



## Company profile:

WenZhou ENBOLI Electric co., Ltd was established in 1998. The company's existing industrial park is 30 acres and the factory area is 70,000 square meters. Its subsidiaries are engaged in power transformers below 110KV, high-voltage components below 110KV, complete sets of electrical appliances below 35KV, power fittings, wires and cables, fuses, distribution boxes and other power transmission and distribution products.



The company has 1,200 employees, including 50 managers and 12 technicians. The annual production amount reaches 380 million. The key processes of the products use automatic monitoring instruments and equipment, and advanced SAP management software is introduced to digitally manage the production and operation process.

The company has KEMA international certification, ISO9001 quality management system certification, IOS14001 environmental management system certification, OHSAS18001 occupational health and safety management and other system certifications, and has passed the International Electrotechnical Association (IEC) CE, American TUL and other international system certifications.





恩波利  
ENBOLI

## Production workshop

The first-class talent, first-class technology, first-class facilities and a first-class management system forward a first-class production line. In order to ensure a highly efficient operation of the first production line, the company adopts multimodes and multi-means of management to enhance the working efficiency. We train the technical personnel to perfect equipment operation and advance automatic technology skills. We also actively implement the "6S" policy to energize logistics management and the effectiveness of each post, forming a common awareness of efficient and high-quality production, so as to promote the development of economic system of our company.



Assembly workshop



Core Workshop



Winding Workshop



H.V Testing Hall



## SCB10 SERIES 11KV CLASS DRY TYPE TRANSFORMER

### Features of Products

Dry-type transformers are widely used in local lighting, high-rise buildings, airports, wharf CNC machinery and other places. Simply speaking, dry-type transformers refer to transformers in which iron cores and windings are not immersed in insulating oil. Cooling methods are divided into natural air cooling (AN) and forced air cooling (AF). During natural air cooling, the transformer can operate continuously for a long time at rated capacity. When forced air cooling occurs, the output capacity of the transformer can be increased by 50%. Suitable for intermittent overload operation or emergency overload operation. Since the load loss and impedance voltage increase greatly during overload operation, it should not be kept in continuous overload operation for a long time.

