EMPORIUM ENERGY | WOLONG

Power your future



TRANSFORMERS

Oil Well and Dry-Type Power Equipment

EMPORIUM ENERGY

Miami, Florida · +1 (305) 490-8787 · ventas@emporiumve.com
Venezuela · +58 422 305 2313 · ventas@emporiumve.com

Wolong Electric Group
Enterprise Profile



25 Million kVA
Annual Capacity

500 kV
Maximum Voltage Levels

ISO9001
Quality Management System Certified

ISO14001
Environmental Management System Certified

ISO45001
Measurement & Testing System Certified

KEMA CE
KEMA and CE Compliant

Development History

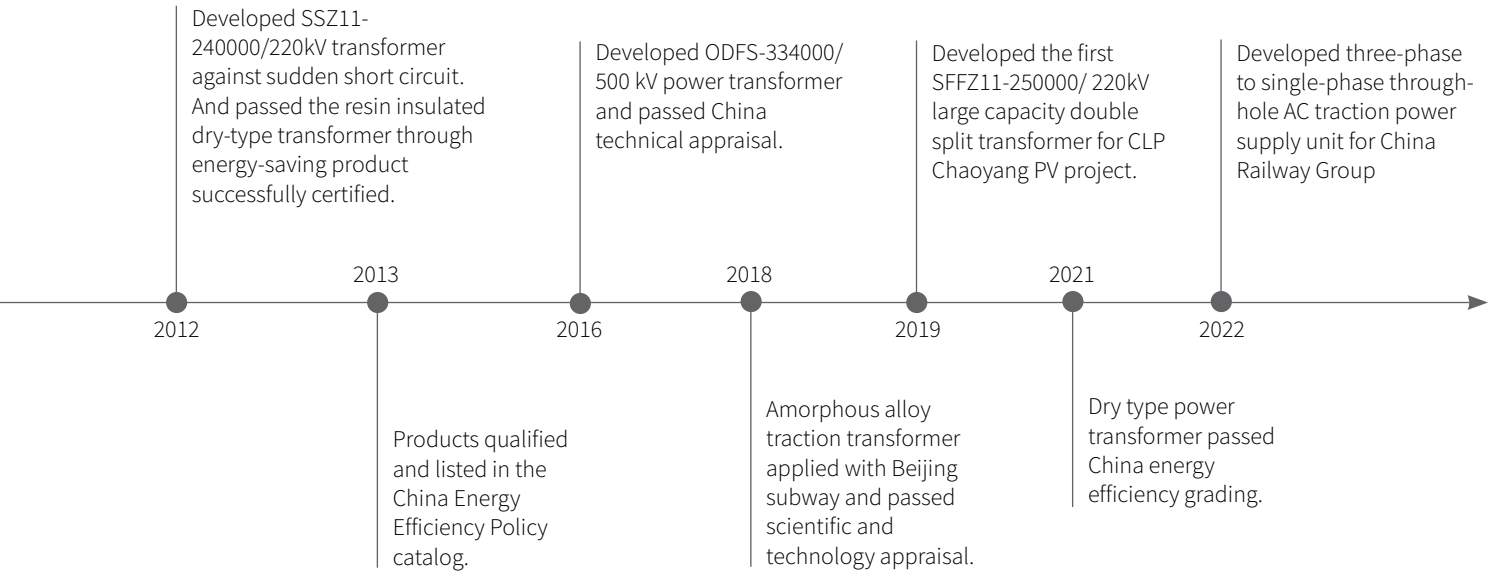
- 1970: Provided power supply equipment for the first subway line in China.
- 1985: Successfully developed 10kV distribution transformer.
- 1986: Introduced and manufactured resin insulated transformers from Fuji Electric technology in Japan.
- 1989: Successfully developed 35kV power transformer.
- 1997: Successfully developed 110kV power transformer.
- 1999: Silicon rectifier sets rated as new national products.
- 2000: Launch of 10kV resin-insulated dry-type rectifier transformer.
- 2001: Launch of 35kV resin insulated dry type rectifier transformer.
- 2005: Developed 220kV power transformer and established as one of the few large transformer manufacturers in China.

Wolong is committed to become a pioneer in the power transmission and electrical transformation industry.

