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CNC

CNC Deliver
Power For Better Life

POWER TRANSFORMER

- Oil immersed Transformer
- Dry-type Transformer

• Oil immersed Transformer • Dry-type Transformer

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PRODUCT RANGE

- Oil immersed Transformer
- Dry-type Transformer

Company profile

CNC was founded in 1988 specialized in Low-voltage electrical and Power Transmission and Distribution industries. We provide our customer with profitable growth by offering integrated comprehensive electrical solution.

CNC key value is innovation and quality to ensure clients with safe, reliable products. We set up advanced assembly line, test center, R&D Center and quality control center. We have got the certificates of ISO9001, ISO14001, OHSAS18001 and CE, CB, SEMKO, KEMA, TUV etc.

As a leading manufacturer of electrical products in China, our business covers over 100 countries.

- China Top 500 Enterprise
- China Top 500 Manufacturing Enterprise
- China Top 100 Industrial Electrical Enterprise
- National High-tech Enterprise



Oil Immersed Transformer

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Structural Feature

Iron core

The core is made of cold rolled,granular-oriented,low-loss and high magnetic conductive silicon steel sheet,which is of multi-step completely tited structure to reduce the loss and noice.



Structural Feature

Winding

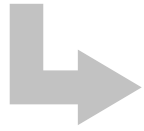
Winding adopts entanglement or inner screened continuous type with phase insulation structure to ensure insulating strength.



Structural Feature

Active-parts assembly

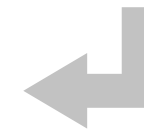
Adoption of whole assembled phase insulation so as to reduce the assembly time and effectively guarantee the dimension and shape of the insulation structure.



Structural Feature

Routine test

After assembly, strict pre-delivery test according to standard, with exquisite testing technique and equipments to provide high and reliable products.





S(B)H15 series

SBH15 Series 10kV Immersed Amorphous Alloy Core Distribution Transformer Level

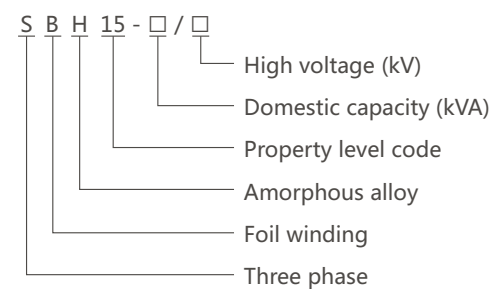
Product description

1. Amorphous core distribution transformers. Core is its amorphous alloy with soft magnetic material's characteristics can further reduce the distribution system for loss and reduce air pollution. This new transformer transformer compared with the conventional silicon steel, cut 80% of the no-load loss is efficient and energy-saving effect. Superscript reached the world's advanced level.
2. Amorphous alloy is a new energy-saving materials, iron, boron and other elements of solid materials used in producing rapid condensation urgent Arts, to their physical properties and performance of non-crystal metal atoms arranged disorderly, it is totally different from the crystal structure with silicon steel was more conducive to magnetization and magnetic. This new materials for transformer cores. Operating pressure changes at 100-120 times per second magnetized by the magnetic and said to be relatively easy thus greatly reducing the core of the no-load loss, but also reduce emissions if used in oil-immersed transformers CO, SO.NOX and other harmful gases, and has been called the 20th century's "green materials."
3. SBH15-based amorphous alloy core distribution transformer products that both single or three-phase five-volume box cores. Core Molding frame clamping plates, foil around for the type of low voltage windings so low loss, the short circuit capacity. advanced structural reasonable overall performance indicators have reached the world's advanced level.

Implementation of the standards

1. GB1094.1-1996 power transformers part 1, general provisions;
2. GB1094.2-1996 power transformers, part 2 wenzhou;
3. Part 3 GB1094.3-2003 power transformer insulation, insulation and the outer insulating air space experience;
4. GB1094.5-2003 power transformer short-circuit under Part 5;
5. JB/T10318-2002 amorphous alloy core distribution transformers immersed technical parameters and requirements;

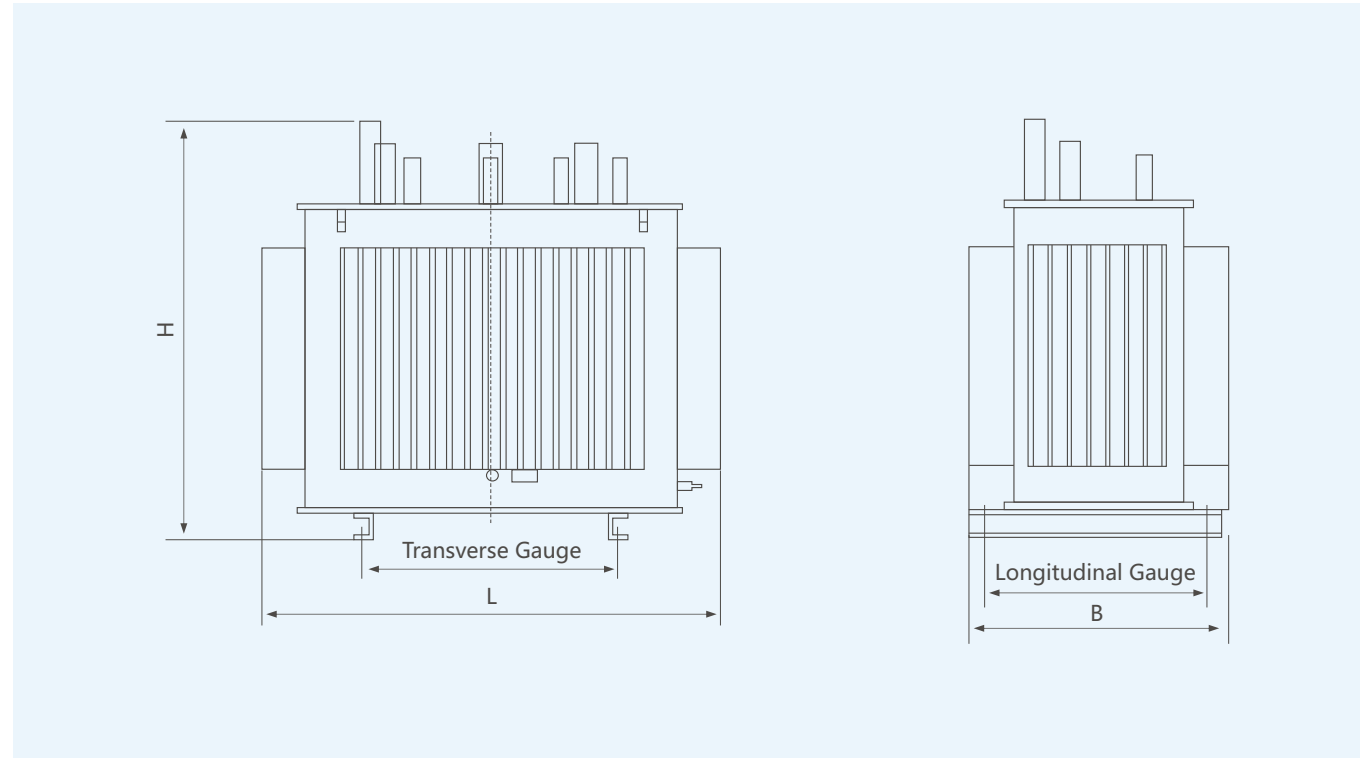
Models and meaning



Main technical parameters

Type	Rated capacity (kVA)	No-loadloss (W)	No-load current (%)	Load loss 75°C (W)		Short circuit impedance (%)	Noise level (db)
				(Y)	(D)		
S(B)H15-50/10	50	43	1.3	870	910	4	50
S(B)H15-100/10	100	75	1.0	1500	1580	4	52
S(B)H15-160/10	160	100	0.7	2200	2310	4	54
S(B)H15-200/10	200	120	0.7	2600	2730	4	56
S(B)H15-250/10	250	140	0.7	3050	3200	4	56
S(B)H15-315/10	315	170	0.5	3650	3830	4	58
S(B)H15-400/10	400	200	0.5	4300	4520	4	58
S(B)H15-500/10	500	240	0.5	5150	5410	4	60
S(B)H15-630/10	630	320	0.3	6200	6200	4.5	60
S(B)H15-800/10	800	380	0.3	7500	7500	4.5	62
S(B)H15-1000/10	1000	450	0.3	10300	10300	4.5	62
S(B)H15-1250/10	1250	530	0.3	12000	12000	4.5	65
S(B)H15-1600/10	1600	630	0.2	14500	14500	4.5	65
S(B)H15-2000/10	2000	750	0.2	17400	17400	5	65
S(B)H15-2500/10	2500	900	0.2	20200	20200	5	67

Outline and size



Type	Rated capacity (kVA)	The dimension (mm) L×B×H	Gauge (mm)		Oil weight (kg)	Total weight (kg)
			Transverse	Longitudinal		
S(B)H15-50/10	50	950×620×1040	660	580	160	680
S(B)H15-100/10	100	1060×770×1070	820	720	180	880
S(B)H15-160/10	160	1100×830×1200	820	760	200	1100
S(B)H15-200/10	200	1150×850×1250	820	760	220	1190
S(B)H15-250/10	250	1260×870×1200	820	760	250	1350
S(B)H15-315/10	315	1350×910×1250	820	840	280	1600
S(B)H15-400/10	400	1450×920×1300	820	840	330	1900
S(B)H15-500/10	500	1410×960×1260	820	840	350	2100
S(B)H15-630/10	630	1900×980×1450	1070	840	420	2460
S(B)H15-800/10	800	1980×1000×1350	1070	900	500	2900
S(B)H15-1000/10	1000	2060×1160×1310	1070	1020	550	3300
S(B)H15-1250/10	1250	2160×1190×1450	1070	1020	680	4000
S(B)H15-1600/10	1600	2250×1380×1600	1070	1220	750	4600
S(B)H15-2000/10	2000	2410×1460×1620	1070	1220	840	5300
S(B)H15-2500/10	2500	2520×1520×1680	1070	1380	950	6200

Oil Immersed Non-excitation Tap-changing Transformer of 35kV and Below

General

1. This kind of product is applied to power system of three-phase, 50Hz as well as 35kV and below, it is the main transformer equipment of medium and small-sized transformer substation, supplies power distribution, power and illumination for the industry and agriculture.
2. The company introduces in domestic and overseas advanced technique, adopts the latest material and optimizes design, which enables the product structure more reasonable, and greatly improves the product electric strength, mechanical strength and heat-sinking capability. S9 series product has passed the short-circuit test prepared by Wuhan High Voltage Research Institute and also the test prepared by National Center for Quality Supervision & Test of Transformer.



S9 type oil immersed power transformer of 35kV



S11(13)-M type full sealed oil immersed distribution transformer of 10kV

Structural Features

1. Iron core
The iron core is made of high quality cold rolled silicon steel sheet, adopts the kinds of types like full-bias multi-step seam, no punched hole, winding iron core, etc., besides, both stainless steel stay plate and epoxy glass belt are for clamping it.
2. Coil
High quality enameled wire that is made of oxygen free copper or paper wrapped flat copper wire is used as conductor, the coils is provided kinds of types such as drum type, spiral type, improved spiral type, continuous type and interleaved type.
3. Oil tank
The oil tank is of barrel type or shield type, the heat-sinking element is provided with corrugated plate or plated radiator.
The transformer has not been equipped with trolley, but there is a base that accords with national standard rail gauge welded at the bottom of box for your convenience.
4. Safety protection device
According to national standard and users' requirements, the transformer may be equipped with following safety protection devices: pressure relief valve, gas relay, signal thermometer, oil purifier, oil conservator, oil sampling valve, etc.

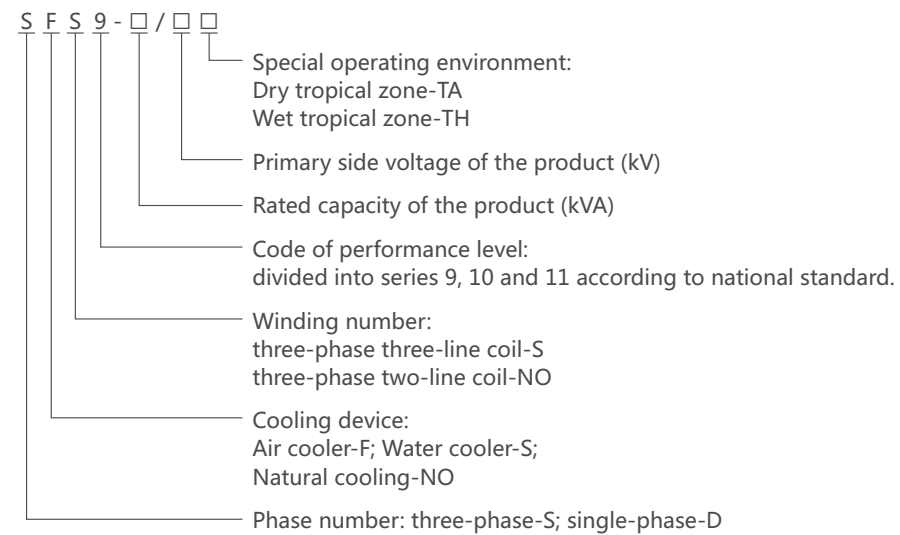
Implementation of the standards

GB1094.1-1996 GB1094.2-1996 GB1094.3-2003 GB1094.5-2003
GB/T6451-2008 GB311.1-1997 JB/T10088-2004

Service Environment

1. Altitude: ≤1000m
2. Ambient temperature: the highest temperature +40°C, the highest monthly mean temperature +30°C; The highest yearly mean temperature +20°C.
3. Installation environment: inclination of installation place < 3°, no obvious dirt and corrosive or flammable gas.

Models and meaning



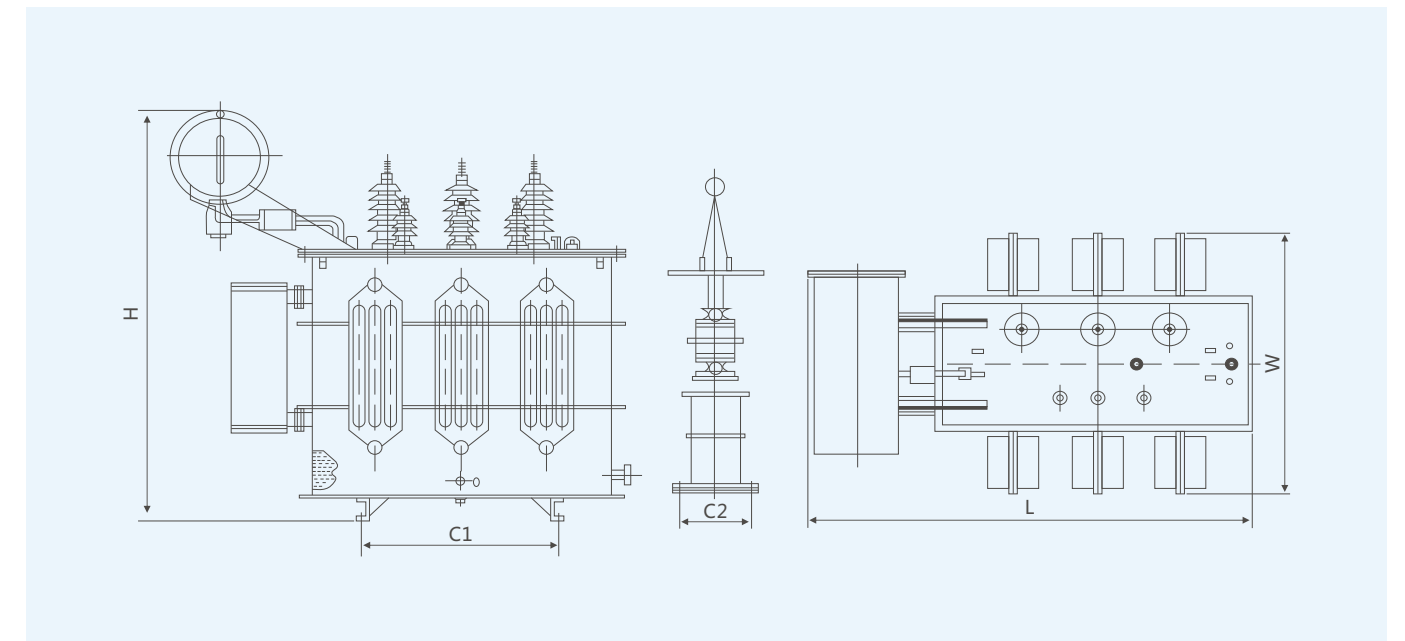
S9 type double-winding non-excitation tap-changing oil immersed power transformer of 35kV