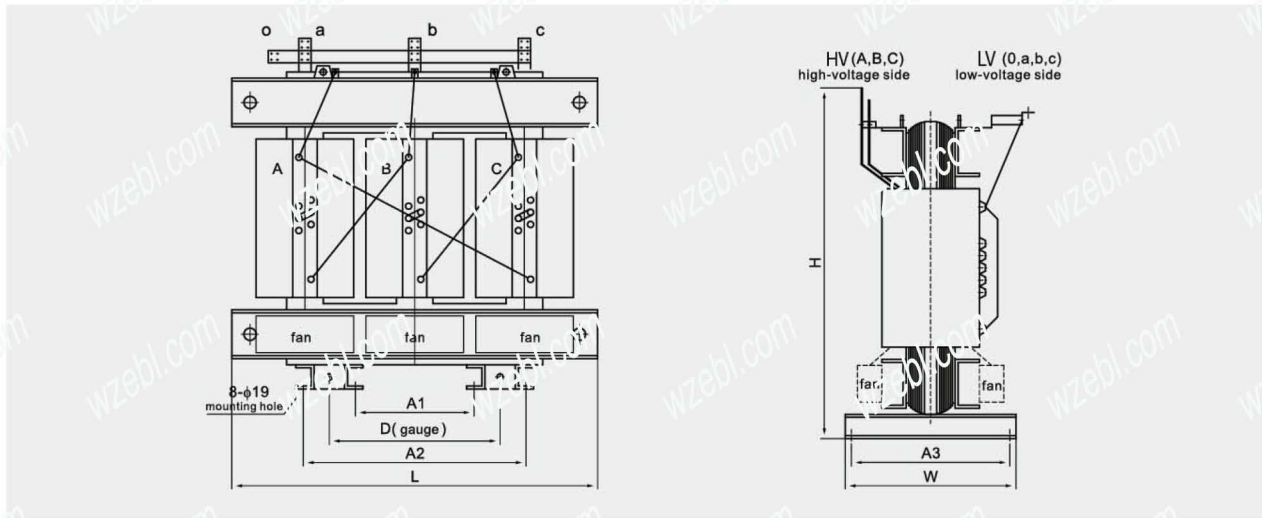
### Standard

Full complied with GB/T 10228-2008; GB 1094.11-2007, IEC60076 STANDARDS

### Transformer Type Meaning



### SC(B)10 series 11kV cast resin insulation dry-type transformer



### SC(B)10 series 11kV cast resin insulation dry-type transformer technical data

Rated capacity (kVA)	HV/LV	Vector group	Impedance voltage %	Losses (kW)		No-load current (%)	Insulating level	Weight (kg)	
				No-load	Load				
10	High Voltage	Dyn11 or Yyn0	4	0.135	0.305	4.0	F/II	130	
20				0.170	0.595	3.5		170	
30				0.195	0.705	2.6		330	
50				13.8	0.270	0.995		2.2	380
63				13.2	0.330	1.210		2.2	440
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				11	0.545	2.130		1.8	780
200				10.5	0.625	2.520		1.6	930
250				10	0.720	2.760		1.5	1040
315				6	0.880	3.470		1.4	1180
400				6	0.975	3.990		1.4	1450
500				6	1.160	4.880		1.4	1630
630				6	1.345	5.870		1.2	1900
630				Low Voltage		6		1.300	5.960
800	1.520	6.955	1.2				2290		
1000	0.4	1.770	8.130				1.1	2700	
1250	0.415	2.090	9.690				1.1	3130	
1600	0.415	2.450	11.73				1.1	3740	
2000	0.433	3.320	14.45				1.0	4150	
2500	0.433	4.000	17.17				1.0	4810	
3150	0.433	5.140	22.50				0.8	5800	
4000	0.433	5.960	27.00	0.8	7100				



## SCB10 SERIES 33KV CLASS DRY TYPE TRANSFORMER

### Features of Products

33kV class Dry-type transformers are widely used in local lighting, high-rise buildings, airports, wharf CNC machinery and other places. Simply speaking, dry-type transformers refer to transformers in which iron cores and windings are not immersed in insulating oil. Cooling methods are divided into natural air cooling (AN) and forced air cooling (AF). During natural air cooling, the transformer can operate continuously for a long time at rated capacity. When forced air cooling occurs, the output capacity of the transformer can be increased by 50%. Suitable for intermittent overload operation or emergency overload operation; Since the load loss and impedance voltage increase greatly during overload and are non-economic operation, it should not be kept in continuous overload operation for a long time.

### Standard

Full complied with GB/T 10228-2008; GB 1094.11-2007, IEC60076 STANDARDS

### Transformer Type Meaning



SC(B)10 series 33kV cast resin insulation dry-type transformer technical data

Rated capacity (kVA)	HV/LV	Vector group	Losses (kW)		No-load current (%)	Impedance voltage (%)	Insulating level	Weight (kg)	
			No-load	Load					
50	High Voltage	Dyn11 or Yyn0	0.500	1.500	2.3	6	F/F	610	
100			0.700	2.200	2.4			915	
160			0.880	2.960	1.8			1200	
200	0.980		3.500	1.8	1400				
250	33~38.5		1.100	4.000	1.6			1600	
315	Low Voltage		1.310	4.750	1.6			1800	
400			1.530	5.700	1.4			2200	
500	0.4		1.800	7.000	1.4			2500	
630	0.415		Yyn0	2.070	8.100			1.2	2900
800				2.450	9.600			1.2	3500
1000	2.700	11.00		1.0	4200				
1250	3.150	13.40		0.9	4900				
1600	0.430	3.600		16.30	0.9	5800			
2000	4.250	19.20		0.9	6600				
2500	4.950	23.00		0.9	7500				

SC(B)10 series 33kV cast resin insulation dry-type transformer outline dimension

Rated capacity	Outline dimension (mm)							Outline dimension with protective casing (mm)							
	L	W	H	D	A1	A2	A3	L	W	H	D	e	g	h	
50	1000	870	1160	550	550	550	820	1700	1400	1300	550	1120	1160	580	220
100	1100	870	1350	550	550	550	820	1800	1400	1500	550	1300	1350	580	220
160	1500	870	1380	820	820	820	820	2200	1500	1600	820	1320	1380	515	260
200	1530	870	1420	820	820	820	820	2250	1500	1650	820	1400	1420	520	265
250	1550	870	1450	820	820	820	820	2300	1500	1700	820	1410	1450	520	275
315	1580	870	1550	820	820	820	820	2300	1600	1800	820	1520	1550	530	280
400	1740	870	1710	820	820	820	820	2450	1600	1950	820	1650	1710	560	320
500	1740	870	1900	820	820	820	820	2450	1600	2100	820	1800	1900	570	330
630	1860	870	1980	820	820	820	820	2550	1700	2250	820	1900	1980	560	320
800	1860	870	2180	820	820	820	820	2550	1700	2400	820	2100	2180	575	330
1000	1900	1120	2265	1070	1070	1070	1070	2600	1800	2500	1070	2125	2265	570	325
1250	1950	1120	2355	1070	1070	1070	1070	2650	1800	2600	1070	2285	2355	585	340
1600	2000	1120	2380	1070	1070	1070	1070	2700	1800	2650	1070	2300	2380	510	370
2000	2100	1120	2480	1070	1070	1070	1070	2800	1800	2700	1070	2380	2480	630	405
2500	2200	1120	2550	1070	1070	1070	1070	2900	1800	2800	1070	2420	2550	640	420



恩波利  
ENERGY



## KS SERIES THREE-PHASE OIL-IMMERSED MINING POWER TRANSFORMER

### Features of Products

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 and tapping voltage that is 15% of rated voltage. It is using the tap switch to change the voltage when the voltage changes, the power must be cut off first, then unveil the wind-rain cover of the tap switch to interchange the voltage. The low voltage side of the transformer can be connect the type 'Y' or 400V to supply power. And inside the cable junction box has a secondary terminal which educed 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 when mine needing.

