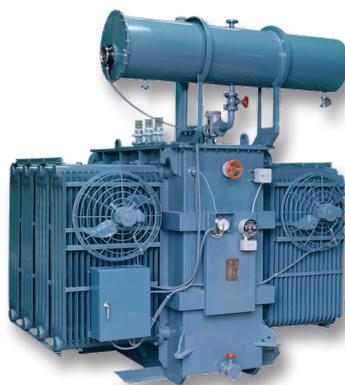


TECO 

Transformers

Together, we empower
the **Future** 



TECO 

 **伸昌電機**
SHENCHANG ELECTRIC



CONTENTS

- 03 About TECO
- 04 Global Location
- 05 Factory Equipment
- 06 Power Transmission Applications
- 07 Certification
- 08 Core Technology
- 12 Specification



ABOUT TECO

Since its founding in 1956, Teco electric & machinery co., ltd. Has been committed to delivering high-quality electrical and industrial automation solutions. Guided by our core principles of energy efficiency, innovation, and sustainability, we continuously develop cutting-edge technologies to meet the diverse and evolving needs of our global customers.

Our product portfolio includes electric motors, transformers, variable frequency drives (VFDS), automation control systems, and green energy solutions, widely applied across industries such as manufacturing, data centers, construction, energy, and environmental protection. With a strong R&D team and stringent quality management, we ensure that every product offers outstanding performance and reliability, helping our customers enhance operational efficiency and significantly reduce energy consumption.

As a leading global brand in industrial equipment, we actively drive smart manufacturing and digital transformation, integrating IOT and AI technologies to build intelligent factories and sustainable energy solutions. We remain committed to continuous innovation and collaboration, shaping a smarter and more sustainable future together.





GLOBAL LOCATION

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W: www.teco-japan.com

Factory Equipment



Power Transmission Applications



1

Power Transmission Network – Power Transformers

Designed for voltage ratings of 150/161KV with capacities up to 150MVA, achieving efficiency levels above 99.6%. Certified supplier to national power utilities and exporter to North American oil, gas, and mining industries.

Voltage Rating: 150/161KV

Capacity: 60–150MVA

Standards: ANSI, IEC, IEEE, SPLN



2

Industrial Zones, Science Parks, and Infrastructure – Power Transformers

Featuring low-loss, low-noise cores with high short-circuit mechanical strength, and windings designed for high impulse withstand capability and superior short-circuit resistance. Widely applied in steel plants and the pulp & paper industry.

Voltage Rating: 34.5–69KV

Capacity: <50MVA

Standards: ANSI, IEC, IEEE



3

Medium and Small Industrial Zones – Distribution Transformers

Developed through technology transfer from Westinghouse (USA) for oil-immersed distribution transformers. Designed to withstand abnormal surges caused by non-linear loads, minimizing the impact of system harmonics. Constructed with high-permeability silicon steel laminations to effectively reduce core losses, ensuring optimal performance under light-load operation. American oil, gas, and mining industries.

Voltage Rating: <34.5KV

Capacity: <25MVA

Standards: ANSI, IEC, IEEE, CNS



4

Residential Complexes and Commercial Buildings – Cast Resin Transformers

Developed through technology transfer from ABB Power T&D Co. The high-voltage windings adopt a multi-layer flat copper conductor winding method, with conductors directly wound horizontally in the mold. Glass fiber mats are used for interlayer insulation, and ventilation ducts are incorporated between windings, providing excellent heat dissipation capability. American oil, gas, and mining industries.

Voltage Rating: <34.5KV

Capacity: <7500KVA

Standards: ANSI, IEC, IEEE, CNS



5

Townhouses–Pole-Mounted Transformers

Developed through technology transfer from Westinghouse (USA) for pole-mounted transformer technology. Designed with a wound-core structure to reduce short-circuit mechanical stress and enhance harmonic resistance. Features high efficiency, low loss, and low noise, making it an eco-friendly product that supports energy conservation and carbon reduction.