Wolong has nearly seven decades of experience in manufacturing 10kV~500kV, oil-immersed and dry-type transformers of various insulations including traction, rectifier, and special electric furnace transformers. We also produce various sets of equipment including pre-assembled substations, AC-DC traction, energy storage, wind power and photovoltaic step up solutions. Wolong has experience in providing power engineering construction, power intelligence for operations, maintenance platform construction and management. All have been combined to build life cycle solutions that deliver smart, safe, and efficient power for society.

- 100+ core technologies and patents for power transmission and distribution
- Transformer standard drafting unit
- Global Sales network exporting to many overseas countries and regions

TRANSFORMER PATENTS		
Type	**Name**	**Number**
Invention	Transformer body compressing device and method	ZL201410707005.8
Invention	Insulation cylinder and transformer	ZL201610067480.2
Invention	Capacitor ring for high-voltage transformers	ZL201611025303.4
Utility Model	A type of protective insulation angle ring for high-voltage coil lead-out	ZL201120458370.1
Utility Model	Transformer wire structure	ZL201420038290.4
Utility Model	Transformer magnetic shield installation structure	ZL201420038316.5
Utility Model	A resin-insulated transformer for frequency regulation	ZL2022218376226
Utility Model	A type of three-phase - single-phase transformer and rail transit power supply	ZL202123361908X
Utility Model	A resin-insulated transformer for frequency regulation	ZL2017217504419
Invention	A type of 110kV three-phase dry-type transformer	ZL2017102658692
Invention	Foil-wound coil and its production method and equipment	ZL2016112455187
Invention	Transformer for testing	ZL2016112447462
Utility Model	Vehicle-mounted mobile pre-assembled traction rectifier substation	ZL2016200247583
Utility Model	A type of pre-installed traction rectifier substation for mining	ZL2013208887796
Utility Model	A type of low-noise amorphous alloy dry-type traction rectifier transformer	ZL2013207389204
Utility Model	Resin-insulated amorphous alloy dry type traction rectifier transformer	ZL2013103450053



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Full Capabilities
Transformer Manufacturing



Yantai Dongyuan Transformers: Floor space: 150,000m^2



Beijing Huatai Transformers Floor space: 56,666m^2

2500T Hot Press



20T horizontal winding machine



Horizontal cutting machine



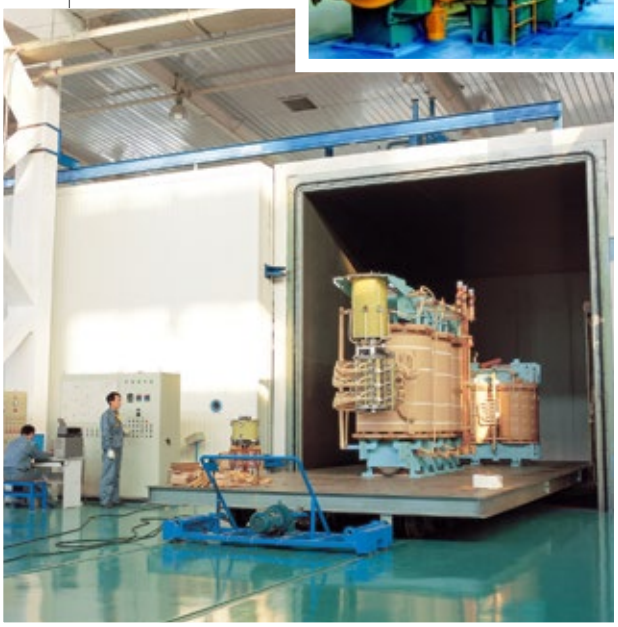




20T vertical winding machine

300T air cushion vehicle

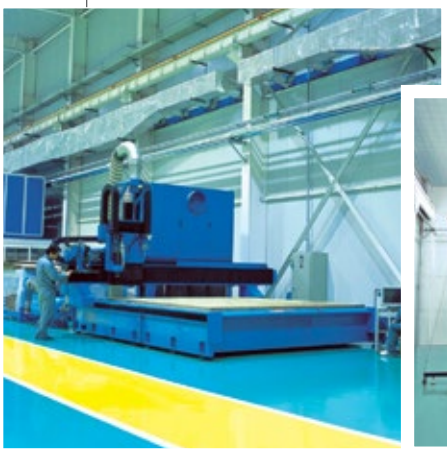
VPD-400 gas-phase drying system



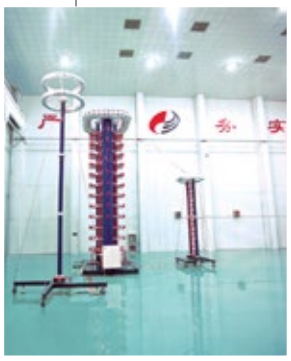
Iron core wire cutting equpment



CNC insulation machining center



High voltage test hall







Iron core stacking and overturning worktable

200T coil press

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Oil Well Transformers



220 kV Power Transformers

Widely used in China's main power grid. It features a reliable structure, low loss, low noise, and superior performance.

