



CHNT

CHINT ELECTRIC

10~750kV Oil-immersed Power Transformer

Power T&D Solution Provider With EPC Service

SHENTAI



BUSINESS SCOPE

Power Transmission & Distribution
Equipment & EPC Service



BRIEF INTRODUCTION

With 9 manufacturing and 1 international sales & EPC business units, Chint Electric Co., Ltd, is a subsidiary of Chint Group. It is the reliable player in the High-voltage electrical equipment manufacturing and EPC contractor in power transmission, distribution and power generation. Nowadays, CHINT Electric has one of the world largest power T&D equipments manufacturing facilities in Shanghai, China.



PRODUCT RANGE

Power T&D Equipment up to 1000kV



EQUIPMENT PROFILE

- Power Transformer
- Distribution Transformer; Special Transformer
- HV GIS; Circuit Breaker; Disconnecter
- HV/MV Surge Arrest; Insulator
- HV/MV Current Transformer; Potential Transformer
- HV/MV Capacitor banks; SVG
- HV/MV Power Cables; Power Conductors
- MV Switchgear; C-GIS; RMU
- Prefabricated Substation
- LV Switchgear, Terminal Equipment Box
- Bus duct

BUSINESS SCOPE

- Power Substation (EPC, up to 500kV)
- Transmission Line (EPC, up to 500kV)
- Solar Power Plant (EPC)
- Distribution System Solution



Surge Arrester
up to **500kV**



Insulator
up to **1000kV**



GIS
up to **252kV**



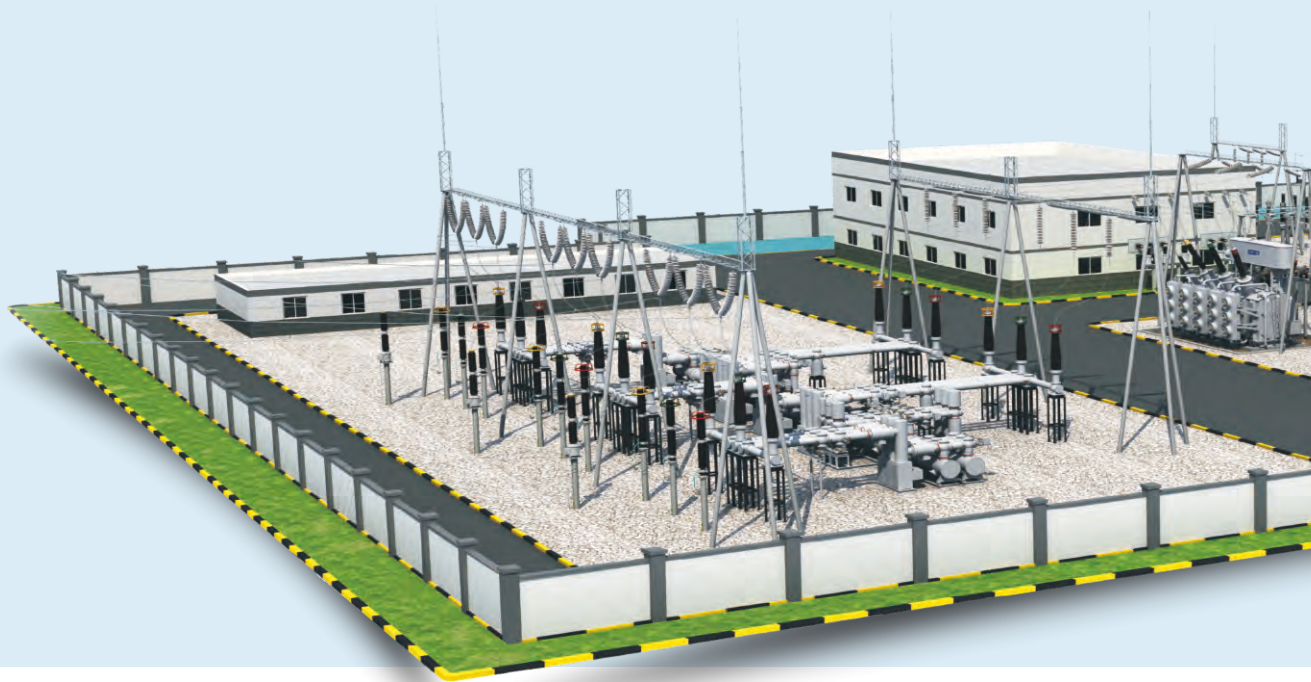
Dry-type Transformer
up to **35kV**



MV & LV Switchgear Panels
up to **40.5kV**



Power Transformer
up to **750kV**



MANUFACTURING BASE

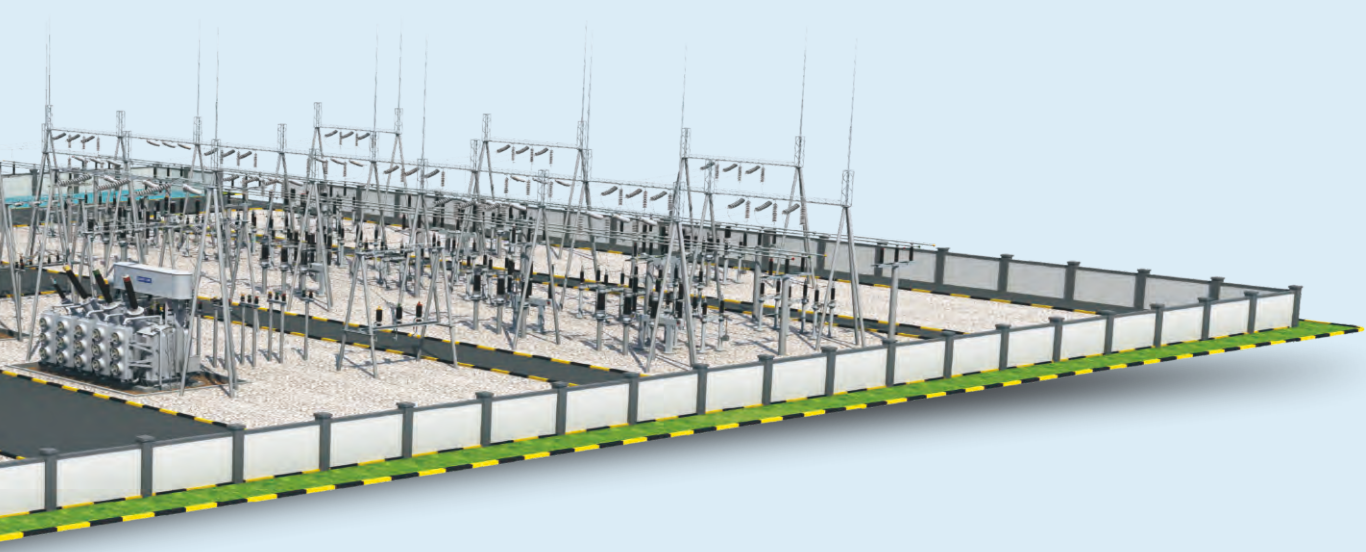
- One of the biggest factories in the world with production capacity over million KVA
- One stop power T&D equipment supplier & EPC service provider
- Complete testing equipment

QUALITY CERTIFICATION

- KEMA CESI ANSI
- ISO qualification
- Quality control covers every process

SUPPLY CHAIN MANAGEMENT

- Standardizing procurement process management
- Cultivating strategic suppliers
- Implementing suppliers' satisfaction survey



CHINT ELECTRIC CO., LTD.

Catalogue

10~750kV Oil-immersed Power Transformer

Technical characteristics	01
Structural characteristics	05
Plant	17
Production and Testing Equipment	19
Personnel and Training	25
Qualification	26
Achievement	29
Typical Product	31
Maintenance and accessories	33

Technical Characteristics of Transformer

High Short-circuit Resistance

So far, CHINT T&D has cooperated with the China National Transformer Quality Supervision Testing Center, China National Center for Quality Supervision and Test of Electrical Apparatus Product, CESI and KEMA and other authoritative institutes, and has passed the short-circuit test certification for Seventeen 35kV, 110kV, 220kV and 500kV transformers.

On the basis of a large number of short-circuit test researches of transformers, CHINT T&D has accumulated valuable experience in the research and development of resistance to sudden short-circuit, and has formed a series of design schemes for 35 ~ 750kV transformers to ensure that the transformers can withstand the strictest short-circuit conditions that may occur in actual operation.

2010

CHINT T&D was the first manufacturer in China to send 110kV power transformer to KEMA Laboratory in Netherlands for short-circuit test, and passed it successfully at one time.



2017

CHINT T&D has developed four step-up transformers for 600MW supercritical coal-fired generator unit for a coal-fired power plant in Xinjiang, with a capacity of 780MVA, which has successfully passed the certification of Netherlands KEMA.



2016

The 400MVA/500kV single-phase auto-transformer (model ODFS11-400000/500) independently developed by CHINT T&D passed the short-circuit test successfully in Suzhou Electrical Apparatus Science Academy Co., Ltd. (EETI) under the joint witness of experts at home and abroad, such as the State Grid Electric Power Research Institute and the international authoritative certification institute British ASTA. The product is the power transformer passing short-circuit test with the largest rated capacity at home and abroad so far.

The medium and low impedance is only 9%.