Voltage Rating: <34.5KV

Capacity: <167KVA

Standards: ANSI, IEC, IEEE, CNS



Certification

<p>財團法人全國認證基金會 Taiwan Accreditation Foundation Certificate of Accreditation (Certificate No. 14229-22510)</p> <p>財團法人 申昌電機股份有限公司 SHEN CHANG ELECTRIC CO., LTD. TESTING LABORATORY</p> <p>本證書係根據財團法人全國認證基金會之規定，經本會評定合格後發給。本證書之有效期間為一年，自民國105年11月22日起至民國106年11月21日止。如有變更，應於有效期間內向本會申請。如有違反本會規定者，本會得隨時撤銷本證書。</p> <p>財團法人全國認證基金會 財團法人 申昌電機股份有限公司 財團法人全國認證基金會 財團法人全國認證基金會</p>	<p>財團法人全國認證基金會 財團法人 申昌電機股份有限公司 財團法人全國認證基金會 財團法人全國認證基金會</p>	<p>財團法人全國認證基金會 財團法人 申昌電機股份有限公司 財團法人全國認證基金會 財團法人全國認證基金會</p>	<p>財團法人全國認證基金會 財團法人 申昌電機股份有限公司 財團法人全國認證基金會 財團法人全國認證基金會</p>
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Core Technology

1. Standard

The transformers are manufactured in accordance with CNS598, ANSI C57.12.00, IEC-76, BSS-171, NEMA-TR1, VDE-0532, or TPC (Taiwan Power Company) standards, and individual customer requirements.

2. Core

The cores use high quality cold rolled grain-oriented, and laser-processed silicon steel sheet. They provide low iron loss, low noise, compact size, and the best performance for high efficiency transformers.

Types of Cores

a). Strip-Wound Core:

For application in single-phase or three-phase compact size transformers with low noise and excellent magnetic circuit characteristics.

b). Step-Lab Core:

It is suitable for application in single-phase or three-phase, core-type or shell-type compact size transformers. It has excellent magnetic circuits which reduce iron loss considerably and greatly increase the mechanical strength of the transformer.

c). Stacking Core:

The mitred core, joined by 45-degree cut silicon steel sheets, has excellent mechanical strength, and is for application in three-phase, high capacity transformers. It can have best performance on low iron loss by using high quality surface-laser-processed silicon steel sheets.



3. Windings

A. Materials:

We use high quality conductor copper / aluminum in our products. The categories are as follows:

- 1). Enamelled Magnet Wire: Round or rectangular copper / aluminum wires.
- 2). Paper-Wrapped Rectangular Copper Wire: The wires, ribbed with thermally-upgraded insulating paper, are applied in oil-immersed transformers.
- 3). Copper / Aluminum foil: The high conductor copper or aluminum foil is applied in low voltage windings. The foils must be processed through an edge-modifier to get rid of burrs and to have the round edges.

4. Insulation:

Our oil-immersed transformers use press board, thermally upgraded insulating kraft paper, and insulating oil (mineral, silicon, or high fire-point oil, etc.)

5. Bushings:

A. HV Bushing:

High quality porcelain bushings are used on the high voltage's terminals. Optional bushing wells, inserts, and elbows are upon request, allowing high voltage cables to be inserted directly, and show no live parts outside.

B. LV Bushing:

High quality porcelain LV bushings can be equipped with clamp type or spade type, and also can be with stud mole type LV terminals which have rubber insulating sleeves to show no live parts outside. The above mentioned LV terminals are able to be connected with switch gears by cables or bus-bars.



6. Tank:

- A. All tanks are assembled by cold rolled and hot rolled steel plates through welding. They are equipped with radiators or corrugated steel sheets in accordance with the capacity of the transformer. Meanwhile, reinforced structure and pressure relief valves enhance the strength of tanks to face a harsh operation environment.
- B. The tank must go through degreasing, acid cleaning, phosphide film, oxide primer, and polyurethane process etc. to guarantee its functioning in the worst operation environment.

7. Clamp:

Step-Lap Cores and Stacking Cores have different clamp arrangements. We designed a special pre-load structure, which not only can resist axial electromagnetic force, but also perform well on resisting radial electromagnetic force. With reinforced clamps, the coils increase their anti-axial and radial strength, making the coils compact and strong. So, our transformers have excellent electromagnetic characteristics and the best anti-short-circuit strength. This guarantees the safety of the system when an abnormal breakdown occurs.

8. Accessories:

In accordance with the capacity of the transformer and the standard, the accessories include an oil filling hole, oil drain valve, safety valve, standard thermometer, oil level gauge, skid wheel, jacking pad, breather, earthing terminal, no-voltage type tap changer, and etc.