Main technical parameters

Rated capacity (kVA)	Voltage			Connection symbol	Loss(kW)		No-load current (%)	Short circuit impedance (%)	Weight (kg)	
	H.V (kV)	Tapping range of high voltage	L.V (kV)		Load loss	No-load loss			Oil weight	Total weight
800	38.5 35	±5% ±2×2.5%	3.15 6.3 10.5	Yd11	9.9	1.25	1.05	6.5	790	3040
1000					12.15	1.48	1		850	3410
1250					14.67	1.76	0.9		950	3890
1600					17.55	2.13	0.85		1060	4620
2000					19.35	2.61	0.75		1195	5345
2500					20.7	3.15	0.75		1285	5960
3150					24.3	3.87	0.7		1470	6695
4000					28.8	4.64	0.7		1760	8350
5000					33.03	5.49	0.6		1850	9400
6300					36.90	6.57	0.6		2200	11300
8000				40.5	9	0.55	2450	13240		
10000				47.7	10.6	0.55	3230	16600		
12500				56.7	12.6	0.5	3585	19400		
16000				69.3	15.3	0.5	4420	23100		
20000				84.0	18.09	0.5	6060	29700		
25000	99.0	21.51	0.4	6490	38200					
31500	119.0	25.65	0.4	6890	40300					

Outline and size

S9-800-31500/35 transformer outline and installation size



Note: The outline dimensions and track gauge dimensions covered in the catalog are only for reference. Welcome to contact us for accurate dimensions

Oil Immersed Transformer

Outline size list

Rated capacity (kVA)	Outline and installation size (mm)				
	L	W	H	C1	C2
800	2200	1290	2120	820	820
1000	2340	1340	2170	820	820
1250	2450	1480	2190	820	820
1600	2570	1550	2250	820	820
2000	2690	1670	2300	1070	1070
2500	2720	2230	2365	1070	1070
3150	2830	2480	2410	1070	1070
4000	2890	2560	2530	1070	1070
5000	2910	2710	2790	1070	1070
6300	3050	2830	3080	1070	1070
8000	3160	2950	3210	1475	1475
10000	3290	3190	3400	1475	1475
12500	3370	3280	3540	1475	1475
16000	3460	3340	3690	1475	1475
20000	3980	3470	3850	1475	1475
25000	4630	3930	3900	1475	1475
31500	5160	4210	3960	1475	1475

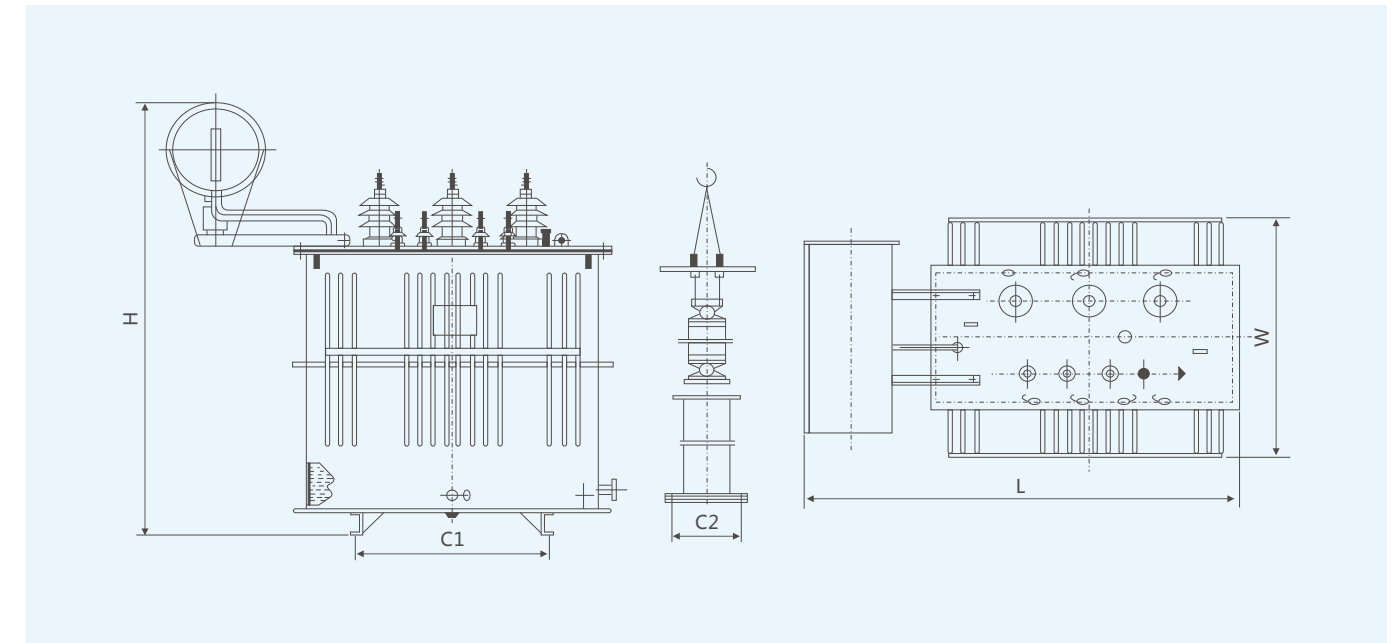
S9 type double-winding non-excitation tap-changing oil immersed distribution transformer of 35kV

Main technical parameters

Rated capacity (kVA)	Voltage			Connection symbol	Loss(kW)		No-load current (%)	Short circuit impedance (%)	Weight (kg)	
	H.V (kV)	Tapping range of high voltage	L.V (kV)		Load loss	No-load loss			Oil weight	Total weight
50	38.5 35	±5% ±2×2.5%	10.5 6.3 3.15 0.4	Dyn11 Yyno Yd11	1.22	0.22	2	6.5	265	860
100					2.03	0.31	1.8		310	1150
125					2.39	0.34	1.75		320	1190
160					2.84	0.37	1.65		360	1230
200					3.33	0.43	1.55		390	1300
250					3.96	0.51	1.4		425	1480
315					4.77	0.61	1.4		460	1590
400					5.76	0.74	1.3		490	1760
500					6.93	0.87	1.3		540	2150
630					8.28	1.04	1.25		620	2380
800					9.9	1.25	1.05		780	2800
1000					12.15	1.49	1		910	3850
1250					14.67	1.76	0.85		1060	4600
1600	17.55	2.13	0.75	1210	5200					

Oil Immersed Transformer

Outline and size



Note: The outline dimensions and track gauge dimensions covered in the catalog are only for reference. Welcome to contact us for accurate dimensions

Outline size list

Rated capacity (kVA)	Outline and installation size (mm)				
	L	W	H	C1	C2
50	1100	840	1650	550	550
100	1180	950	1950	550	550
125	1200	980	2000	550	550
160	1220	1030	2015	660	660
200	1350	1100	2050	660	660
250	1450	1200	2100	660	660
315	1700	1220	2260	660	660
400	1900	1250	2350	660	660
500	2100	1300	2450	820	820
630	2200	1330	2500	820	820
800	2300	1350	2650	820	820
1000	2380	1370	2700	820	820
1250	2400	1390	2830	820	820
1600	2460	1450	2950	820	820

Oil Immersed Transformer

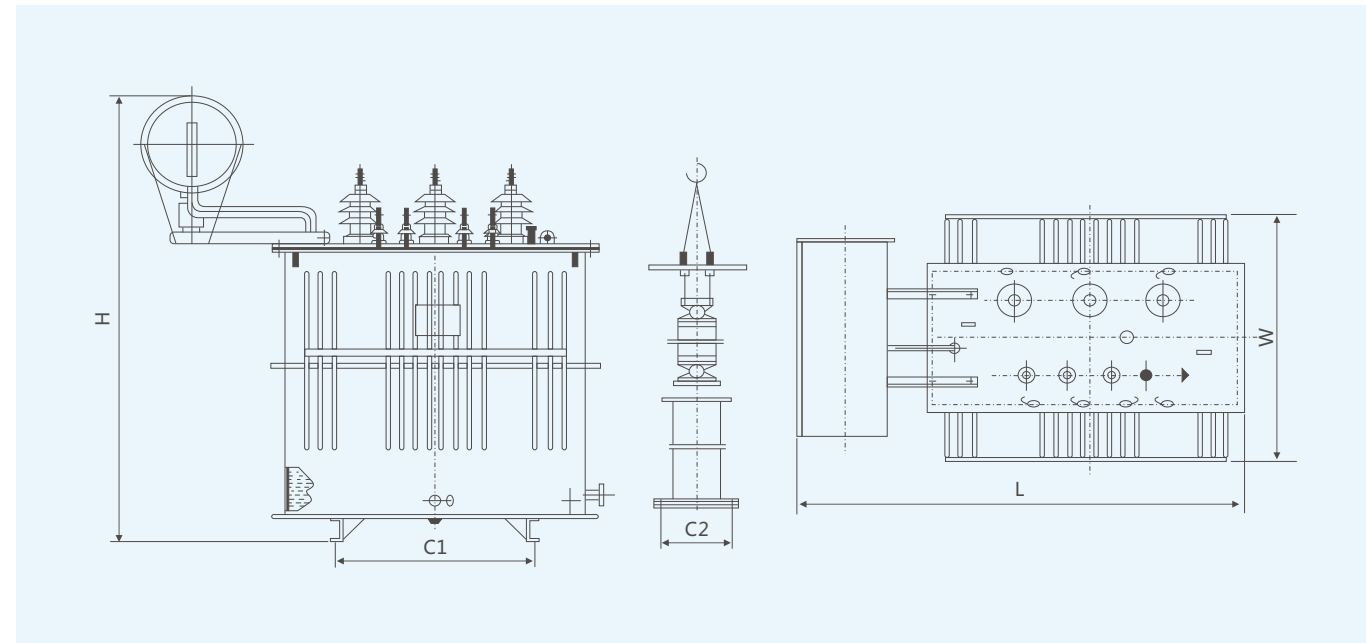
S11 type double-winding non-excitation tap-changing oil immersed distribution transformer of 6~10kV

Main technical parameters

Rated capacity (kVA)	Voltage			Connection symbol	Loss(kW)			No-load current (%)	Short circuit impedance (%)	Weight (kg)	
	H.V (kV)	Tapping range of high voltage	L.V (kV)		Load loss		No-load loss			Oil weight	Total weight
					(Y)	(D)					
30	6 6.3 6.6 10 10.5 11	±5% ±2×2.5%	0.4	Yyno Dyn11	0.60	0.63	0.10	2.1	4	97	350
50					0.87	0.91	0.13	2.0		110	430
63					1.04	1.06	0.15	1.9		140	500
80					1.25	1.31	0.18	1.8		175	580
100					1.50	1.58	0.20	1.6		195	690
125					1.80	1.89	0.24	1.5		220	760
160					2.20	2.31	0.28	1.4		230	910
200					2.60	2.73	0.33	1.3		260	1035
250					3.05	3.20	0.40	1.2	290	1220	
315					3.65	3.83	0.48	1.1	310	1450	
400					4.30	4.52	0.57	1.0	350	1750	
500					5.10	5.41	0.68	1.0	410	2170	
630					6.20	6.20	0.81	0.9	490	2450	
800					7.50	7.50	0.98	0.8	580	2980	
1000					10.30	10.30	1.15	0.7	710	3590	
1250					12.00	12.00	1.36	0.6	770	4410	
1600	14.50	14.50	1.64	0.6	1000	5600					

Outline and size

S11-10~2000/10 transformer outline and installation size



Note: The outline dimensions and track gauge dimensions covered in the catalog are only for reference. Welcome to contact us for accurate dimensions

Oil Immersed Transformer

Outline size list

Rated capacity (kVA)	Outline and installation size (mm)				
	L	W	H	C1	C2
30	930	587	998	400	400
50	995	595	1035	400	400
63	1020	745	1050	400	400
80	1035	750	1095	400	400
100	1040	760	1145	550	550
125	1080	770	1210	550	550
160	1120	785	1230	550	550
200	1210	810	1270	550	550
250	1270	825	1420	550	550
315	1310	840	1490	660	660
400	1365	1010	1525	660	660
500	1395	1025	1590	660	660
630	1515	1060	1625	820	820
800	1850	1180	1780	820	820
1000	1890	1350	1840	820	820
1250	1945	1420	1890	820	820
1600	2295	1400	1980	820	820

S11 type double-winding non-excitation tap-changing full sealed oil immersed distribution transformer of 6~10kV

Main technical parameters

Rated capacity (kVA)	Voltage			Connection symbol	Loss(kW)			No-load current (%)	Short circuit impedance (%)	Weight (kg)	
	H.V (kV)	Tapping range of high voltage	L.V (kV)		Load loss		No-load loss			Oil weight	Total weight
					(Y)	(D)					
30	6 6.3 6.6 10 10.5 11	±5% ±2×2.5%	0.4	Yyno Dyn11	0.60	0.63	0.10	2.1	4	95	330
50					0.87	0.91	0.13	2.0		105	420
63					1.04	1.09	0.15	1.9		135	480
80					1.25	1.31	0.18	1.8		165	565
100					1.50	1.58	0.20	1.6		185	655
125					1.80	1.89	0.24	1.5		205	745
160					2.20	2.31	0.28	1.4		225	865
200					2.60	2.73	0.33	1.3		250	1005
250					3.05	3.20	0.40	1.2	275	1180	
315					3.65	3.83	0.48	1.1	290	1400	
400					4.30	4.52	0.57	1.0	335	1695	
500					5.15	5.41	0.68	1.0	390	2110	
630					6.20	6.20	0.81	0.9	485	2390	
800					7.50	7.50	0.98	0.8	565	2920	
1000					10.30	10.30	1.15	0.7	690	3510	
1250					12.00	12.00	1.36	0.6	755	4350	
1600	14.50	14.50	1.64	0.6	960	5520					

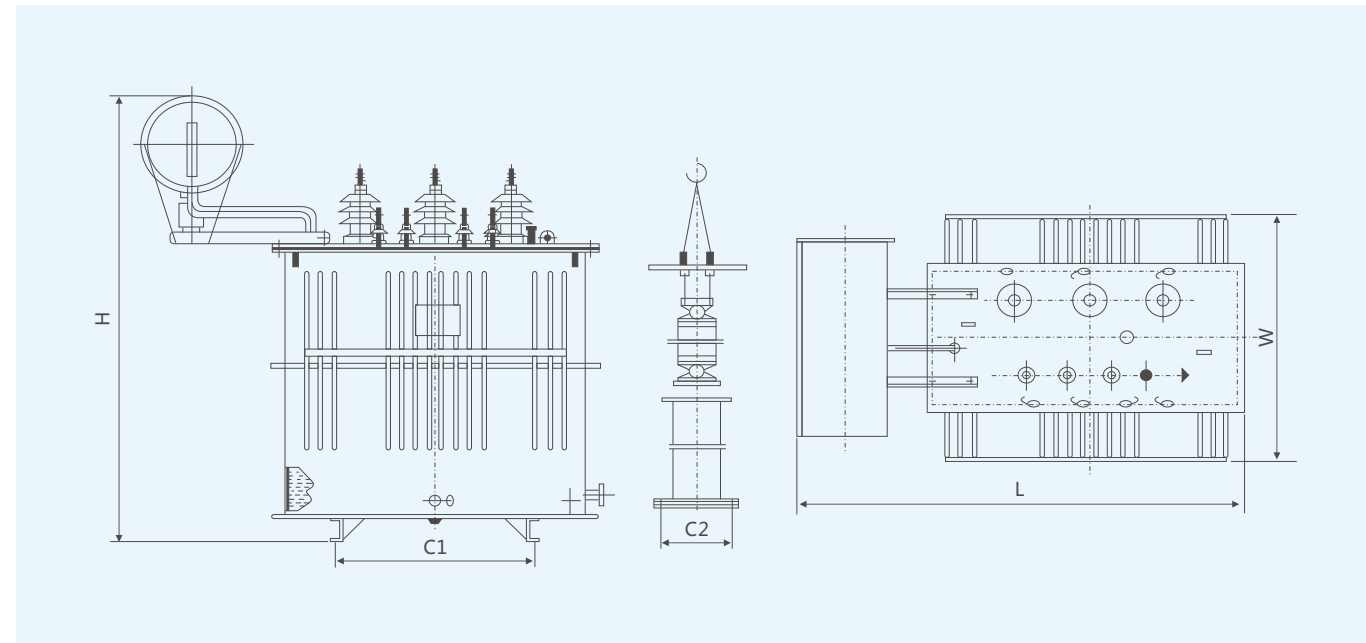
S13 type double-winding non-excitation tap-changing oil immersed distribution transformer of 6~10kV