### Practicable Confiners

The oil-immersed distributing transformer is applied to the capacity of 9KVA or below and the voltage 10kV or below. This product is normal one which has no requirement of explosion-proof. The main function of the products for mine illumination when distributing power for mining as well as for the living power. This series of transformer will not need lift-machine examination after transportation. It is allowed to assemble the unshipped spare pads for checking and acceptance.

### Comply Standards

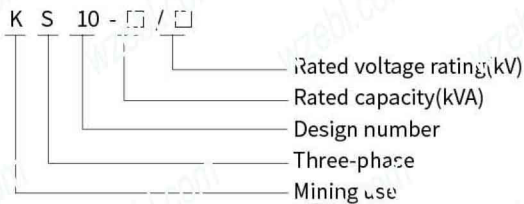
GB9955-1993; GB1094.1-2-1996; GB1207-2008; GB1094.3-2003; GB1094.5-2008



### Using environment and working condition

1. The elevation is less than 1000m, the special environment gives the explanation in addition
2. Ambient temperature:
  - Highest temperature +40°C ;
  - Lowest temperature -20°C ;
  - Maximum daily average temperature +25°C ;
  - Maximum annual average temperature +20°C ;
3. The relative humidity is less than 95% (When the air temperature is 25°C) ;
4. Install at the site with dust methane, but no explosion danger;
5. Power supply voltage profile is approximate to the sine wave.

### Transformer Type Meaning



### KS10 series oil immersed mining power transformer

Rated capacity (kVA)	HV/LV	Vector group	Impedance voltage (%)	Loss (kW)		No-load current (%)	Weight(kg)			(L×W×H)(mm) Outline dimension	
				No-load	Load		Machine weight	Oil weight	Gross weight		
50	11/6 0.693/0.4	Yy0-d11	4	0.17	0.87	2.0	230	80	390	1200×950×900	
80				0.25	1.25	1.8	310	100	530	1300×950×950	
100				0.29	1.50	1.6	360	110	600	1300×950×1000	
125				0.34	1.80	1.5	425	120	690	1300×950×1000	
160				0.40	2.20	1.4	480	140	810	1350×950×1040	
200				0.48	2.60	1.3	580	170	955	1400×970×1080	
250		Yd11	4	0.56	3.05	1.2	670	180	1100	1450×1000×1100	
315				0.67	3.65	1.1	775	240	1305	1500×1000×1150	
400				0.80	4.30	1.0	940	280	1570	1600×1050×1150	
500				0.96	5.10	1.0	1155	300	1790	1650×1050×1200	
630				4.5	1.20	6.20	0.9	1310	345	2150	1650×1120×1220

### KS11 series oil immersed mining transformer

Rated capacity (kVA)	HV/LV	Vector group	Impedance voltage (%)	Loss (kW)		No-load current (%)	Weight(kg)			(L×W×H)(mm) Outline dimension	
				No-load	Load		Machine weight	Oil weight	Gross weight		
50	11/6 0.693/0.4	Yy0-d11	4	0.13	0.67	2.0	242	84	410	1200×950×900	
80				0.19	0.96	1.8	326	105	557	1300×950×950	
100				0.22	1.15	1.6	378	116	630	1300×950×1000	
125				0.26	1.38	1.5	446	126	725	1300×950×1000	
160				0.3	1.69	1.4	504	147	851	1350×950×1040	
200				0.37	2	1.3	609	179	1003	1400×970×1080	
250		Yd11	4	0.43	2.35	1.2	704	180	1155	1450×1000×1100	
315				0.52	2.81	1.1	814	252	1370	1500×1000×1150	
400				0.62	3.31	1.0	987	294	1649	1600×1050×1150	
500				0.74	3.92	1.0	1213	315	1880	1650×1050×1200	
630				4.5	0.92	4.77	0.9	1376	362	2258	1650×1120×1220



## MINING EXPLOSION ISOLATION DRY TRANSFORMER

### Features of Products

The KBSG series mining explosion isolation dry transformer conforms to new GB 8286, mineral product separates explode migration transformer substation requests. Insulating 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 mountain, tunnel of explosion danger etc. environment, also be app licable to startage with air and steam environment which decays metal and breakage to insulate. Settle the frequency as 50 Hz, primary voltage is 6 kVs or 10 kVs, and auterqender not to connect ground for the power system. use various, mctra equipments in the environment with various use electricly device to provide power supply.