2018

The 40MVA, 132kV natural ester insulating oil transformer developed by CHINT T&D for Aluminum Factory in Australia has passed KEMA test successfully and proved to be the highest voltage and largest capacity natural ester insulating oil transformer in China at that time. It has the characteristics of high ignition point, good fire safety, strong overload capacity and natural degradability.

Certification (part)

Type	
SFZ - 40000/132	CESI
SFZ - 45000/138	KEMA
SFZ - 45000/230	KEMA
SZ - 80000/150	CESI
SFZ - 40000/132	VEIKI - VNL
ODFS11 - 400000/500	ASTA
	KEMA



Technical Characteristics of Transformer Low Noise

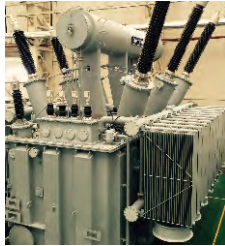
CHINT T&D has done a lot of researches in the field of low-noise transformer development, with special attention to adopting measures to reduce transformer noise at the design source. The products have been exported to high-end power grid markets such as the Netherlands, Finland, Sweden, Australia, Japan and the United States. Fully meeting the needs of users is the source power for CHINT T&D to develop low-noise transformers all the time.

2012



The 80MVA/150kV power transformer independently developed by CHINT T&D has passed all standard test items including short-circuit in STI-EST under the whole-process monitoring of Italian CESI engineers and Dutch grid users, and the measured no-load noise of the product is only 49dB.

2013



The 250MVA/220kV power transformer developed by CHINT T&D for Pakistan State Grid successfully passed all specified test items under the whole-process monitoring of KEMA engineers, and the measured no-load noise of the product is only 61.7dB.

2014



The 240MVA/220kV three-phase power transformer manufactured by CHINT T&D successfully passed all standard test items including short-circuit test in EETI, and the measured no-load noise of the product is only 62.8dB.

2015



The 120MVA/750kV single-phase power transformer manufactured by CHINT T&D successfully passed all the specified test items under the whole-process monitoring of KEMA engineers and the measured no-load noise of the product is only 60.6dB.

2016

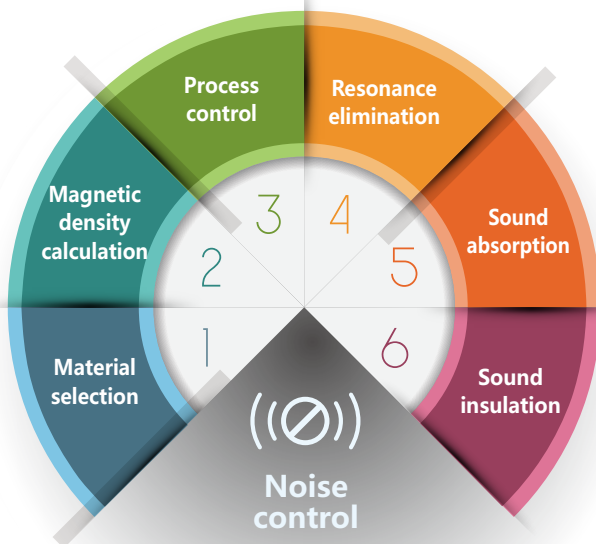


The 400MVA/500kV single-phase auto-transformer manufactured by CHINT T&D successfully passed all standard test items including short-circuit test under the whole-process monitoring of EETI and British ASTA engineers and the measured no-load noise of the product is only 60.0dB.

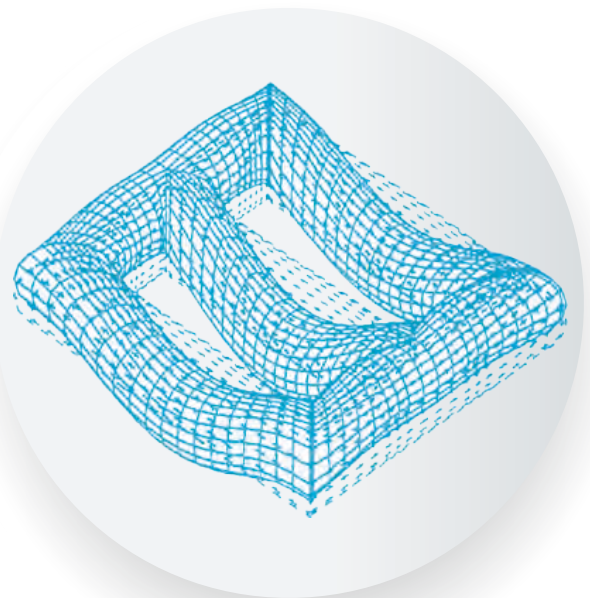
2017



The successfully developed 110kV model 13 power transformer with energy saving and consumption reduction features strong short-circuit resistance, low loss and low noise (less than 59 dB).



Main noise reduction technology



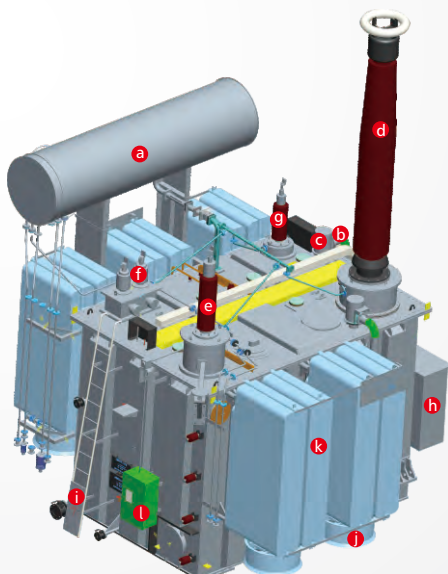
Research on core vibration and resonance

Technical Characteristics

500kV

Power Transformer

- a. Oil conservator
- b. Oil drain pipe
- c. Pressure relief valve
- d. HV bushing
- e. MV bushing
- f. LV bushing
- g. HV neutral point bushing
- h. Air-cooling control box
- i. Ladder
- j. Fan
- k. Radiator
- l. Electric mechanism



750kV

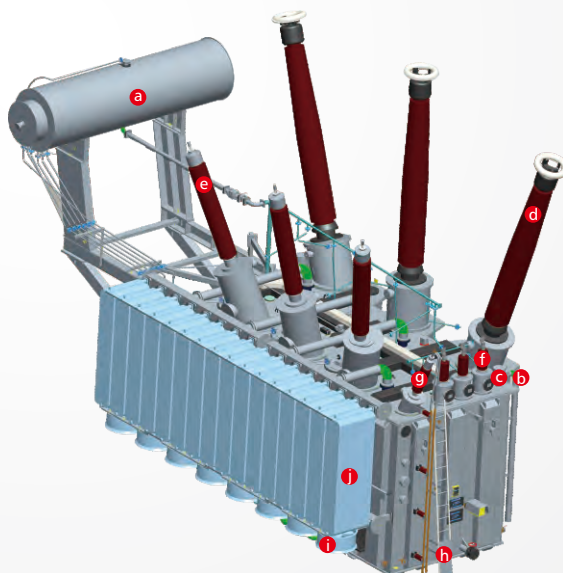
Power Transformer

- a. HV bushing
- b. Oil conservator
- c. LV bushing
- d. Radiator
- e. Fan
- f. MV bushing
- g. Ground copper bar
- h. Rain cover
- i. HV ascending flanged base

400kV

Power Transformer

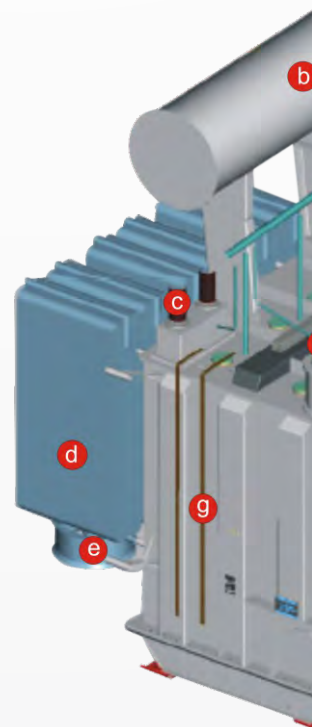
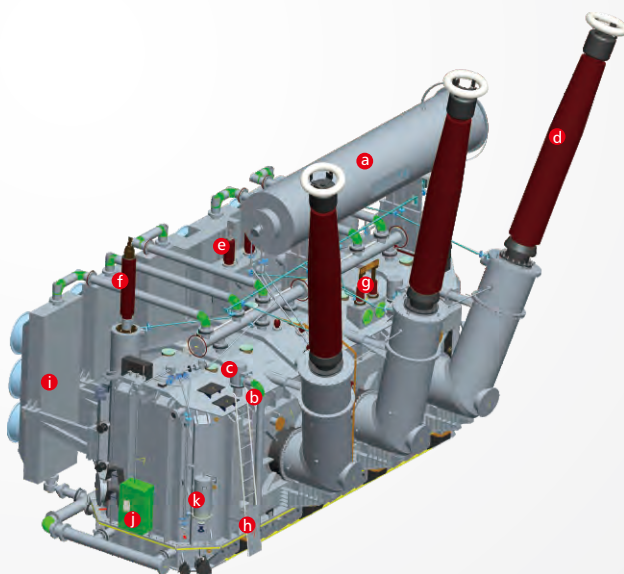
- a. Oil conservator
- b. Oil drain pipe
- c. Pressure relief valve
- d. HV bushing
- e. MV bushing
- f. LV bushing
- g. HV neutral point bushing
- h. Ladder
- i. Fan
- j. Radiator

