



PALMBRI
GREEN ENERGY INDUSTRY



PRODUCT CATALOG (3MVA-30MVA) OIL IMMERSED TRANSFORMER

Version 2026

IEC 60076 Series;
GB 20052-2020, GB 1094-1996
GB / T 6451-2008, GB / TT7597-2007



TIANJIN PALMBRI INDUSTRY & TRADE Co.,Ltd.

Electric & Green Energy Service provider

www.palmbrienergy.com

PRODUCT OVERVIEW

- The production capacity of high-power distribution transformers below 3-36kV/30MVA, with an annual production capacity of 100MVA. High power distribution transformers are widely used in oil fields, metallurgy, chemical industry, mines, docks and other places.
- We use high-quality copper wire coils and silicon steel sheets, equipped with a more efficient cooling system, lower losses, and a high work efficiency of $\geq 99.3\%$.
- Featuring good stability, reliable quality, and long life-span, it can operate stably in various harsh environments.
- The actual measurement of the product is superior to GB and IEC standards, CB CCC KEMA SASO certification, etc- The high reliability of operation verification in more than 50 countries and regions around the world has been sold to Iraq, Kuwait, the United Arab Emirates, Libya, Zimbabwe, South Africa, Uganda, Rwanda, Ethiopia, Ghana, Uzbekistan, Kazakhstan, Pakistan, Vietnam, Nepal, Bangladesh, Indonesia and other countries, with a cumulative export of 3598 sets
- It is mainly used in urban distribution network below 35KV, power supply and distribution system of industrial and mining enterprises and civil buildings-Executive Standards: IEC 60076 Series, IEC 6013, IEC 60214-1, IEC 60296; GB 1094-1996, GB / T 6451-2008, GB / T 7597-2007, etc



33kv-3150kva Oil immersed transformer

PRODUCT ADVANTAGE

Leading technology

- High voltage copper tape winding technology to improve lightning resistance
- Low voltage copper foil winding technology, high quality A grade insulation material insulation
- Small magnetic leakage, high mechanical strength, short circuit resistance
- Core 45° fully inclined joint step laminated structure



20kV/3mva oilfield specific transformer

The shell

- ABB robot automatic welding, laser detection, avoid leakage, pass rate of 99.99998%
- Electrostatic spray treatment, 50 years without removing paint (coating corrosion resistance within 100h, hardness ≥ 0.4) Fully sealed structure, maintenance free, normal operation service life of more than 30 years

The iron core

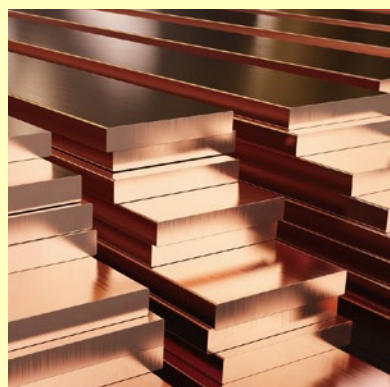
- The iron core is made of high quality cold-rolled grain oriented silicon steel sheet with mineral oxide insulation (from Baosteel and WISCO of China).
- By controlling the cutting and stacking process of silicon steel sheet, the loss level, no-load current and noise can be minimized The iron core is specially reinforced to ensure the structure of the transformer is firm during normal operation and transportation



PRODUCT ADVANTAGE

Winding

- The low voltage winding is made of high quality copper foil with excellent insulation resistance
- High voltage winding is usually made of insulated copper wire, using patented technology



High quality material

- Baosteel and WISCO produce silicon steel sheets
- China's high quality oxygen free copper
- CNPC (Kunlun Petroleum) High quality transformer oil (25#)

Patent technology

Ultra-low loss energy-saving power transformer"patent technology, can achieve 5% material savings, transformer loss than similar products in the market reduced 10-20%, more energy saving and environmental protection.



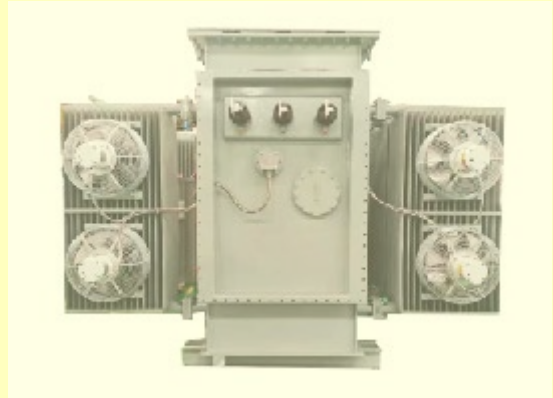
Other instructions

- The low-voltage outlet terminal is a tin-plated copper bar
High voltage outlet terminals are tin-plated ring bolts
- Default no-load voltage regulation (can be customized) tap switch 5 or 7 gear adjustment Transformer above 630KVA is equipped with gas relay protection.

