

10KV Dry-type Transformer

POWER TRANSMISSION AND
DISTRIBUTION PRODUCT SELECTION

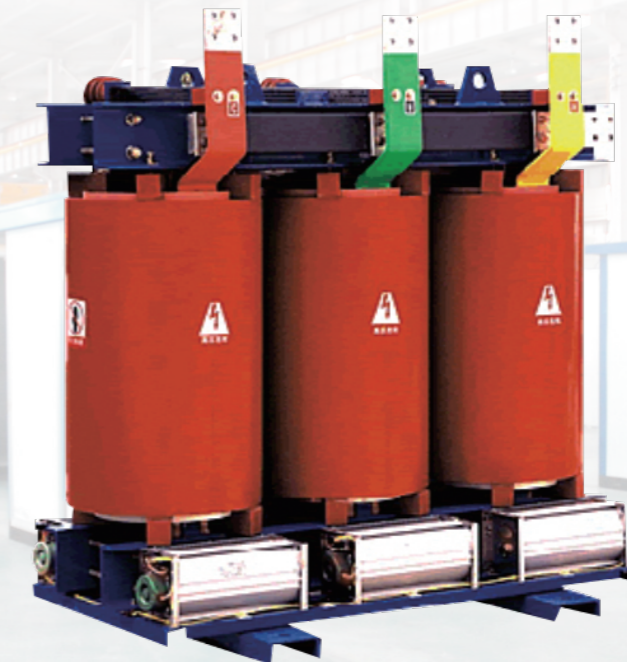
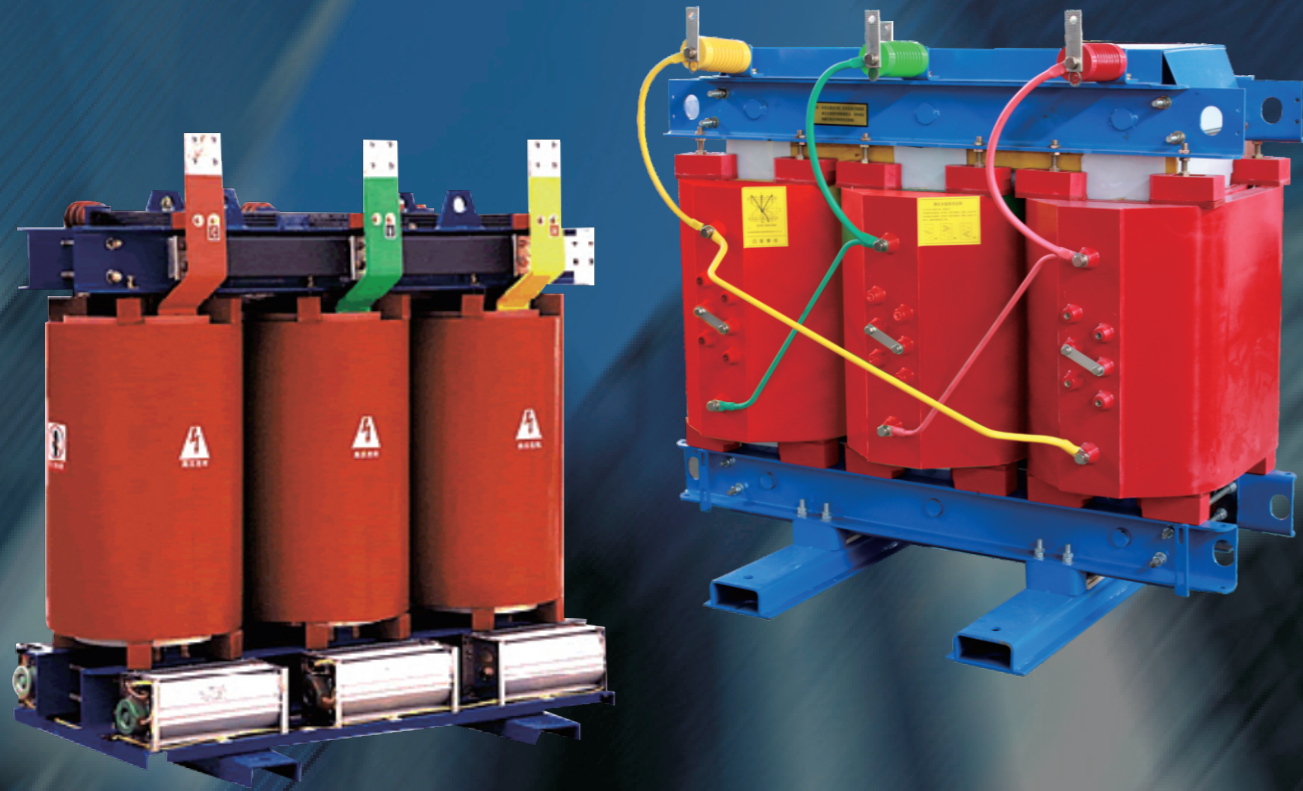
PROFESSIONAL MANUFACTURER OF
HIGH AND LOW VOLTAGE PRODUCTS