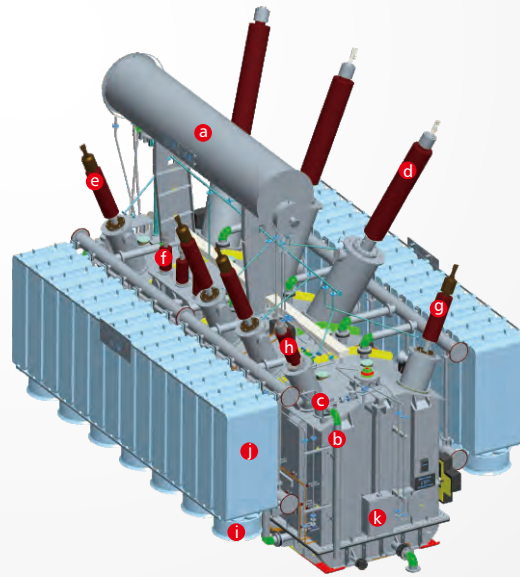
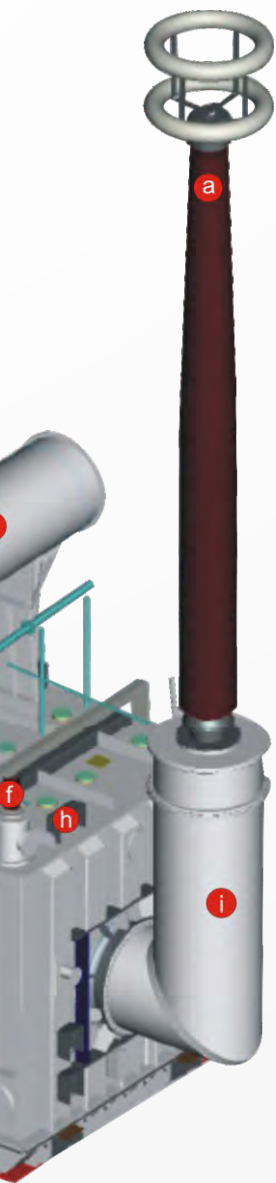


330kV

Power Transformer

- a. Oil conservator
- b. Oil drain pipe
- c. Pressure relief valve
- d. HV bushing
- e. LV bushing
- f. HV neutral point bushing
- g. Balancing bushing
- h. Ladder
- i. Cooler
- j. Electric mechanism
- k. Online oil filter

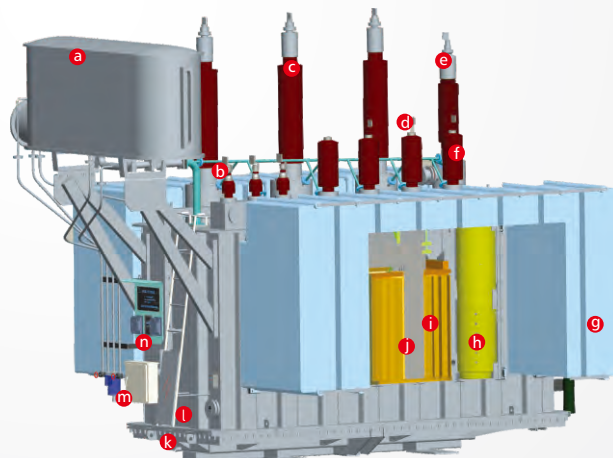




220kV

Power Transformer

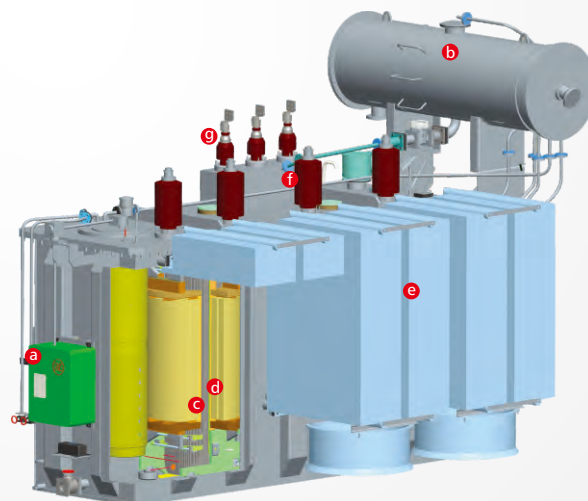
- a. Oil conservator
- b. Oil drain pipe
- c. Pressure relief valve
- d. HV bushing
- e. MV bushing
- f. LV bushing
- g. HV neutral point bushing
- h. MV neutral point casing
- i. Fan
- j. Radiator
- k. Electric mechanism



110kV

Power Transformer

- a. Oil conservator
- b. LV bushing
- c. HV bushing
- d. MV bushing
- e. HV neutral point bushing
- f. MV neutral point casing
- g. Radiator
- h. On-load switch
- i. Coil
- j. Iron core
- k. Bottom part of tank
- l. Upper part of tank
- m. Terminal box
- n. Instrument panel



35kV

Power Transformer

- a. On-load switch
- b. Oil conservator
- c. Iron core
- d. Coil
- e. Radiator
- f. HV bushing
- g. LV bushing

Oil Tank



1. Blanking of steel plates and profiles

The main structural parts such as web of yoke clamping, tank cover, tank wall, flange plate and closing disk are made of numerical-control plasma cutting machine. Cutting precision $\pm 0.5\text{mm}$.

2. Cold processing and fabrication

Workpieces such as tank wall, tank cover and reinforced iron are bent by using 1000kN numerical-control plate bender, with the maximum bending width of 12m. Large oil tank can be formed at one time to reduce welding joints.



3. Welding of oil tank

On the basis of the original manual welding, we have introduced the technology of the intelligent welding robot for oil tank and the intelligent welding robot for ascending flanged base. During the integral welding of tank cover, tank wall, tank bottom and ascending flanged base, robot welding is used to achieve full-automatic welding through an online programming system. The robot arc tracking system is used to achieve whole-process monitoring of the welding technological parameters of each welding joint. Compared with manual welding, the welding efficiency is greatly improved, the production period of the product is greatly shortened, the welding joint is beautiful, the quality is stable, the defects are few, and the welding strength can be completely guaranteed and leakage points are greatly reduced.

a Welding robot for ascending flanged base

b Welding robot for oil tank wall

4、 Sand blasting

In the sand blasting treatment of the oil tank, we use $\text{Ø}0.6\sim1.0$ steel grit, and require that the surface of the steel plate shows metallic luster after sand blasting, derusting reaches Sa2.5 level, and surface roughness becomes $40\mu\text{m}\sim70\mu\text{m}$.

a 18m sandblasting room

b Sandblasting product

c 20m drying room

d 16m water-revolving spray booth



5、 Water paint for spraying

In the spraying treatment of the oil tank, we have adopted water paint, which is environment-friendly and pollution-free, and is prepared in strict accordance with the proportion. Records should be made when paint mixing is used, such as preparation time, preparation proportion, temperature and humidity, etc. During spraying, airless spraying is adopted, which has high spraying efficiency, good coating effect and high paint utilization rate. For dead corners or places that cannot be sprayed by spray guns, air spraying or brushing is adopted first, and then overall spraying is carried out, thus improving the paint film quality of the product.

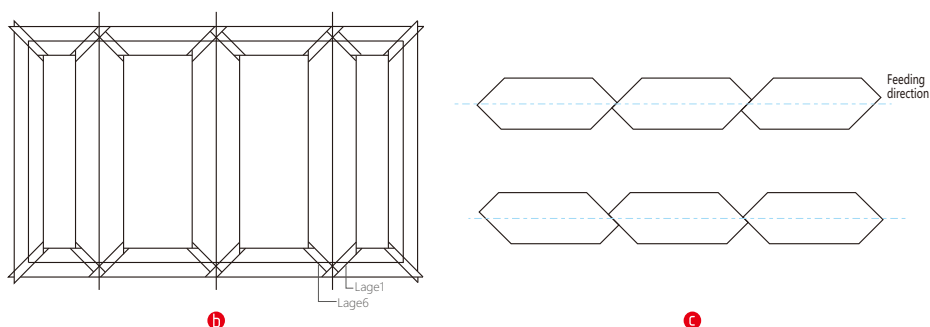


Core



1. Longitudinal shearing of silicon steel sheet

According to the core shear diagram, reasonable cutting is carried out to ensure the material utilization rate, and the whole circle of base material is slit into circle materials conforming to the drawing width through silicon steel sheets.



2. Transverse shear of silicon steel sheet

The shearing degree is compiled according to the core sheet diagram, and then automatic shearing is carried out.



3、Core lamination and assembly

Core spreading table

After adjusting the upper and lower web of yoke clamping to be horizontal, the diagonal length deviation shall be adjusted within 1.5mm when assembling the pulling plate.