### Standard

JB3955-1993; GB1094.1~2-1996; GB12173-2008; GB1094.3-2003; GB1094.5-2008

### Type Meaning

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Rated voltage  
Rated capacity  
Dry type  
Three-phase  
Explosion isolation type  
Mining use



### Using environment and working condition

1. The elevation is less than 1000m, the special environment gives the explanation in addition;
2. Ambient temperature:  
 Highest temperature +40°C;  
 Lowest temperature -5°C;  
 Maximum daily average temperature +30°C;  
 Maximum annual average temperature +20°C;  
 Lowest outdoor air temperature -5°C;
3. The relative humidity is less than 35% (When the air temperature is 25°C.);
4. In has the methane and the coal dust, also has the explosion hazard in the mine pit;
5. Does not have, the vibration as well as with the gradient does not surpass in 15° environment;
6. Does not have sufficiently the dipping and the insulation gas and the steam;
7. No-water drop place;
8. Power supply voltage profile is approximate to the sine wave;
9. The three-phase supply voltage approximate is symmetrical;(When extracts this condition stipulation, separate consultation)

### KBSG series 6kV mining explosion isolation dry type transformer technical data

Rated capacity (kVA)	HV/LV (kV)	Vector group	Impedance voltage (%)	Loss (kW)		No-load current (%)	(L×W×H) Outline dimension (mm)	Weight (kg)	Gauge (mm)	
				No-load	Load					
50	6±5%	Yy0 (d11)	4	350	550	2.5	2225×950×1165	1350	600	
100			4	520	920	2.5	2500×950×1430	1600		
200			4	820	1550	2	2640×950×1445	2050		
250			4	950	1800	2	2750×965×1530	2300		
315			4	1100	2150	1.8	2830×975×1540	2500		
400			4	1300	2600	1.8	2830×995×1550	2650		
500			4	1500	3100	1.5	2850×1050×1570	3100		
630			4	1800	3680	1.5	3020×1080×1450	4310		
800		0.693/0.4 1.2/0.693 1.2 3.45	Yy0 (d11) Dyn11	4	2050	4500	1.0	3020×1080×1510	4650	600 900
1000				4	2550	5400	1.0	3030×1130×1540	5150	
1250				4	2750	6500	1.0	3120×1160×1610	5900	
1600				4	3350	8000	0.8	3120×1200×1750	7250	
2000				4.5	3800	9500	0.6	3225×1220×1790	10820	
2500				5	4500	10600	0.6	3580×1230×1850	13850	
3150				5.5	5300	12500	0.6	3820×1250×1890	18250	
4000				6	6100	14000	0.6	3930×1400×1920	20310	

### KBSG series 11kV mining explosion isolation dry type transformer technical data

Rated capacity (kVA)	HV/LV (kV)	Vector group	Impedance voltage (%)	Loss (kW)		No-load current (%)	(L×W×H) Outline dimension (mm)	Weight (kg)	Gauge (mm)	
				No-load	Load					
50	11±5%	Yy0 (d11)	4	390	680	2.5	2310×950×1295	1400	600	
100			4	560	1050	2.5	2430×950×1430	1800		
200			4	950	1800	2	2730×950×1525	2200		
250			4	1100	2100	2	2760×950×1540	2500		
315			4	1300	2500	1.8	2800×980×1550	2800		
400			4	1500	3000	1.8	2950×1050×1610	3000		
500			4	1750	3500	1.5	2950×1050×1610	3500		
630			4	2000	4100	1.5	3200×1080×1450	4400		
800		0.693/0.4 1.2/0.693 1.2 3.45	Yy0 (d11) Dyn11	4	2300	5100	1.2	3200×1080×1600	4700	600 900
1000				4.5	2600	6100	1.2	3200×1110×1675	5900	
1250				4.5	3100	7400	1.0	3250×1125×1740	6500	
1600				5	3800	8500	1.0	3450×1245×1830	8300	
2000				5	4500	9700	0.7	3665×1250×1900	10900	
2500				5.5	5200	10800	0.7	3780×1390×1900	13330	
3150				5.5	6100	12800	0.7	3880×1390×1900	18350	
4000				6	7000	15000	0.7	4210×1450×1900	20910	



Website: [www.wzebl.com](http://www.wzebl.com)

Tel: 86-577-27885177

Ad: No. 10, Huxin Road, Liushi, Yueqing, Wenzhou, Zhejiang, China.

Email: [wzebl@wzebl.com](mailto:wzebl@wzebl.com)

Fax: 86-577-27885155