CNC
ELECTRIC

10KV Dry-type Transformer **SC(B)□ Series Epoxy Resin Dry-type Transformer**

- ◇ The SC (B) series epoxy resin dry type transformers have the advantages of flame retardant, fireproof, explosion-proof, maintenance free, and small size due to their coils being encapsulated with epoxy resin. They can be directly installed in load centers and are widely used in power transmission and transformation systems, as important places as commercial residences, public buildings, airports, as well as in harsh environments like subways, smelters, ships, and marine drilling.
- ◇ Standard: IEC60076-1, IEC60076-11.

General

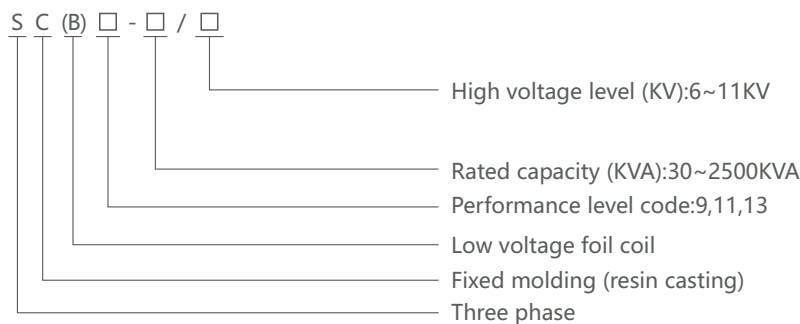


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10KV Dry-type Transformer

SC(B)□ Series Epoxy Resin Dry-type Transformer

Selection



Operating conditions

1. Ambient temperature: maximum temperature: +40°C, minimum temperature: -25°C.
2. Average temperature of the hottest month:+30°C, average temperature in the hottest year:+20°C.
3. Altitude not exceeding 1000m.
4. The waveform of the power supply voltage is similar to a sine wave.
5. The three-phase supply voltage should be approximately symmetrical.
6. The relative humidity of the surrounding air should be lower than 93%.
7. And there should be no water droplets on the surface of the coil
8. Where to use: indoors or outdoors.

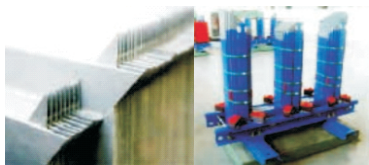
Features

1. The carefully designed coil structure and vacuum immersion treatment ensure that the SG (B) 10 transformer operates without partial discharge and will not exhibit crack performance throughout its service life. Its insulation level will remain in good condition as before.
2. The high-voltage part adopts continuous wire winding, low-voltage foil winding, vacuum immersion, curing treatment, and high-strength ceramic support, which has good resistance to sudden short circuit currents.
3. Flame retardant, explosion-proof, non-toxic, self-extinguishing, and fireproof
4. The SG (B) 10 transformer produces almost no smoke when burned in a high-temperature open flame
5. The insulation level of the transformer is Class H (180°C).
6. The insulation layer is very thin, with strong short-term overload capacity, without the need for forced cooling, and can overload by 120% for long term use, 140% lasting for 3 hours. Due to its elasticity and non aging properties, this insulation material can be fully loaded at one time at ± 50°C.

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Structure



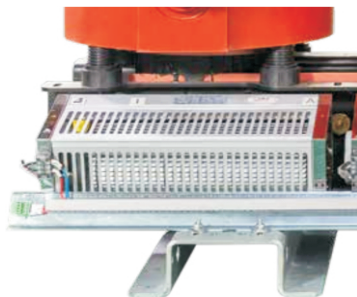
- Iron core:
 - The iron core is made of high-quality oriented cold-rolled silicon steel sheet, with a laminated structure of 45° full oblique seam, and the core column is bound with insulating tape.
 - The surface of the iron core is sealed with insulating resin paint to prevent moisture and rust, and the clamps and fasteners are surface-treated to prevent rust.