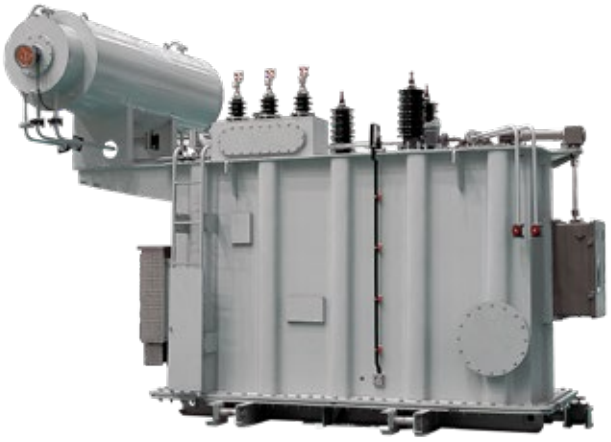
Primary voltage: 2300 kV
Secondary voltage: 69 / 110 kV
Tertiary voltage: 6.6 / 10.5 / 35 kV



500 kV Power Transformers

Ultra HV featuring low loss, low noise, no oil leakage, intelligence, convenient installation and maintenance, energy efficiency and environmental protection.

Primary voltage: 550/√3 / 550 kV
Secondary voltage: 230/√3 kV
Tertiary voltage: 35 / 63 / 110 kV



35 kV Power Transformers

This most common transformer features low local discharge, low loss, low noise, and strong short circuit resistance.

Primary voltage: 35 / 110 kV
Secondary voltage: 10.5 / 35 kV



10 kV Power Transformers

This common transformer is known for its high performance reliability in the field.

Primary voltage: 10 kV
Secondary voltage: 0.4 kV

Dry-Type Transformers



Power Distribution Transformers

Dry-type silicon steel and amorpheous alloy transformers featuring durable epoxy resin and NOMEX paper insulation.

Primary voltage:	6 / 10 / 35 kV
Secondary voltage:	0.4 kV
Application:	Distribution terminal



Rectifier Transformers

Dry-type amorpheous alloy transformers featuring durable epoxy resin insulation.

Primary voltage:	6 / 10 / 35 kV
Secondary voltage:	0.4 kV
Applications:	Rail transit traction power supply, inverter energy feedback

Power Transformers

Dry-type amorpheous alloy transformers featuring durable epoxy resin insulation.

Primary voltage:	35 kV
Secondary voltage:	10 kV
Applications:	Power transmission system, SVG systems, isolating power grids to suppress high harmonics, realize balance and compensation

Complete Set of Equipment



Rectifier Unit

Portable container includes rectifier transformers.

Grid-side voltage:	10 / 20 / 35 kVAC
Output voltage:	750 / 1500 VDC
Application:	Urban rail transit traction DC power supply system

Pre-Assembled, Box-Type Substation

This unit replaces original civil power distribution rooms and distribution stations with a complete set of transformer and distribution devices.

Primary voltage:	36.75 kV
Secondary voltage:	0.69 / 0.8 / 1.14 kV
Applications:	Mines, factories, oil and gas fields and wind power stations.



Co-Phase Power Supply Device

Panel boards containing a phase-shifting transformer, power unit, output reactor, control system, protection system, and cooling system.

Grid-side voltage:	10 / 20 / 35 kVAC
Output voltage:	25 / 27.5 kVAC single phase
Application:	Rail transit single-phase AC traction power supply and rail transit locomotive debugging test power supply





Complete Set of Equipment



Energy Storage Transformers

Wolong's energy storage transformer adopts a three-phase dry-type transformer with double winding for low loss, non-excitation voltage regulation and a durable and reliable epoxy resin casting. This cabinet safely and efficiently integrates required energy storage for power conversion system load characteristics.