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OUR FACTORY

The company mainly produces more than 300 sets of equipment, and the key equipment includes the full-automatic vacuum resin casting equipment, 400 / 600mm core automatic cross cutting machine, foil winding machine, the most advanced transformer kerosene vapor phase drying equipment in China, large-scale core stacking turnover platform, large scale assembly platform, etc



FLUID FILLED DISTRIBUTION TRANSFORMER

Type of transformer	Hermetically seal liquid fille (optional conservator)
Style of transformer	Ground Mounted - Cable or busbar Connected
Choice of dielectric fluid	Mineral oil to IEC60296 (KUNLUN25#)
Ratings	3mva up to 30mva
Voltages	Up to 36kV (6/10/35kv 6.6/11/33kv 20/22kv 15/30kv)
Losses	GB 20052-2020 (Officially implemented on June 1, 2021)
Availability	Fast Transformer STOCK (choice of aluminium or copper windings) manufacture – 7 weeks

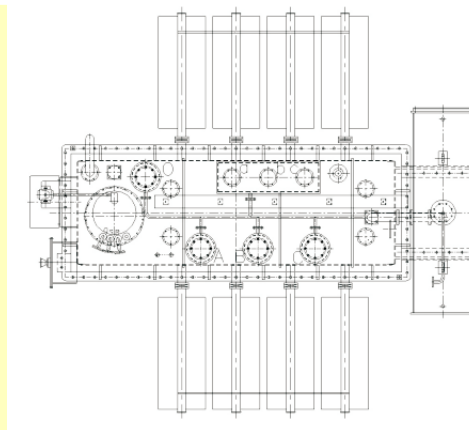
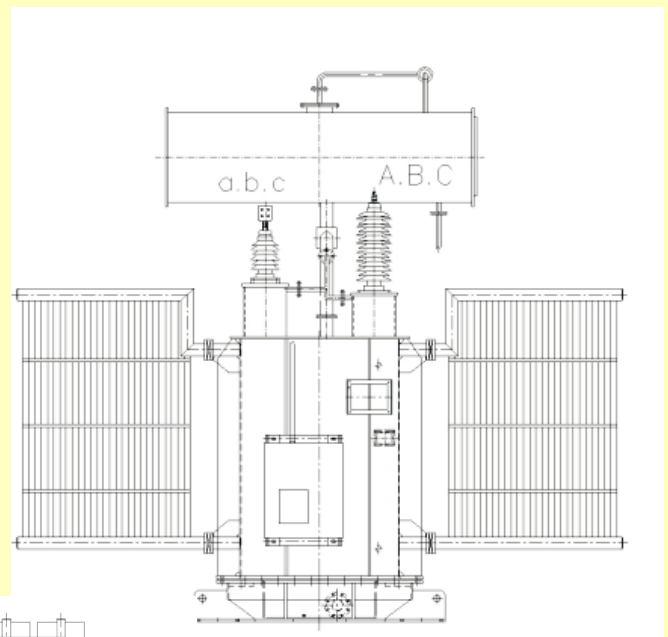
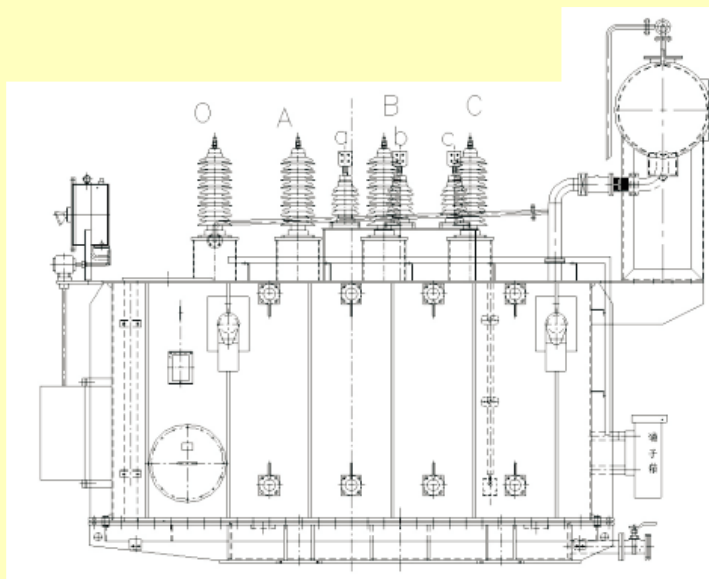
Standard Tank Fittings	Optional Tank Fittings
Oil level indicator	Fluid-filled conservator
Rating and diagram plate	Gas & fluid actuated relay
Off circuit tap changer	Pressure relief device
pressure relief valve	Dehydrating breather
Dial thermometer	Liquid temperature indicator
Earth terminal	Winding temperature indicator
Filling valve	Marshalling box
Drain valve	Vacuum / pressure gauge
Lifting lugs	Plain rollers and axles

