

# OPEN UP A NEW ERA OF IRON CORE

**WUXI PUTIAN IRON CORE CO., LTD.**

Address: No.19 Jingxiang Road, Xishan District, Wuxi, China.

Tel: +86 510 83798338

Fax: +86 510 83798338

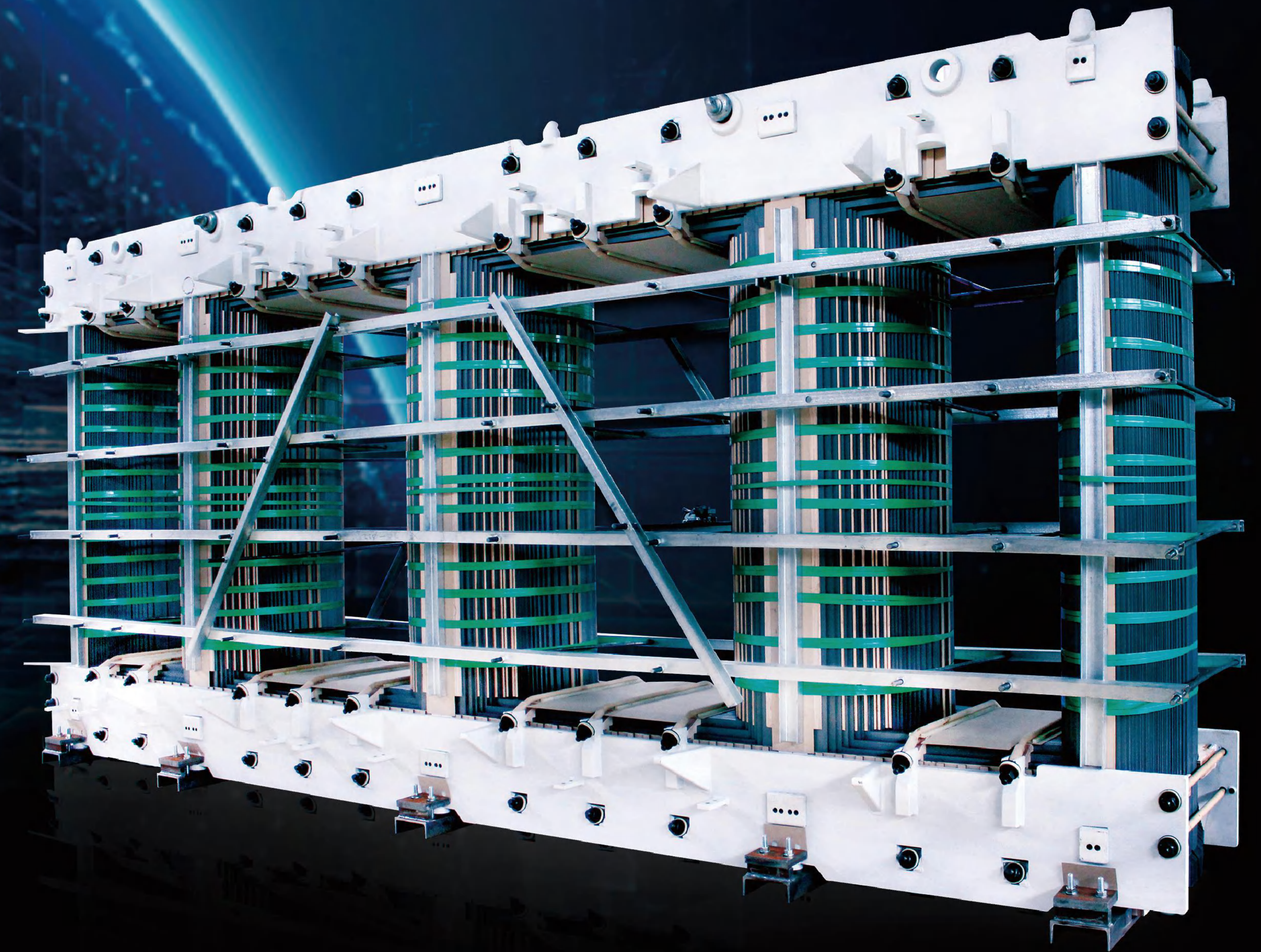
E-mail: [pttx@pttx.com](mailto:pttx@pttx.com)