And the diagonal of the first-level silicon steel sheet lamination should be adjust to a deviation within 1mm.

a Qiyuan 1250/120 full-automatic longitudinal shear line for silicon steel sheet

b Core Lamination Diagram

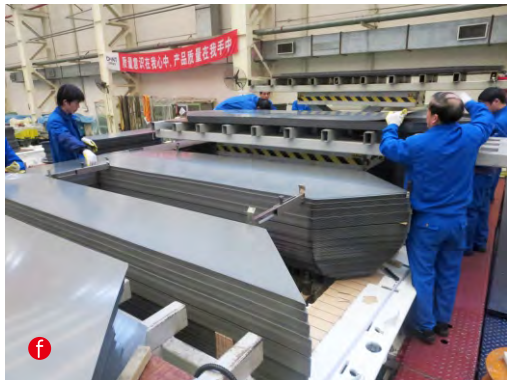
c Soenen TRL-800 full-automatic transverse shear line of silicon steel sheet

d Core Sheet Diagram

e 150t tilting platform

f Lamination

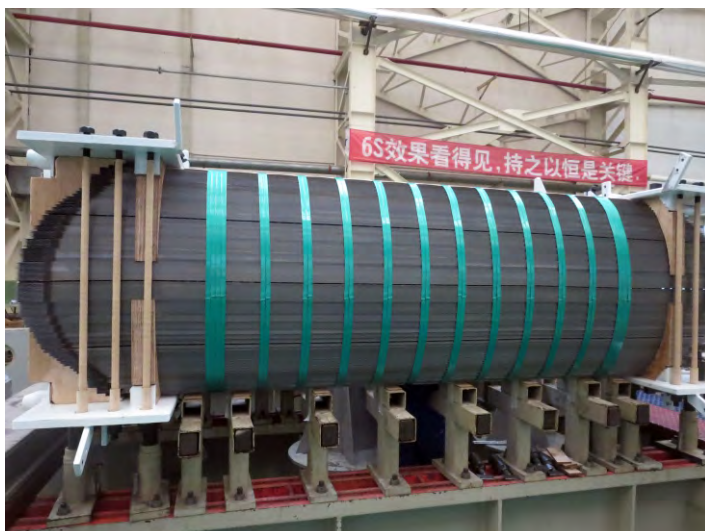
g Center distance measurement of core column



Core assembly and rising

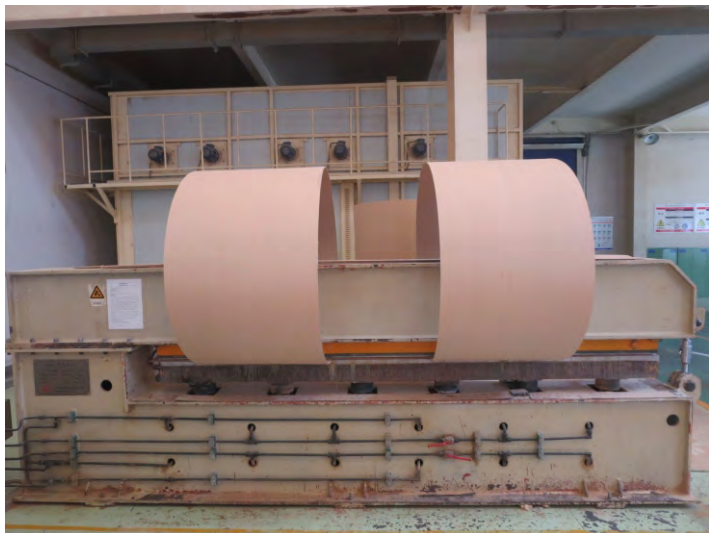
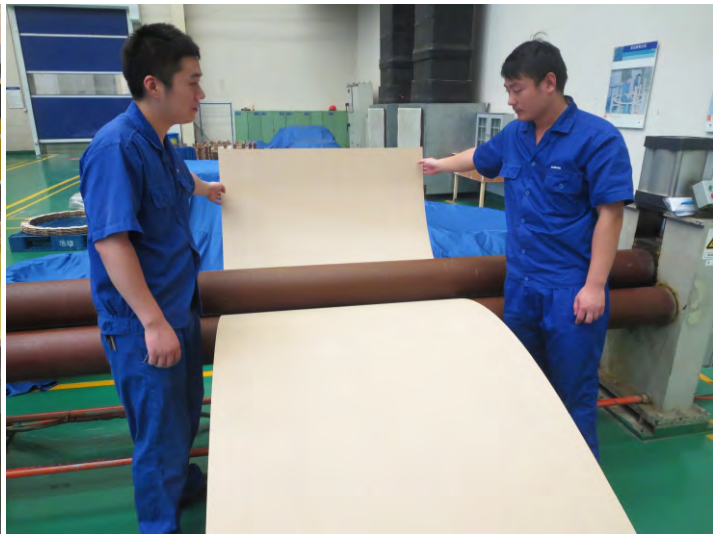
A special packer is used for binding the core column to ensure the overall strength of the core.

Measurement after core rising



Primary thickness tolerance is 0mm~0.6mm.
Inclination ≤ 3 .

Insulation



1、Fabrication of fiber container

Paperboard edge beveling machine, with edge milling length $\leq 3000\text{mm}$, width $\leq 150\text{mm}$, and the maximum edge milling thickness of 8mm.

The rolling machine mainly processes insulating paperboard with thickness $\leq 8\text{mm}$, diameter $\geq \text{Ø}350\text{mm}$ and maximum length 3000mm.

Paper container thermal bonding machine is mainly used for the hot pressing of thick fibre cores with a maximum length of 3000mm and a minimum diameter of $\text{Ø}350\text{mm}$.



2、Insulation machining center

It is mainly used for pressing plate, supporting plate, electrostatic plate framework and terminal ring for processing active part. The maximum processing thickness is 130mm, the maximum length is 3300mm, and the maximum width is 3300 mm. One-time molding is ensured.

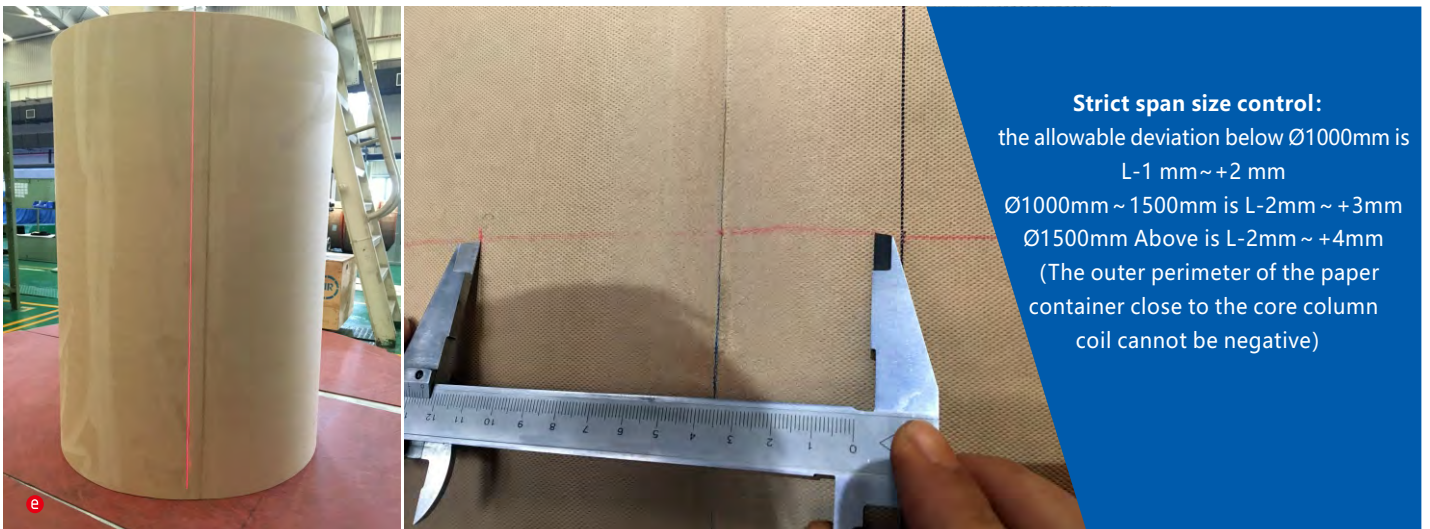


Winding

1、Main winding equipment in the workshop

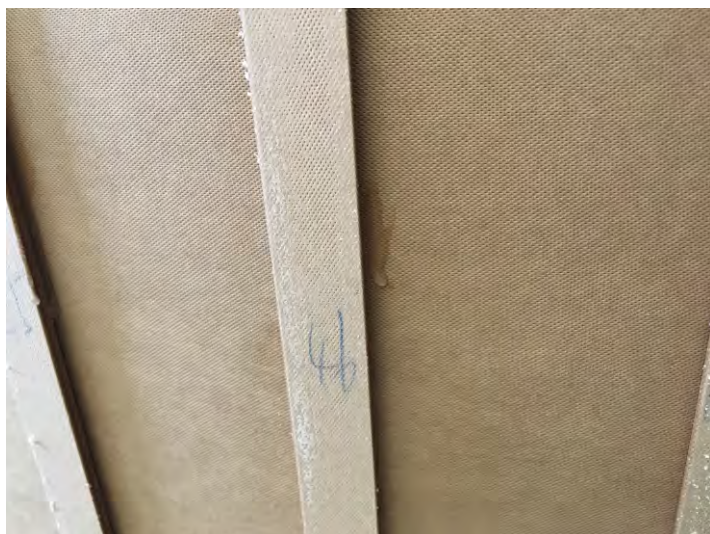


2、Measurement and line drawing of inner paper container



Winding

3、Viscose of strip

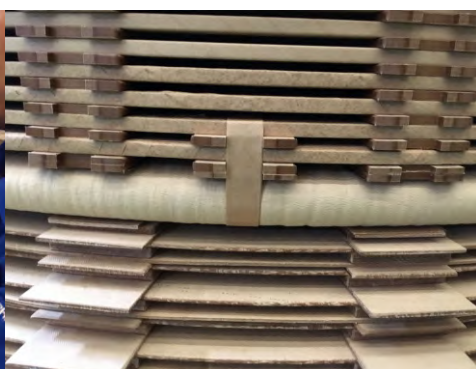


Spot adhesion with the casein glue



After the adhesive dispense is fixed, the span shall be corrected, and the mutual difference shall not exceed 2mm