- Low voltage copper foil coil:
 - The low-voltage winding is wound with high-quality copper foil, so that zero axial short-circuit stress can be achieved in the case of short circuit. The interlayer and winding end are insulated with thermosetting epoxy prepreg cloth. The whole winding is placed in the oven. After heating, the winding is aggregated into a solid whole. Scientific and reasonable design and pouring process make the product partial discharge less, noise lower, and heat dissipation capacity strong.



- High voltage winding:
 - The high-voltage winding adopts enamelled copper wire or film-coated copper wire, and glass fiber and epoxy resin composite material are used for insulation. Its expansion coefficient is similar to that of copper conductor, and it has good impact resistance, temperature change resistance, and crack resistance. All components of glass fiber and epoxy resin are self-extinguishing, flame retardant and non-polluting. Epoxy resin has good insulation properties and is especially suitable for making high-voltage coils.



- Temperature control device and air cooling system:
 - The temperature control device has the functions of failure alarm, over-temperature alarm, over-temperature trip, automatic/manual start and stop of the fan, and is connected to the computer through the RS485 interface for centralized monitoring and control. At the same time, it also has the function of "black gate", which can record the winding temperature of the transformer when it is powered off.
 - The air-cooling system adopts a cross-flow top-blowing cooling fan, which has the characteristics of low noise, high wind pressure, and beautiful appearance. It can run for a long time under the condition of forced air cooling at 125% of the rated load.



- Shell:
 - Protect the shell and provide further safety protection for the transformer, with protection levels such as IP20, IP23, etc.
 - The shell materials include cold-rolled steel plate, stainless steel plate, aluminum alloy, etc. for users to choose from.

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Structure

- The factory configuration of SCB without protective shell (IP00) is as follows
- 4 bi-directional flat wheels (when requested by the customer)
- 4 lugs
- Towing holes on the base
- 2 grounding points
- 1 nameplate
- 2 "Electric Hazard" warning signs
- No load voltage regulating tap, operated when the transformer is powered off, to adapt the transformer to the actual supply voltage
- High voltage side connecting rod with connecting wire from above
- Low-voltage outgoing busbar with upward outlet



- The factory configuration of SCB with IP21, IP23 metal protective shell is as follows
- All contents mentioned above for SCB without protective casing (Ip00)
- 1 set of IP21 metal protective housing, standard anti-corrosion protection