[www.pttx.com](http://www.pttx.com)





# GREEN AND SUSTAINABLE TRANSFORMER CORES, NATIONAL KEY HIGH-TECH PRODUCTS.



## PTTX, A LEADING TRANSFORMER CORE MANUFACTURER WHO SETS THE STANDARDS.

PTTX primarily focuses on the manufacturing of energy efficient transformer cores. With its company-scale competitive advantages, including technologies, equipment, R&D, product quality, market position, employees and management, PTXX has been recognized as China's largest and most dedicated transformer core manufacturer. In 2015, as a pioneer to promote professional and specialized energy efficient transformer core manufacturing in China, PTXX was awarded as the main drafter for Chinese National Standard of Electrical Steel Transformer Core: GB/T 32288-2015 with Voltage Rating <math>< 35\text{kV}</math>. In the beginning of 2019, PTXX was awarded as the main drafter for new Chinese National Standard of Electrical Steel Transformer Core with Voltage Rating  $\geq 35\text{kV}$ .

LARGE POWER TRANSFORMER CORE



# ABOUT US

Founded in 2004, PTTX (Wuxi Putian Iron Core Co., Ltd.) is a national key high-tech enterprise, specializing in the manufacture, research, development and sales of transformer cores. It is the main drafter of Chinese National Standard of Electrical Steel Core for Power Transformers: 'GB/T 32288-2015'. With annual sales over 65,000 tons and annual revenue over 160 million USD, PTTX is the leading transformer core manufacturer in China.

Since its foundation, PTTX has been constantly engaging in developing and researching on optimization of manufacturing technology of transformer cores. To create more value for clients and society, and to push the limit of energy efficient transformer core manufacturing technology, PTTX invested more than 60 million USD to build a new modern smart factory. It is equipped with constant temperature & humidity control, and dust-free workshop, together with intelligent integration of industrial leading IoT technology, MES and SAP system in the whole manufacturing process. With this smart factory, PTTX sets a new benchmark for energy efficient transformer core manufacturing industry.

PTTX always adheres to the basic value of 'Dedication, Perfection and Standardization' as well as the constant pursuit of craftsmanship. By full implementation of international quality management systems of ISO 9001:2015, ISO 14001:2015, ISO45001:2018 and ISO 26000. etc., PTTX has won recognition and praise from clients in domestic market and abroad. Its products have been exported to more than 20 countries and regions like Europe, Middle East, South America, North Africa and Southeast Asia. PTTX's high-quality transformer cores have been widely used in national power grids, power plants, high-speed railways and trains, urban subways, solar power station, wind farms and numerous residential buildings, etc. With its scale of production and sales, PTTX has maintained its market leading position for many years, providing competitive one-stop solution and services for more than 200 clients.

PTTX believes its own technological innovations will finally transform to clients' competitiveness. With strong R&D capabilities, PTTX has formed strategic partnerships with Chinese leading transformer research institutes, universities and state-owned enterprises like Shenyang Transformer Research Institute (STRI), Xi'an Jiaotong University and Shougang Group. Together with these industrial leading partners, PTTX established UHV Power Transformer Core Engineering Research Center, Postgraduate Students Training Base, and 'Shougang-PTTX' Joint Laboratory of Applied Technology of Electrical Steel. Etc. Through continuous investment in R&D, PTTX has become an industrial leading enterprise with international competitiveness, by providing clients around the world with energy efficient, environmentally friendly products, cost saving, and value-added solutions.

Through all these years of development, PTTX is relentlessly working on technological innovations, and seeking every opportunity to perfect the smallest details, it is taking firm steps to become a world-leading brand in transformer core industry.