4、Coil start-up and disk winding



a Disk winding

b Helical winding

c Heat shrinkable wraparound sleeve

d Polyester film belt

e Laser level meter is adopted for calibration, and the span deviation is within 2mm.

f A numerical-control 200t press machine is used for pressing

g 300kW kerosene vapor phase drying oven

h The coil is ready to be put into oven for drying treatment



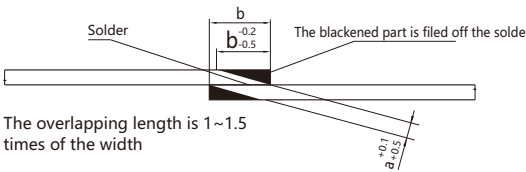
5、Coil amplitude direction control

Net wrapped conductor

Paper wrapped conductor



6、Shielded head and welding head control of coil



Butt welding

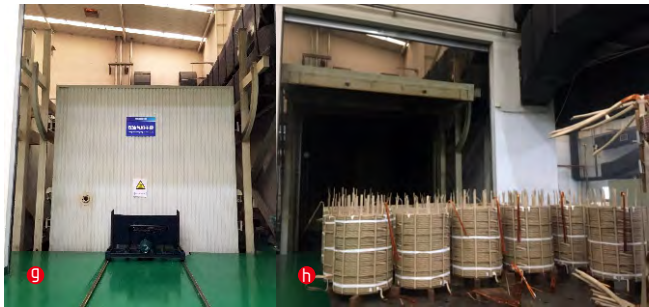
For multiple coils wound in parallel, high frequency butt welding is adopted to ensure tight wound disk and more reliable welding spots.



7、Treatment of coil into oven



8、Coil into oven



Active Part

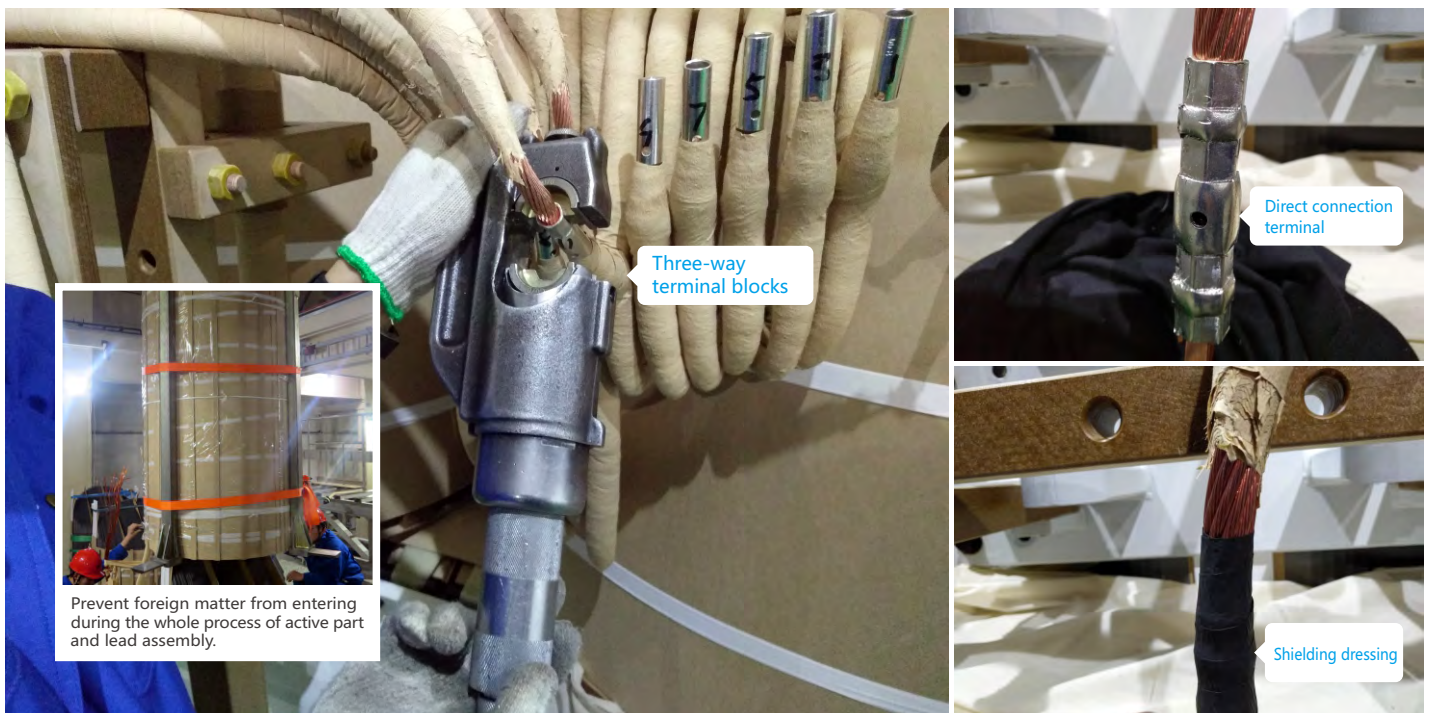
1、Preparation before active part assembly



2、Coil is sleeved and inserted with iron yoke and core lamination



3、Assembly of lead



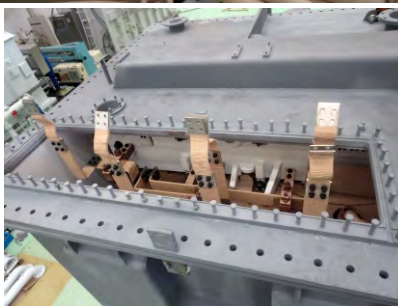
Cold pressing connection and the filling rate is above 85%



Test of LV leads and semi-finished products

Lead clamping adopts imported high-strength laminated wood screws and nuts.

LV leads use cables in large quantities and are bound with high-heat shrinkable tubes.



4、Pre-assembly of active part

In order to ensure the first pass rate of the product, the active part is hoisted into the bottom part of tank for pre-assembly.

Full-automatic 400kW kerosene vapor phase drying equipment is used to dry the active part.



General Assembly

Active part fastening

Fasten the wooden parts and leads after discharging.

The whole core is fastened by a special cylinder scoring fixture to ensure uniform fastening of the core and controllable fastening force.



For products with a coil diameter less than common 2.5m and a pressing force less than 2000kN, the door-type press beam active part pressing process is used.



The end of the coil is the active part of special transformer with a magnetic shielding structure, which adopts a pressing process of hydraulic press with active part press.



The site is equipped with dry air generator. Dry air with dew point $\leq -70^{\circ}\text{C}$ is generated to reduce the degree of moisture absorption when the active part is exposed to the air.



For the drag of active part, two 160t travelling cranes and a 300t lifting beam meet the requirements of lifting weight and height of the active part, and 250t gantry cranes are equipped in the freight yard

ABB VH060R high vacuum oil filter processing capacity:

Net oil index:

Water content in oil : (2 ± 1) ppm

Air content in oil: $\leq 0.1\%$

Breakdown voltage: $\geq 75\text{kV}$

Filter fineness: $\leq 5\text{m}$



The overall air pressure leak test process is used to check the overall tightness of the transformer, and no potential leak point is spared.



Yuneng ZJA12BY double-stage vacuum oil filter is suitable for ultra-high voltage products.

Net oil index:

Water content in oil: $\leq 3\text{ppm}$

Air content in oil: $\leq 0.1\%$

Breakdown voltage: $\geq 80\text{kV}$ (Spherical electrode)

Filter fineness: $\leq 0.5\text{um}$

Dielectric loss(90°C): $< 0.3\%$

Granularity index: 1level



Plant



The company has a modern transformer plant with a construction area of 40,000 square meters and an annual production capacity of 30 million kVA. It can completely meet the production and manufacturing requirements of 10~750kV power transformers, covering all processes such as machining, oil tank welding, surface treatment, coil winding, active part assembly, general assembly and full set of delivery tests. Among them, the plant of the key processes such as coil winding and active part assembly have achieved full enclosure, full air conditioning and constant temperature and humidity.

The company's three and four phases of infrastructure planning is to build the new production workshop and test hall according to the standard of Double Million (voltage of megavolt and capacity of million kVA), which will then become a "Double Million" transformer development base with an annual production capacity of 60 million kVA.