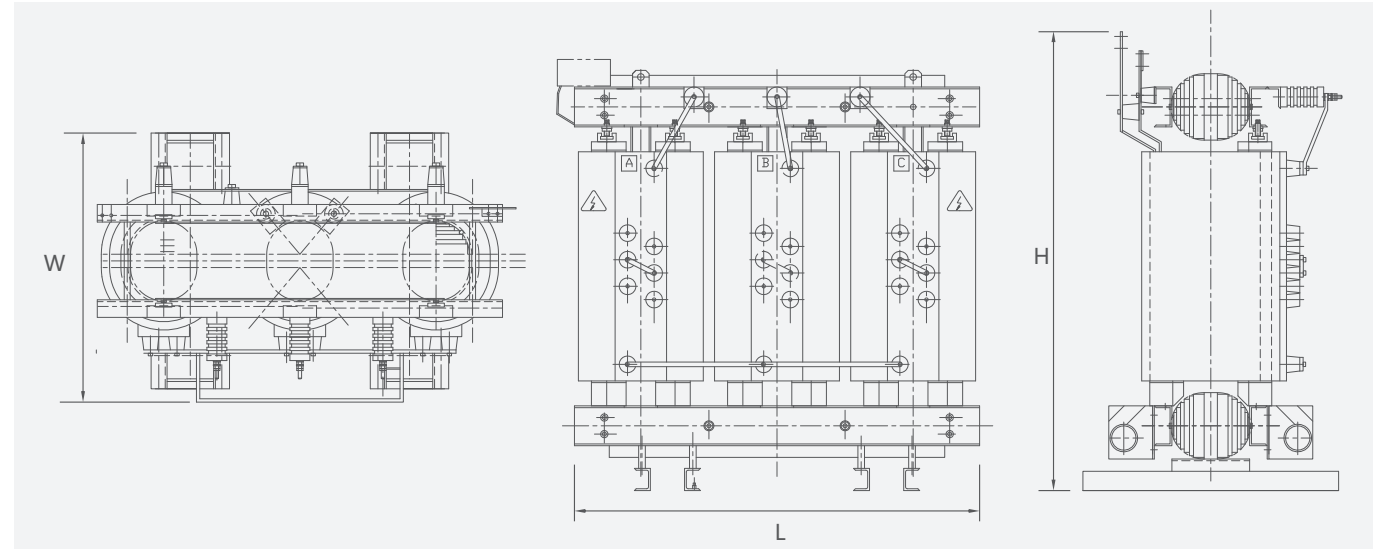
10KV Dry-type Transformer

SC(B)□ Series Epoxy Resin Dry-type Transformer

SCB9-30~2500/10KV technical data

Rated capacity (KVA)	Voltage combination			Connection group label	No-load loss(W)	Load Loss(w) 120°C	No-load current (%)	Short circuit impedance(%)	Dimensions			Total weight (kg)				
	High voltage (KV)	Tapping range	Low voltage (KV)						L	W	H					
30	6	±5 ±2×2.5	0.4	Dyn11 Yyn0	220	750	2.4	4.0	700	350	620	250				
50					310	1060	2.4		710	350	635	295				
80					420	1460	1.8		860	730	780	430				
100					450	1670	1.8		940	710	795	520				
125					530	1960	1.6		1000	710	860	670				
160					610	2250	1.6		1080	710	1020	840				
200					700	2680	1.4		1100	710	1060	960				
250					810	2920	1.4		1150	710	1100	1120				
315					6.3	±5 ±2×2.5	0.4	Dyn11 Yyn0	990	3670	1.2	6.0	1150	770	1125	1230
400					6.6				1100	4220	1.2		1190	870	1175	1485
500					10				1310	5170	1.2		1230	870	1265	1580
630					10.5				1510	6220	1.0		1465	870	1245	1840
630					11				1460	6310	1.0		1465	870	1245	1840
800									1710	7360	1.0		1420	870	1395	2135
1000									1990	8610	1.0		1460	870	1420	2500
1250									2350	10260	1.0		1580	970	1485	2970
1600		2760	12400	1.0	1640	1120	1715	3900								
2000		3400	15300	0.8	1780	1120	1710	4225								
2500		4000	18180	0.8	1850	1120	1770	4790								

Overall and mounting dimensions(mm)



Note: The dimensions and weights provided are only for reference in design and selection. The final size and weight are subject to our product drawings.