Main technical parameters

Rated capacity (kVA)	Voltage			Connection symbol	Loss(kW)			No-load current (%)	Short circuit impedance (%)	Weight (kg)	
	H.V (kV)	Tapping range of high voltage	L.V (kV)		Load loss		No-load loss			Oil weight	Total weight
					(Y)	(D)					
30	6	±5% ±2×2.5%	0.4	Yyno Dyn11	0.60	0.63	0.08	2.1	4	97	350
50					0.87	0.91	0.10	2.0		110	430
63					1.04	1.06	0.11	1.9		140	500
80					1.25	1.31	0.13	1.8		175	580
100					1.50	1.58	0.15	1.6		195	690
125					1.80	1.89	0.17	1.5		220	760
160					2.20	2.31	0.20	1.4		230	910
200					2.60	2.73	0.24	1.3		260	1035
250					3.05	3.20	0.29	1.2	290	1220	
315					3.65	3.83	0.34	1.1	310	1450	
400					4.30	4.52	0.41	1.0	350	1750	
500					5.10	5.41	0.48	1.0	410	2170	
630					6.20	6.20	0.57	0.9	490	2450	
800					7.50	7.50	0.70	0.8	580	2980	
1000					10.30	10.30	0.83	0.7	710	3590	
1250					12.00	12.00	0.97	0.6	770	4410	
1600	14.50	14.50	1.17	0.6	1000	5600					

Outline and size

S13-10~2000/10 transformer outline and installation size



Note: The outline dimensions and track gauge dimensions covered in the catalog are only for reference. Welcome to contact us for accurate dimensions

Outline size list

Rated capacity (kVA)	Outline and installation size (mm)				
	L	W	H	C1	C2
30	930	587	998	400	400
50	995	595	1035	400	400
63	1020	745	1050	400	400
80	1035	750	1095	400	400
100	1040	760	1145	550	550
125	1080	770	1210	550	550
160	1120	785	1230	550	550
200	1210	810	1270	550	550
250	1270	825	1420	550	550
315	1310	840	1490	660	660
400	1365	1010	1525	660	660
500	1395	1025	1590	660	660
630	1515	1060	1625	820	820
800	1850	1180	1780	820	820
1000	1890	1350	1840	820	820
1250	1945	1420	1890	820	820
1600	2295	1400	1980	820	820

S13type double-winding non-excitation tap-changing full sealed oil immersed distribution transformer of 6~10kV

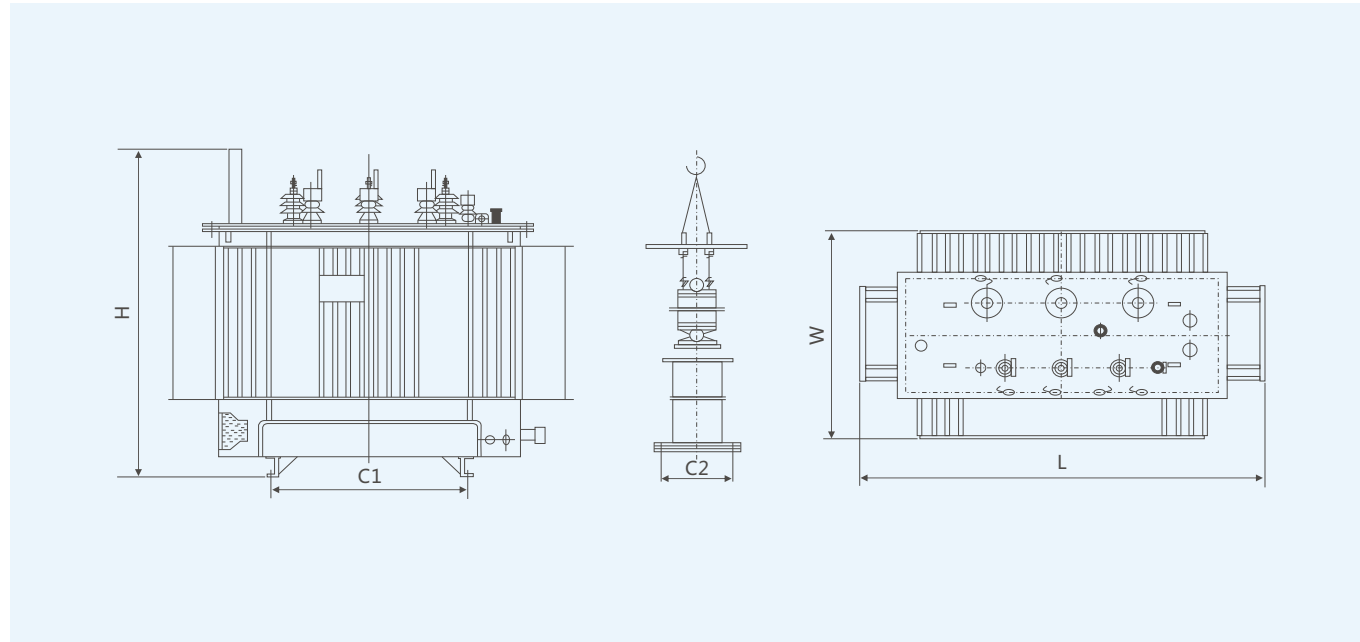
Main technical parameters

Rated capacity (kVA)	Voltage			Connection symbol	Loss(kW)			No-load current (%)	Short circuit impedance (%)	Weight (kg)	
	H.V (kV)	Tapping range of high voltage	L.V (kV)		Load loss		No-load loss			Oil weight	Total weight
					(Y)	(D)					
30	6	±5% ±2×2.5%	0.4	Yyno Dyn11	0.60	0.63	0.08	2.1	4	95	330
50					0.87	0.91	0.10	2.0		105	420
63					1.04	1.09	0.11	1.9		135	480
80					1.25	1.31	0.13	1.8		165	565
100					1.50	1.58	0.15	1.6		185	655
125					1.80	1.89	0.17	1.5		205	745
160					2.20	2.31	0.20	1.4		225	865
200					2.60	2.73	0.24	1.3		250	1005
250					3.05	3.20	0.29	1.2	275	1180	
315					3.65	3.83	0.34	1.1	290	1400	
400					4.30	4.52	0.41	1.0	335	1695	
500					5.15	5.41	0.48	1.0	390	2110	
630					6.20	6.20	0.57	0.9	485	2390	
800					7.50	7.50	0.70	0.8	565	2920	
1000					10.30	10.30	0.83	0.7	690	3510	
1250					12.00	12.00	0.97	0.6	755	4350	
1600	14.50	14.50	1.17	0.6	960	5520					

Oil Immersed Transformer

Outline and size

S13-M-30~2000/10 transformer outline and installation size



Note: The outline dimensions and track gauge dimensions covered in the catalog are only for reference. Welcome to contact us for accurate dimensions

Outline size list

Rated capacity (kVA)	Outline and installation size (mm)				
	L	W	H	C1	C2
30	755	655	945	400	400
50	825	665	985	400	400
63	840	675	1000	400	400
80	855	680	1045	400	400
100	890	690	1095	550	550
125	925	700	1150	550	550
160	960	715	1180	550	550
200	1005	800	1215	550	550
250	1330	755	1240	550	550
315	1370	770	1310	660	660
400	1425	810	1340	660	660
500	1445	815	1405	660	660
630	1600	915	1470	820	820
800	1645	935	1585	820	820
1000	1855	1125	1590	820	820
1250	1910	1130	1650	820	820
1600	2010	1220	1740	820	820

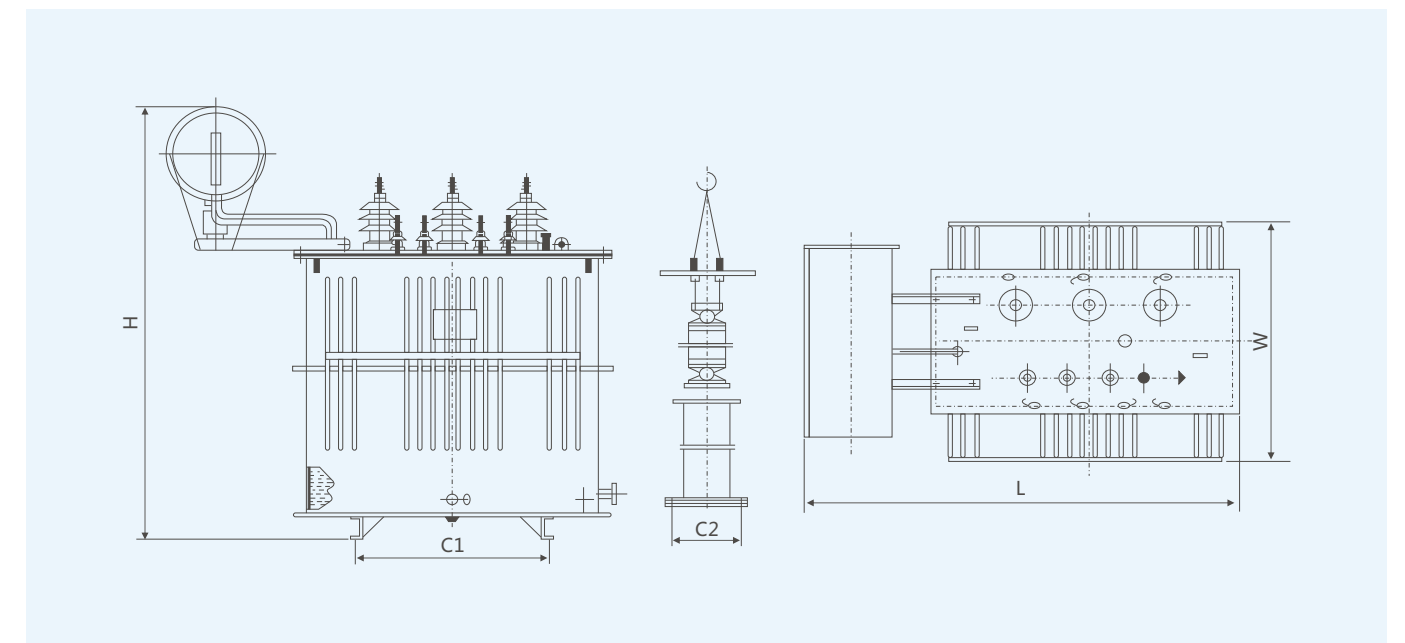
Oil Immersed Transformer

S9 type double-winding non-excitation tap-changing oil immersed distribution transformer of 6~10kV

Main technical parameters

Rated capacity (kVA)	Voltage			Connection symbol	Loss(kW)			No-load current (%)	Short circuit impedance (%)	Weight (kg)	
	H.V (kV)	Tapping range of high voltage	L.V (kV)		Load loss		No-load loss			Oil weight	Total weight
					(Y)	(D)					
30	6	±5% ±2×2.5%	0.4	Yyno Dyn11	0.60	0.63	0.13	2.1	4	65	275
50					0.87	0.91	0.17	2.0		80	360
63					1.04	1.06	0.20	1.9		87	415
80					1.25	1.31	0.24	1.8		95	470
100					1.50	1.58	0.29	1.6		105	545
125					1.80	1.89	0.34	1.5		120	640
160					2.20	2.31	0.40	1.4		135	745
200					2.60	2.73	0.48	1.3		160	880
250					3.05	3.20	0.56	1.2		200	1035
315					3.65	3.83	0.67	1.1		235	1220
400					4.30	4.52	0.80	1.0	260	1405	
500					5.10	5.41	0.96	1.0	295	1655	
630					6.20	6.20	1.20	0.9	360	1975	
800					7.50	7.50	1.40	0.8	430	2355	
1000					10.30	10.30	1.70	0.7	520	2715	
1250					12.00	12.00	1.95	0.6	585	3335	
1600	14.50	14.50	2.40	0.6	660	3855					

Outline and size



Note: The outline dimensions and track gauge dimensions covered in the catalog are only for reference. Welcome to contact us for accurate dimensions

Oil Immersed Transformer

Outline size list

Rated capacity (kVA)	Outline and installation size (mm)				
	L	W	H	C1	C2
30	800	460	880	400	450
50	850	580	940	400	450
63	860	625	960	550	450
80	870	665	975	550	450
100	880	670	1005	550	450
125	890	750	1040	550	550
160	900	820	1060	550	550
200	910	830	1080	550	550
250	1200	770	1125	550	560
315	1260	825	1185	550	560
400	1285	845	1240	660	750
500	1460	1015	1380	660	750
630	1615	1060	1310	660	660
800	1676	1110	1375	660	660
1000	1726	1120	1425	820	820
1250	1896	1256	1485	820	820
1600	1975	1360	1545	820	820

S9 type double-winding non-excitation tap-changing oil immersed power transformer of 35kV

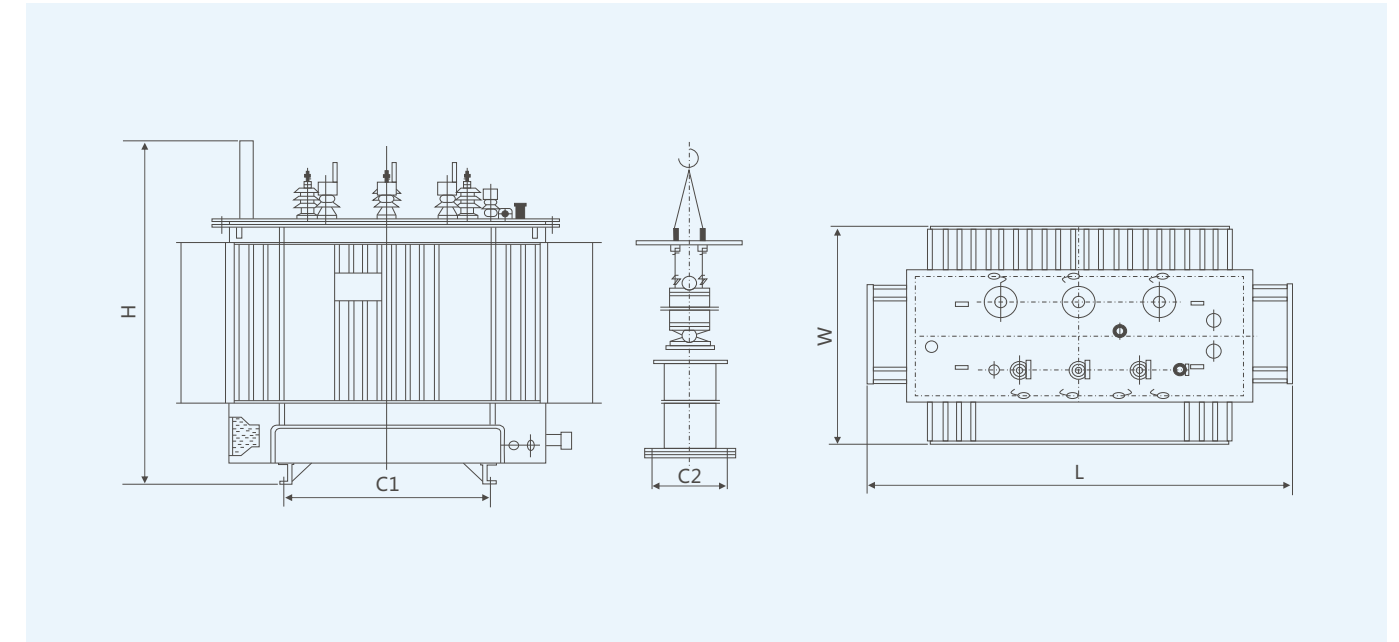
Main technical parameters

Rated capacity (kVA)	Voltage			Connection symbol	Loss(kW)		No-load current (%)	Short circuit impedance (%)	Weight (kg)	
	H.V (kV)	Tapping range of high voltage	L.V (kV)		Load loss	No-load loss			Oil weight	Total weight
30	6	±5% ±2×2.5%	0.4	Yyno Dyn11	0.6	0.13	2.8	4	75	295
50					0.87	0.17	2.5		88	395
63					1.04	0.2	2.4		95	420
80					1.25	0.25	2.2		103	480
100					1.5	0.29	2.1		115	540
125					1.8	0.34	2		130	645
160					2.2	0.4	1.9		145	740
200					2.6	0.48	1.9		175	885
250					3.05	0.56	1.7	195	1010	
315					3.65	0.67	1.6	230	1205	
400					4.3	0.8	1.5	255	1375	
500					5.1	0.96	1.4	285	1620	
630					6.2	1.2	1.3	350	1960	
800					7.5	1.4	1.2	405	2310	
1000					10.3	1.7	1.1	490	2690	
1250					12	1.95	1	550	3315	
1600	14.5	2.4	0.9	625	3985					