- a External view of plant
- b 14,000 square meters of large machining and welding plant
- c General assembly workshop
- d Fully enclosed and fully air-conditioned assembly room



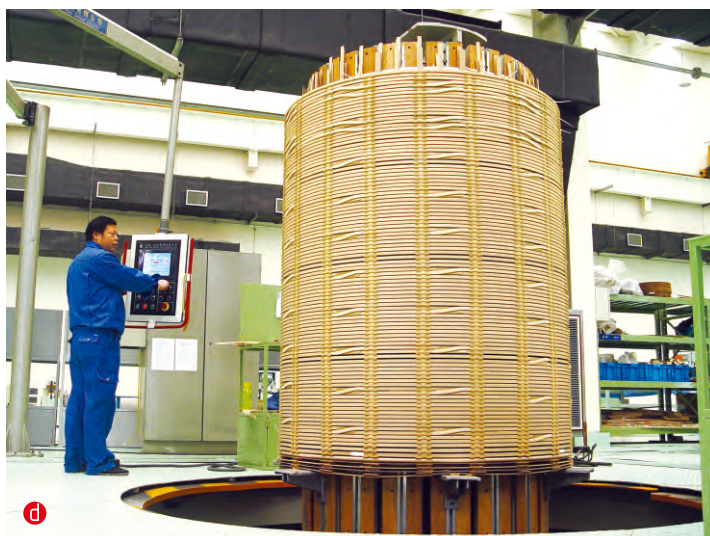


Production and Testing Equipment

The company adheres to a high starting point and high level in the adoption of major hardware and key technologies, and has advanced international and domestic production, manufacturing and testing equipment. The main equipment include imported Belgium Soenen silicon steel sheet shear line, 400kW kerosene vapor phase drying tank, numerical-control insulation machining center, Verlinde 320t travelling crane, American Aerogo 260×2t air cushion car, 10~25t large vertical and horizontal coil winding machine, 2000kN frame coil press, Issa numerical-control cutting machine, German CLOOS welding robot, wind power cycle shot-blasting equipment, water-revolving spray booth, 1000t numerical-control hydraulic bending machine, 250t gantry crane, ABB Swiss Micafil vacuum oil filter system and other production equipment, and 7500kW generator unit, 2800kV impulse voltage generator and other testing equipment.

The manufacturing process of 500kV products is generally adopted in the manufacturing process, which mainly includes many advanced processes such as overlapping structure of step-lap core , non-pile on upper yoke of core, kerosene vapor phase drying of coil and active part, etc.





a Horizontal coil winding machine with transverse and longitudinal tension device

b Tilting platform of core

c Traveling crane

d Vertical coil winding machine with tension structure and function of frequency conversion and speed regulation

e Transverse shear line of Belgium Soenen

Production and Testing Equipment



a Block milling machine

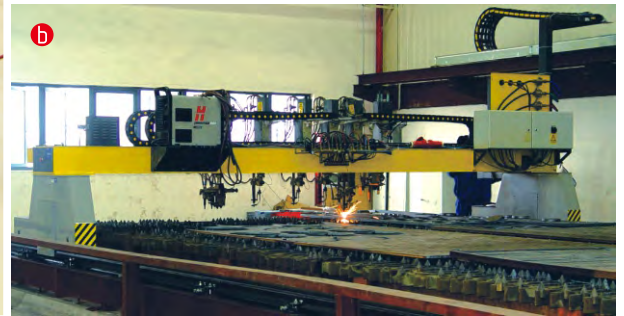
b Coil press with adjustable pressure and travel with high precision

c Kerosene vapor phase drying (coil drying)

d Numerical-control insulation machining center

e Active part drying





Production and Testing Equipment

The company has 700t oil storage and processing system and 250t gantry crane. It has introduced advanced transformer loss measurement system, partial discharge measuring instrument, dielectric loss measuring instrument and impulse voltage test control and testing system, and can complete routine test, type test and special test for transformers up to 750kV and reactors up to 500kV.





- a 700t oil storage and processing system
- b 250t gantry crane
- c 750kV experimental hall
- d 7500kW generator unit
- e 50Hz/60Hz generator unit
- f Impulse voltage generator
- g Oil filter
- h Imported power analyzer
- i 110kV experimental station
- j Oil testing laboratory

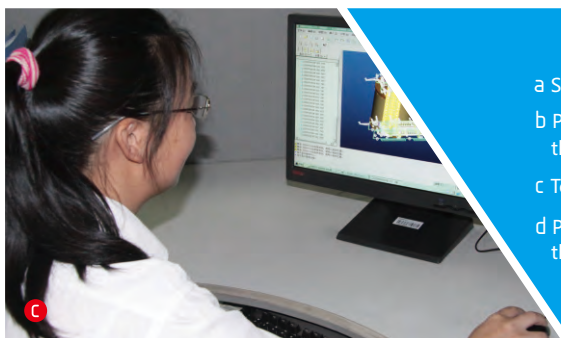
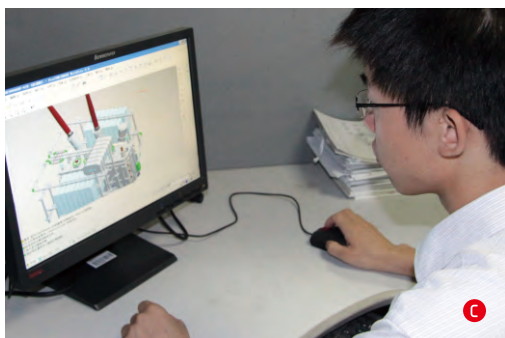


Personnel and Training

The company is committed to scientific research and development, production and manufacturing, and technical services of transformers, absorbs and draws lessons from advanced transformer design and manufacturing technologies at home and abroad, and combines with independent development to form a transformer product technical system with complete product categories and Chint characteristics.

According to the strategic policy of developing by science and technology, the company has recruited a wide range of scientific and technological talents and brought together well-known experts in the industry. At present, the company has more than 1,000 employees, of whom 30% are engineers and technicians. In particular, a large number of excellent design and technological personnel and experienced technicians are concentrated to ensure the optimization of transformer design, manufacturing technology and various key processes.

At the same time, in order to continuously improve the product design, manufacturing, inspection technology and management methods, the company organizes various on-the-job trainings from time to time so that the product quality is fully controlled and keeps pace with the international advanced level.

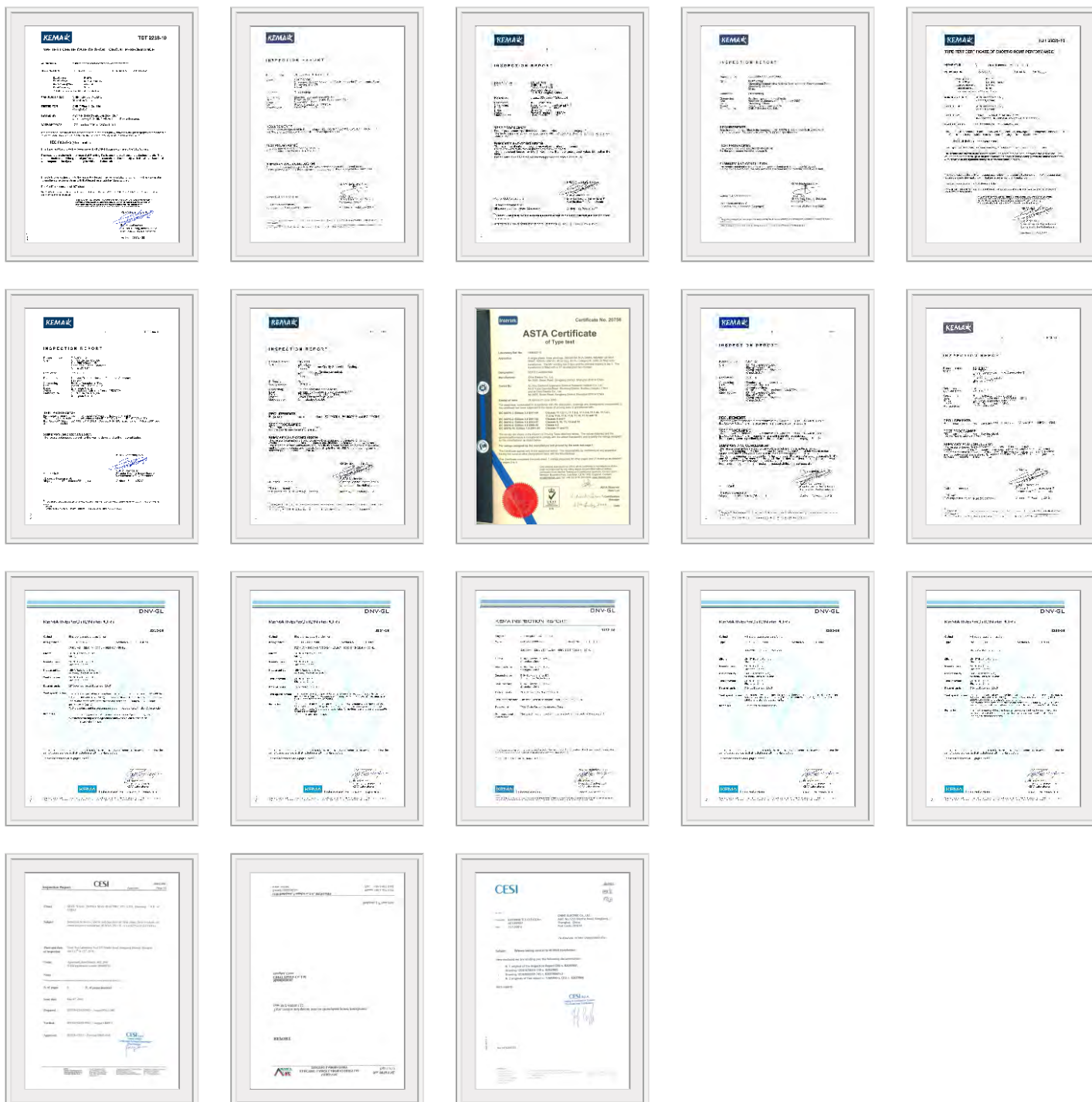


- a Skill contest
- b Professional technicians are assembling the active part
- c Technicians are designing by using pro-E
- d Professional technicians are explaining the product