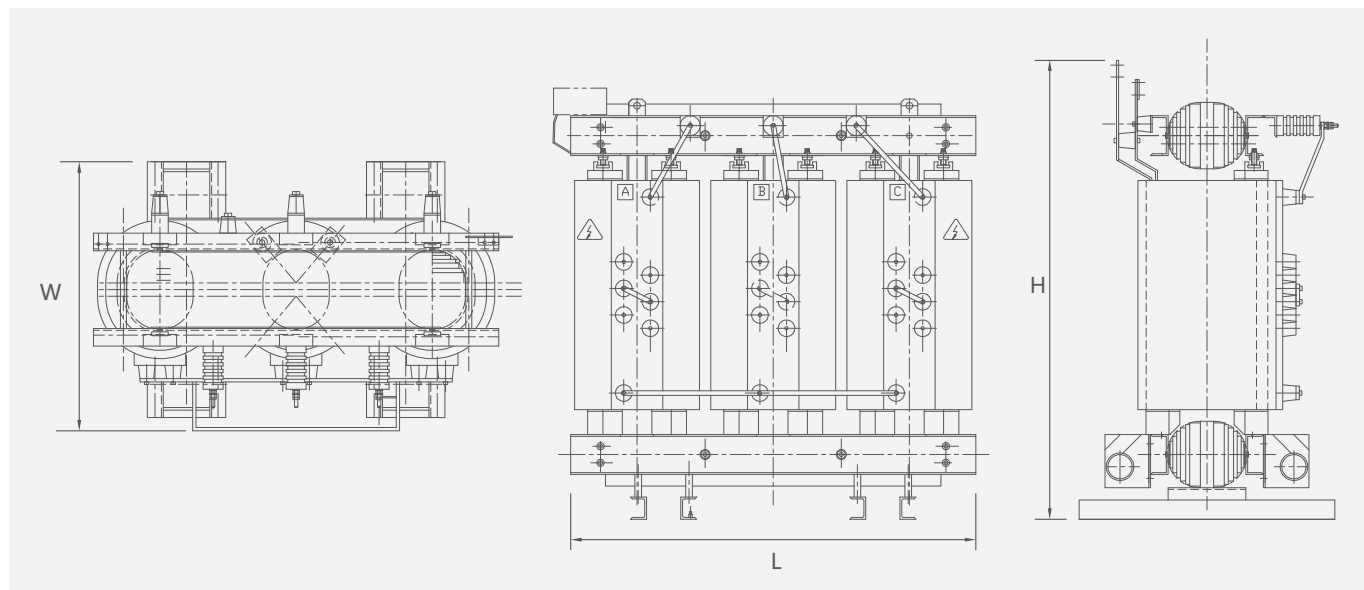
10KV Dry-type Transformer

SC(B)□ Series Epoxy Resin Dry-type Transformer

SCB10-30~2500/10KV technical data

Rated capacity (kVA)	Voltage combination			Connection group label	No-load loss(W)	Load Loss(w) 120°C	No-load current (%)	Short circuit impedance (%)	Dimensions			Total weight (kg)			
	High voltage (KV)	Tapping range	Low voltage (KV)						L	W	H				
30	6	±5 ±2×2.5	0.4	Dyn11 Yyn0	190	710	2.0	4.0	580	450	650	300			
50									270	1000	2.0	600	450	650	380
80									370	1380	1.5	880	500	800	470
100									400	1570	1.5	970	500	820	560
125									470	1850	1.3	970	500	860	650
160									540	2130	1.3	980	650	950	780
200									620	2530	1.1	1000	650	970	880
250									720	2760	1.1	1040	760	1070	1030
315									880	3470	1.0	1100	760	1110	1250
400					980	3990	1.0	1170	760	1235	1400				
500					1160	4880	1.0	1190	760	1250	1600				
630					1340	5880	0.85	1220	760	1250	1900				
630					1300	5960	0.85	1220	760	1250	1900				
800					1520	6960	0.85	1330	760	1330	2580				
1000					1770	8130	0.85	1350	920	1450	2850				
1250					2090	9690	0.85	1440	920	1550	3200				
1600					2450	11700	0.85	1510	1170	1620	3800				
2000					3060	14400	0.7	1530	1170	1785	4280				
2500	3600	17100	0.7	1560	1170	1930	5250								

Overall and mounting dimensions(mm)



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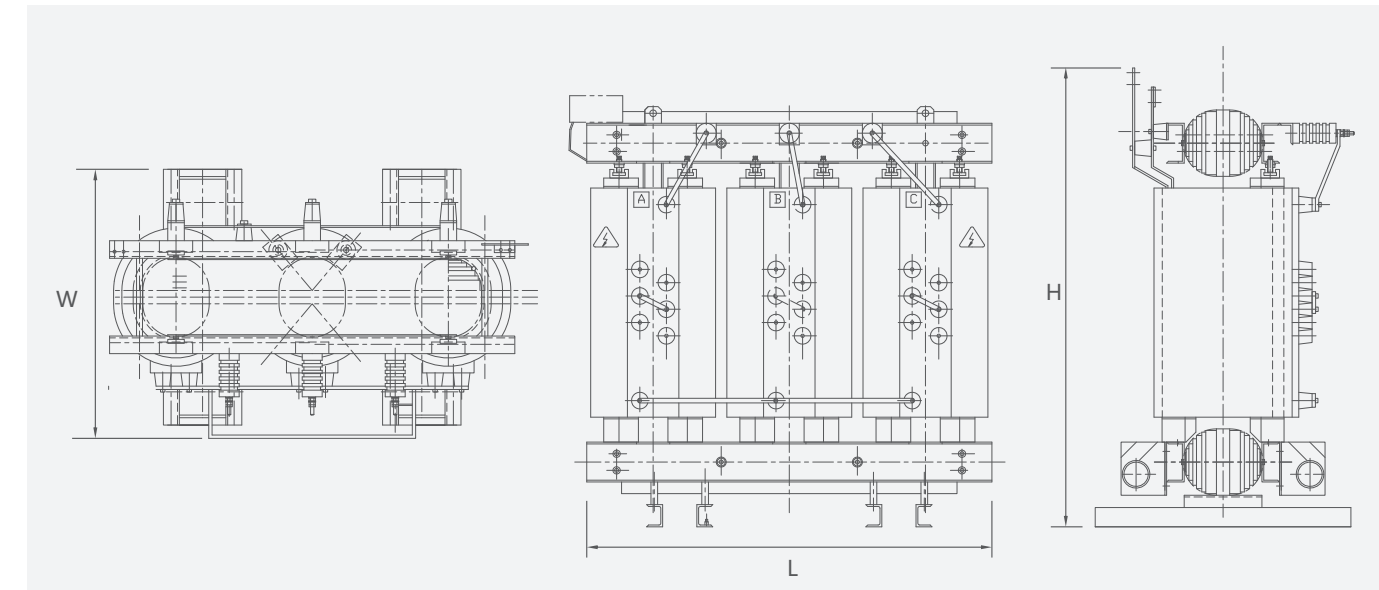
10KV Dry-type Transformer