Oil Immersed Transformer

Outline and size

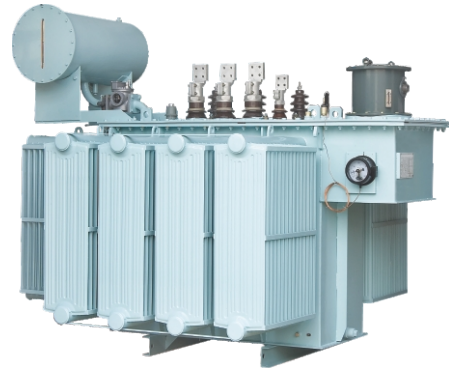
S9-M-30~2000/10 transformer outline and installation size



Note: The outline dimensions and track gauge dimensions covered in the catalog are only for reference. Welcome to contact us for accurate dimensions

Outline size list

Rated capacity (kVA)	Outline and installation size (mm)				
	L	W	H	C1	C2
30	755	655	945	400	400
50	825	665	985	400	400
63	840	675	1000	400	400
80	855	680	1045	400	400
100	890	690	1095	550	550
125	925	700	1155	550	550
160	960	715	1180	550	550
200	1005	800	1215	550	550
250	1330	755	1240	550	550
315	1370	770	1310	660	660
400	1425	810	1340	660	660
500	1445	815	1405	660	660
630	1600	915	1470	820	820
800	1645	935	1585	820	820
1000	1855	1125	1590	820	820
1250	1910	1130	1650	820	820
1600	2010	1220	1740	820	820



SZ9(11,13) series on-load-tap-changing power transformer of 10kV

SZ9 and SFZ9 Series Three-phase On-load-tap-changing Power Transformer of 35kV

General

1. This kind of product is applied to power system of three-phase, 50Hz as well as 35kV and below, it is the main transformer equipment of medium and small-sized transformer substation, supplies power distribution, power and illumination for the industry and agriculture.
2. The company introduces domestic and overseas advanced technique, adopts the latest material and optimizes design, which enables the product structure more reasonable, and greatly improves the product electric strength, mechanical strength and heat-sinking capability. S9 Series product has passed the short-circuit test prepared by Wuhan High Voltage Research Institute and also the test prepared by National Center for quality Supervision & Test of Transformer.



Structural Features

1. Iron core
The iron core is made of high quality cold rolled silicon steel sheet, adopts the kinds of types like full-bias multi-step seam, no punched hole, winding iron core, etc., besides, both stainless steel stay plate and epoxy glass belt are for clamping it.
2. Coil
High quality enameled wire that is made of oxygen free copper or paper wrapped flat copper wire is used as conductor, the coils is provided kinds of types such as drum type, spiral type, improved spiral type, continuous type and interleaved type.
3. Oil tank
The oil tank is of barrel type or shield type, the heat-sinking element is provided with corrugated plate or plated radiator.
The transformer has not been equipped with trolley, but there is a base that accords with national standard rail gauge welded at the bottom of box for your convenience.
4. Safety protection device
According to national standard and users' requirements, the transformer may be equipped with following safety protection devices: pressure relief valve, gas relay, signal thermometer, oil purifier, oil conservator, oil sampling valve, etc.

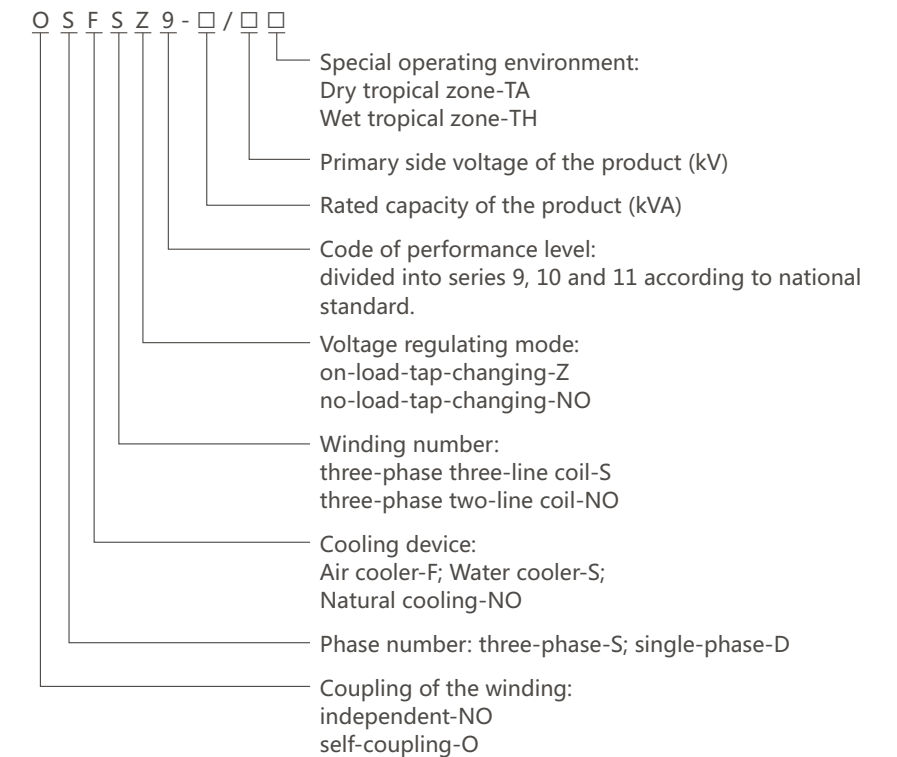
Implementation of the standards

GB1094.1-1996 GB1094.2-1996 GB1094.3-2003 GB1094.5-2003
GB/T6451-2008 GB311.1-1997 JB/T10088-2004

Service Environment

1. Altitude: ≤1000m
2. Ambient temperature: the highest temperature +40°C, the highest monthly mean temperature +30°C; The highest yearly mean temperature +20°C.
3. Installation environment: inclination of installation place < 3°, no obvious dirt and corrosive or flammable gas.

Models and meaning



Main technical parameters

SZ9 and SFZ9 series three-phase on-load-tap-changing power transformer of 35kV

Type	Rated capacity (kVA)	Voltage		Connection	Loss(kW)		No-load current (%)	Short circuit impedance (%)	Weight (t)			
		H.V (kV)	L.V (kV)		Load loss	No-load loss			Oil weight	Total weight	Adding oil weight	Transportation weight
SZ9-1600/35	1600	35±3×2.5% 38.5±3×2.5%	11 10.5 6.6 6.3	Ynd11	2.2	18.5	0.9	6.5	1.8	6.5	0.4	4.9
SZ9-2000/35	2000				2.9	20.2	0.9	6.5	2.0	7.0	0.6	6.3
SZ9-2500/35	2500				3.4	22.7	0.9	6.5	2.2	8.1	0.7	6.9
SZ9-3150/35	3150				4.1	26	0.8	7.0	2.5	9.3	0.7	7.6
SZ9-4000/35	4000				4.9	30.7	0.8	7.0	2.7	11.4	0.8	8.1
SZ9-5000/35	5000				5.8	36	0.75	7.0	3.1	12.9	0.8	10.5
SZ9-6300/35	6300	7.0	38.7	0.75	7.5	3.6	15.4	0.9	13			
SFZ9-8000/35	8000	35±3×2.5% 38.5±3×2.5%	10.5 6.3	Yd11	9.9	43	0.7	7.5	4.5	17.8	0.9	15.4
SFZ9-10000/35	10000				11.6	50.6	0.7	7.5	4.6	19.3	1.0	17.2
SFZ9-12500/35	12500				13.8	59.9	0.7	8	5.9	24.7	1.2	22.5
SFZ9-16000/35	16000				16.2	73	0.7	8	6.6	32.5	2.0	27
SFZ9-20000/35	20000				19.5	84.6	0.7	8	7.9	36.7	2.1	31
SFZ9-25000/35	25000				22.5	100.2	0.7	8	8.1	38.5	2.2	33.5
SFZ9-31500/35	31500	26.4	124	0.6	8	10.5	40.5	2.3	36			

SZ9 series three-phase on-load-tap-changing power transformer of 10kV

Type	Rated capacity (kVA)	Voltage		Connection	Loss(kW)		No-load current (%)	Short circuit impedance (%)	Weight (t)		
		H.V (kV)	L.V (kV)		Load loss	No-load loss			Oil weight	Total weight	Transportation weight
SZ9-100/10	100	10±4×2.5%	0.4	Yyno	0.36	2.5	1.8	4.0	2.2	7.7	7.7
SZ9-200/10	200	10.5±4×2.5%			0.42	3.1	1.8	4.0	3.25	12.5	12.5
SZ9-250/10	250	6.3±4×2.5%		Yd11	0.51	3.6	1.7	4.0	3.5	13.2	13.2
SZ9-315/10	315	6±4×2.5%			0.61	4.3	1.6	4.0	3.9	14.3	14.3
SZ9-400/10	400	10.5±4×2.5% 6.3±4×2.5% 6±4×2.5%	0.4	Dyn11 Yyno	0.73	5.2	1.5	4.0	4.2	17	17
SZ9-500/10	500				0.87	6.21	1.4	4.0	5.4	19.5	19.5
SZ9-630/10	630				1.12	7.65	1.3	4.5	6.2	26.2	26.2
SZ9-800/10	800				1.36	9.36	1.2	4.5	8.4	33.85	33.85
SZ9-1000/10	1000				1.59	11	1.1	4.5	9.05	42	42
SZ9-1250/10	1250				1.87	13.05	1.0	4.5	10.4	47.5	47.5
SZ9-1600/10	1600	2.39	15.57	0.9	4.5	14.5	57.6	57.6			
SZ9-2000/10	2000	10±3×2.5% 10.5±3×2.5%	0.4	Yd11	2.85	18.6	0.8	6.5	19.5	79	79
SZ9-2500/10	2500				3.25	21.5	0.8	6.5	22.7	86	86
SZ9-3150/10	3150				4.1	25.3	0.8	6.5	29.5	98	98
SZ9-4000/10	4000				5.2	29.9	0.7	6.5	32	10.5	75
SZ9-5000/10	5000				5.9	34.03	0.7	6.5	36.6	11.6	88.1
SZ9-6300/10	6300				7.2	38.5	0.7	6.5	45.6	13.3	110
SFZ9-8000/10	8000	9.6	42.5	0.7	6.5	51.2	16.63	135.5			

KS9 Series of Mining Common Type Non-excitation Tap-changing Oil Immersed Distribution Transformer



KS9(11,13) series of mining oil immersed distribution transformer

General

- KS9 series oil immersed mining transformer is suitable for central transformer substation, mining stop, general wind dypass and main wind dypass which has gas but has not explosive ganger. Moreover, it is suitable for the moisture environment.
- The iron cores of these series transformers are adopted silicon steel slice, which is made of excellent low loss crystal granule. They have the advantages such as low no-load loss, small no-load current and low noise.

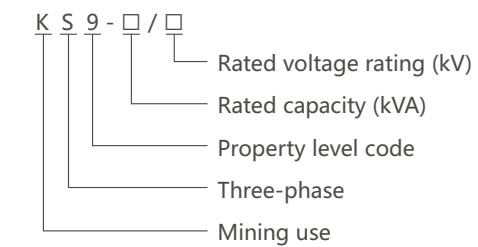
Implementation of the standards

JB3955-93 GB1094.1-1996 GB10942.2-1996
GB1094.3-2003 GB1094.5-2003

Service environment

- Installation height do not exceed altitude of 1000m (for general), pleas point it out if it has special demand;
- Ambient relative humidity no exceed 40°C;
- Amibeitn relative humidity no exceed 95% (25°C);
- No violent jounce and the vertical pitch no exceed 15 degree.

Models and meaning



Main technical parameters

SZ9 and SFZ9 series three-phase on-load-tap-changing power transformer of 35kV

Rated capacity (kVA)	Voltage (kV)	Connection	Impedance voltage (%)	Loss (kW)		No-load current (%)	Weight (t)			Boundary dimension L×B×H (mm)	Gauge vertical/horizontal (mm)
				No-load	load		Machine weight	Oil weight	Overall weight		
50	H.V: 10 6 L.V: 0.693/0.4	Yyn or Yd11	4	0.17	0.87	2.0	0.248	0.110	0.410	1240×830×1050	660/630
80				0.25	1.25	1.8	0.335	0.130	0.570	1260×830×1050	
100				0.29	1.50	1.6	0.360	0.140	0.610	1280×850×1150	
160				0.40	2.20	1.4	0.505	0.190	0.790	1355×860×1200	
200				0.48	2.60	1.3	0.585	0.210	1.050	1380×860×1250	
250				0.56	3.05	1.2	0.715	0.235	1.150	1440×890×1300	
315				0.67	3.65	1.1	0.820	0.255	1.270	1635×1020×1350	
400				0.80	4.30	1.0	0.980	0.290	1.580	1720×1070×1450	
500				0.96	5.10	1.0	1.155	0.335	1.790	1760×1080×1500	
630				1.20	6.20	0.9	1.430	0.440	2.200	1890×1120×1600	
800	1.40	7.50	0.9	1.860	0.530	2.850	1970×1170×1700	600/790			
1000	1.70	10.30	0.7	2.035	0.610	3.430	2500×1300×1700				

Note: It can supply voltage regulating range of ±0.5% or ±2×2.5% for high voltage of transformer according to the requirements.



SC(B)H15 Epoxy amorphous alloy Dry-Type transformer

SC(B)H15 Three Column Amorphous Alloy Dry-Type Transformer

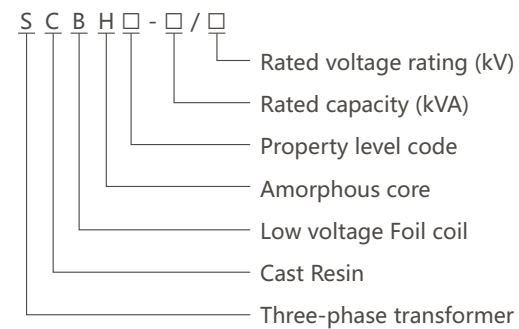
General

SCBH15 series amorphous alloy Dry-Type transformer has advanced performance in following points: low no-load loss, fire resistance and self-extinguishing, moisture resistance and maintenance-free. This series product can be applied in any place where the common dry-type transformer worked, such as airport, bus station, urban subway, high-rise construction and power station. And SCBH15 transformer can especially appropriate to be used in the energy-shortage and combustible, explosive places.

Implementation of the standards

GB 1094.11-2007 GB 1094-1996 GB/T22072-2008 GT/T17211-1998
JB/T 10088-2004 GB 4208-1993 IEC726

Models and meaning



Main technical parameters

1. Phase number: tree-phase
2. Voltage level: Primary side voltage:10kV Secondary side voltage: 0.4kV
3. Frequency: 50Hz
4. Connection symbol : Dyn11、 Yyn0 or according to the specific requirements
5. Cooling method: self cooling or forced air cooling
6. Operating environment: altitude≤ 1000m, max relative humidity 100%, ambient temperature should below 40°C
7. Insulation endurance class: F
8. Winding temperature rise: 100K



SC(B)H series epoxy resin wrapped coil and amorphous alloy dry type transformer

SC(B)H Series Epoxy Resin Wrapped Coil and Amorphous Alloy Dry Type Transformer

Product advantages

1. Super low consumption, energy economized, high power rate
2. Amorphous Alloyed material can tremendously reduce the power consumption and loss. The motor with this material will discharge much less SO₂、 CO gases, which to a large extent decelerates the pollution and greenhouse effect.
3. Operating temperature stays low, insulation aging slow, transformer service life's long
4. Wonderful overload capability, and excellent mechanical strength
5. Good Harmonic-bearing capability. When the amorphous core cross through the high-frequency flux, the motor can still work in a low core loss and low excitation current way. So that the core saturation problem can be avoided.
6. Benefit on investment returns quickly.

