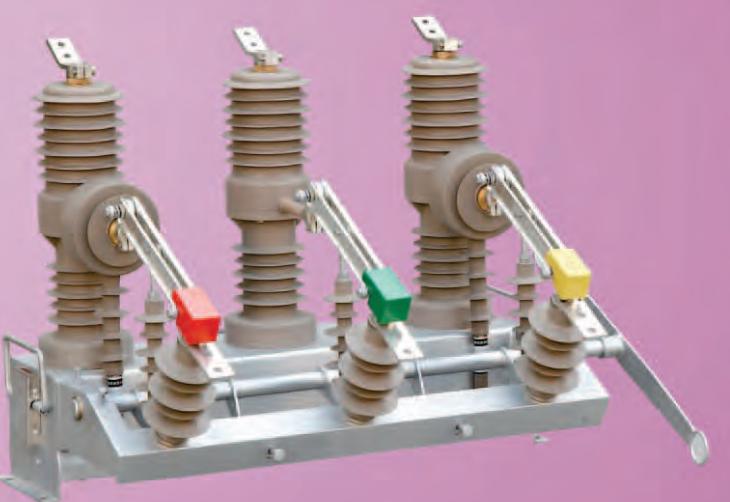
预装式(美式)箱式变电站(钢板, 电脑灰色)

Prefabricated(American)transformer substation(Steel plate, Grey)



ZW32-12户外真空断路器

ZW32-12 OUTDOOR VACUUM CIRCUIT BREAKER



ZW32-12户外真空断路器

ZW32-12 OUTDOOR VACUUM CIRCUIT BREAKER

产品特点 Features

ZW32-12型户内外真空断路器(以下简称断路器)为额定电压12kV,三相交流50Hz的户外配电设备。主要用于开断、关合电力系统中的负荷电流、过载电流及短路电流。适用于变电站及工矿企业配电系统中作保护和控制之用,及农村电网频繁操作的场所。

本断路器具有体积小、重量轻、防凝露、免维护等特点,能适应较恶劣的气候条件和污秽环境。

ZW32-12 indoor and outdoor vacuum circuit breaker (hereinafter referred to as "circuit breakers") for the rated voltage of 12kV, three-phase AC 50Hz outdoor distribution equipment. Mainly used for breaking and closing the power system load current, overload current and short circuit current. For substation and industrial and mining enterprises in the distribution system protection and control purposes, and the frequent operation of rural power grids.

The circuit breaker has small size, light weight, anti-condensation, maintenance-free characteristics, can adapt to poor weather conditions and dirty environments.

产品标准 Product of standard

GB1984《交流高压断路器》

GB11022《高压开关设备和控制设备标准的共同技术要求》

GB311.1-6《高压输变电设备的绝缘配合》

GB763《交流高压电器在长期工作室的发热》

GB2706《交流高压电器动、热稳定性实验方法》

GB3309《高压开关设备在常温下的机械试验》

DL/T593《高压开关设备的共同订货技术条件》

型号含义 Type meaning

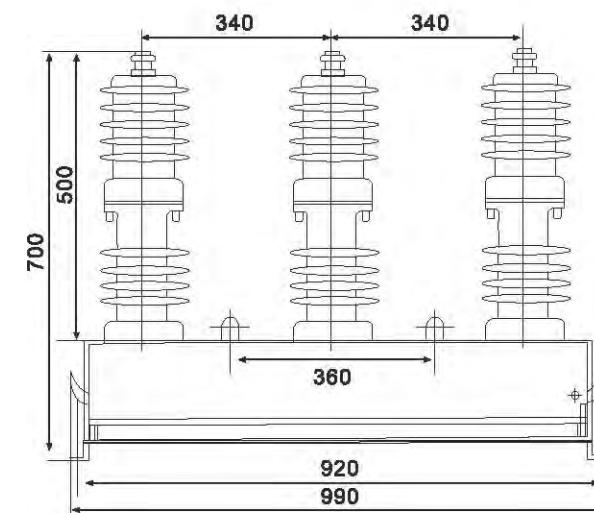
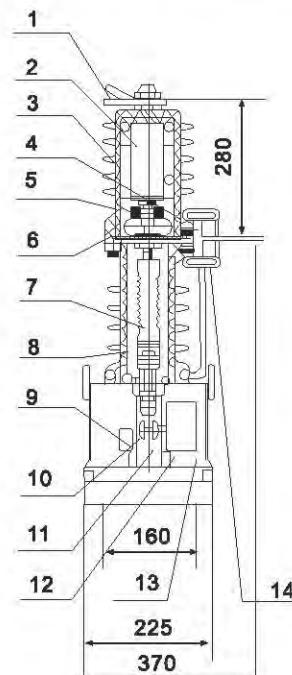
ZW	32-12	G/T 630-20-□	S手操 D电操
			S/Hand operation D/Power operation
			额定短路开断电流(kA)
			Rated short circuit breaking current (kA)
			额定电流(A)
			Rated Current (A)
			弹簧机构
			Spring operating agencies
			带隔离
			Isolated
			额定电压(kV)
			Rated voltage (kV)
			设计序号
			Design Number
			户外真空断路器
			Outdoor vacuum circuit breaker

技术参数 Technology parameter

序号 NO.	名称 Name	单位 Unit	数据 Data
1	额定电压 Rated voltage	kV	12
2	额定频率 Rated frequency	Hz	50
3	额定电流 Rated current	A	630
4	额定短路开断电流 Rated short-circuit breaking current	kA	20
5	额定峰值耐受电流(峰值) Rated peak value withstand current(peak)	kA	50
6	额定短时耐受电流 Rated short-circuit withstand current	kA	20
7	额定短路关合电流(峰值) Rated short-circuit making current(peak)	kA	50
8	机械寿命 Mechanical life	次/time	10000
9	额定短路开断电流开断次数 Rated short-circuit current breaking time	次/time	30
10	工频耐受电压(1min):相间、对地/断口 Power frequency withstand voltage(1min):phase to phase to ground/fracture	kV	42/48
11	雷电耐受冲击电压(峰值):相间、对地/断口 Lightning impulse withstand voltage(peak value):phase to phase to ground/fracture	kV	75/85
12	二次回路1min工频耐压 Secondary circuit 1min lightning impulse withstand voltage	kV	2