CUSTOMER-ORIENTED CREATE VALUE FOR CUSTOMERS
MAKEFRIENDS ALL OVER THE WORLD

TECHNICAL PARAMETERS

S11 OLTC Oil-immersed Transformer

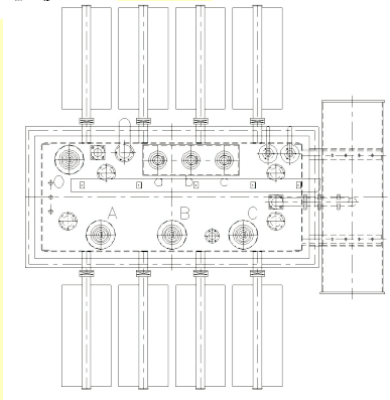
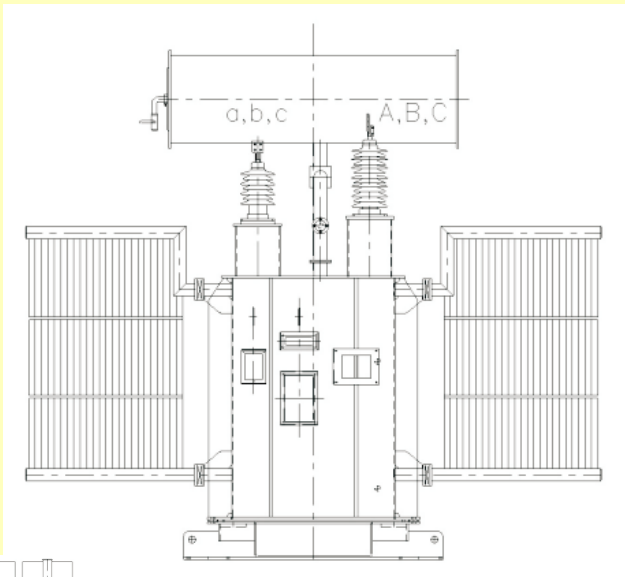
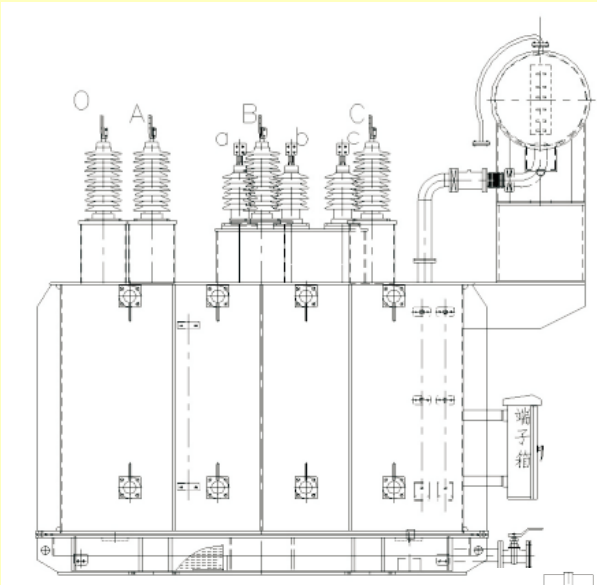
Rating (kva)	High voltage (kV)	High voltage tap range (%)	Low voltage (kV)	connection symbol	No-Load Loss	Load Loss (kw)	No-Load current(%)	Short current impedance(%)
2000	20 22 33 34.5 35 38.5	$\pm 3 \times 2.5\%$	6 6.6 10 11 12	Yd11	2.3	19.2	0.5	6.5
2500					2.72	20.6	0.5	6.5
3150					3.23	24.7	0.5	7
4000					3.87	29.1	0.5	7
5000					4.64	34.2	0.5	7
6300					5.63	36.7	0.5	7
8000				YNd11	7.87	40.6	0.4	8
10000					9.28	48.0	0.4	8
12500					10.9	56.8	0.35	8
16000					13.1	70.3	0.35	8
20000					15.5	82.7	0.3	8
25000					18.3	97.8	0.3	10
31500					21.8	116	0.3	10