9. Optional Accessories:

Oil conservator, Buchholz relay, cooling fan, HV & LV cable box, cable duct, bus-bar duct, bushing well, bushing insert, elbow, dial-type thermometer or oil level gauge, on-load type tap changer, protective fuse, dry well fuse connector, flexible copper braid, and lightning arresters are available upon customer request at extra cost.

10. Installation:

Our transformers can be installed indoor or outdoor. Special designs or special installation can be arranged upon customer request.

11. Tests:

All products must pass standard Q.C. and testing procedures before shipment. The following optional tests are available upon request:

- a. Temperature increase test
- b. Full wave/chopped wave impulse test
- c. Withstand short circuit test

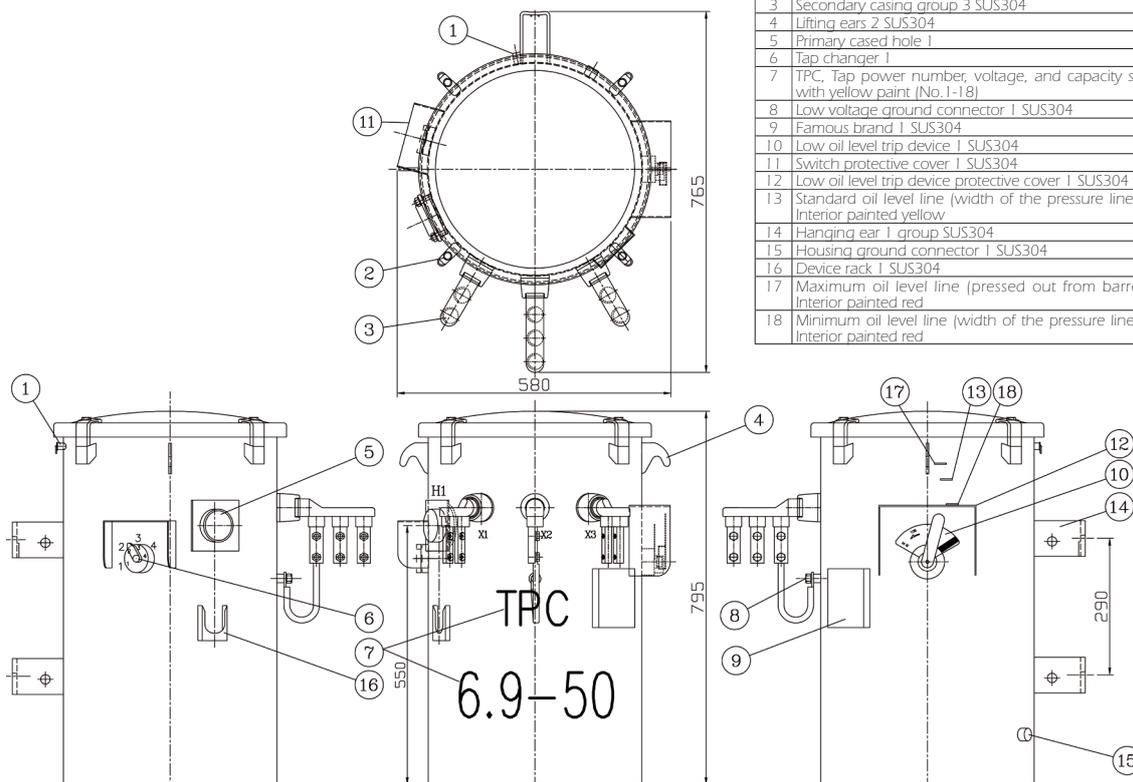
※ Other special tests should be indicated before ordering.

OIL IMMERSED POLE MOUNTED - DISTRIBUTION TRANSFORMER

- Technology transferred from Westinghouse Electric Corporation (USA) for pole-mounted transformer design, featuring wound-core construction to reduce short-circuit mechanical stress and enhance harmonic resistance.
- High efficiency, low loss, and low noise, an eco-friendly product aligned with energy-saving and carbon-reduction goals.
- Customizable design and manufacturing in compliance with IEC, IEEE, ANSI, and CNS standards



Product	Pole Mounted
Voltage	Up to 12KV
Phase	Single Phase
Capacity	25, 50, 100, 167 KVA
Standards	IEC, CNS, IEEE
Frequency	50Hz, 60Hz