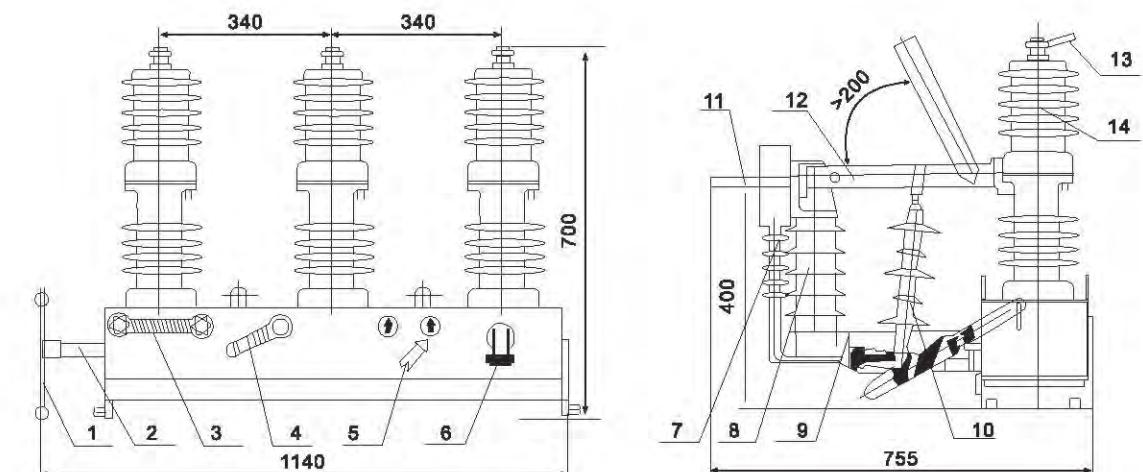
外形尺寸及安装图

Outline and installation dimensions



图一、ZW32—断路器结构及外形尺寸

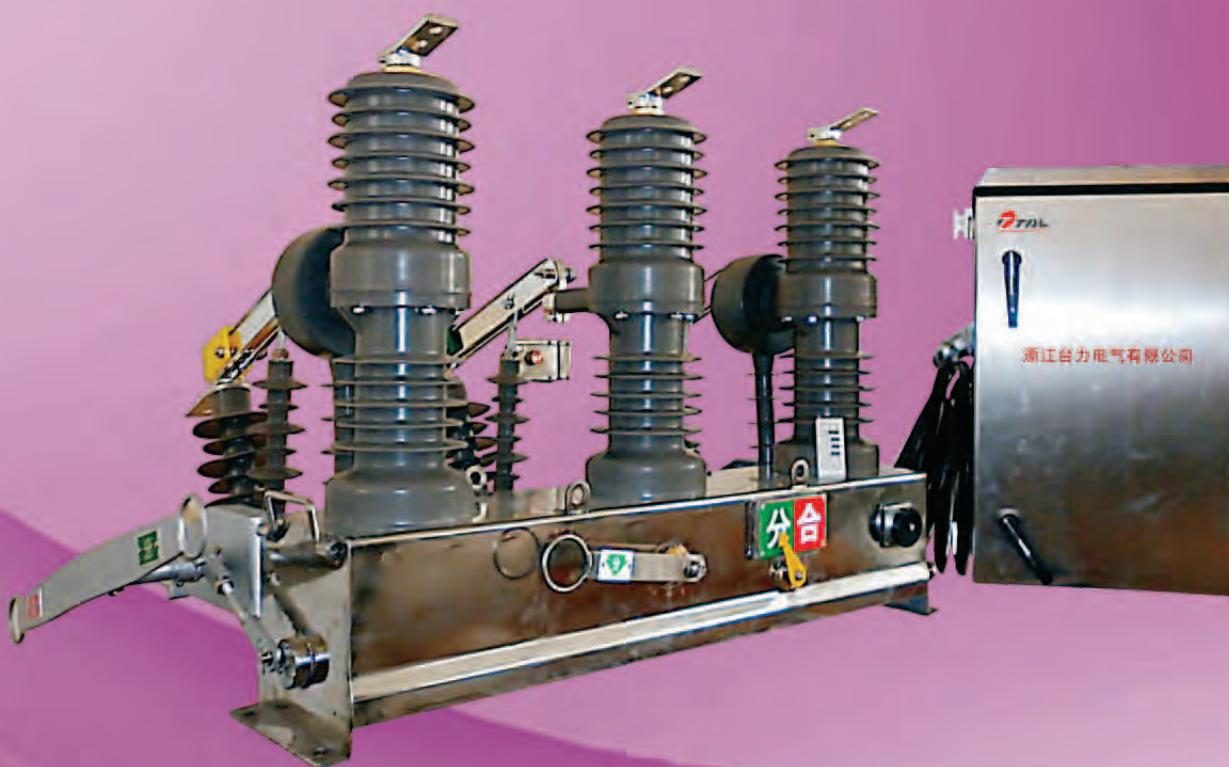
1.上出线 On the outlet	4.下出线 Under the outlet	7.绝缘拉杆 Insulated rod	10.驱动连板 Drive
2.灭弧线 Off arc	5.导电夹 Conductiveclip	8.触头压力簧 Pressure spring	11.机构输出轴 Output shaft
3.绝缘筒 Insulation cylinder	6.软联结 Soft links	9.分闸弹簧 Opening spring	12.操动机构 Actuator
13.机构箱 Mechanism box	14.电流互感器 Current transformer		



1.操作手柄 Operating handle	4.断路器储能手柄 Breaker charging handle	7.电流互感器 Current transformer	10.绝缘拉杆 Insulated rod	13.接线板(出线端) Outlet side
2.隔离主轴 Isolated spindle	5.分合批示 Division instructions	8.绝缘子 Insulator	11.接线板(进线端) Inlet side	14.断路器 Breaker
3.断路器 Breaker	6.接线插头 Wiring plug	9.隔离架 Isolation frame	12.隔离刀片 Isolated blade	

ZW32-12型户外永磁真空断路器

ZW32-12 OUTDOOR PERMANENT MAGNET VACUUM CIRCUIT BREAKER



ZW32-12型户外永磁真空断路器

ZW32-12 OUTDOOR PERMANENT MAGNET VACUUM CIRCUIT BREAKER

产品特点 Features

ZW32-12/Y630-20、25型户外永磁高压真空柱上断路器(以下简称断路器)，是额定电压12kV、50Hz交流三相高压配电网中的控制保护设备。主要用于开断、关合电力线路中的负荷电流、过载电流及短路电流。适用于变电站及工矿企业配电网中作保护和控制之用。