SC(B)□ Series Epoxy Resin Dry-type Transformer

SCB11-30~2500/10KV technical data

Rated capacity (KVA)	Voltage combination			Connection group label	No-load loss(W)	Load Loss(w) 120°C	No-load current (%)	Short circuit impedance(%)	Dimensions			Total weight (kg)			
	High voltage (KV)	Tapping range	Low voltage (KV)						L	W	H				
30	6	±5 ±2×2.5	0.4	Dyn11 Yyn0	170	710	2.3	4.0	955	750	840	270			
50									240	1000	2.2	970	750	860	340
80									330	1380	1.7	1015	750	925	460
100									360	1570	1.7	1030	750	960	530
125									420	1850	1.5	1060	750	1000	605
160									480	2130	1.5	1090	900	1045	730
200									550	2530	1.3	1105	900	1080	825
250									640	2760	1.3	1180	900	1125	1010
315									790	3470	1.1	1225	900	1140	1165
400									880	3990	1.1	1330	900	1195	1490
500									1040	4880	1.1	1345	900	1255	1650
630									1200	5880	0.9	1540	1150	1175	1915
630					1170	5960	0.9	1540	1150	1175	1915				
800					1360	6960	0.9	1600	1150	1220	2305				
1000					1590	8130	0.9	1645	1150	1285	2690				
1250					1880	9690	0.9	1705	1150	1345	3225				
1600					2200	11700	0.9	1765	1150	1405	3805				
2000					2740	14400	0.7	1840	1150	1475	4435				
2500					3240	17100	0.7	1900	1150	1560	5300				
1600					2200	12900	0.9	1765	1150	1405	3805				
2000					2740	15900	0.7	1840	1150	1475	4435				
2500					3240	18800	0.7	1900	1150	1560	5300				

Overall and mounting dimensions(mm)



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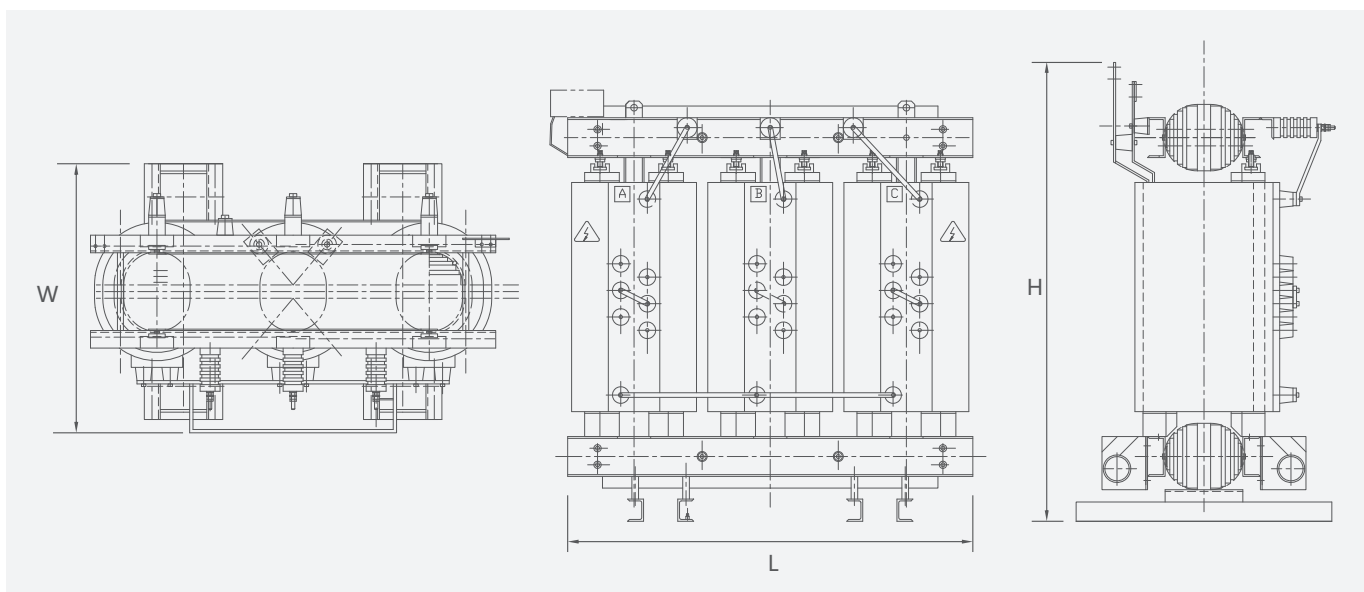
10KV Dry-type Transformer