No.	Name	Quantity	Material	Remark
1	Pressure relief device	1	SUS304	
2	Upper cover locking device	4	SUS304	
3	Secondary casing group	3	SUS304	
4	Lifting ears	2	SUS304	
5	Primary cased hole	1		
6	Tap changer	1		
7	TPC, Tap power number, voltage, and capacity symbol	1	Painted with yellow paint (No.1-18)	
8	Low voltage ground connector	1	SUS304	
9	Famous brand	1	SUS304	
10	Low oil level trip device	1	SUS304	
11	Switch protective cover	1	SUS304	
12	Low oil level trip device protective cover	1	SUS304	
13	Standard oil level line (width of the pressure line in the barrel)	1	Interior painted yellow	
14	Hanging ear	1	group SUS304	
15	Housing ground connector	1	SUS304	
16	Device rack	1	SUS304	
17	Maximum oil level line (pressed out from barrel)	1	Interior painted red	
18	Minimum oil level line (width of the pressure line in the barrel)	1	Interior painted red	

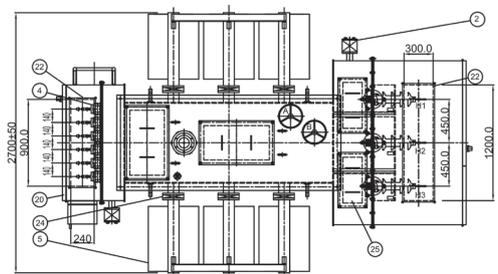
Capacity (kVA)	Primary Voltage (V)	Secondary Voltage (V)	Excitation Current (%)	No-Load Loss (W)	Load Loss (W)	Total Loss (W)	Efficiency (%)	Voltage Regulation (%)	Impedance (%)	Oil (l)	Dimensions (mm)			Weight (kg)
											(W)	(D)	(H)	
25	6900	240-120	0.20	78	165	243	98.75	2.5	>2.0	61	550	740	735	213
50	6900	240-120	0.15	116	445	561	98.89	2.3	>2.0	73	580	765	795	295
100	6900	240-120	0.12	205	836	1041	99.10	2.1	>2.0	106	645	820	885	468
167	6900	240-120	0.10	303	1103	1406	99.13	2.0	>2.0	143	790	910	990	627

OIL IMMERSED CONVENTIONAL-DISTRIBUTION TRANSFORMER

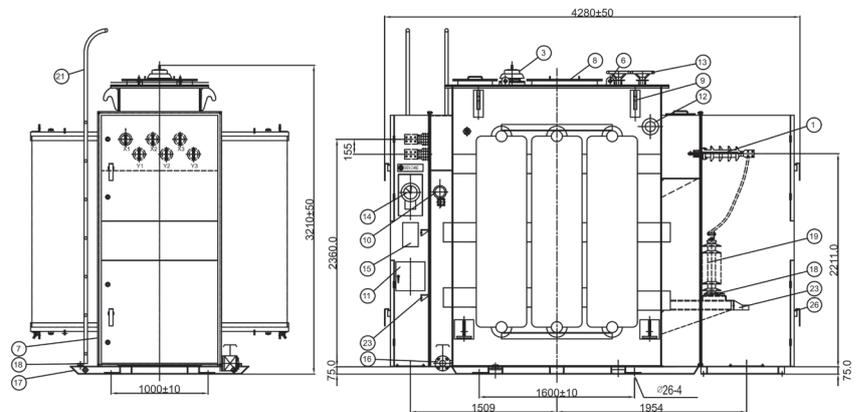
- Capable of manufacturing transformers with voltage ratings up to 34.5 kV, capacities up to 25 MVA, and efficiency exceeding 99.4%.
- In collaboration with Westinghouse Electric Corporation (USA), we have acquired distribution-class oil-immersed transformer technology through technology transfer. These transformers are capable of withstanding abnormal surges caused by nonlinear loads, minimizing the impact of system harmonics.
- Constructed with high-permeability silicon steel laminations to effectively reduce core losses, enhancing performance under light-load conditions.
- Designs can be customized to comply with IEC, IEEE, ANSI, and CNS standards.