本断路器采用立柱型、干式结构，绝缘可靠、电寿命长、免维护，特别适用于频繁操作场所的要求。更宜于检修、维护能力不强的农村电网里安装使用。

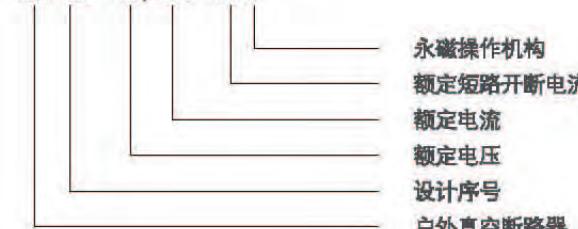
符合《GB1984交流高压断路器》、《GB1985交流高隔离开关和接地开关》、DL/T402、DL/T403的要求。

ZW32-12/Y630-20, 25 outdoor permanent magnet HV vacuum column dry-type circuit breaker (hereinafter referred to as circuit breakers), rated voltage of 12kV, 50Hz AC three-phase high voltage distribution grid control Protective equipment. Mainly used for breaking and closing the load current, overload current and short circuit current in the power lines. For substation and industrial and mining enterprises in the distribution system protection and control purposes.

This circuit breaker has the column type, dry-type structure, reliable insulation, long life, maintenance-free, especially for frequent operation places requirements. More appropriate for the repair, maintenance is not strong agricultural Installed in the village grid.

型号含义 Type meaning

ZW 32 - 12 / 630 - 20 Y



永磁操作机构	Permanent magnet operating mechanism
额定短路开断电流	Rated short-circuit breaking current
额定电流	Rated current
额定电压	Rated voltage
设计序号	Design number
户外真空断路器	Outdoor vacuum circuit breaker

技术参数 Technology parameter

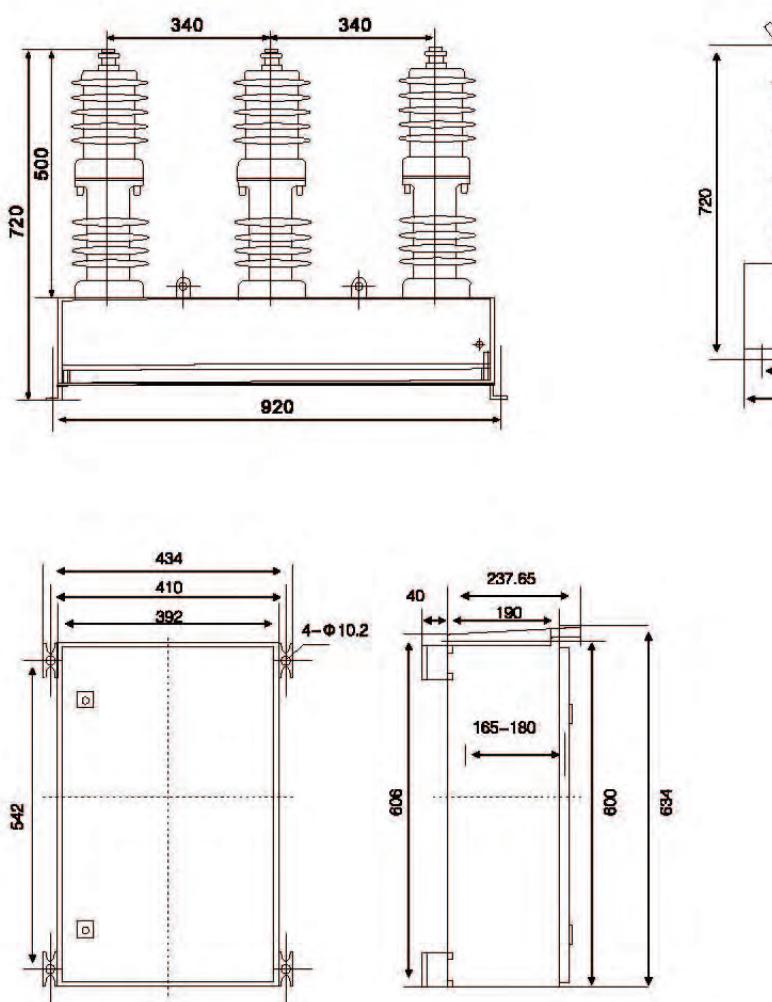
序号 NO.	名称 Name	单位 Unit	数据 Data
1	额定电压 Rated voltage	kV	12
2	额定绝缘水平 Rated insulation	kV	42/断口(fracture)48 34
	1min工频耐受电压 1minPower frequency withstand voltage		75/断口(fracture)85
	雷电冲击耐压(峰值) Power frequency withstand voltage		
3	额定电流 Rated current	A	50、75、100、200、400、630
4	额定短路开断电流 Rated short-circuit breaking current	kV	25 20 16
5	额定短路电流开断次数 Rated short-circuit breaking current times	次 Time	30
6	额定短路关合电流(峰值) Rated short-circuit making current(peak)	kV	63 50 40
7	额定峰值耐受电流 Rated peak withstand current	kV	63 50 40
8	额定短时耐受电流 Rated short-time withstand current	kV	25 20 16
9	额定短路持续时间 Rated short-circuit time	s	4
10	分闸时间 Opening time	ms	<50

序号 NO.	名称 Name	单位 Unit	数据 Data
11	合闸时间 Closing time	ms	< 60
12	全开断时间 All breaking time	ms	≤ 100
13	燃弧时间 Arcing time	ms	≤ 50
14	机械寿命 Mechanic life	次 Time	30000
15	合闸功 Closing joule	J	70
16	额定操作电压及辅助回路额定电压 Rated operation voltage and rated voltage of auxiliary loop	V	DC220 AC220

ZW8-12户外高压真空断路器

ZW8-12 OUTDOOR HIGH-VOLTAGE VACUUM CIRCUIT BREAKER

外形尺寸及安装图
Outline and installation dimensions



ZW8-12户外高压真空断路器

ZW8-12 OUTDOOR HIGH-VOLTAGE VACUUM CIRCUIT BREAKER

产品特点 Features

ZW8-12系列真空断路器为额定电压12kV，三相交流50Hz的户外高压开关设备，主要用来开断关合农网、城网和小型电力系统的负荷电流、过载电流、短路电流。该产品总体结构为三相共箱式。三相真空灭弧式置于金属箱内，利用SMC绝缘材料相间绝缘及对地绝缘，性能可靠，绝缘强度高。

ZW8-12G是由ZW8-12断路器与隔离开关组合而成的，成为组合断路器，可作为分段开关使用。

Rated voltage 12kV ZW8-12 series vacuum circuit breaker three-phase AC 50Hz outdoor high voltage switch equipment, mainly used for breaking closing rural network, city network and small-scale power system load current, overload current, short circuit current. The overall structure of the product for three-phase box-type. Type three-phase vacuum interrupter placed in a metal box, the use of SMC insulating materials and white insulation and ground insulation, reliable performance, high dielectric strength.