  
**350+**  
Professional  
Staff

  
**18Years**  
Industrial  
Experiences

  
**200+**  
Global Clients  
&Partners

  
**150,000 MT**  
Annual Production  
Capacity

  
**9001:2015**

  
**14001:2015**

  
**26000**

  
**18001:2007**

 A Proud Member of  
**United Nations**  
Global Compact



# TAKING CORE MANUFACTURING TO A NEW LEVEL.

## TRANSFORMER CORE SMART FACTORY

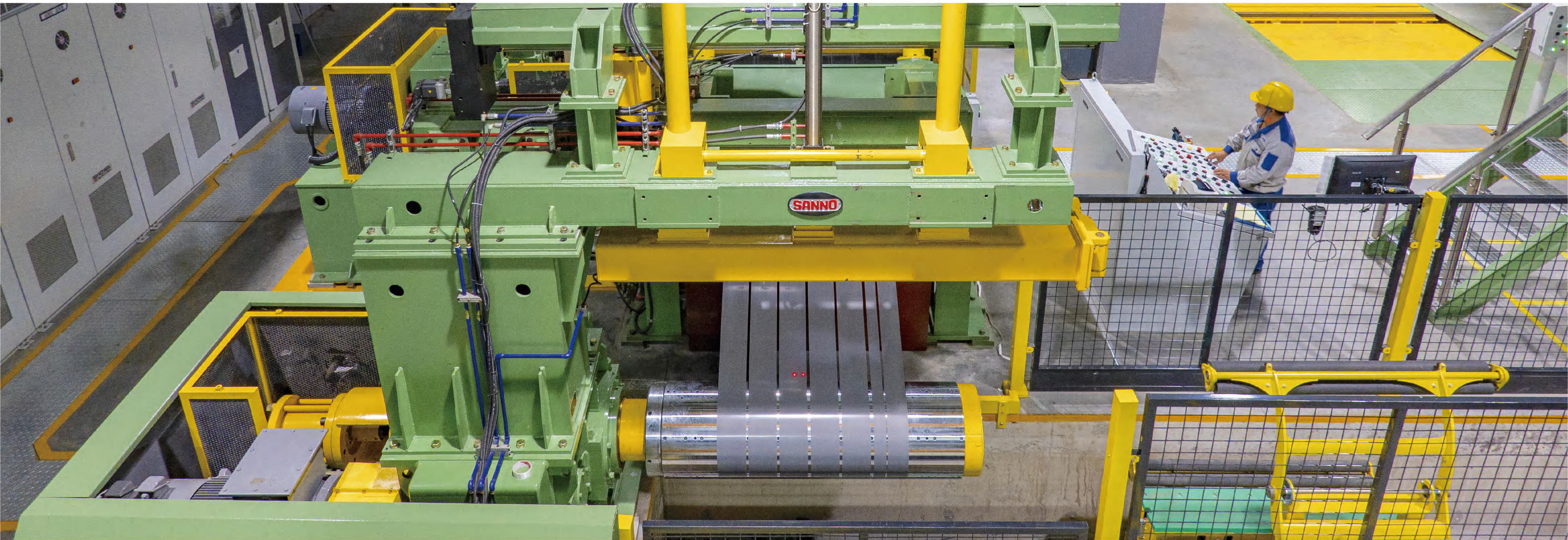
- Constant temperature (20~28°C) & humidity (<45%) control, and dust-free workshop;
- Intelligent integration of industrial leading IoT technology, MES and SAP system;
- 7000m<sup>3</sup> automated high bay storage and logistics for mother coils and slit coils;
- Center-positioned slitting lines with continuous electrical testing and thickness measurement;
- Complete sequence cut to length lines with automated inline stacking systems for both complete cores and cut laminations;
- Fully automated packing systems for slit coil products;
- Industrial leading integrated transformer core test center and laboratories. etc.



### AUTOMATED HIGH BAY STORAGE AND LOGISTICS FOR MOTHER COILS AND SLIT COILS

Mother Coils Storage	No. of Stands	Load of Each Stand	Coil Handling Speed	Coil Width
	200	25T	40 Coils/H	370-1300mm
Slit Coils Storage	No. of Stands	Load of Each Stand	Coil Handling Speed	Coil Width
	1200	5T	40 Coils/H	370-1300mm