TECHNICAL PARAMETERS

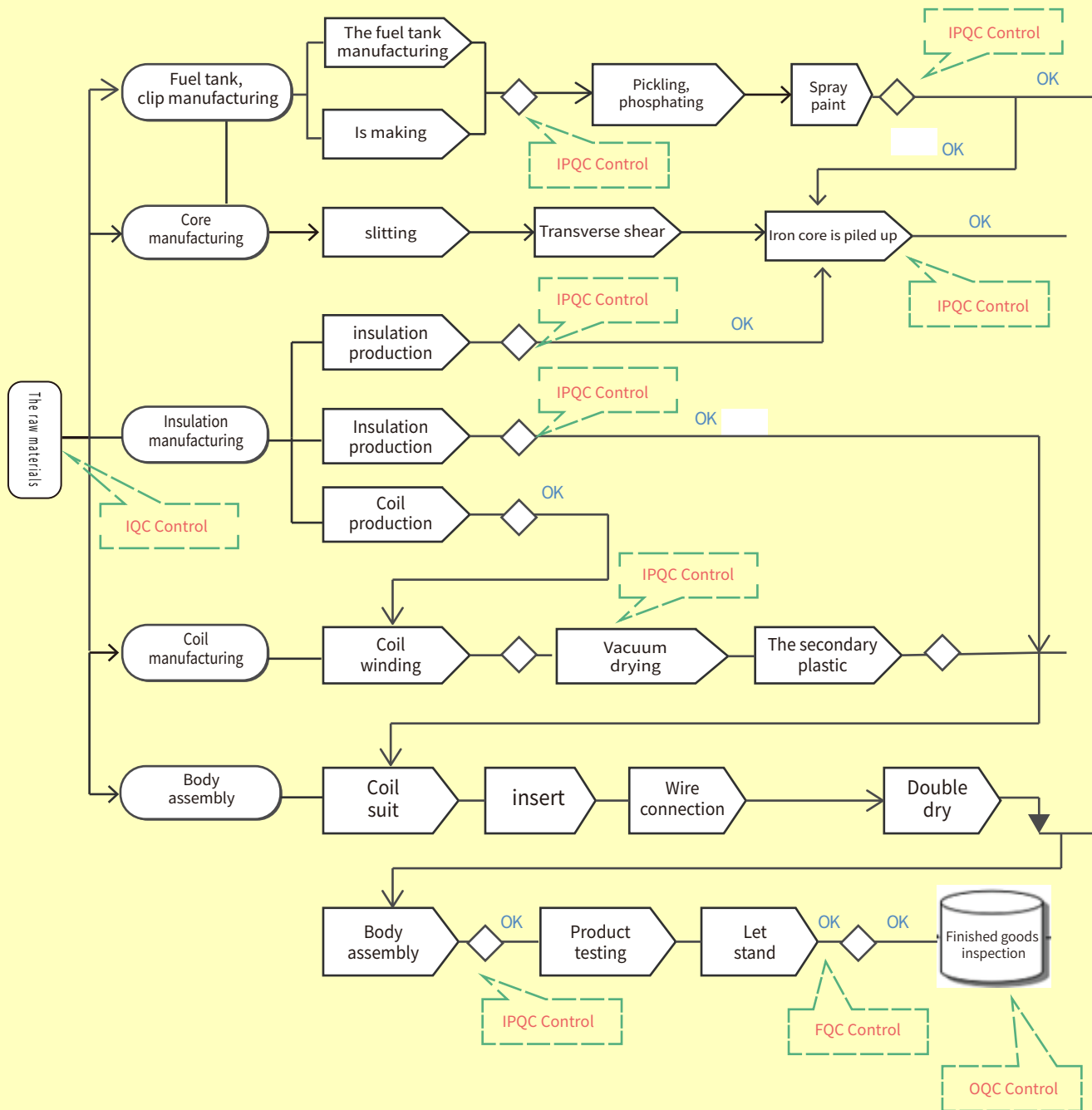
S11 OCTC Oil-immersed Transformer

Rating (kva)	High voltage (kV)	High voltage tap range (%)	Low voltage (kV)	connection symbol	No-Load Loss	Load Loss (Kw)	No-Load current(%)	Short current impedance(%)
630	20	$\pm 2 \times 2.5\%$	6	Yd11	0.83	7.86	0.65	6.5
800					0.98	9.4	0.65	6.5
1000					1.15	11.5	0.65	6.5
1250					1.4	13.9	0.55	6.5
1600					1.69	16.6	0.45	6.5
2000					2.17	18.3	0.45	6.5
2500					2.56	19.6	0.45	6.5
3150					3.04	23	0.45	7
4000					3.61	27.3	0.45	7
5000					4.32	31.3	0.45	7
6300					5.24	35	0.45	7
8000				YNd11	7.2	38.4	0.35	8
10000					8.7	45.3	0.35	8
12500					10	53.8	0.3	8
16000					12.1	65.8	0.3	8
20000					14.4	79.5	0.3	8
25000					17	94	0.25	10
31500					20.2	112	0.25	10



QUALITY CONTROL

We have established strict SQA working procedures and ISO standards in the development, production, sales and after-sales of electrical products, so as to provide customers with first-class products and the best service.



SQA MANAGEMENT OF OIL IMMERSED TRANSFORMER

TEST



Comprehensive experimental platform for power transformer



Noise testing chamber



Transformer test

Delivery test (or routine test)

These tests verify the electrical performance specified in the contract. And submit a formal test report.

characteristic measurement

- Winding resistance;
- Transformation ratio and vector group;
- Impedance voltage;
- Load loss;