ZW8-12G is formed by the ZW8-12 circuit breaker and isolating switch combination, a combination of circuit breakers can be used as the disconnect switches.

型号含义 Type meaning

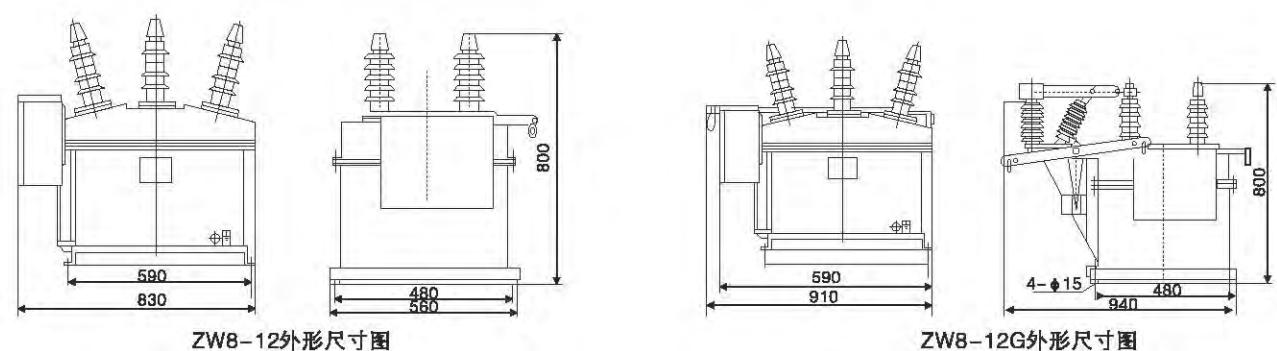
ZW	8-12	G / T	630-20	
				短路开断电流
				Short-circuit breaking current
				额定电流(A)
				Rated current (A)
				弹簧操动机构
				Spring actuator
				隔离刀
				Isolation knife
				额定电压(kV)
				Rated voltage (kV)
				设计序号
				Design number
				户外真空断路器

技术参数 Technology parameter

序号 NO.	名称 Name	单位 Unit	数据 Data		
			6.3kA	12.5kA	20kA
1	额定电压 Rated voltage	kV		12	
2	额定电流 Rated current	A		630(1250)	
3	额定短路开断电流 Rated short circuit making current(peak)	kA	6.3	12.5	20
4	额定短路关合电流(峰值) Rated short circuit closing current(peak)	kA	16	31.5	50
5	额定峰值耐受电流 Rated peak withstand current	kA	16	31.5	50
6	额定短时耐受电流 Rated short time withstand current	kA	6.3	12.5	20

序号 NO.	名称 Name	单位 Unit	数据 Data		
			6.3kA	12.5kA	20kA
7	额定绝缘水平 Rated insulation level		工频耐压(干式) Power frequency withstand voltage(dry type)		42
			雷电冲击耐压(峰值) Lightning impulse withstand voltage(peak)		75
8			额定操作顺序 Rated operating sequence		Off分0.3s-on/off合分-180s-on/off合分
9			机械寿命 Mechanical life	次time	10000
10			额定短路开断电流开断次数 Rated short-circuit breaking current times	次time	30
11			操动机构额定合闸电压△ Rated operation closing voltage	V	110 220 24
12			操动机构额定分闸电压△ Rated operation opening voltage	V	110 220 24
13			触头开距 Contact distance	mm	11±1
14			超行程(触头弹簧压缩长度) Overtravel(contact spring compression degree)	mm	3
15			三相分、合闸不同期性 Opening/closing is not synchronized	ms	≤2
16			触头合闸弹跳时间 Contact closing bounce time	ms	≤2
17			平均分闸速度 Average opening speed	m/s	1.2±0.3
18			平均合闸速度 Average closing time	m/s	0.6±0.2
19			分闸时间 Opening time	s	≤0.06
20			合闸时间 Closing time	s	≤0.1
21			各相主回路电阻 Each phase loop DC resistance	μΩ	≤200
22			动静触头允许磨损累计厚度 Static and dynamic contact wear allowance thickness	mm	3

外形尺寸及安装图 Outline and installation dimensions



ZW7-40.5型户外真空断路器

ZW7-40.5OUTDOOR VACUUM CIRCUIT BREAKER



ZW7-40.5型户外真空断路器

ZW7-40.5OUTDOOR VACUUM CIRCUIT BREAKER

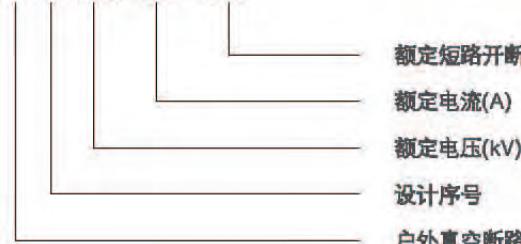
产品特点 Features

ZW7-40.5型户外高压真空断路器用于交流50Hz、电压40.5kV的三相电力系统，作为分断、关合负荷电流、过载电流及短路电流之用。

The ZW7-40.5 outdoor high voltage vacuum circuit breakers for AC 50Hz, voltage 40.5kV three-phase power system, as breaking, closing load current, overload current and short circuit current.

型号含义 Type meaning

ZW7-40.5 / 1600 - 31.5



额定短路开断电流	Rated short-circuit breaking current
额定电流(A)	Rated current (A)
额定电压(kV)	Rated voltage (kV)
设计序号	Design number
户外真空断路器	Outdoor vacuum circuit breaker

使用环境 Using environment

- 周围空气温度：上限40℃，下限-30℃
- 海拔：≤2000m(若需增高海拔，则额定绝缘水平相应提高)
- 风压：不超过700Pa(相当于风速34m/s)
- 振幅：地震烈度8度
- 污秽等级：III级
- 最大日温差：不超过25℃
- Ambient air temperature: lower than 40 °C, higher than -30 °C
- Altitude: ≤ 2000m (For higher altitude, is a corresponding increase in the rated insulation level)
- Pressure: no more than 700Pa (equivalent to wind speed 34m / s)
- Amplitude: 8 degree earthquake intensity
- Pollution class: III level
- The maximum daily temperature difference: no more than 25°C