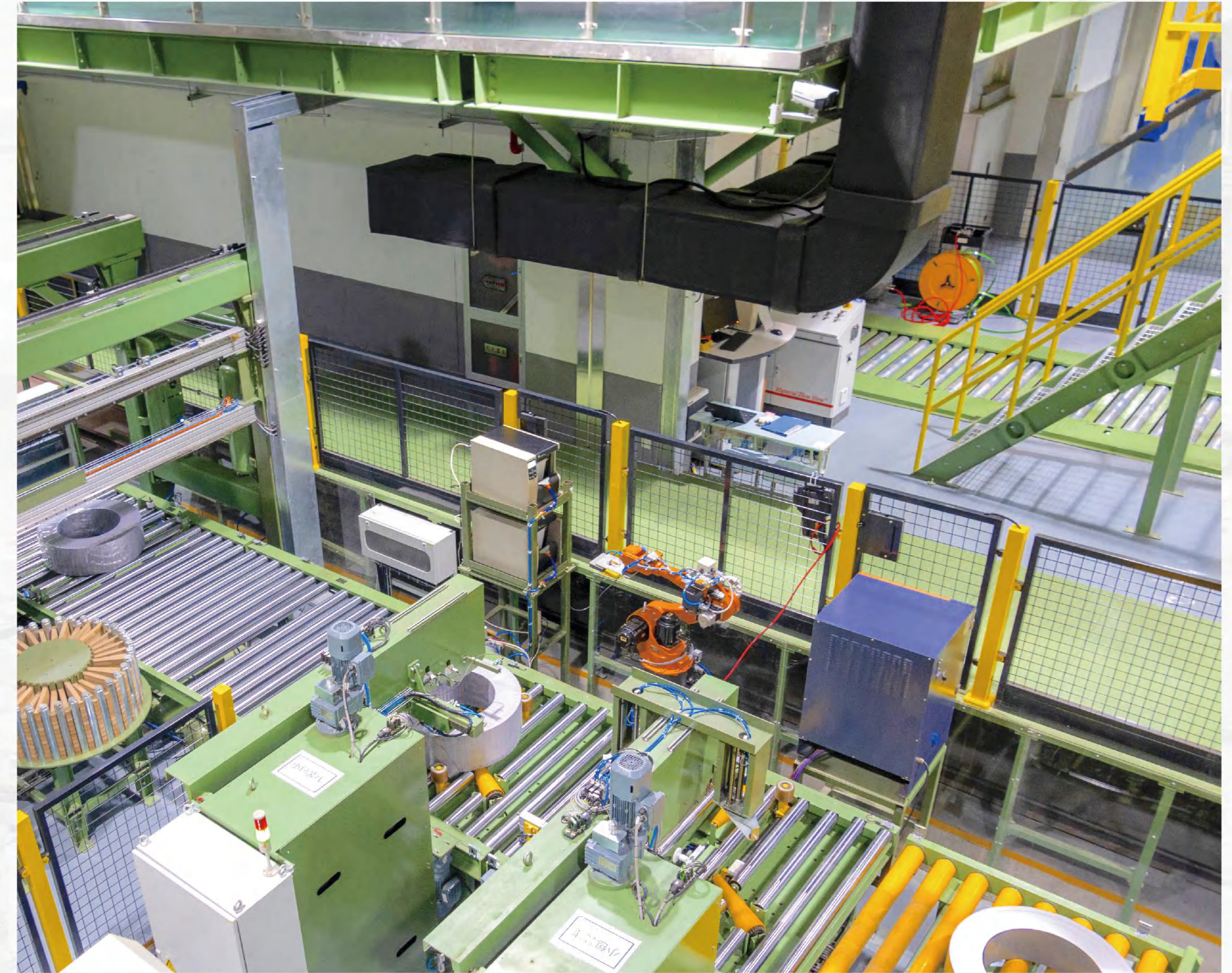


## SLITTING LINES WITH CONTINUOUS INLINE ELECTRICAL TESTING AND THICKNESS MEASUREMENTS

Slitting Width	Maximum Weight of Mother Coil	Winding Weight	Slitting Speed	Slitting Thickness
30-1300mm	22T	10T	200m/min	0.18-0.30mm
Width Precision	Winding Width	Burr Height	Edge Camber	Winding Side Surface Deviation
-0.12—0mm	30 -1250mm	<0.015mm	<0.1/2000mm	±0.1mm