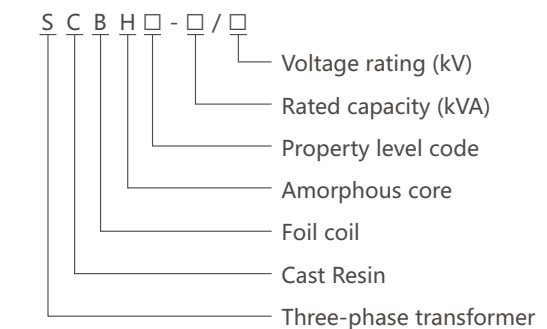
Operating conditions

1. Phase number: tree-phase
2. Voltage level: Primary side voltage:10kV Secondary side voltage: 0.4kV
3. Frequency: 50Hz
4. Connection symbol : Dyn11、 Yyn0 or according to the specific requirements
5. Cooling method: self cooling or forced air cooling
6. Operating environment: altitude≤ 1000m, max relative humidity 100%, ambient temperature should below 40°C
7. Insulation endurance class: F
8. Winding temperature rise: 100K

Implementation of the standards

GB 1094.11-2007 GB 1094-1996 GB/T22072-2008 GT/T17211-1998
JB/T 10088-2004 GB 4208-1993 IEC726

Models and meaning



SC(B)H15-30~2500/10 type amorphous alloy cast resin dry-type power transformer

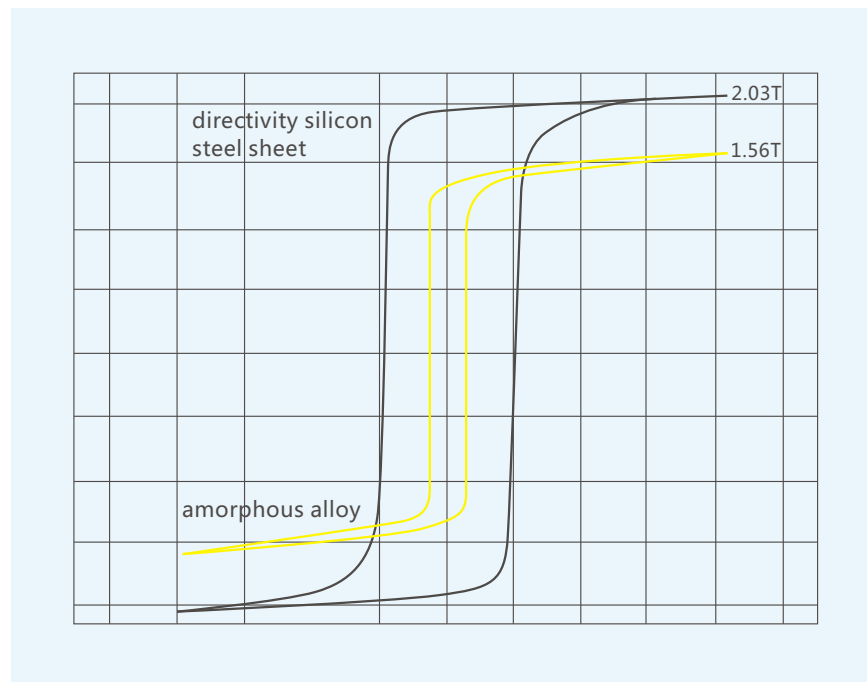
Rated capacity (kVA)	Connection Symbol	Rated Voltage		Tapping	Loss (W)		Short circuit impedance (%)	No-load current (%)	Total weight (kg)	thermal class for electric machine insulation	Figuration size (mm)			
		H.V (kV)	L.V (kV)		No-Load Loss	Load loss					L	B	H	d1×d2
30	Y,yn0 D,Yn11	6	0.4	±5% ±2×2.5%	70	710	4	1.6	340	F	800	710	900	300×300
50					90	1000	4	1.4	430		830	710	950	300×300
80					120	1380	4	1.3	650		910	710	1010	450×450
100					130	1570	4	1.2	740		980	710	1060	450×450
125					150	1850	4	1.1	1100		1050	710	1120	450×450
160					170	2130	4	1.1	1250		1130	870	1230	550×550
200					200	2530	4	1.0	1320		1220	870	1270	550×550
250					230	2760	4	1.0	1620		1300	870	1350	660×660
315					280	3470	4	0.9	1750		1380	870	1460	660×660
400					310	3990	4	0.8	2180		1450	870	1500	660×660
500					360	4880	4	0.8	2250		1550	870	1630	660×660
630					420	5880	4	0.7	2390		1600	870	1670	660×820
630					410	5960	6	0.7	2450		1600	870	1650	660×820
800					480	6960	6	0.7	2910		1650	870	1690	820×820
1000					550	8130	6	0.6	3560		1800	870	1920	820×820
1250					650	9690	6	0.6	4050		1900	1120	2000	1070×1070
1600					760	11730	6	0.6	4880		1950	1120	2100	1070×1070
2000	1000	14450	6	0.5	6350	2030	1120	2150	1070×1070					
2500	1200	17170	6	0.5	7150	2100	1120	2250	1070×1070					

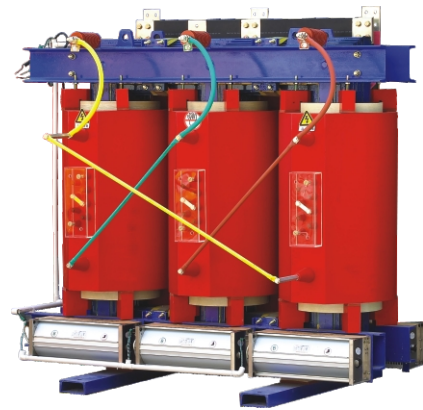
Products characteristics comparison

Component	Amorphous alloy	Directivity silicon steel sheet	Characteristic comparison (1)/(2)	
	(1) 2605SA1	(2) 30P140		
	Anhaltswert Fe ₇₈ B ₁₃ Si ₉	Fe ₉₇ Si ₁₃		
Magnetic oxygen characteristics	Iron loss	0.17W/kg	0.86W/kg	20% 77%
	Saturation flux density	1.56T	2.03T	
	Curie temperature	415°C	745°C	
	Saturation magnetostriction constant	20×10 ⁻⁶	2.4×10 ⁻⁶	
physical characteristics	Density	7.18g/cm ³	7.65g/cm ³	4 times
	Fill-in ratio	> 75%	> 94%	
	Crystallization temperature	550°C	-	
	Tension intensity	> 150kgf/mm ²	> 150kgf/mm ²	
Size	Breadth	~213mm	~950mm	10%
	Thickness	0.02~0.03mm	0.23~0.3mm	
Other	Annealing machinability	The material will be fragile after annealed in the 380°C~400°C magnetic field	750°C~850°C	50%

Compare the material amorphous alloy and directivity silicon steel sheet on magnetizing curve

The comparison between amorphous alloy and directivity silicon steel sheet on magnetization characteristic. The area sealed by the curves stands for the lost energy by heat in the magnetic field cycle of magnetic material. It can be obviously found that the areas of amorphous alloy and silicon steel sheet are quite different. And according to the practical measuring data, the area difference between the two has reach 70%~80%. This data indicates that if we replace the silicon steel sheet material of the transformer by the amorphous alloy, the no-load power loss can be saved to 70%~80%.





SCB10 Epoxy Resin Wrapped Coil series



SCB10 Epoxy series

35kV and Below SC(B), SG(B) Series Dry-type Power Transformer

Structural features

- 1. Iron core**
Made up of high quality cold rolled silicon steel sheet that is for electric engineering
- 2. Low voltage winding**
Made up of a whole copper foil coil
- 3. High voltage winding**
Made up of sectional type vacuum casting double glass-fiber covered coils
- 4. Low voltage terminal**
- 5. High voltage terminal**
Variable wiring mode, which is convenient for installation
- 6. Resilient pad**
Avoid mechanical resonance, and reduce noise
- 7. Clamp and trolley**
The wheel of trolley can rotate to 90°
It is convenient for vertical and horizontal movement.
- 8. Packing type resin insulation**
With advantages of damp proof, anti-damp and hot, flame-retardant, and self-extinguish.

Product characteristic

The epoxy resin cast dry type transformer of Special Transformer Company of Great is made with abroad advanced technology, it includes the following characteristics:

- 1. Low local discharge**
As the coil is cast in vacuum state, the air bubble produced in coil can be prevented efficiently, the local discharging value fully accords with relative national standard.
- 2. Strong capability of lightning impact**
The lightning impact voltage that affects the insulation of transformer windings along the initial voltage distribution of windings, the foil type windings initial voltage distribution approaches to linear one, therefore, the transformer manufactured by us has good ability to resist the lightning impact.
- 3. Strong ability to resist short-circuit**
The width of copper foil of LV windings that is the reactance height, LV current is supplied according to be the requirement for ampere turns balance among windings, HV/LV windings axial force caused by short circuit tends to zero.
- 4. Good performance of anti-drying crack**
The transformer manufactured by us is made of packing type resin and designed into the structure of full copper oil, the coefficient of insulation material is the similar to the that of thermal expansion of copper conductor, so the coils can be prevented cracking efficiently. The transformer has been done kinds of anti-crack tests, such as cold/hot alternation test, thermal impact test, rapid aging test, etc, and the test result demonstrates that our technology can meet the requirements of service occasions like low temperature, high temperature and large range of variable temperature, as well as anti-crack after the transformer runs for a long time.
- 5. Strong over-load capability**
If the transformers of same capacity whose load consumption is equal, the sectional area of copper foil will be increased correspondingly, and the volume

will be extended with the sectional area that requires more packing resin, therefore, both the thermal capacitive property of windings and short-time over load capability of transformer are quite strong.

- 6. Good flame retardancy**
The transformer has visible features such as free-maintenance, moisture-proof, anti-damp and hot, flame-retardant, self-extinguishing, etc., besides, its stuffing type resin casting technology is good for environmental protection. When bum by the electric are at high temperature, it will not product any noxious gas. The superior flame retardancy is proved in the burning test.
The product has good ability to adapt to environment, on the basis of European HD464 standard, it reaches the environment class E2, weather-resistant class FC2, flame-retardant class F1, it can be widely used in fields or locations where service conditions are rather atrocious such as commercial area, under ground, power plant, steamship, offshore drilling platform, etc.
- 7. Low noise**
Because of special structure and design, the noise produced by transformer is reduced greatly, compared with the noise value stipulated at national Specialized Standard, its whole noise level is lower than it for more than over 10-13dB(A).
- 8. Low consumption**
Compared with "8" character type products, SCB9 series has better economic benefit, its total consumption is reduced for 10~15% in average.

SC(B)12-30~2500/10 type cast resin dry-type power transformer main Technical parameters

Rated capacity (kVA)	Connection Symbol	Rated Voltage		Tapping	Loss (W)		Short circuit impedance (%)	No-load current (%)	Total weight (kg)	thermal class for electric machine insulation	Figuration size (mm)			
		H.V (kV)	L.V (kV)		No-Load Loss	Load loss					L	B	H	d1×d2
30	Y,yn0 D,Yn11	6 6.3 10	0.4	±5% ±2×2.5%	150	710	4	2.3	260	F	780	450	750	300×300
50					215	1000	4	2.0	325		800	450	770	300×300
80					295	1380	4	1.8	490		880	500	860	450×450
100					320	1570	4	1.8	570		940	500	920	450×450
125					375	1850	4	1.6	860		1050	650	980	450×450
160					430	2130	4	1.6	930		1080	710	1020	550×550
200					495	2530	4	1.5	1010		1100	710	1050	550×550
250					575	2760	4	1.5	1200		1180	710	1130	660×660
315					705	3470	4	1.3	1320		1190	710	1160	660×660
400					785	3990	4	1.3	1670		1250	710	1200	660×660
500					930	4880	4	1.3	1740		1270	710	1230	660×660
630					1070	5880	4	1.3	1800		1450	870	1420	660×820
630					1040	5960	6	1.2	1830		1420	870	1400	660×820
800					1215	6960	6	1.2	2240		1460	870	1430	820×820
1000					1415	8130	6	1.2	2740		1500	870	1470	820×820
1250					1670	9690	6	1.1	3100		1580	870	1550	1070×1070
1600	1960	11730	6	1.1	3700	1680	1120	1630	1070×1070					
2000	2440	14450	6	1.0	4800	1840	1120	1800	1070×1070					
2500	2880	17170	6	0.9	5420	1880	1120	1850	1070×1070					

SC(B)10-30~2500/10type cast resin dry-type power transformer main Technical parameters

Rated capacity (kVA)	Connection Symbol	Rated Voltage		Tapping	Loss (W)		Short circuit impedance (%)	No-load current (%)	Total weight (kg)	thermal class for electric machine insulation	Figuration size (mm)			
		H.V (kV)	L.V (kV)		No-Load Loss	Load loss					L	B	H	d1×d2
30	Y,yn0 D,Yn11	6	0.4	±5% ±2×2.5%	190	710	4	2.6	300	F	580	450	650	300×380
50					270	1000	4	2.2	380		600	450	650	300×380
80					370	1380	4	2.0	470		880	500	800	450×450
100					400	1570	4	2.0	560		970	500	820	450×450
125					470	1850	4	1.8	650		970	500	860	450×450
160					550	2130	4	1.8	780		980	650	950	550×550
200					630	2530	4	1.6	880		1000	650	970	550×550
250					720	2750	4	1.6	1030		1040	760	1070	660×660
315					880	3470	4	1.4	1250		1100	760	1110	660×660
400					980	3990	4	1.4	1400		1170	760	1235	660×820
500					1160	4880	4	1.4	1600		1190	760	1250	660×820
630					1360	5870	4	1.4	1900		1220	760	1250	660×820
630					1300	5960	6	1.3	1900		1220	760	1250	660×820
800					1520	6950	6	1.3	2580		1330	760	1330	660×820
1000					1770	8130	6	1.3	2850		1350	920	1450	820×820
1250					2090	9690	6	1.1	3200		1440	920	1550	820×820
1600					2450	11730	6	1.1	3800		1510	1170	1620	1070×1070
2000					3060	14450	6	1.1	4280		1530	1170	1785	1070×1070
2500					3600	17170	6	1.0	5250		1560	1170	1930	1070×1070

Trolley size

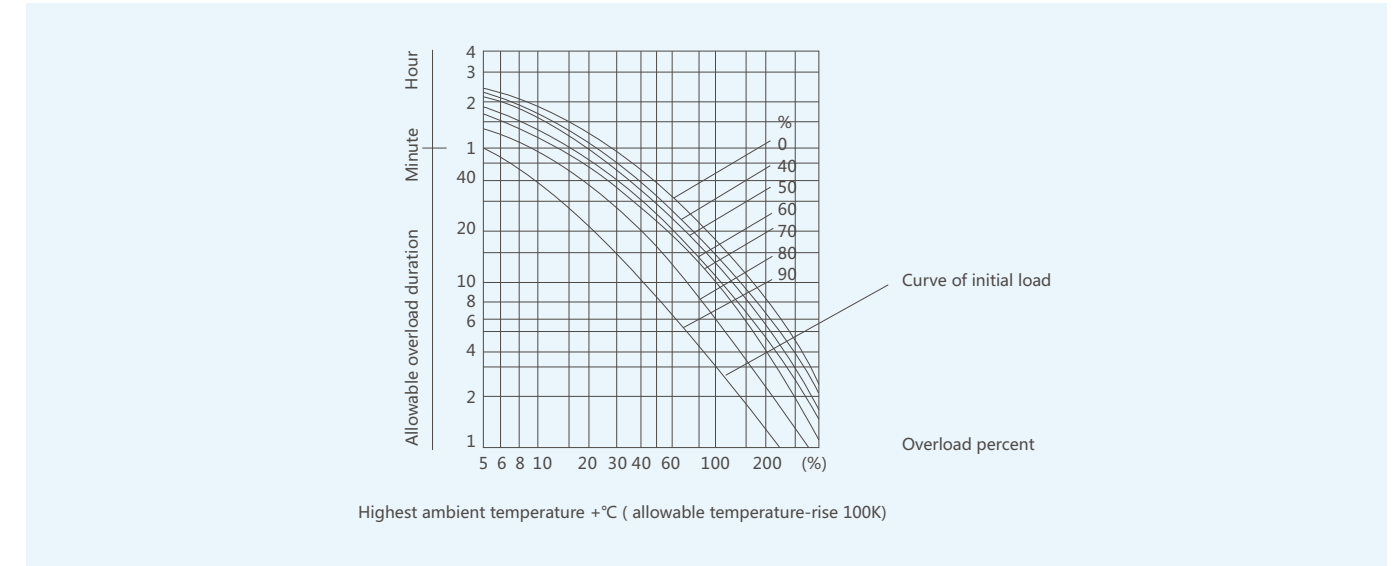
Rated capacity (kVA)	50~250	315~800	1000~1600	2000~2500
e	520	660	820	1070
f	125	125	160	200
g	40	40	50	70
k	45	45	55	40

Size diagram of LV connecting terminal

Rated capacity (kVA)	a	b	c	Picture number
≤100	-	-	12	1
125~160	-	-	14	1
200~315	26	26	14	2
400~630	35	30	14	2
800	40	40	14	3
1000	50	40	14	3
1250	60	40	14	3
1600	50	40	14	3
2000	50	40	14	3
2500	60	40	14	3

Overload capability

Overload capability of the transformer is relative to factors like transformer structure, ambient temperature, initial load and so on. Overload capability of our transformer is determined after accurate calculation, see the following curve for reference.