主要功能 Main function

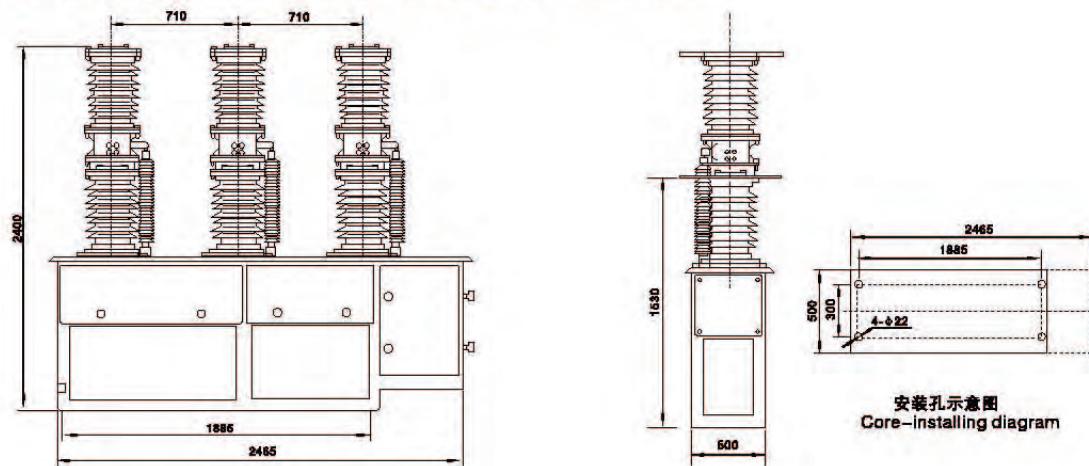
- 采用真空灭弧，开断能力强，电寿命长，机械寿命10000次
- 结构简单，免维护，不检修周期长
- 绝缘性能好，防污秽能力强
- 可支配弹簧或电磁操动机构，机械性能可靠，可频繁操作；无火灾和爆炸隐患；
- 内装电流互感器，精度达0.2级，可实现三相互动保护
- 内附凝露控制器，能保持断路器在一定的温、湿度下可靠运行

- Vacuum interrupter, the breaking capacity, long life, mechanical life of 10,000
- Simple structure, maintenance-free, long maintenance cycle
- Good insulation properties, the ability of anti-filthy
- Disposable spring or electromagnetic actuator, the mechanical properties of reliable, frequent operation; No fire and explosion hazards;
- Built-in current transformer accuracy of 0.2, can achieve the protection of three-phase interaction
- Included condensation controller, able to maintain the reliable operation of the circuit breaker under certain temperature and humidity

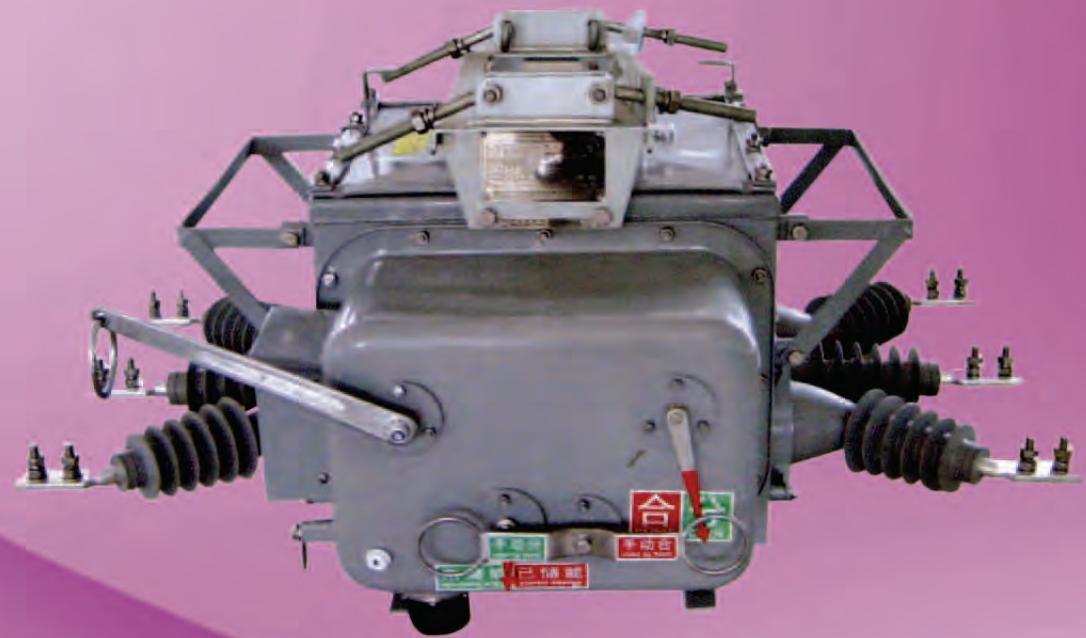
技术参数 Technology parameter

序号 NO.	名称 Name	单位 Unit	数据 Data
1	额定电压 Rated voltage	kV	40.5
2	额定绝缘水平 Rated insulation	干式 Dry type 湿式 Wet type	95 80 185
3	额定电流 Rated current	A	1250, 1600, 2000
4	额定短路开断电流 Rated short-circuit breaking current	kA	20, 25, 31.5
5	额定操作顺序 Rated sequence operations		Off分-0.3son/off 合分-180s on/off合分
6	额定短路电流开断次数 Rated short-circuit breaking current times	次 Time	12
7	额定短路关合电流(峰值) Rated short-circuit making current(peak)	kA	50, 63, 80
8	额定峰值耐受电流 Rated peak withstand current	kA	50, 63, 80
9	额定短时耐受电流 Rated short-time withstand current	kA	20, 25, 31.5
10	额定短路持续电流 Rated short-circuit current	s	4
11	平均分闸速度 Average opening speed	m/s	1.5±0.2
12	平均合闸速度 Verage closing speed	m/s	0.7±0.2
13	触头合闸弹跳时间 Contact closing bounce time	s	≤2
14	三相合(分) 同期性时差 Three-phase switch closing/opening synchronicity	s	≤2
15	合闸时间 Closing time	s	≤150
16	分闸时间 Opening time	s	≤60
17	机械寿命 Mechanic life	次 Time	10000
18	额定操作电压及辅助回路额定电压 Rated operation voltage and rated voltage of auxiliary loop	V	DC220, 110, 24 AC220, 110, 24
19	每相回路直流电阻(不含互感器) Each phase loop DC resistance(without transformer)	μΩ	≤100
20	动静触头允许磨损厚度 Static and dynamic contact wear allowance thickness	Mm	3
21	重量 Weight	Kg	800