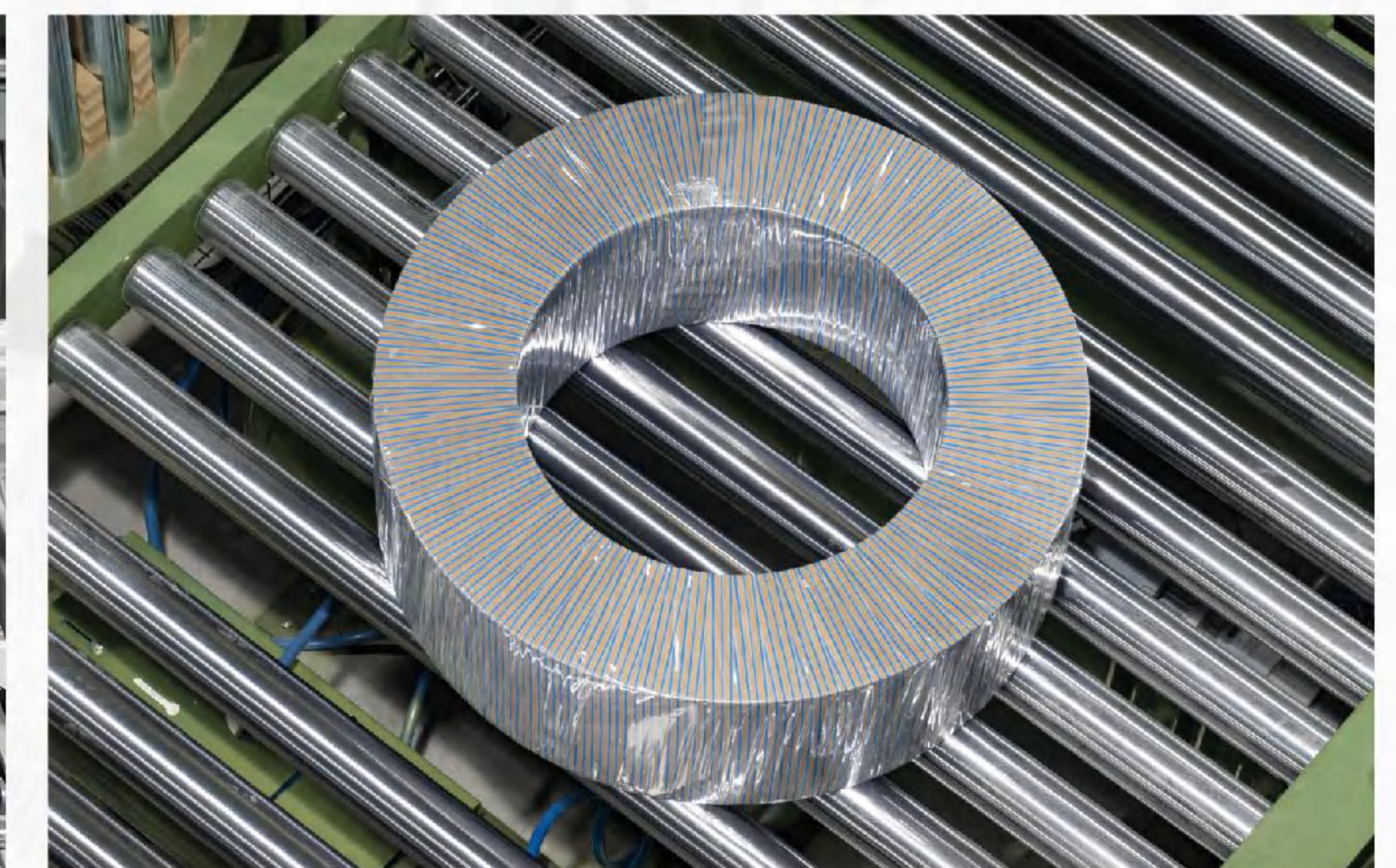