Note: The outline dimensions and track gauge dimensions covered in the catalog are only for reference. Welcome to contact us for accurate dimensions

Refer to the following data list for overload capability of our transformer (Highest ambient temperature +45°C)

Allowable overload duration(mm)	Overload capability (%)	Initial load(%)							
		10	20	30	40	50	60	80	100
50		85	56	42	33	28	23	16	14
60		80	43	39	29	25	19	14	12
70		74	47	33	25	21	16	12	9
80		57	35	25	19	19	12	8.5	7
90		37	21	18	11	8	6.5	5	3.5

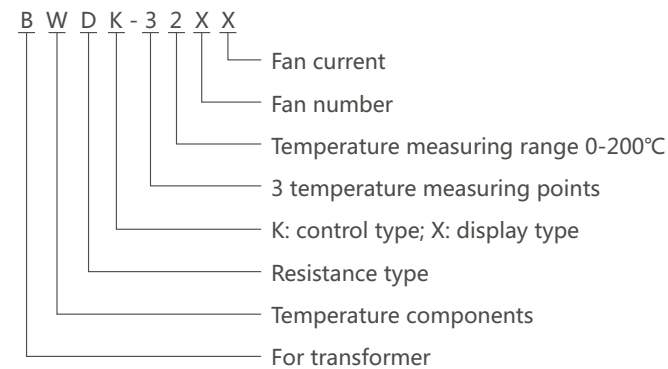
Temperature control and temperature thermometer system

1. Safety running and service life of dry type transformer is largely determined by safety and reliability of transformer's winding insulation. When the temperaturerise of winding conductor exceeds its insulation withstand range, it will destroy the insulation, it is one of the main cause of transformer fault.
2. The temperature control and temperature thermometer system of our products are accord with JB/T7631.

Common type temperature controller

1. Temperature control system measures and get the temperature signal by 3 PT100 temperature-measuring elements, which is pre buried in the temperature hole at the top of low voltage coil, it controls the air cooling fan's running, and gives over-temperature alarm signal or even over-temperature tripping signal according to the winding temperature.
2. Main functions
 - a. When it is natural air cooling (AN), if the winding temperature exceeds 130°C, it will give alarm, and output tripping signal if exceeds 150°C.
 - b. When it is forced air cooling (AF), if the winding temperature exceeds 100°C, the system will start the fan automatically; when the temperature is lower than 80°C, the system will stop the fan automatically; if the temperature rises continuously and exceed 130°C, it will output ver-temperature alarming signal. When the temperature is beyond 150°C, it will input over-temperature tripping signal to the secondary protection system.
 - c. The above temperature points are set by the supporting factory, if necessary, these temperature points can be adjusted, adjusting range is $\pm 20^{\circ}\text{C}$.

3. Model of temperature controller as following:



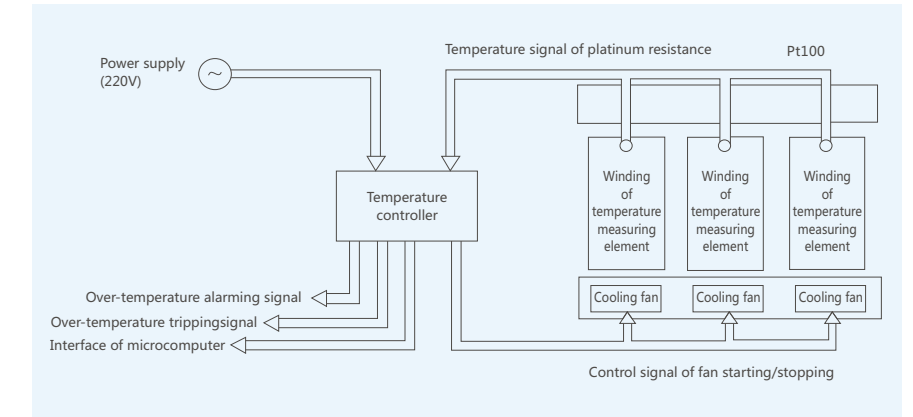
Microcomputer interface type temperature controller

1. Temperature thermometer system test the temperature signal by PT100 thermistor that pre buried in low voltage winding, it can display the temperature of each winding directly, can be equipped with computer to realize remote temperature control.
2. Main functions
 - a. Serial communication (RS-485), transmission distance can be as far as 1200m. We can provide data control software under Windows operating system.
 - b. Output 3 circuit of 4-20mA standard current signal (4mA corresponding to 0°C; 20mA corresponding to 200°C). It can connect with the secondary and tertius instrument and computer A/D board directly, transmission distance is far than 500m.

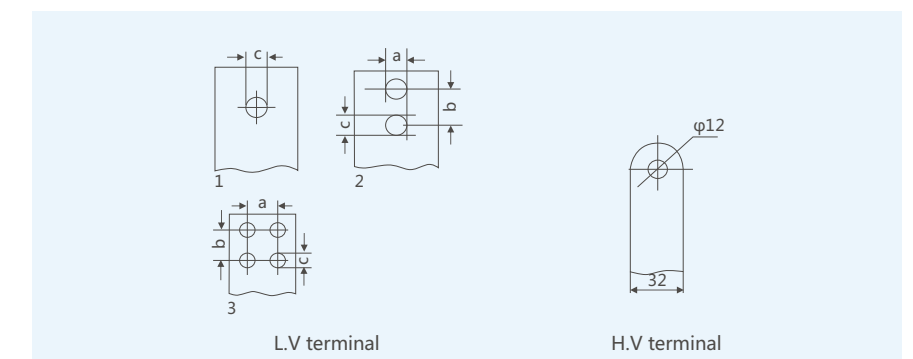
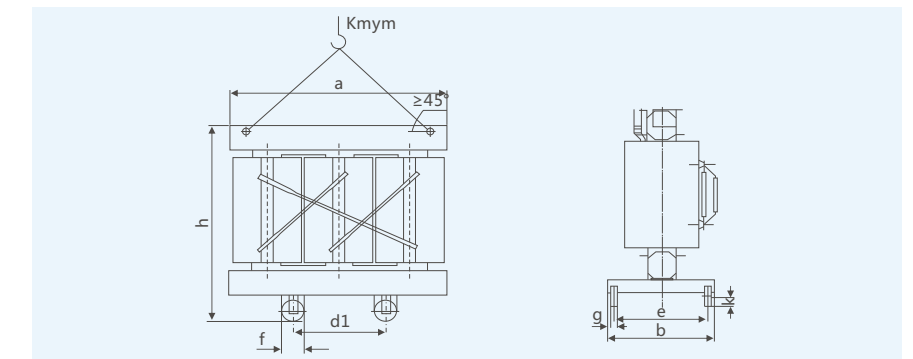
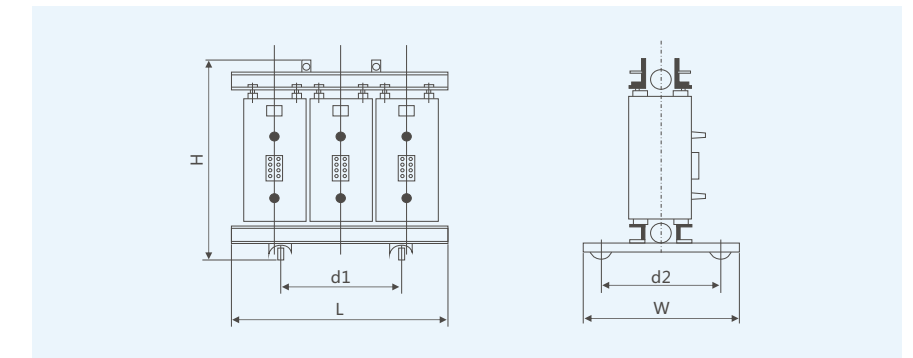
Main performance index of temperature controller

1. Operating temperature: $-10^{\circ}\text{C} \sim +55^{\circ}\text{C}$
2. Operating power supply: $\text{AC}220\text{V} \pm 10\%$, 50Hz
3. Measuring range: 0~200C
4. Contact capacity of output signal: $\text{AC}220\text{V}, 3\text{A}$

Principle diagram of temperature control and temperature thermometer system as following:



Note: temperature system can obtain power supply from the transformer or from outside power source



Note: The outline dimensions and track gauge dimensions covered in the catalog are only for reference. Welcome to contact us for accurate dimensions



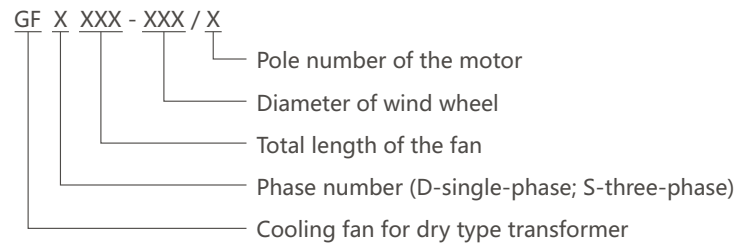
Epoxy transformer with cooling fan

SCB10 Dry Type Transformer

Self cooling and forced air cooling

1. Dry type transformer has two cooling modes, that is natural air cooling (AN) and forced air cooling (AF).
2. When the highest ambient temperature is +40°C, if it is natural air cooling (AN), the transformer can output 100% of rated capacity continuously.
3. When the highest ambient temperature is +40°C, if it is forced air cooling (AF), the output capacity of transformer can be up for 40%-50% in short time for gap overload.

Models and meaning



Performance parameter

Model	Motor parameter					
	Voltage (V)	Phase number	Frequency (Hz)	Current (A)	Power (A)	Rotation speed (rpm)
GFD(S)850-90	220/380	Single(three)	50	0.37/0.2	44	1400
GFD(S)1200-110	220/380	Single(three)	50	1.6	370	960
GFD(S)358-110	220/380	Single(three)	50	0.35/0.18	38	1400
GFD(S)470-155	220/380	Single(three)	50	0.6/0.24	80	1400
GFD(S)780-200	220/380	Single(three)	50	0.80/0.31	150	1350
GFD(S)900-200	220/380	Single(three)	50	1.22/0.5	250	1350
GFD(S)1180-200	220/380	Single(three)	50	1.91/1.0	370	1350

Model	Air volume M ³ /h	Noise dB(A)	motor amount of each set	Suitable for capacity of dry type transformer (kVA)
GFD(S)850-90	1100	55	2	250~315
GFD(S)1200-110	5500	≤65	2	400~500
GFD(S)358-110	450	50	6	630~1000
GFD(S)470-155	1000	57	6	1250~2500
GFD(S)780-200	3200	68	6	3150~4000
GFD(S)900-200	3800	68	6	5000~6300
GFD(S)1180-200	4800	70	6	8000~16000

Note: usually the transformer of ≤200kVA can be without fan

Protective housing

1. Classification of housing protection grade is determined according to GB4280.
2. Normally dry type transformer is not equipped with housing protection, i.e. IP00. But we will mount housing of IP20 and IP23 under customer's requirement.
3. IP20 housing can prevent substance whose diameter is longer than 12mm coming to it, works as safety shield for the live part. There are punched holes on the top and bottom of housing for air circulation.
4. IP23 housing can prevent water that is 60° to the vertical line dropping into it, this kind of housing has ventilation shutter on its front and back wall plate (when applies IP23 housing, cooling ability of transformer will fall, and its capacity will fall for 5%).
5. Housing material has steel plate, aluminum alloy and stainless steel. If the housing is made of steel plate, it will be coated with the color that customer required.
6. There are doors on front and back wall plates, it is very convenient for users to maintain. And a hole is prepared at cable entrance, used to inlet cable.



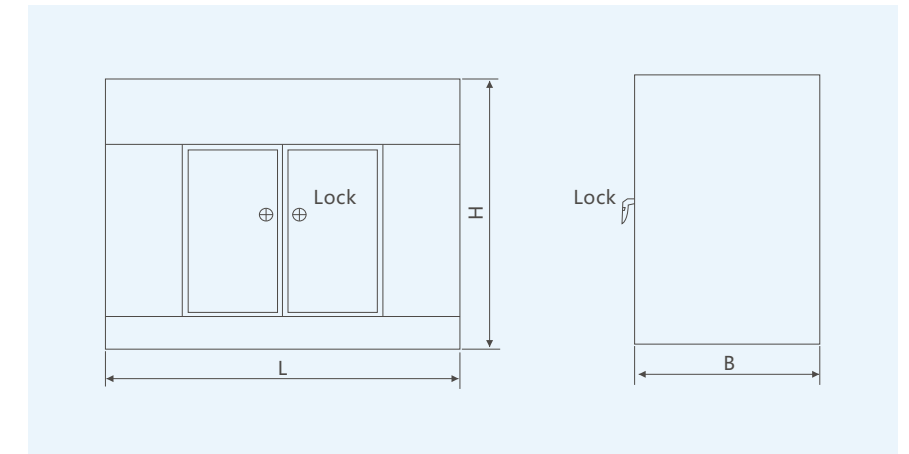
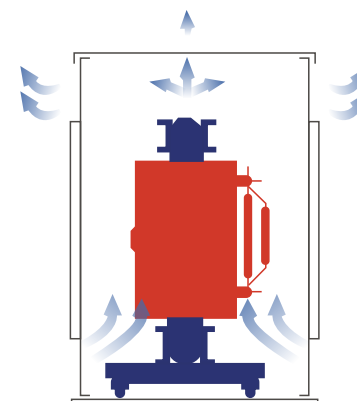
SCB10 series with aluminium alloy housing



SCB10 series with iron housing



SCB10 series with stainless steel housing



Note: The outline dimensions and track gauge dimensions covered in the catalog are only for reference. Welcome to contact us for accurate dimensions

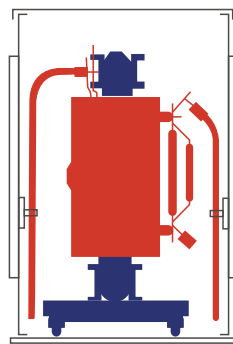
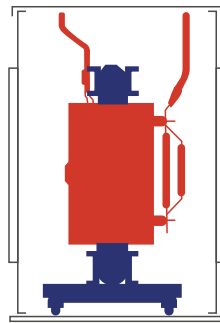
Standard housing size list of IP20-IP23 of 10kV grade distribution transformer of 315~2500kVA

Size of the housing (mm)	Transformer capacity (kVA)									
	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
L	1600	1600	1700	1800	1800	1950	1950	2050	2200	2350
B	1300	1300	1300	1300	1300	1400	1400	1400	1550	1550
H	1800	1800	1800	1800	2000	2000	2000	2200	2200	2400

Note: standard size of the housing is the smallest, it can be enlarged according to customer's requirement



SCB10 series dry-type transformer



External connecting mode

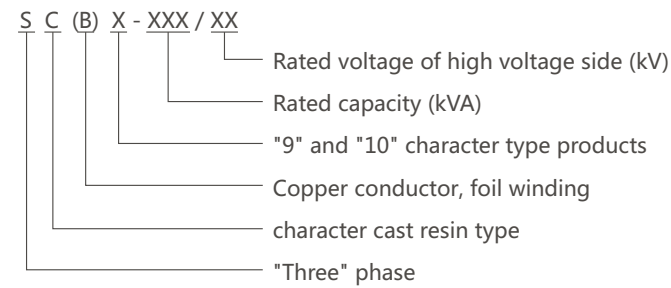
1. Coil out mode of high voltage terminal:
 - a. Coil out from the top is standard
 - b. Coil out from the bottom is acceptable
2. Coil out mode of low voltage terminal:
 - a. Coil out from the top is standard
 - b. Coil out from the bottom is acceptable
 - c. Coil out from the horizontal side is acceptable

Implementation of the standards

Dry type transformer of "9" and "10" character types that accord with standards like GB6450, IEC726, DIN42523 and GB/T10228-2008.