外形尺寸及安装图 Outline and installation dimensions



ZW20A-12户外高压真空断路器 ZW20A-12 OUTDOOR HIGH-VOLTAGE VACUUM CIRCUIT BREAKER



VS1户内真空断路器 VS1 INDOOR VACUUM CIRCUIT BREAKER



VS1户内真空断路器 VS1 INDOOR VACUUM CIRCUIT BREAKER

产品特点 Features

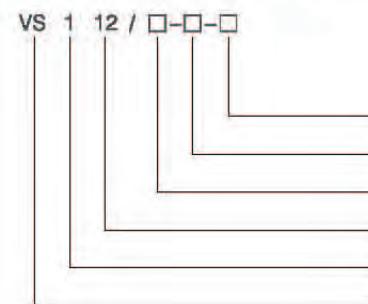
VS1-12型(侧装式型)户内高压真空断路器，系三相交流50Hz额定电压为12kV电力系统的户内开关设备，作为电网设备、工矿企业动力设备的保护和控制单元。适用于要求在额定工作电流下的频繁操作，或多次开断短路电流的场所。

该断路器采用操动机构与断路器本体一体式设计，既可作为固定安装单元，也可配用专用推进机构，组成手车单元作用。

VS1-12 type (side-mounted type) indoor high voltage vacuum circuit breaker, three-phase AC 50Hz rated voltage indoor switchgear for the 12kV power system, grid equipment, industrial and mining enterprises, power equipment, protection and control unit. Apply to the requirements of the frequency of operation under the rated operating current or repeatedly breaking the short circuit current place.

The circuit breaker actuator and the circuit breaker body-in-one design, either as a fixed installation unit can be equipped with a special advance mechanism, the composition of the role of the withdrawable unit.

型号含义 Type meaning



固定式	Fixed
额定短路开断电流(KA)	Rated short-circuit breaking current
额定电流(A)	Rated current (A)
额定电压(kV)	Rated voltage (kV)
设计序号	Design number
户内真空断路器	Indoor vacuum circuit breaker

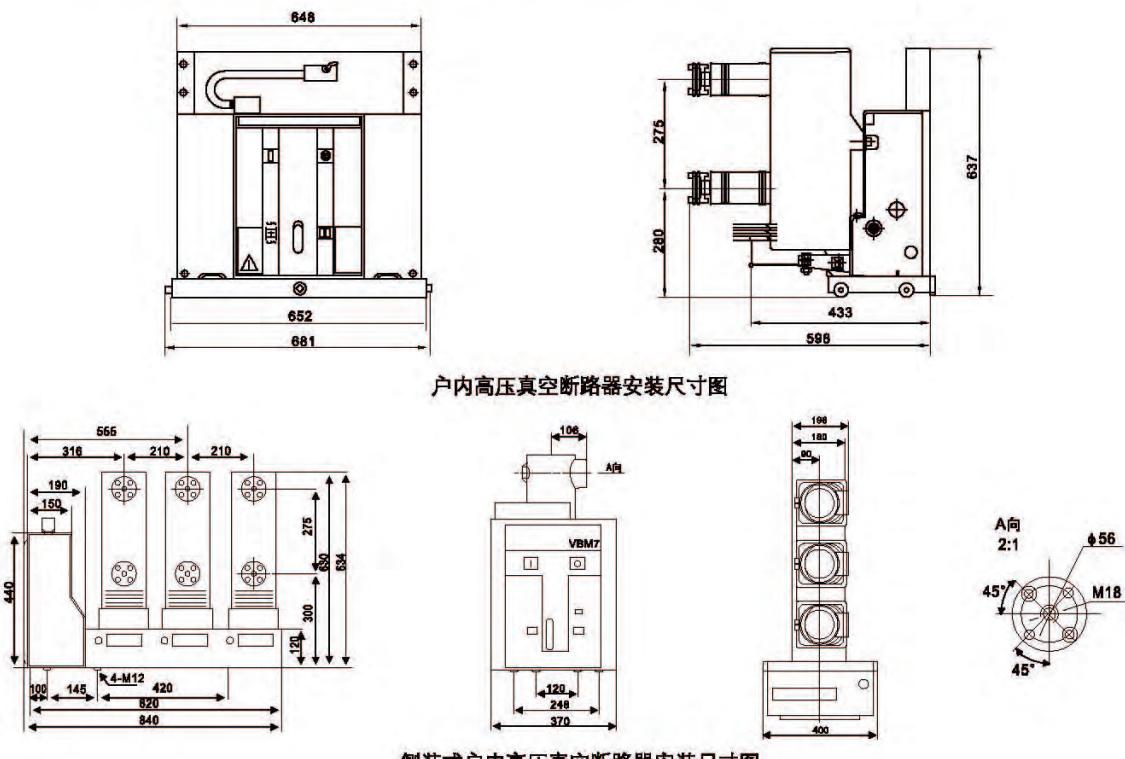
使用环境 Using environment

- 周围空气温度：上限40℃，下限-30℃
- 海拔：≤1000m(若需增高海拔，则额定绝缘水平相应提高)
- 振幅：地震烈度8度
- 空气相对湿度日平均值不大于95%，月平均值不大于90%
- 无火灾、爆炸危险、严重污染、化学腐蚀及剧烈震动的场所
- Ambient temperature: lower than 40 °C, higher than -30 °C
- Altitude: ≤ 1000m (For higher altitude, is a corresponding increase in the rated insulation level)
- Amplitude: 8 degree earthquake intensity
- Air relative humidity daily average not greater than 95%, on average less than 90%
- No fire, explosion hazard, serious pollution, chemical corrosion and violent vibration of the place

技术参数 Technology parameter

序号 NO.	名称 Name	单位 Unit	数据 Data				
1	额定电压 Rated voltage	kV	12				
2	额定频率 Rated frequency	Hz	50				
3	额定绝缘水平 Rated insulation	1min工频耐压 1minPower frequency withstand voltage 雷电冲击耐压(峰值) Lightning impulse withstand voltage(peak value)	kA	对地/相间(To ground/phase to phase)42/48 对地/相间(To ground/phase to phase)75/85			
4	额定短路开断电流 Rated short-circuit breaking current	kA	20	25	31.5	40	
5	额定电流 Rated current	A	630 1250	630 1250	1250 1600 2000 2500	1250 1600 2000 2500	
6	额定短时耐受电流(有效值) Rated short-circuit withstand current(values)	kA	20	25	31.5	40	
7	额定峰值耐受电流(峰值) Rated peak withstand current(peak value)	kA	50	63	80	100	
8	额定短路关合电流(峰值) Rated short-circuit closing current(peak value)	kV	50	63	80	100	
9	额定短路持续时间 Rated short-circuit duration	S	4				
10	机械寿命 Mechanical life	次Time	20000				
11	二次回路工频耐受电压(1min) Secondary loop power frequency withstand voltage(1min)	V	2000				
12	额定操作顺序 Rated operating sequence		Off分-t-on/off合分-t1-on/off合分				