SC(B)□ Series Epoxy Resin Dry-type Transformer

SCB12-30~2500/10KV technical data

Rated capacity (KVA)	Voltage combination			Connection group label	No-load loss(W)	Load Loss(w) 120°C	No-load current(%)	Short circuit impedance(%)	Dimensions			Total weight (kg)			
	High voltage (KV)	Tapping range	Low voltage (KV)						L	W	H				
30	6	±5	±2×2.5	0.4	Dyn11	Yyn0	4.0	4.0	955	750	840	270			
50									215	1000	2.2	970	750	860	340
80									295	1380	1.7	1015	750	925	460
100									320	1570	1.7	1030	750	960	530
125									375	1850	1.5	1060	750	1000	605
160									430	2130	1.5	1090	900	1045	730
200									495	2530	1.3	1105	900	1080	825
250									575	2760	1.3	1180	900	1125	1010
315									705	3470	1.1	1225	900	1140	1165
400									785	3990	1.1	1330	900	1195	1490
500									930	4880	1.1	1345	900	1255	1650
630									1070	5880	0.9	1540	1150	1175	1915
630									1040	5960	0.9	1540	1150	1175	1915
800									1210	6960	0.9	1600	1150	1220	2305
1000									1410	8130	0.9	1645	1150	1285	2690
1250					1670	9690	0.9	1705	1150	1345	3225				
1600					1960	11700	0.9	1765	1150	1405	3805				
2000					2440	14400	0.7	1840	1150	1475	4435				
2500					2880	17100	0.7	1900	1150	1560	5300				
1600					1960	12900	0.9	1765	1150	1405	3805				
2000					2440	15900	0.7	1840	1150	1475	4435				
2500					2880	18800	0.7	1900	1150	1560	5300				

Overall and mounting dimensions(mm)



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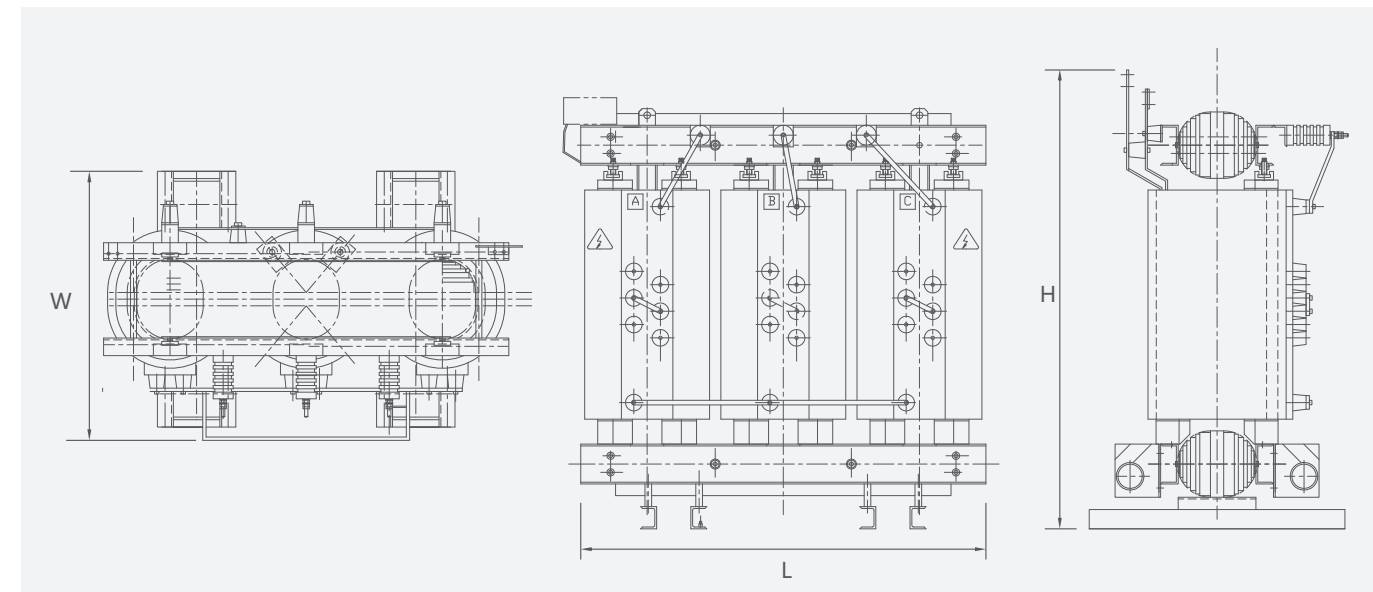
10KV Dry-type Transformer