Technical Features	
Transformer	Resin insulated dry type
Capacity (kVA)	1700, 2000, 2500, 3150, 3300, 3400, 3450, 3550, 4500, 5000 (Can be customized according to customer requirements specifications)
Operating ambient temperature	-35°C ~ 65°C (more than 45°C reduction)
Anti-corrosion grade C3	Anti-corrosion grade C3
Insulation grade	Class H or Class F
Rated voltage ratio	35 or 36.75 or 37 kV AC / 0.69 kV AC
High voltage regulation method	Manual off circuit voltage regulation
Tap range	±2 × 2.5%, meets GB 10230.1-2007 requirements
Rated frequency	50 Hz
Coupling group	Dy11
Transformer structure	High-voltage wire-wound, low-voltage foil-wound
Impedance voltage	6, 7, or 8 %
Cooling method	AN / AF
Overload capacity	Not less than 1.1 times
Lightning surge level	170 kV, according to GB/T1094 and GB 311.1
Frequency withstand voltage level (high voltage winding)	70 kV, according to GB/T1094 and GB 311.1
Frequency withstand voltage level (low voltage winding)	3 kV
Temperature control protector	Automatic operation, can manually start and stop the fan.



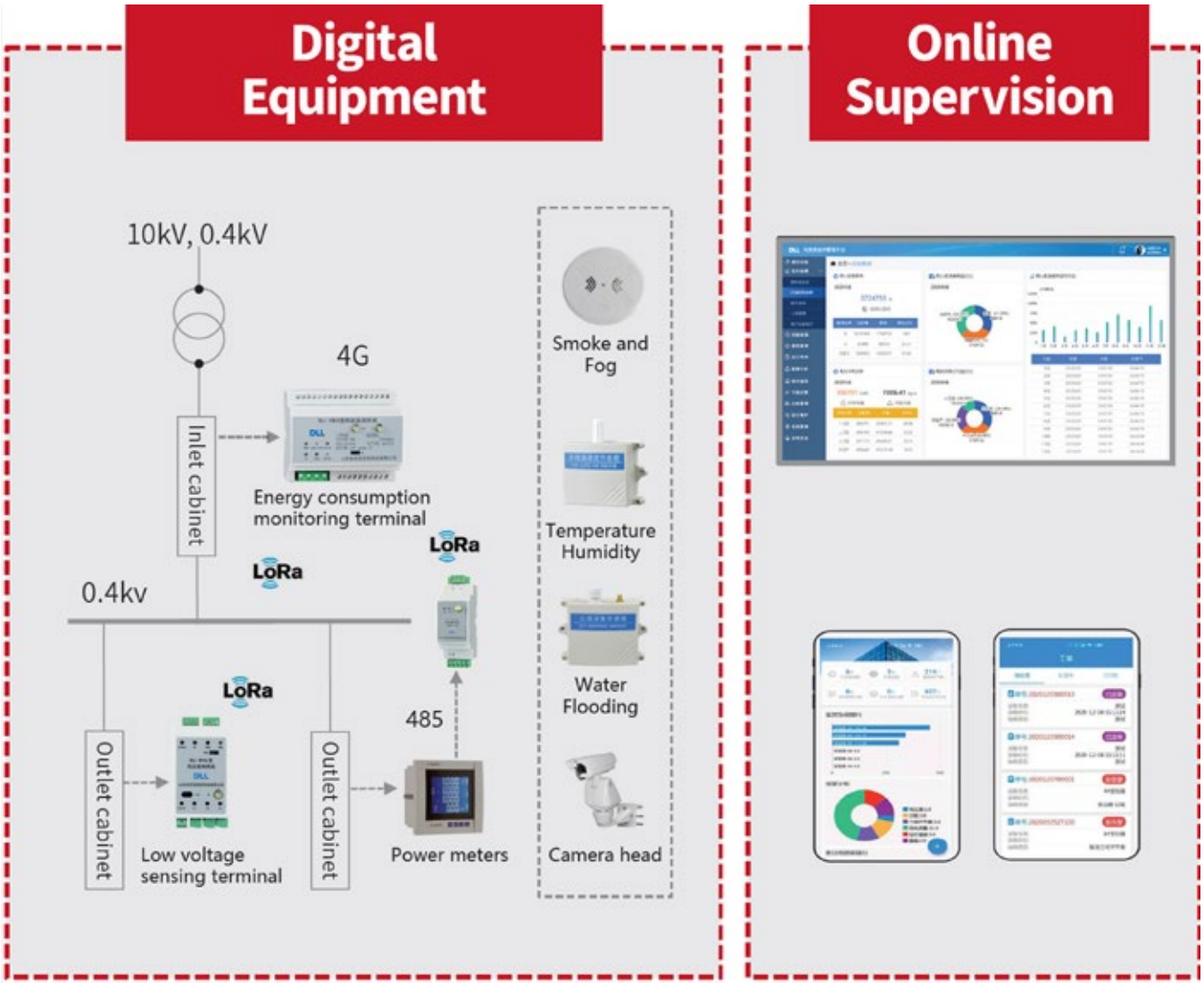
Shore-Based Power Supply System

Depending on the scheme, Wolong shore-based frequency converter power supply system can use dry-type phase-shifting transformers, output isolation transformers, power frequency step-down transformers among other types. The output transformers are usually equipped with several secondary windings of different voltages to meet 60 Hz. Epoxy resin casting transformers are mainly used for port environments.

Technical Features	
Capacity	200 - 20,000 kVA
Operating ambient temperature	-5°C ~ 45°C
Nominal voltage	Primary side 10kV, secondary side 0.69kV phase-shifting transformer 11 kV / 6.6 kV / 440 V isolation transformer
Rating frequency	60 Hz
Insulation grade	Class H
Neutral point wiring method	High-voltage power distribution adopts neutral point through resistance grounding method Low-voltage power distribution adopts IT wiring mode
Tap range	+5 % to -5 %
Overload requirements	1.1 times, 1 minute; 1.5 times, 3 seconds
Impedance voltage	8 ~ 9 %
Efficiency	≥ 98 % phase-shifting transformer ≥ 99% isolation transformer