Models and meaning

Transformer number is compiled according to JB/T3837-1996 Type Designation System for Transformers that issued by national electromechanical department.



Production range

Rated capacity	Voltage grade	Phase number	Frequency	Insulation level			Insulation grade
				Rated voltage (kV)	Power frequency withstand voltage(kV)	Impulse voltage (kV)	
≤2500kVA AN(FN)	≤35	Single-phase or three-phase	50Hz or 60Hz	6	20/25	60	F
				10	28/35	75	
				20	50	125	
				35	70	170/200	

35kV SC(Z)9 Series Dry-type Power Transformer

Main technical parameters

35kV SC(Z)9 Series Dry-type Power Transformer

Type	Rated capacity (kVA)	Voltage			Connection	No-load loss (W)	Load Loss (75°C) (W)	No-load current (%)	Short circuit impedance
		H.V (kV)	Tapping range of high voltage	L.V (kV)					
SC(Z)B9-50/35	50	35, 38.5	±5% ±2×2.5% ±3×2.5%	0.4	Yyno Dyn11	380	1490	3	6
SC(Z)B9-80/35	80					500	1950	2.7	
SC(Z)B9-100/35	100					640	2400	2.4	
SC(Z)B9-125/35	125					750	2640	2	
SC(Z)B9-160/35	160					820	3100	2	
SC(Z)B9-200/35	200					900	3700	1.7	
SC(Z)B9-250/35	250					1080	4350	1.7	
SC(Z)B9-315/35	315					1250	4400	1.4	
SC(Z)B9-400/35	400					1550	5660	1.2	
SC(Z)B9-500/35	500					1800	6970	1.0	
SC(Z)B9-630/35	630					2070	8120	0.9	
SC(Z)B9-800/35	800					2430	9630	0.9	
SC(Z)B9-1000/35	1000					2700	11070	0.9	
SC(Z)B9-1250/35	1250					3150	13400	0.8	
SC(Z)B9-1600/35	1600					3600	16200	0.8	
SC(Z)B9-2000/35	2000					4230	19100	0.7	
SC(Z)B9-2500/35	2500	4950	22900	0.7					
SC(Z)B9-3150/35	3150	6200	25800	0.6					
SC(Z)B9-4000/35	4000	7200	31000	0.6					

Type	Rated capacity (kVA)	Voltage			Connection	No-load loss (W)	Load Loss (75°C) (W)	No-load current (%)	Short circuit impedance
		H.V (kV)	Tapping range of high voltage	L.V (kV)					
SC(Z)B9-800/35	800	35, 38.5	±5% ±2×2.5% ±3×2.5%	3.15 6 6.3 10 10.5 11	Yyno Dyn11	2500	9900	0.9	6
SC(Z)B9-1000/35	1000					2970	11520	0.9	
SC(Z)B9-1250/35	1250					3480	13500	0.8	
SC(Z)B9-1600/35	1600					4100	16200	0.8	
SC(Z)B9-2000/35	2000					4720	19100	0.8	
SC(Z)B9-2500/35	2500					5400	22900	0.7	
SC(Z)B9-3150/35	3150				6750	25800	0.7	Yd11 Dnd11	
SC(Z)B9-4000/35	4000				7830	31000	0.6		
SC(Z)B9-5000/35	5000				9360	36800	0.6		
SC(Z)B9-6300/35	6300				11000	43000	0.5		
SC(Z)B9-8000/35	8000				12600	47700	0.5		
SC(Z)B9-10000/35	10000				14400	58500	0.5		
SC(Z)B9-12500/35	12500				16000	61000	0.5		
SC(Z)B9-16000/35	16000				20000	64000	0.5		
SC(Z)B9-20000/35	20000				23000	73000	0.5		



SG(B)10 series of non-encapsulated coil three-phase dry type power transformer

SG(B)10 Series of Non-encapsulated Coil Three-phase Dry Type Power Transformer

General

The non-encapsulated coil three-phase dry type power transformer that adopt UL certificated NOMEX insulation system, with advantages of safe, reliable, energy saving, fireproof, explosion resistant, simple maintaining and so on. It has superior design, reasonable structure, elegant appearance, and its main performance index is superior to domestic standard, such as local discharge level, no-load loss, load loss, noise and capability of operating in serious humid environment, it can be installed in humid environment like places near lake, sea or river, also suitable for areas that require high fireproof capability and high load, such as high-rise, airport, station, dock, underground railway, hospital, electric power plant, metallurgy industry, shopping center, residential area, petrochemical industry, nuclear power station, nuclear submarine, etc.

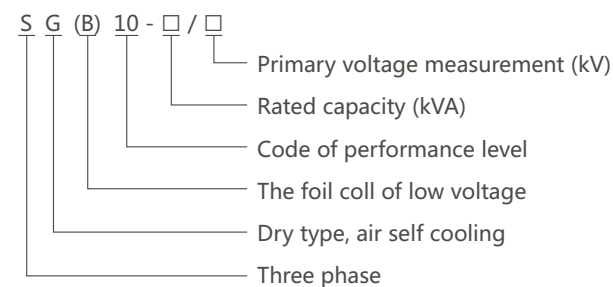
Product characteristics

1. The elaborate designed coil structure and vacuum immersed treatment enable SG(B)10 transformer operates without local discharging, and no crack performance will be find during the whole service life, and its insulation level will be kept as good as beginning.
2. The high voltage part adopts continuous wire winding, LV foil winding, vacuum immersed, curing processed and high strength ceramics supporting, with fine withstand capability to paroxysmal short-circuit current.
3. Flame resisting, flameproof, nontoxic, self-extinguishing, fireproof.
4. When burn SG(B)10 transformer in high temperature and open fire, almost no fume will by produced.
5. Insulation of the transformer is H grade (180°C).
6. The insulation layer is very thin, with strong short-time over load capability, needless of forced cooling, can be overloaded for 120% for long term and 140% for 3 hours. As this kind of insulation material has elasticity and will not be aged, it can be full loaded at once under $\pm 50^{\circ}\text{C}$.

Operating conditions

1. Ambient temperature: $-50^{\circ}\text{C}\sim+50^{\circ}\text{C}$
2. Altitude: $\leq 1000\text{m}$
3. Other requirements that are beyond the stipulation range of this technical manual, please negotiate with our technical department and indicate out when placing an order.

Models and meaning



Main technical parameters

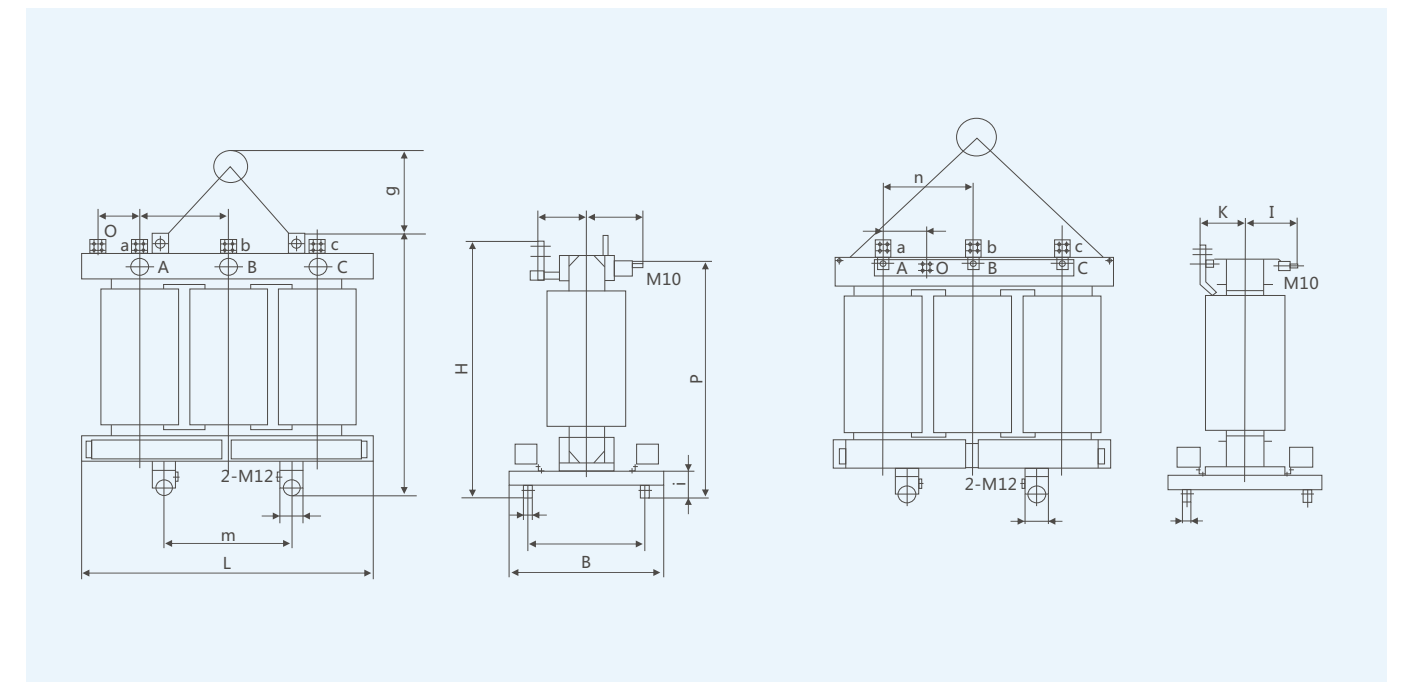
1. Voltage grade: high voltage (kV): 3, 6, 6.3, 6.6, 10, 10.5, 11; Low voltage: 0.4, 0.69;
2. High voltage tap range: $\pm 5\%$ or $\pm 2 \times 2.5\%$;
3. Mark of joint group: Y,yn0 or D,yn11

Model and capacity (kVA)	No-load loss(W)		Load loss(W)(145°C)		No-load current(%)		Sound level(LPA)dB		Short circuit impedance (%)	Body weight (kg)
	Enterprise standard	National standard	Enterprise standard	National standard	Enterprise standard	National standard	Enterprise standard	National standard		
SG(B)10-100/10	405	510	1880	2550	2.4	2.4	40	55	4	590
SG(B)10-160/10	560	700	2550	3650	2.0	2.0	42	58	4	870
SG(B)10-200/10	660	820	3100	4680	2.0	2.0	42	58	4	970
SG(B)10-250/10	760	950	3600	5500	1.8	2.0	44	58	4	1160
SG(B)10-315/10	880	1100	4600	6600	1.8	1.8	46	60	4	1350
SG(B)10-400/10	1040	1300	5400	7800	1.8	1.8	46	60	4	1580
SG(B)10-500/10	1200	1500	6600	9350	1.8	1.8	47	62	4	1830
SG(B)10-630/10	1340	1680	7900	11500	1.6	1.6	47	62	6	2060
SG(B)10-800/10	1690	2120	9500	13600	1.3	1.6	48	63	6	2450
SG(B)10-1000/10	1980	2480	11400	15700	1.3	1.4	48	63	6	2910
SG(B)10-1250/10	2380	2980	12500	18400	1.3	1.4	49	65	6	3190
SG(B)10-1600/10	2730	3420	13900	21300	1.3	1.4	50	66	6	4160
SG(B)10-2000/10	3320	4150	17500	25000	1.2	1.2	50	66	6	4860
SG(B)10-2500/10	4000	5000	20300	29100	1.2	1.2	51	67	6	5860

Outline and installation size

Size drawing of SG(B)10-100~400kVA

Size drawing of SG(B)10-500~2500kVA

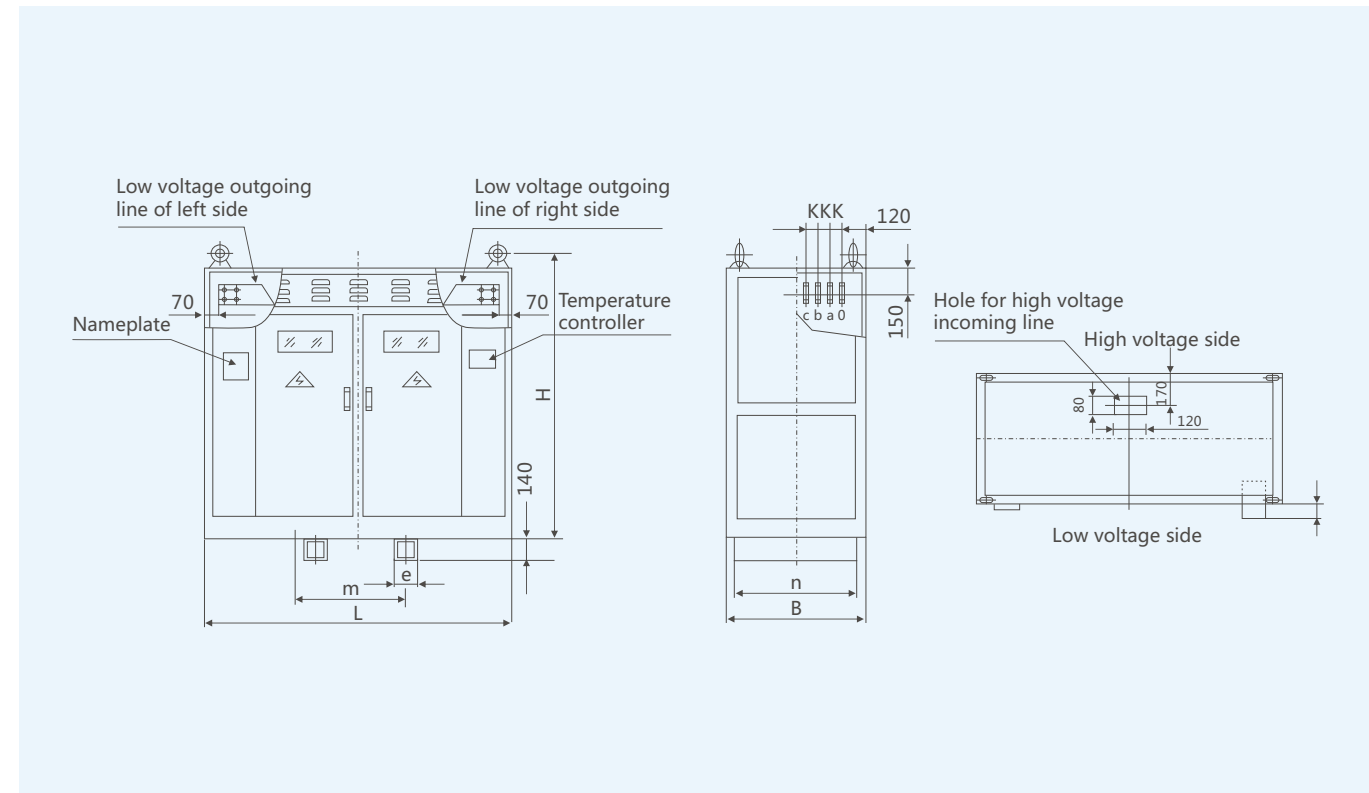


Note: The outline dimensions and track gauge dimensions covered in the catalog are only for reference. Welcome to contact us for accurate dimensions