- No load loss and no-load current.

insulation test:

- Power frequency withstand voltage test- Inductive voltage withstand test.
- Partial discharge measurement ensures that the expected service life of transformer less than 5pc is closely related to the initial partial discharge level measured during manufacturing.

Special test

These tests will be arranged at customer's request at customer's expense.

Short circuit test

These tests were carried out on a special test bench in accordance with IEC 60076-5.

A total of three tests were performed on each transformer column, each lasting 0.5 seconds.

Noise level measurement

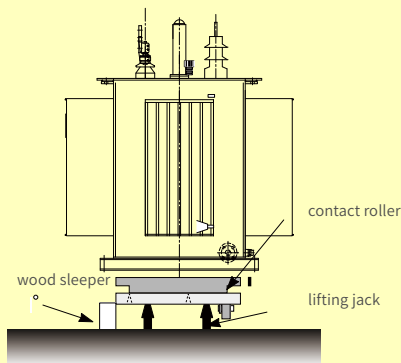
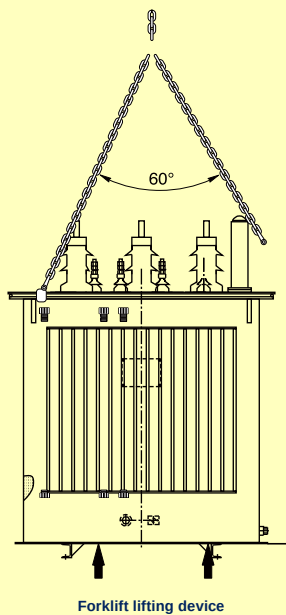
- Noise level measurement is part of a special test.
- Transformer noise is mainly caused by magnetic

restriction of magnetic circuit.

- Noise levels can be expressed in two ways:

Sound pressure level L_p , measured in accordance with IEC 551 at 1m from the transformer in no-load operation

INSTALLATION



carry

Use the 4 lifting lugs of the transformer (it must be lifted vertically, not obliquely); For the transformer with 2 lifting lugs in the center of the top of the shell, use 2 lifting lugs. The included angle formed by the sling shall not be greater than 60° .

First, check the forklift's forking capacity. If appropriate, the fork arm shall be inserted into the base channel after removing the roller.