外形尺寸及安装图 Outline and installation dimensions



VS1-24型户内高压真空断路器 VS1-24 INDOOR HIGH VOLTAGE VACUUM CIRCUIT BREAKER



VS1-24型户内高压真空断路器

VS1-24 INDOOR HIGH VOLTAGE VACUUM CIRCUIT BREAKER

产品特点 Features

VS1-24型户内高压真空断路器，系三相交流50Hz额定电压为24kV电力系统的户内开关设备，作为电网设备、工矿企业动力设备的保护和控制单元。适用于要求在额定工作电流的频繁操作，或多次开断短路电流的场所。

该断路器采用操动机构与断路器本体一体式设计，既可作为固定安装单元，也可配用专用推进机构，组成手车单元作用。

VS1-24 indoor HV vacuum circuit breaker, three-phase AC 50Hz rated voltage indoor switchgear 24kV power system, grid equipment, industrial and mining enterprises, power equipment, protection and control unit. Require frequent operation at rated current, or repeatedly breaking the short circuit current place.

The circuit breaker actuator and the circuit breaker body-in-one design, either as a fixed installation unit can be equipped with a special advance mechanism, the composition of the role of the withdrawable unit.

型号含义 Type meaning

VS	1	24 / □-□	
额定短路开断电流(KA)		Rated short-circuit breaking current	
额定电流(A)		Rated current (A)	
额定电压(kV)		Rated voltage (kV)	
设计序号		Design number	
户内真空断路器		Indoor vacuum circuit breaker	

使用环境 Using environment

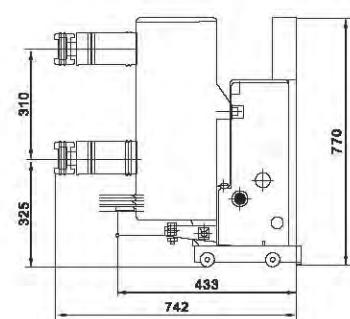
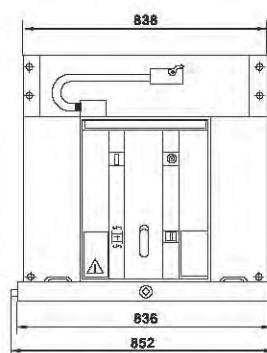
- 周围空气温度：上限40℃，下限-30℃
- 海拔：≤1000m(若需增高海拔，则额定绝缘水平相应提高)
- 振幅：地震烈度8度
- 空气相对湿度日平均值不大于95%，月平均值不大于90%
- 无火灾、爆炸危险、严重污染、化学腐蚀及剧烈震动的场所

- Ambient temperature: lower than 40 °C, higher than -30 °C
- Altitude: ≤ 1000m (For higher altitude, is a corresponding increase in the rated insulation level)
- Amplitude: 8 degree earthquake intensity
- Air relative humidity daily average not greater than 95%, on average less than 90%
- No fire, explosion hazard, serious pollution, chemical corrosion and violent vibration of the place

技术参数 Technology parameter

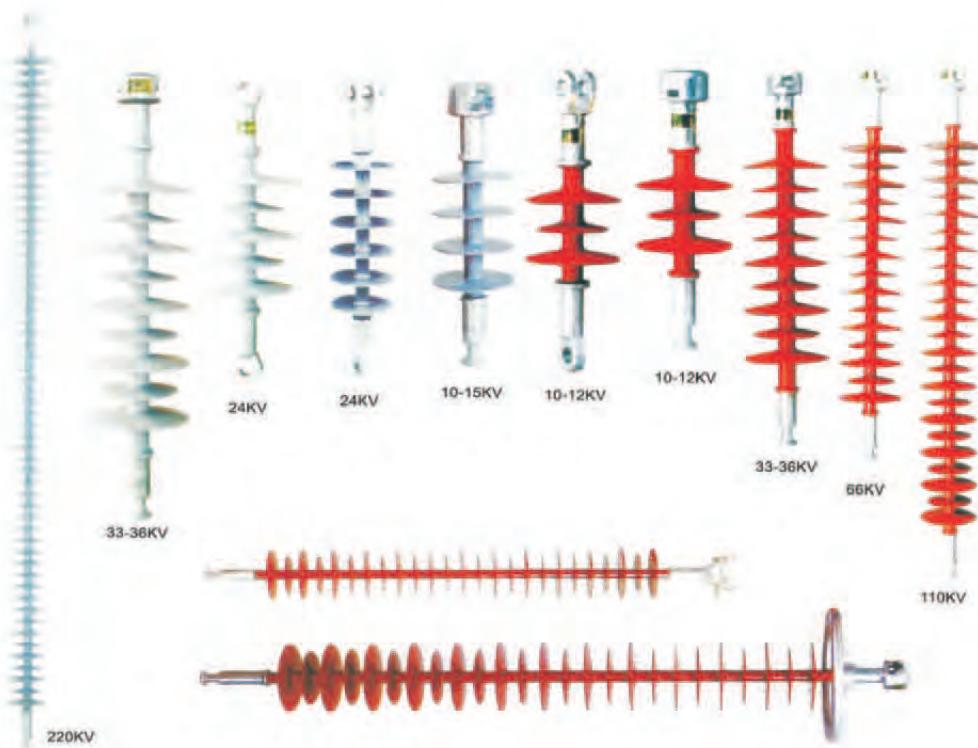
序号 NO.	名称 Name	单位 Unit	数据 Data
1	额定电压 Rated voltage	kV	24
2	额定短时工频耐受电压 Rated short time power frequency withstand voltage	kV	65/79(相间, 对地/断口) phase to phase,to ground/fracture
3	额定雷电冲击耐受电压(峰值) Rated lightning impulse withstand voltage (peak value)	kV	125/145(相间, 对地/断口) phase to phase,to ground/fracture
4	额定频率 Rated frequency	Hz	50
5	额定电流 Rated current	A	630 1250 2000 2500 3150
6	额定短路开断电流 Rated short-circuit breaking current	kA	630 1250 2000 2500 3150
7	额定短时耐受电压 Rated short-time withstand voltage	kA	31.5 40
8	额定短路持续时间 Rated short-circuit current	s	31.5 40
9	额定峰值耐受电流 Rated peak withstand current	kA	50/63 80 100
10	额定短路关合电流 Rated short-circuit making current	kA	50/63 80 100
11	二次回路工频耐受电压 Secondary loop power frequency withstand voltage	V	200
12	额定单个/背对背电容组开断电流 Rated single / back-to-back capacitor bank breaking current	A	630/400(40KA为800/400)
13	额定电容器组关合涌流 Rated capacitor bank closing surge	kV	12.5(频率frequency≤1000Hz)
14	机械寿命 Mechanical life	次Time	20000
15	额定电流开断次数(电寿命) Rated current breaking times (electrical life)	次Time	20000
16	额定短路电流开断次数 Rated short-circuit breaking current times	次Time	50(40KA≤30)
17	动、静触头允许磨损累计厚度 Dynamic and static contact allows the wear and tear accumulated thickness	mm	3
18	储能时间 Energy storage time	s	≤10
19	触头开距 Contact distance	mm	16±1
20	超行程 Overtravel	mm	3.5±0.5
21	触头合闸弹跳时间 Contact closing bounce time	ms	≤2(40KA≤3)
22	三相分、合闸不同期性 Three-phase opening/closing is not synchronized	ms	≤2
23	平均分闸速度(触头分开-8mm) Average opening speed (contact separation-8mm)	m/s	1.5±0.2
24	平均合闸速度(触头闭合-8mm) The average closing speed (contacts closed-8mm)	m/s	0.8±0.2
25	主导电回路电阻 The main circuit resistance	μΩ	≤(630A)≤45(1250A) ≤35(1600-2000A)≤25(2500以上)above
26	额定操作顺序 Rated operating sequence		off分-0.3s-on/off合分180s-合分on/off