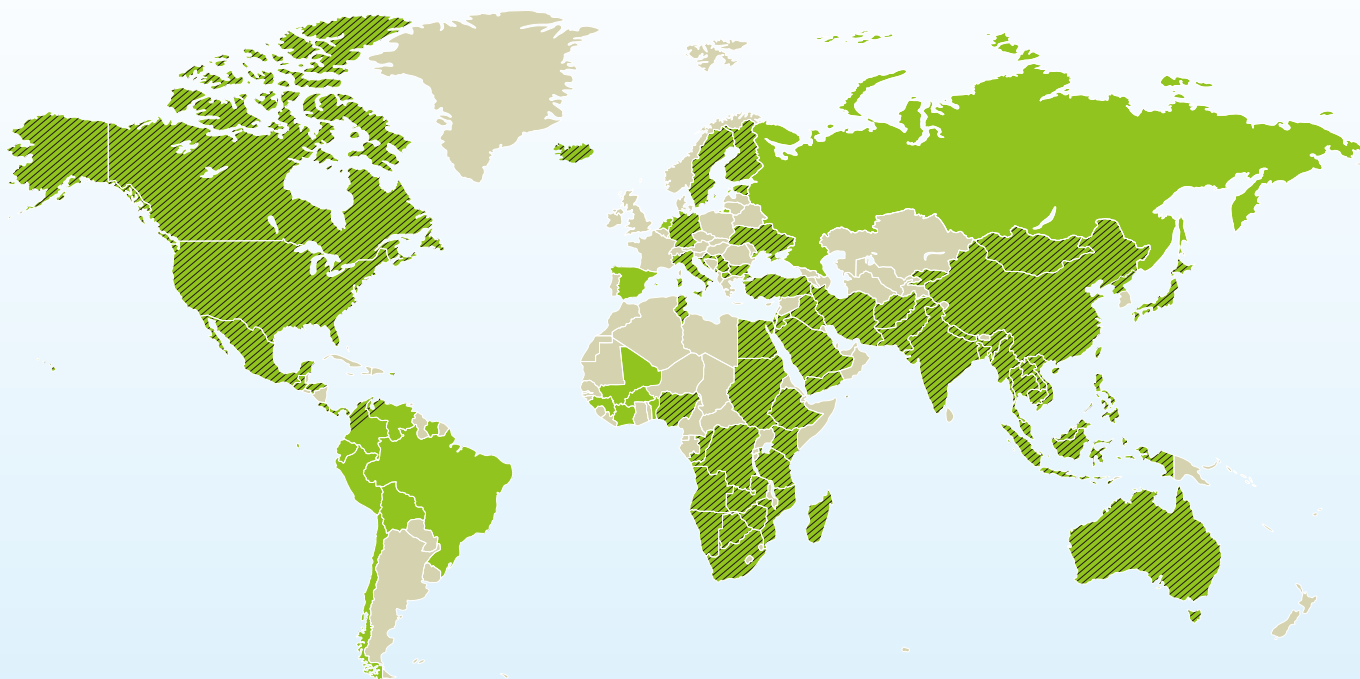
Up to now, CHINT T&D's 750kV, 500kV, 400kV, 330kV, 220kV, 110kV and 35kV transformer products have all obtained the type test reports of the national authoritative test institutes, and have passed the national product appraisal and obtained the evaluation of international leading, international advanced and domestic advanced company. Some models of 220kV, 110kV and 35kV transformers have obtained PCCC product certification; the business division has also passed CESI's factory certification; the series of power transformers have obtained the Adopting International Standard Product Marking Certificate.

Certification (part)



The Strong Competitor in Global Market

Chint transformers have been exported to 93 countries including the United States, Canada, Russia, Singapore, Japan, Netherlands, Sweden, Australia, Italy, Greece, Spain and Belgium, with a total of more than 1200 units.



Adhere to the user-oriented design concept

Fully meet the grid standards, operating environment, usage habits and special requirements of different customers.



Environmental friendliness



High impedance



Low noise



Low loss



Customized service

Professional Wins Trust, Rich Experience in Industry Cooperation

It serves new energy resources such as wind power, photovoltaic and biomass power generation, and is widely used in industries such as hydropower, thermal power, steel, metallurgy, rail transportation, petroleum and chemical industry.



Wind power



Photovoltaic



Biomass



Hydropower



Thermal power



Steel



Metallurgy



Rail transportation



Petroleum



Chemical



35kV



110kV



220kV



330kV



500kV



750kV



Main Performance of Export Projects





Typical Product



DF11-120000/750

Single-phase oil-immersed forced-air cooling duplex winding power transformer

In November 2015, the first 750kV single-phase power transformer developed by CHINT T&D successfully passed full set of type tests and special tests such as sound level test of the Netherlands KEMA. The transformer has the characteristics of low partial discharge, low noise, reliable main and longitudinal insulation level, etc., which reflects CHINT T&D's comprehensive development capability in the field of ultra-high voltage transformers.



ODFS11-400000/500

Single-phase oil-immersed forced-air cooling three-winding non-excitation voltage regulating auto-transformer

In May 2016, the 400MVA/500kV single-phase auto-transformer independently developed by CHINT T&D passed the short-circuit test in Suzhou Electrical Apparatus Science Academy Co., Ltd (EETI) at one time and obtained the monitoring report of British ASTA. In addition, it has obtained the type test report of Netherlands KEMA. This transformer is the transformer with the largest capacity at home and abroad so far which passes the short-circuit test.



ODFSZ-150000/500

Single-phase oil-immersed forced-air cooling three-winding on-load voltage regulating auto-transformer

In April 2016, the 150MVA/500kV single-phase auto-transformer developed by CHINT T&D was officially put into operation in Colombia Power Grid. The transformer achieves 100% high-low winding short-circuit impedance without built-in reactor.



110kV seed oil transformer

On March 19, 2018, the 40MVA/132kV natural ester insulating oil transformer with the largest capacity and the highest voltage in China independently developed by CHINT T&D passed all type tests at one time under the witness of the Netherlands KEMA engineer and the Australian customer representative in a third-party independent laboratory. All test data meet or are better than customer requirements and IEC standards.



CGN Gansu Minqin Wind Farm SFPZ11-240000/330

Three-phase oil-immersed forced-oil forced-air cooling duplex winding on-load voltage regulating power transformer

In December 2014, the 240MVA/330kV power transformer developed by CHINT T&D was officially put into operation in CGN Gansu Minqin Wind Farm. The transformer operates in high altitude areas, adopts non-guided cooling technology and ingenious oil circuit design, and completely avoids the risk of oil-flow charge inside the transformer on the premise of ensuring low temperature rise of the product.



BKS-30000/330

Three-phase oil-immersed shunt reactors

In November 2015, the 330kV reactor developed by CHINT T&D successfully passed full set of type tests of Netherlands KEMA. The reactor has the characteristics of low loss, low vibration and low partial discharge.



SF-570000/230

Three-phase oil-immersed forced-air cooling duplex winding non-excitation voltage regulating power transformer

In December 2013, the 570MVA/230kV generator step-up transformer developed by CHINT T&D was officially put into operation in Puerto Rico GEG Thermal Power Plant. The transformer adopts unique magnetic flux leakage control technology to effectively reduce stray loss of structural parts and avoid the problem of local overheating of large-capacity transformer structural parts



SSZ11-240000/220

Three-phase oil-immersed self-cooled three-winding on-load voltage regulating power transformer

In July 2014, the 240MVA/220kV power transformer independently developed by CHINT T&D passed the short-circuit test in Suzhou Electrical Apparatus Science Academy Co., Ltd. at one time. The transformer is the only product at home and abroad that has passed the high-medium and medium-low short-circuit tests at the same time with low impedance.



SZ-80000/150

Three-phase oil-immersed self-cooled duplex winding on-load voltage regulating power transformer

In January 2013, the 80MVA/150kV power transformer developed by CHINT T&D was officially put into operation in Netherlands Power Distribution Network Company. The transformer has passed all type tests including short-circuit tests at Shenyang Hushitai and has obtained CESI international certification. It is the transformer with the largest capacity and highest voltage applied by Chinese enterprises to Netherlands power grid. The transformer adopts effective noise control technology and the noise is only 49dB after the short-circuit test.