Wiring group	Dyn11 / extension triangle
Local discharge	≤ 10 PC
Isolation requirements	Complete electrical isolation is required between the primary and secondary side
Lightning surge	Conforms to GB/T1094 GB311.1
Insulation grade	Conforms to GB/T1094.11
Structure	Dry type, epoxy resin, overall vacuum casting, copper core coil
Cooling method	Forced air cooling
Thermostat	Configuration

Intelligent Electric Operation/Maintenance/Service

Through a collection terminal and various sensors in the distribution room, data is transmitted to the operation and maintenance platform, which monitors energy distribution remotely, centrally, and in real-time. Wolong also provides offline services such as inspection, testing, and repair. This allows users to build a safe and less costly operation and maintenance service system exposing less personnel to the equipment.



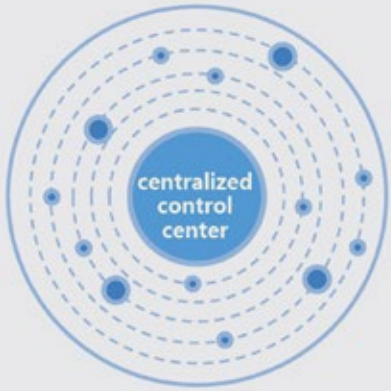
Experience in multiple industries and applications

Public Construction: Commercial complexes, office buildings, hospitals, schools, etc.

Industries: Food & Beverage, Pharmaceutical, Chemical, Textile, etc.

Remote Monitoring





Offline Service



Periodic inspection with electricity



Periodic maintenance test



Equipment maintenance and replacement



Regular cleaning and sweeping



Safety management standard



Fault emergency repair

Global Project References

ZHSFZ-12500/35kV
Transformer used in Xinjiang
Kuqa Green Hydrogen
Pilot Project







SFFZ11-250000/220 kV
Transformer used in
China Power International
Holding (CPIH) 500 MW
Grid-Parity Project

OSFPSZ-250MVA/230kV
Transformer used in National
Electric Grid of Kyrgyzstan
Osh Project





OSFPSZ-250MVA/230kV
Transformer used in National
Electric Grid of Kyrgyzstan
Bishkek Project



SZ11-15000/33kV
Transformer used in
Ethiopia Addis Medium
Voltage Transmission
and Distribution System
Upgrading Project

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GMS32028-EN (3/2023)

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EMPORIUM ENERGY

Distribuidor oficial

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