Product	Conventional
Voltage	Up to 34.5KV
Phase	Three-phase
Capacity	Less than 25,000 KVA
Standards	IEC, CNS, IEEE
Frequency	50Hz, 60Hz



No.	NOMENCLATURE	QTY
1	H.V. Bushings and terminals	3
2	Oil filter valve	1
3	Pressure relief device with contact(auto reclosing)	1
4	L.V. Bushings and terminals	6
5	Radiators	
6	Lifting lugs (for cover)	4
7	Jacking pads	4
8	Man hole	2
9	Lifting lugs (for total Weights)	4
10	Pressure/vacuum gauge with contact	1
11	Common Terminal box	1
12	Magnetic liquid level gauge with contact	1
13	Externally operating tap changer (no-voltage)	2
14	Dial type thermometer with max. pointer and two contacts	1
15	Name plate	1
16	Oil drain valve	1
17	Skid Type Under Base	1 set
18	Earthing terminales	5
19	Rated 36kV intermediated class lightning arresters	3
20	Air terminal chamber	2
21	Ladder	1
22	Cable Outlet Hole	2
23	Cable support	2
24	Butterfly valve of radiator	12
25	Hand hole	2
26	Man hole	2



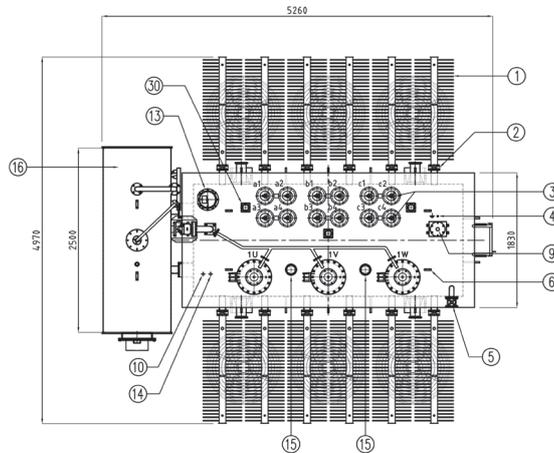
Capacity (kVA)	Primary Voltage (kV)	Secondary Voltage (V)	Excitation Current (%)	No-Load Loss (W)	Load Loss (W)	Total Loss (W)	Efficiency (%)	Voltage Regulation (%)	Impedance (%)	Oil (l)	Dimensions (mm)			Weight (kg)
											(L)	(W)	(H)	
750	24	≤600	2.5	2330	7670	10000	98.68	1.15	4~5	700	1400	1580	2010	2550
1000			2.5	2600	10100	12700	98.75	1.14	4~5	770	1620	1600	2050	3100
1250			2	3200	12500	15700	98.76	1.13	4~5	880	1900	1570	2070	3800
1500			2	3500	15000	18500	98.78	1.19	5~6	1000	2050	1710	2100	4200
2000			1.75	4000	20300	24300	98.80	1.20	5~6	1200	2100	1740	2170	5100
2500			1.75	4300	24700	29000	98.85	1.17	5~6	1380	2150	1780	2230	5600
3000			1.75	5000	28000	33000	98.91	1.12	5~6	1530	2500	1850	2250	7000
4000	24	3.3	2.5	5000	27000	32000	99.21	0.93	6.5	1890	2750	1980	2645	8700
6000	33	3.3	1.0	7000	38300	45300	99.25	0.85	6.5	3500	4200	3030	3500	14500
8000			1.0	10000	51000	61000	99.24	0.91	7.32	4660	4470	3150	3500	16400
10000		3.45	1.0	11200	58800	70000	99.30	0.96	7.0	3600	4720	3300	2070	17400
12000			1.0	12500	67500	80000	99.34	1.1	7.0	4550	4950	3370	3300	20000