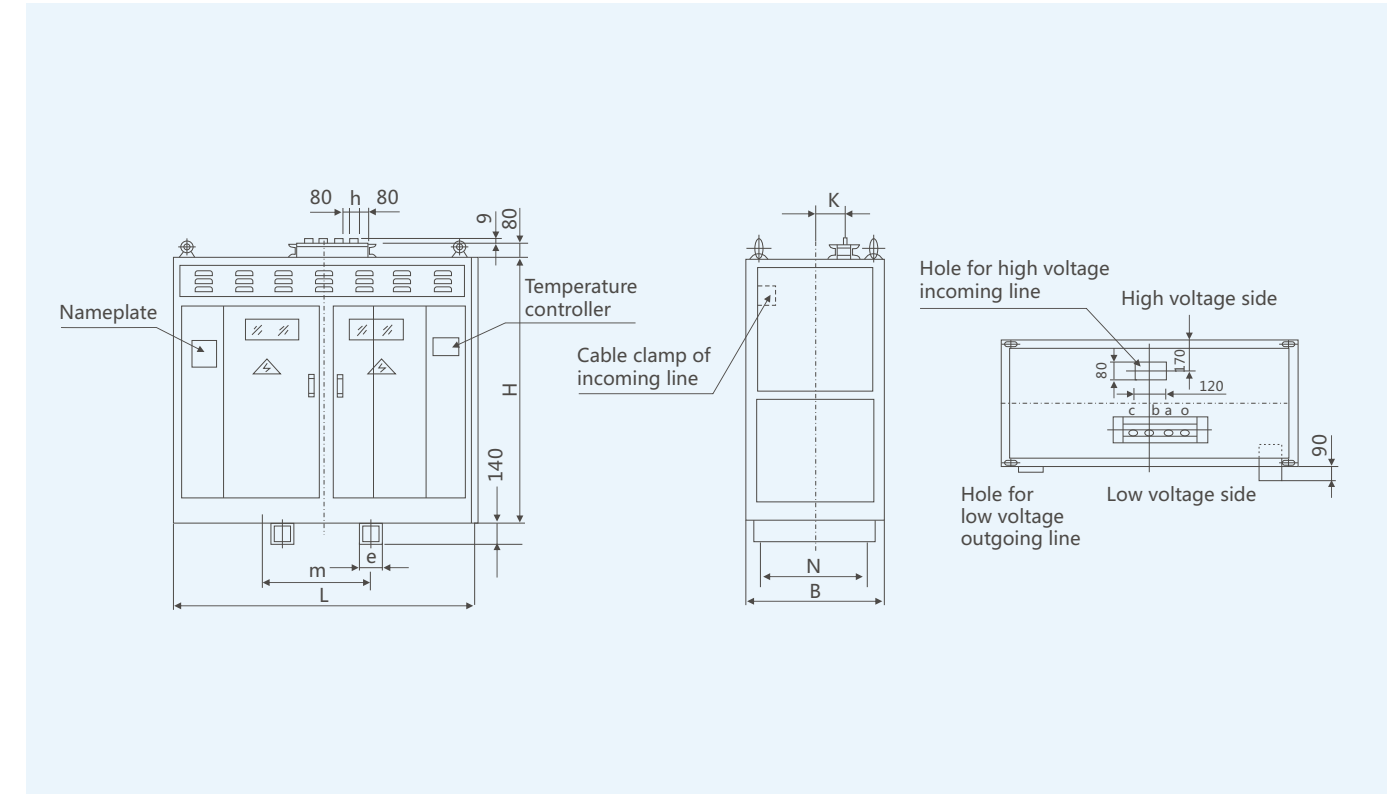
Outline size list

Model and capacity (kVA)	Non-enclosed type (without protective enclosure) L×H×B	m	n	Non-enclosed type (without protective enclosure) L×H×B	m	n
SG(B)10-100/10	940×920×500	660	400	1340×1150×800	660	400
SG(B)10-160/10	940×960×500	660	400	1340×1150×800	660	400
SG(B)10-200/10	1100×1050×550	660	450	1500×1280×900	660	450
SG(B)10-250/10	1120×1120×550	660	450	1500×1280×900	660	450
SG(B)10-315/10	1190×1210×860	660	660	1700×1460×1000	660	660
SG(B)10-400/10	1300×1330×860	820	660	1700×1460×1000	820	660
SG(B)10-500/10	1330×1410×860	820	660	1900×1610×1000	820	660
SG(B)10-630/10	1450×1365×860	820	660	1900×1610×1000	820	660
SG(B)10-800/10	1500×1480×1020	820	820	2000×1770×1100	820	820
SG(B)10-1000/10	1590×1570×1020	820	820	2000×1770×1100	820	820
SG(B)10-1250/10	1610×1700×1270	1070	1070	2100×2130×1270	1070	1070
SG(B)10-1600/10	1660×1770×1270	1070	1070	2100×2130×1270	1070	1070
SG(B)10-2000/10	1700×1930×1270	1070	1070	2100×2130×1270	1070	1070
SG(B)10-2500/10	1780×2090×1675	1475	1475	2200×2300×1675	1475	1475

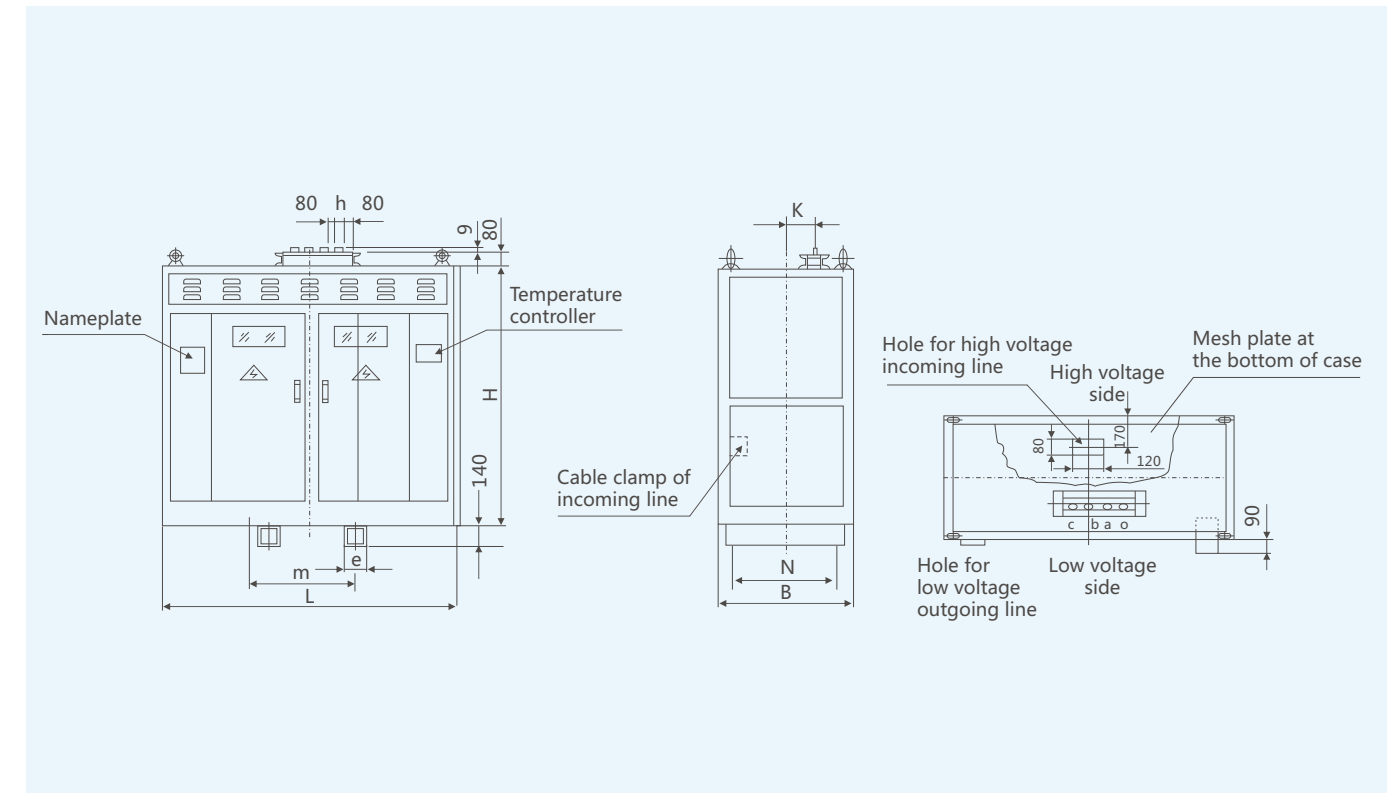
Outline diagram of standard side coiling out of SG(B)10 type non-encapsulated coil power transformer



Outline diagram of IP20 of SG(B)10 type non-encapsulated coil power transformer (HS1)



Outline diagram of IP20 of SG(B)10 type non-encapsulated coil power transformer (HS2)



Outline diagram of IP20 of SG(B)10 type non-encapsulated coil power transformer (HS3)

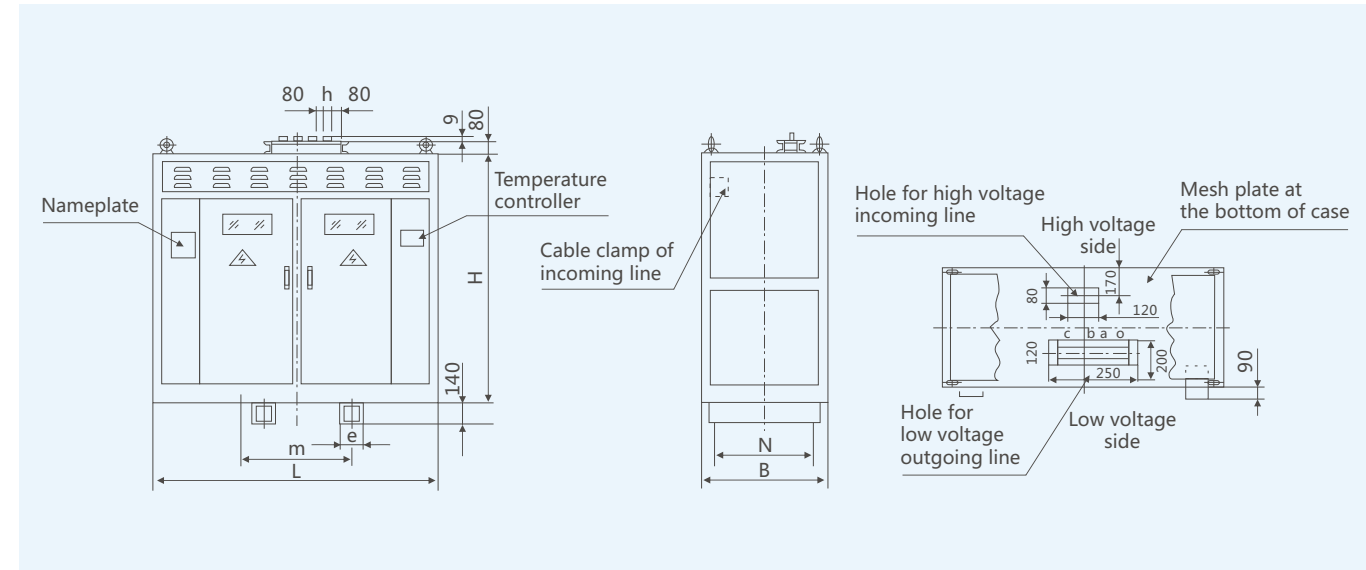
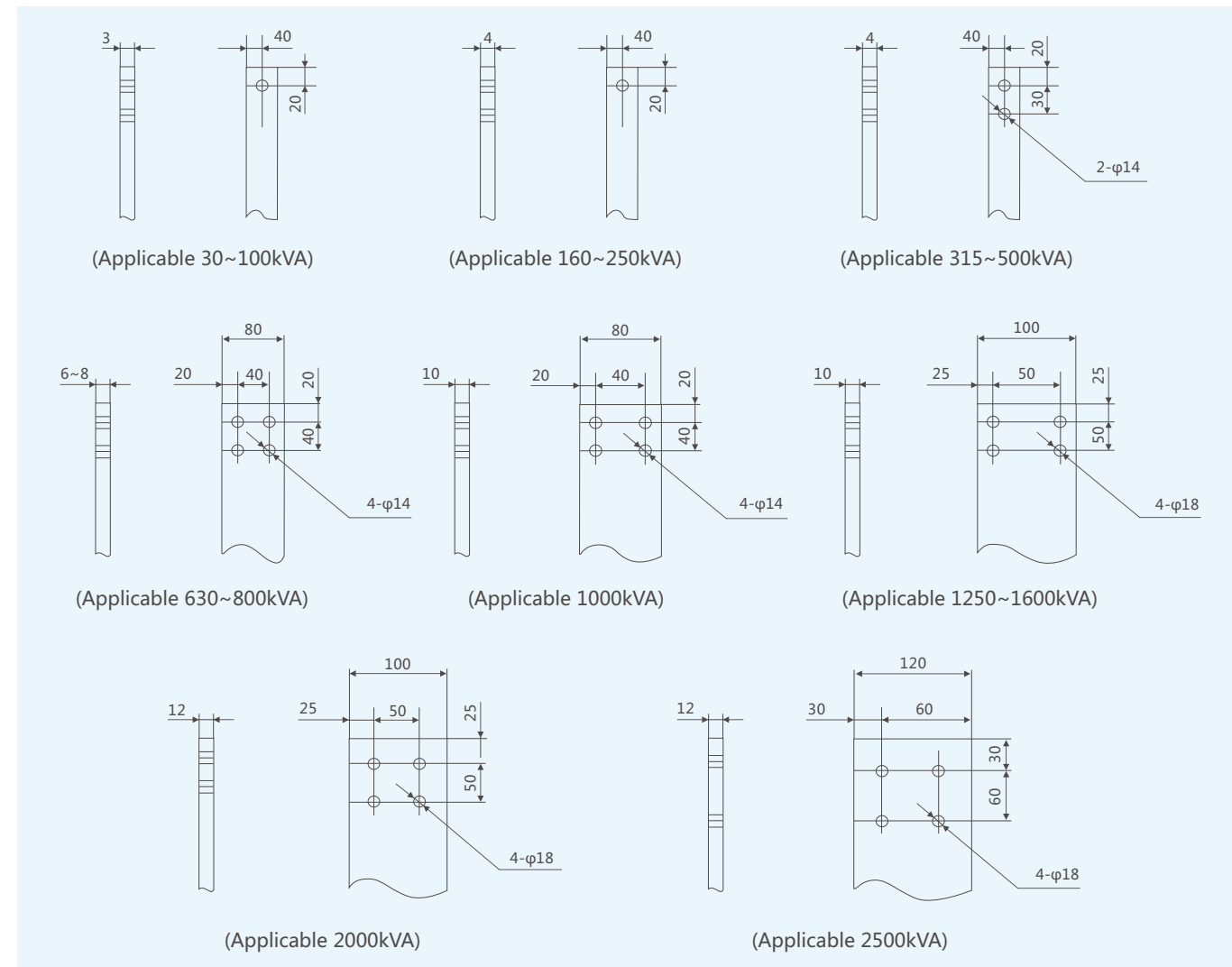


Diagram of LV terminal



The notice for placing order of dry type transformer

<input type="checkbox"/> Three phase	<input type="checkbox"/> Single phase	<input type="checkbox"/> DIN42523	<input type="checkbox"/> GB6450	<input type="checkbox"/> Other
<input type="checkbox"/> Model		Capacity kVA(AN/AF)		
Voltage ratio and tap (kV)		Insulation grade: <input type="checkbox"/> F; <input type="checkbox"/> Other		
Connecting mode:		Rated frequency: <input type="checkbox"/> 50Hz; <input type="checkbox"/> Other Hz		
Impedance voltage: %		Insulation level:		
No-load loss W		Standard error range %		
Load loss W		Standard error range %		
Ambient temperature: <input type="checkbox"/> 40°C <input type="checkbox"/> Other °C		Special requirements:		
Air cooling system: <input type="checkbox"/> fan of secondary flow type; <input type="checkbox"/> Others				
Temperature control system: <input type="checkbox"/> three-phase temperature measurement; <input type="checkbox"/> control of starting / stopping the fan				
<input type="checkbox"/> over-temperature alarm and trip-signal output; <input type="checkbox"/> microcomputer interface				
Housing color: <input type="checkbox"/> Gray; <input type="checkbox"/> Other				
External connecting mode: (I) Coil out mode of high voltage terminal: <input type="checkbox"/> coil out from the top; <input type="checkbox"/> coil out from the bottom				
(II) Coil out mode of high voltage terminal: <input type="checkbox"/> coil out from the top; <input type="checkbox"/> coil out from the bottom <input type="checkbox"/> coil out from horizontal side.				

The notice for placing order of dry type and oil immersed transformer

- Special type transformer
 - We usually prepare a technical agreement according to customer's requirements, the content covers rated capacity, primary voltage, voltage regulating mode and grade, mark of joint group, impedance voltage, test date and other special technical requirements.
 - Data mentioned in this catalogue subject to change without notice for further improvements. If there is any special technical request, please negotiate with us when placing and order.
- Power transformer
 - Product model
 - Rated capacity (kVA), capacity ratio of high, medium and low voltage winding of three-winding transformer (%)
 - Rated voltage of high voltage side (kV), voltage-regulating mode, grade, and percent of tap voltage (%)
 - Rated voltage of medium voltage side (kV), voltage-regulating mode, grade, and percent of tap voltage (%)
 - Special requirements: like temperature, altitude, phase number, frequency, on-load-tap changer, insulation level, with trolley and current transformer or not.