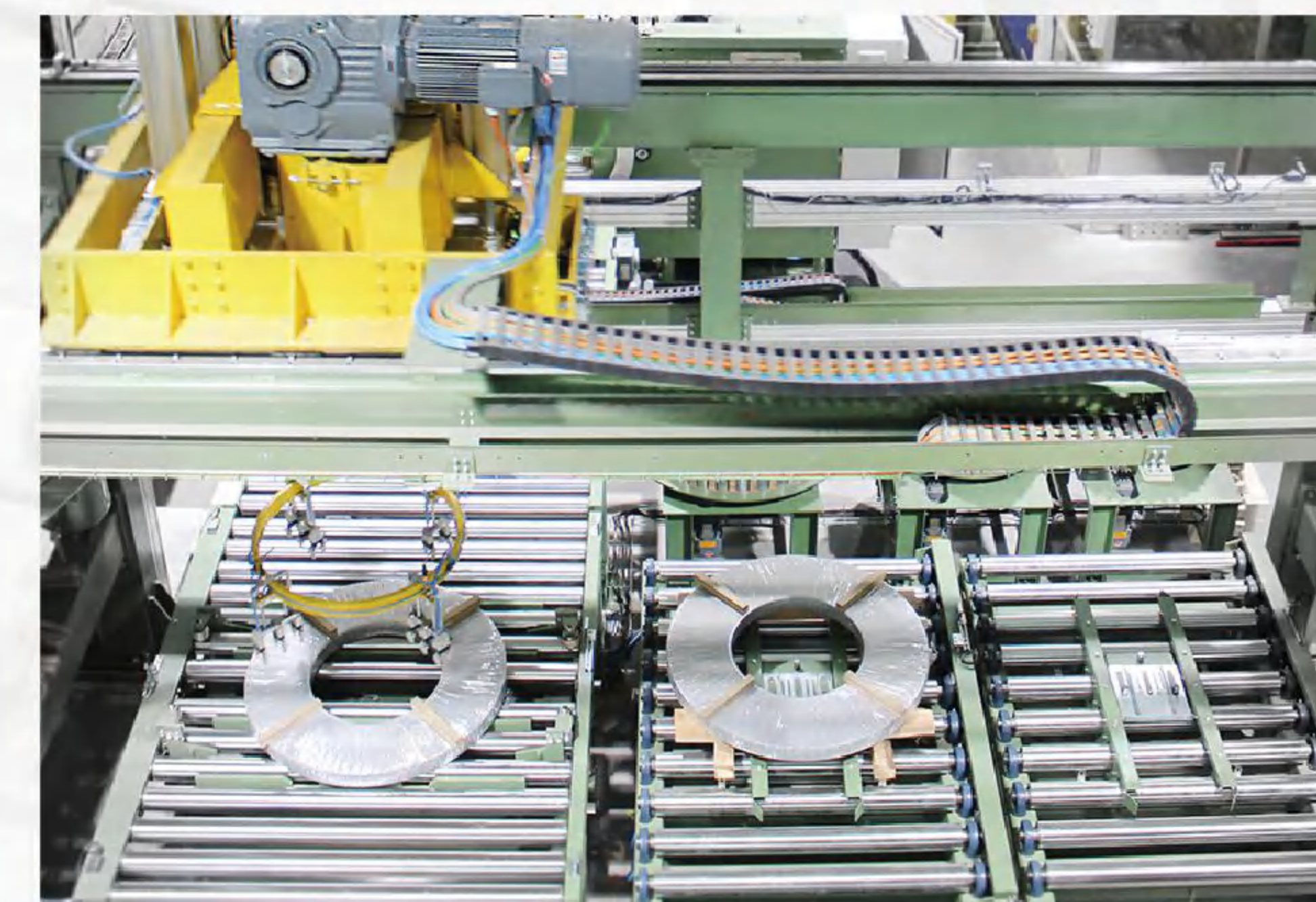