The transformer with or without enclosure shall be hauled from the base. For this purpose, holes with a diameter of 27mm are opened on each side of the base. It can be dragged from two directions: the axial direction of the base and the direction perpendicular to this axis.

storage

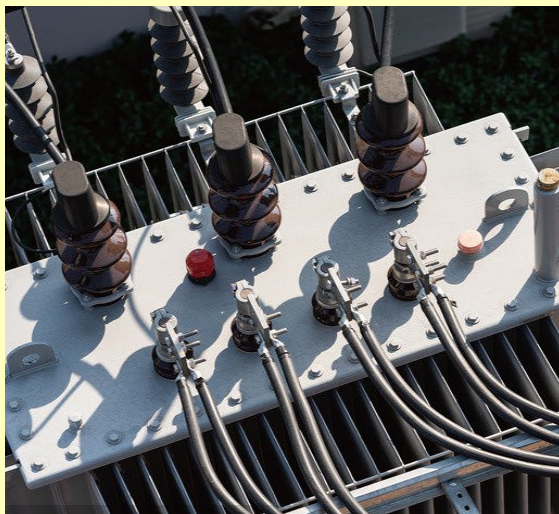
The transformer shall avoid being polluted by dripping water and sand dust (such as masonry and sand blasting) during storage. If the transformer is supplied with a plastic cover, it shall be covered on the equipment during storage. Transformer can be stored in an environment with a minimum room temperature of -25°C and a maximum room temperature of 50°C .

No gas or conductive dust that seriously affects the insulation of the transformer; No explosion hazard, no corrosion of electrical components

LOGISTICS SHIPMENT



◉ INSTALLATION



INSTALLATION SITE

·The transformer shall be installed in a dry, flat place where water is not easy to enter. The installation site shall have sufficient ventilation to ensure that all heat of the transformer can be dissipated

·No load shall be supported anywhere on the enclosure except the power supply cable of the transformer. In addition to correctly installing the connecting cable according to the relevant drawings, facilities or accessories not supplied by the manufacturer or without permission are not allowed to be installed in the shell, otherwise, the user shall bear the risk. For the transformation, connection and installation of any accessories, please consult our technicians.

·The embedded parts, reserved holes, etc. have been cleaned and adjusted to meet the design requirements.

·Protective mesh doors, railings, and other safety facilities are complete, and ventilation and fire protection facilities are installed.

◉ INSTALLATION

INSPECTION BEFORE OPERATION

1. The transformer body and accessories are free from defects, oil leakage, and kept clean.
2. Is the nameplate, voltage level, wiring group, tap position and operation mode, cooling conditions, etc. of the transformer consistent with the actual situation.
3. Whether the connection of the incoming and outgoing lines is firm and reliable, whether the phase color of the transformer casing is correct, and whether the transformer casing is reliably grounded.
4. The tap position of the transformer is in the normal voltage range.
5. Is the valve between the oil conservator and the gas relay open; Whether the oil level and color of the oil level gauge are normal; Is there any gas in the gas relay protector.
6. Check whether the transformer respirator is unobstructed and whether the silicone of the moisture absorber is ineffective and discolored.
7. Is the pressure relief valve blocked and functioning properly.
8. Measure the insulation resistance of the transformer winding and bushing with a megohmmeter, and the insulation resistance value should not be less than 70% of the product's factory test value.



INSPECTION IN OPERATION

Under normal use and environmental conditions, check the transformer once a year, dust around the transformer and accessories, and fasten lead terminals, pins, grounding screws, connecting bus screws, etc.

☎ PRE-SALE SERVICE

1. ISO certified excellent Manufacturer
2. Third-party authoritative certifications: CE, CB, UL, CSA etc
3. Flexible payment: T/T, LC,
4. Sufficient inventory, fast delivery time and long validity of the price
5. The whole process of picture tracking can be realized in production and transportation
6. Experienced professional sales team and a strong technical team
7. Sincerely invite customers to visit the company for guidance

☎ AFTER-SALES SERVICE

1. If there is any quality problem after receiving the goods, you can return the goods free of charge or ship new products
2. We provide our customers with a 1-year product warranty
3. Provide 24-hour, 365-day technical guidance worldwide
4. The VIP customers enjoy our promotional activity
trained by management consultants, is able to provide professional solutions for customers.
4. Our technical team is ready for 24-hour technical support worldwide.
5. Our customer service team ensures on time delivery.



TIANJIN PALMBRI INDUSTRY & TRADE Co.,Ltd.
No. 1988 of Yingbin Avenue, Free trade Zone of Tianjin (CBD), 300450, Tianjin, China
+86 153 2010 1753
info@palmbrienergy.com
info@palmbri.com
www.palmbrienergy.com