SC(B)□ Series Epoxy Resin Dry-type Transformer

SCB13-30~2500/10KV technical data

Rated capacity (KVA)	Voltage combination			Connection group label	No-load loss(W)	Load Loss(w) 120°C	No-load current (%)	Short circuit impedance(%)	Dimensions			Total weight (kg)			
	High voltage (KV)	Tapping range	Low voltage (KV)						L	W	H				
30	6	±5	±2×2.5	0.4	Dyn11	Yyn0	4.0	4.0	955	750	840	270			
50									195	900	2.2	970	750	860	340
80									265	1240	1.7	1015	750	925	460
100									290	1410	1.7	1060	750	960	560
125									340	1660	1.5	1075	750	1000	630
160									385	1910	1.5	1105	900	1045	770
200									445	2270	1.3	1120	900	1105	875
250									515	2480	1.3	1195	900	1125	1055
315									635	3120	1.1	1555	1150	1175	1190
400									705	3590	1.1	1225	900	1140	1500
500									835	4390	1.1	1315	900	1190	1700
630									965	5290	0.9	1345	900	1265	1985
630									935	5360	0.9	1555	1150	1175	1985
800									1090	6260	0.9	1600	1150	1220	2360
1000									1270	7310	0.9	1660	1150	1285	2775
1250					1500	8720	0.9	1720	1150	1350	3310				
1600					1760	10500	0.9	1780	1150	1405	3940				
2000					2190	13000	0.7	1840	1150	1475	4595				
2500					2590	15400	0.7	1900	1150	1565	5495				
1600					1760	11600	0.9	1780	1150	1405	3940				
2000					2190	14300	0.7	1840	1150	1475	4595				
2500					2590	17000	0.7	1900	1150	1565	5495				

Overall and mounting dimensions(mm)



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10KV Dry-type Transformer

SC(B)□ Series Epoxy Resin Dry-type Transformer

Carry

- The transformer is equipped with safe handling devices.
- For transformers without enclosures and transformers with top door openings, use the four lifting lugs of the transformer for lifting (must be lifted vertically, not diagonally); For transformers with 2 lifting lugs in the center of the top of the casing, use 2 lifting lugs for lifting. The angle formed by the sling should not exceed 60°.
- Firstly, the forking capacity of the forklift should be checked. If appropriate, the fork arm should be inserted into the base channel steel after removing the rollers.
- Pulling and moving the transformer should be carried out from the base. For this purpose, holes with a diameter of 27 mm are made on each side of the base. Dragging is possible in two directions: the axis of the base and the direction perpendicular to this axis.

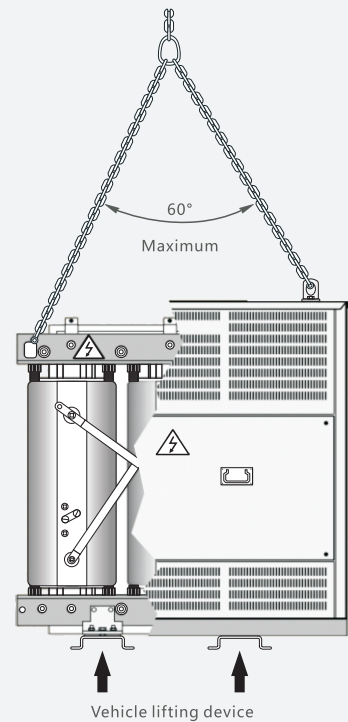


Figure 1- Lifting with a sling or forklift

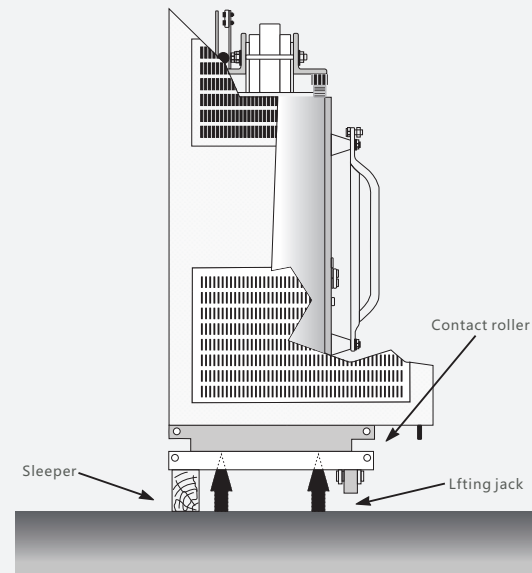


Figure 2- Installation of the roller