OIL IMMERSED-POWER TRANSFORMER

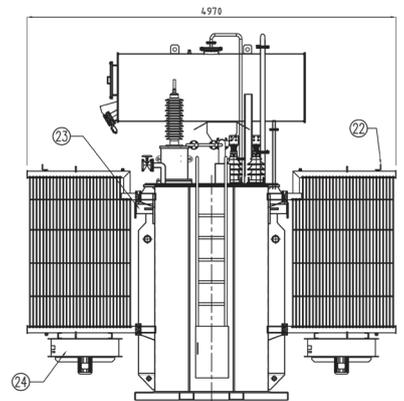
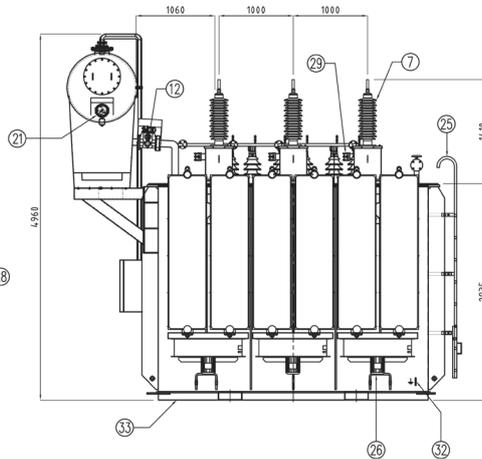
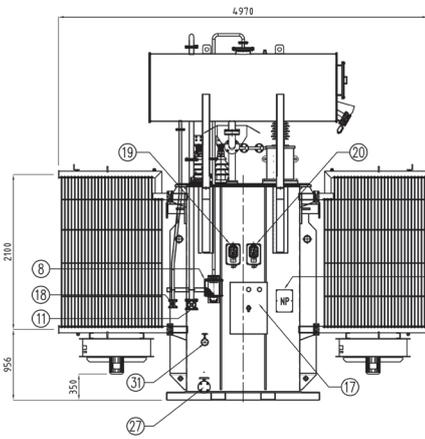
- Capable of manufacturing oil-immersed power-class transformers with voltage ratings of 150/161 kV and capacities up to 150 MVA, achieving efficiency above 99.6%.
- Designs can comply with IEC, IEEE, ANSI, and CNS standards.
- Certified supplier to Indonesia's state-owned electricity company (PLN), with exports to North American clients in the oil & gas and mining industries.



ITEM	DESCRIPTION
1	PANEL RADIATOR
2	SHUT-OFF RADIATOR VALVE
3	LV PORCELAIN BUSHING (Top Mounted)
4	EARTHING TERMINAL
5	UPPER OIL FILTER VALVE 2"
6	COVER LIFTING LUG
7	HV OIP PORCELAIN BUSHING (Top Mounted)
8	SILICAGEL BREATHER
9	CORE GROUND BUSHING
10	PLUG SENSOR OF OIL THERMOMETER
11	OIL FILLING VALVE 2"
12	BUCHHOLZ RELAY WITH ALARM & TRIP CONTACT
13	PRESSURE RELIEFE DEVICE WITH ALARM CONTACT
14	PLUG SENSOR WINDING THERMOMETER
15	OFF-LOAD TAP-CHANGER
16	CONSERVATOR WITH BLADDER



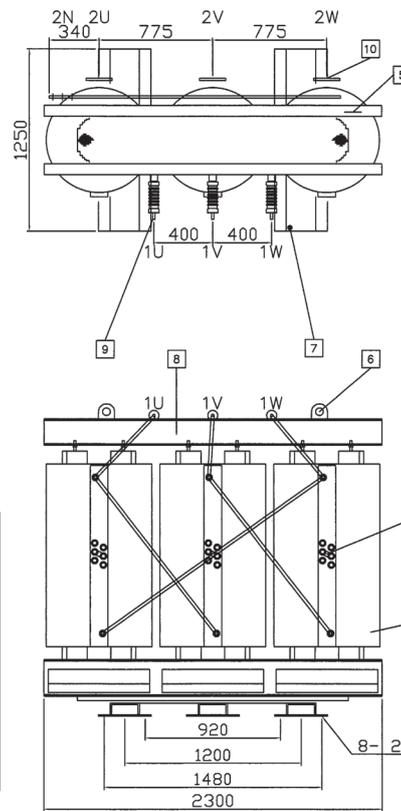
ITEM	DESCRIPTION
17	TERMINAL CONTROL BOX
18	DRAIN VALVE CONSERVATOR 1"
19	WINDING THERMOMETER WITH ALARM & TRIP CONTACT
20	OIL THERMOMETER WITH ALARM & TRIP CONTACT
21	LIQUID LEVEL INDICATOR WITH ALARM CONTACT
22	RADIATOR SUPPORT
23	TANK LIFTING LUG
24	COOLING FAN (3P 380 VAC)
25	LADDER
26	JACKING LUG
27	OIL DRAIN VALVE 2"
28	NAME PLATE (SSTL)
29	CT COMPLETE WITH TERMINAL - HV (3)
30	CT COMPLETE WITH TERMINAL LV (3)
31	OIL SAMPLING VALVE 1/2"
32	GROUND PADS
33	FOUNDATION BASE