外形尺寸及安装图 Outline and installation dimensions



棒形悬式复合绝缘子

ROD SUSPENSION COMPOSITE INSULATORS



针式、支柱复合绝缘子

NEEDLE, PILLAR COMPOSITE INSULATORS



电气化铁路用复合绝缘子

ELECTRIFIED RAILWAY COMPOSITE INSULATORS



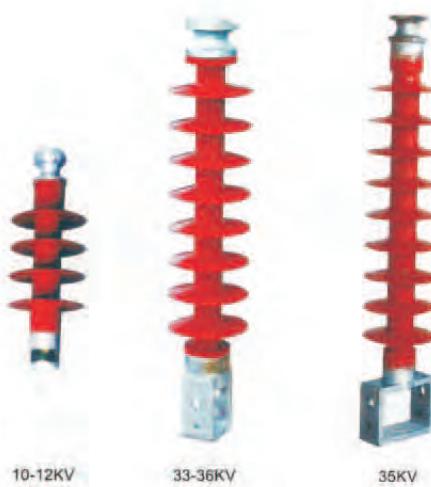
复合绝缘子穿墙套管

COMPOSITE INSULATOR WALL BUSHING



横担复合绝缘子

CROSSARM COMPOSITE INSULATORS



DW45万能式断路器配件**ACCESSORIES OF DW45 AIR CIRCUIT BREAKER**

名称: 闭合电磁铁
型号: TLB-2
规格: AC: 125V、230V、400V
DC: 24V、110V、220V
Name:closed electromagnet
Model:TLB-2
Specification:AC:125V、230V、400V
DC: 24V、110V、220V



名称: 分励脱扣器
型号: TLFT-2
规格: AC: 125V、230V、400V
DC: 24V、110V、220V
Name:shunt release
Model:TLFT-2
Specification:AC:125V、230V、400V
DC: 24V、110V、220V

DW45万能式断路器二次接线端子**SECONDARY TERMINAL OF DW45 AIR CIRCUIT BREAKER**

名称: 二次接线端子
型号: TLJ45
回路数: 47/55
规格: 通用
产品颜色: 白灰、灰、白、黄、黑
Name: secondary terminal
Model: TLJ45
Loop number: 47/55
Specification: general
Color: grey, white, yellow, black, offwhite



名称: 二次接线端子
型号: TLJ45
回路数: 47
规格: 通用
产品颜色: 白灰、灰、白
Name: secondary terminal
Model: TLJ45
Loop number: 47
Specification: general
Color: grey, white, offwhite

DW45万能式断路器辅助触头**AUXILIARY CONTACT OF DW45 AIR CIRCUIT BREAKER**

名称: 辅助开关
型号: TLF1
规格: 4开4闭、6开6闭、8开8闭
Name: auxiliary switch
Model: TLF1
Specification: 4 NO 4 NC
6 NO 6 NC
8 NO 8 NC



名称: 固定式二次接线端子
型号: DW45
适用开关型号: DW45万能式断路器
可选回路数: 47/55
规格: 通用
产品颜色: 灰、白、黑
Name: fixed secondary terminal
Model: DW45
Model of applicable switch:
DW45 air circuit breaker
Specification: general
Color: grey, white, black

DW50万能式断路器二次接线端子**SECONDARY TERMINAL OF DW50 AIR CIRCUIT BREAKER**

名称: 二次接线端子
型号: TLJ50-G40
规格: 通用
Name: secondary terminal
Model: TLJ50-G40
Specification: general



名称: 二次接线端子
型号: TLJ50-J40
适用开关型号: DW50万能式断路器
规格: 通用
Name: secondary terminal
Model: TLJ50-G40
Model of applicable switch:
DW50 air circuit breaker
Specification: general



名称: 助吸式欠电压脱扣器
型号: TLQ-2
规格: AC: 230V 400V
DC: 220V
Name: suction undervoltage release
Model: TLJ50-G40
Specification: AC: 230V 400V
DC: 220V



名称: 操作机构、电动机构
型号: ADW45
规格: 框I、框II、框III
Name: operating mechanism
electric mechanism
Model: ADW45
Specification: frame I, frame II, frame III



名称: 磁通变换器
型号: DW45-CT
Name: magnetic flux converter
Model: DW45-CT



名称: 防合锁
型号: DW45
规格: 二锁、三锁、四锁、五锁
Name: preventing closing lock
Model: DW45
Specification: 2 locks, 3 locks
4 locks, 5 locks



名称: 永磁式智能欠电压脱扣器
型号: TLQ-2
规格: AC: 230V 400V
DC: 220V
Name: permanent magnet type undervoltage release
Model: TLQ-2
Specification: AC: 230V 400V
DC: 220V