SFZ-40000/132

Three-phase oil-immersed self-cooled duplex winding on-load voltage regulating power transformer

In June 2013, the 40MVA/132kV power transformer developed by CHINT T&D was officially put into operation in Pakistan National Transmission & Dispatch Company (NTDC). The type of transformer has passed the short-circuit witness test of the independent laboratory of the third party twice successively, and has the characteristics of extremely low no-load loss, superior short-circuit performance, small partial discharge, etc. At present, orders and operation quantities of this type of transformer have totaled more than 100 units.

Brief Introduction to Maintenance Business



Maintenance of transformer hoods on site

Company qualification

Our company's business scope includes installation, maintenance and technical consultation, etc.



CHINT electric co.,ltd., specializes in producing 750kV and below power transmission and transformation equipment such as oil-immersed transformer, special transformer and reactors. The company adheres to the principle of "quality first, customer first" and insists on putting total quality management in the first place in all management work, and strives for perfection in product quality.

Relying on the advantages of the company's technical resources, the maintenance product line has undertaken and completed various on-site and factory reset work of conventional and special transformers. It has rich experience in transformer repair and renovation and can undertake the maintenance, repair, renovation, on-site installation, debugging, and other services of power transformers with voltage levels of 500kV and below and special transformer. With advanced technology, professional maintenance equipment and professional service personnel, it provides users with high-quality and efficient maintenance services to solve their problems.

Services:

1. On-site service of operating transformer

- Treatment of oil leakage
- On-site paint spraying of old transformers
- Replacement of main components
- On-site routine periodic inspection test and maintenance
- Operating fault diagnosis
- Service life assessment

2. On-site renovation and maintenance service of transformer

- Renovation of cooling system
 - Renovation of switch
 - Renovation of oil conservator
 - Replacement and renovation of bushing
- ### 3. Emergency repair of transformer with major faults
- On-site replacement of coil
 - Return to factory for repair
- ### 4. Transformer capacity increasing and renovation service
- Retain the core, redesign the oil

tank, and replace the coil so as to increase the capacity.

- For 10~35kV small-capacity transformer, changing from self cooling to forced-air cooling, add cooling fins, etc.

5. Other services

- Providing supporting sales service for main components and accessories
- On-site installation and commissioning service of transformer.
- Technical consultation service for transformer operation (free).

Service case

Case 1 Transformer Burning Fault Repair



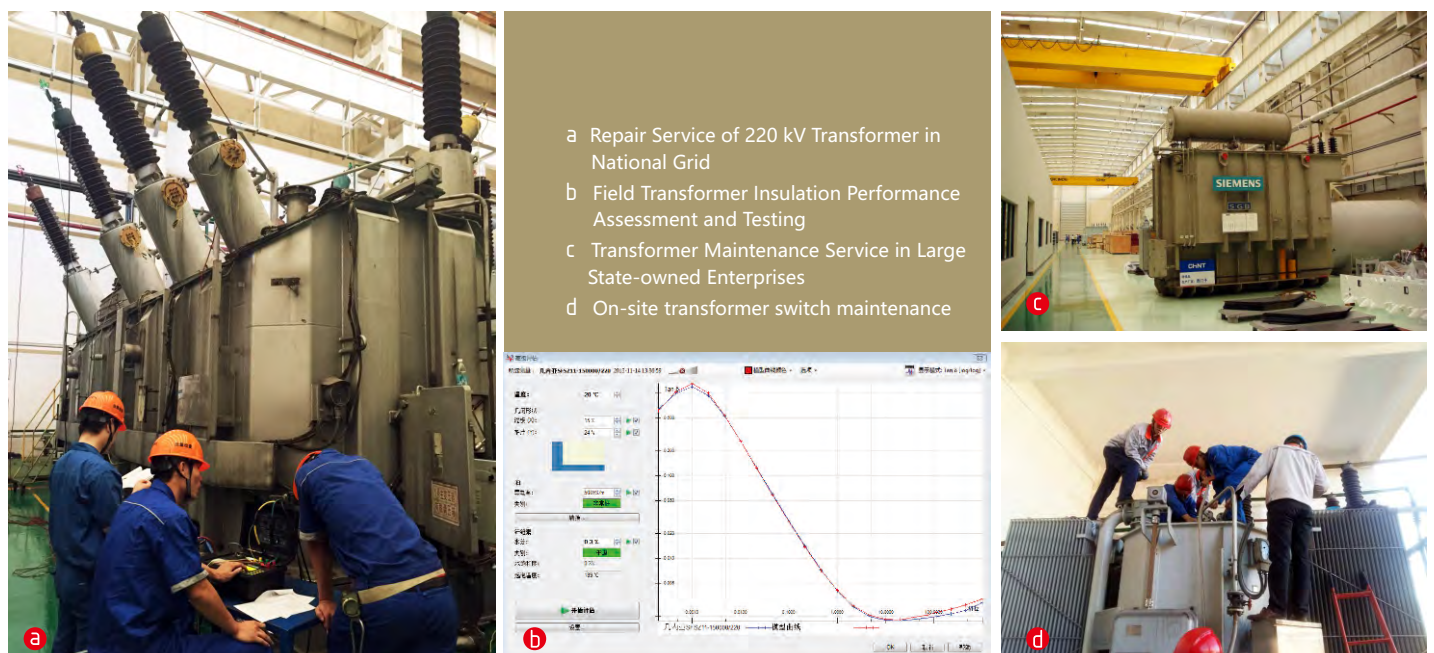
Case 2 On-site replacement of no-load switch



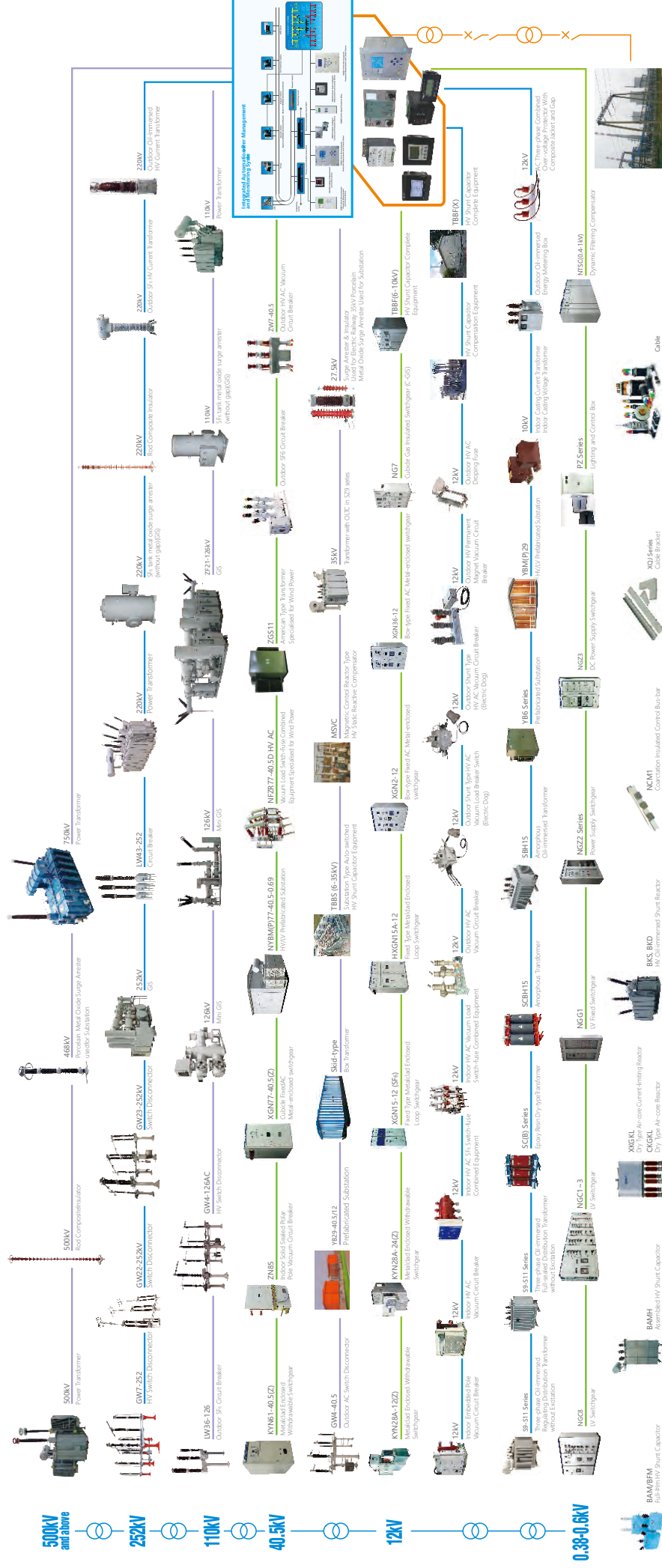
Executive standard

- DL/T 573 Guidelines for Power Transformer Maintenance
- DL/T 574 Guidelines for Operation and Maintenance of Transformer Tap-changers
- GB/T 7595 Transformer Oil Quality in Operation
- GB/T6451 Technical parameters and requirements of oil-immersed power transformer
- DL/T 572 Operation Regulations for Power Transformers
- DL/T 596 Rules for Preventive Test of Electric Power Equipment
- DL/T 722 Guidelines for Analysis and Judgment of Dissolved Gases in Transformer Oil
- GB/T 311.1 High Voltage Test Technology for Insulation Coordination of High Voltage Transmission and Substation Equipment

Other cases



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