Capacity (kVA)	Primary Voltage (kV)	Secondary Voltage (V)	No Load Current (%)	No-Load Loss (kW)	Load Loss (kW)	Total Loss (W)	Efficiency (%)	Voltage Regulation (%)	Impedance (%)	Noise Level (dB)	Dimensions (mm)			Weight (kg)
											(L)	(W)	(H)	
100000	150	66/10	0.2	40	210	250	99.75	0.43	12.5	≤67dB(0.3m) ≤71dB(2.0m)	8000	6000	6500	100000
60000	150	66/10	0.2	30	130	150	99.73	0.42	12.5	≤67dB(0.3m) ≤71dB(2.0m)	5800	5000	5200	65000
60000	150	22/10	0.2	28	115	143	99.76	0.39	12.5	≤67dB(0.3m) ≤71dB(2.0m)	5800	5000	5200	65000
60000 GIS	150	22/10	0.2	28	115	143	99.76	0.39	12.5	≤67dB(0.3m) ≤71dB(2.0m)	5500	4910	5000	62700
30000	150	22/10	0.2	18	67	85	99.72	0.40	12.5	≤67dB(0.3m) ≤71dB(2.0m)	4800	4000	4500	40000
30000	66	22	0.2	18	67	85	99.72	0.40	12.5	≤67dB(0.3m) ≤71dB(2.0m)	4800	4000	4500	40000

DRY CAST RESIN- DISTRIBUTION TRANSFORMER

- Capable of manufacturing units with voltage ratings up to 34.5 kV, capacities up to 7.5 MVA, and efficiency exceeding 99.4%.
- Technology transferred from ABB Trafo Bb GmbH. The high-voltage coil adopts a multi-layer wire disc winding method using flat copper conductors. Conductors are horizontally wound directly in the mold. Interlayer insulation consists of fiberglass mats, and cooling ducts are added between coils to enhance heat dissipation.
- The core is made of high-permeability, grain-oriented silicon steel sheets, resulting in low no-load losses and no-load current, high efficiency, and low noise.
- Design can comply with CNS standards and can also be customized to meet IEC or other international transformer standards.



No.	Name	Quantity	Material	Remark
1	Support Platform / Bearing Platform			
2	Iron Core			
3	Coil			
4	No-Voltage Terminal Switching Device			
5	Nameplate			
6	Lifting Lug / Lifting Ear			
7	Ground Terminal			
8	Gray Parts / Ash Components (ambiguous)			
9	High Voltage Terminal			
10	Low Voltage Terminal			
11	Shockproof Rubber Pad			
12	Cooling Fan			

Product	DRY - Cast Resin
Voltage	Up to 34.5KV
Phase	Three-phase
Capacity	7,500 KVA
Standards	IEC, CNS, IEEE
Frequency	50Hz, 60Hz

Capacity (kVA)	Primary Voltage (kV)	Secondary Voltage (V)	Excitation Current (%)	No-Load Loss (W)	75° Load Loss (W)	Total Loss (W)	Efficiency (%)	Voltage Regulation (%)	Impedance (%)	Noise Level (dB)	Dimensions (mm)			Weight (kg)
											(L)	(W)	(H)	
500	22.8	380	0.8	920	4950	5870	98.83%	0.43	6	53	1450	830	1668	1950
600	22.8	380	0.7	1050	5300	6350	98.94%	0.42	6	55	1450	830	1748	2150
750	22.8	380	0.7	1300	6150	7450	99.01%	0.42	6	55	1550	830	1748	2450
1000	22.8	380	0.6	1400	7500	8900	99.11%	0.42	6	55	1550	1080	1828	2900
1250	22.8	380	0.6	1850	8800	10650	99.15%	0.42	6	55	1650	1080	1878	3300
1500	22.8	380	0.5	1900	9900	11800	99.21%	0.42	6	56	1750	1080	2108	4250
2000	22.8	380	0.5	2600	13000	15600	99.22%	0.43	6	56	1950	1250	2138	5450
2500	22.8	380	0.4	3400	15000	18400	99.26%	0.43	6	57	2100	1250	2158	6800
3000	22.8	380	0.4	3700	16500	20200	99.33%	0.46	7	58	2200	1250	2180	7200
3500	22.8	380	0.3	4500	17170	21670	99.38%	0.52	8	62	2300	1250	2407	9050