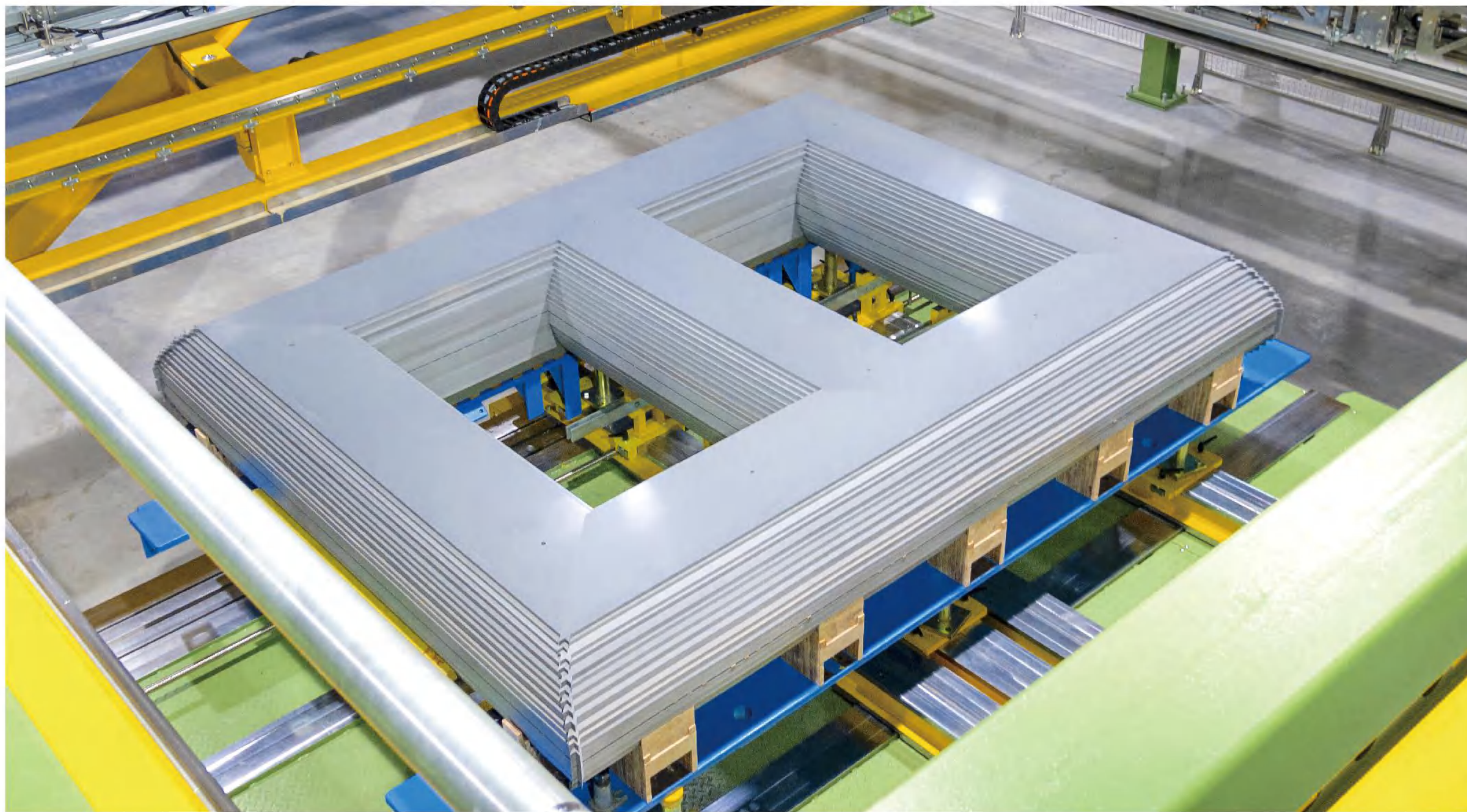


## AUTOMATED PACKING SYSTEMS FOR SLIT COIL PRODUCTS

Packing Width of Slit Coils	Packing Weight of Slit Coils	Packing Speed
30-1300mm	0.05-5T	20 Coils/H







 COMPLETE SEQUENCE CUT TO LENGTH LINE WITH AUTOMATED INLINE E-STACKING SYSTEM



Shearing Width	Maximum Weight of Automated Assembled Core	Maximum Length Per Sheet	Burr Height	Angle Precision	Length Precision	Shape of Sheets	Shearing Thickness
≤850mm	80T	5500mm	<0.015mm	<0.005°	-0.3mm~0mm	No restriction	0.18-0.30mm

 COMPLETE SEQUENCE CUT TO LENGTH LINES WITH AUTOMATED INLINE LAMINATION SYSTEM



Shearing Width	Maximum Weight Per Pallet	Maximum Length Per Sheet	Burr Height	Angle Precision	Length Precision	Shape of Sheets	Shearing Thickness
≤1000mm	10T	6000mm	<0.015mm	<0.005°	-0.3mm~0mm	No restriction	0.18-0.30mm





# QUALITY CONTROL SYSTEM

## INSPECTION EQUIPMENT



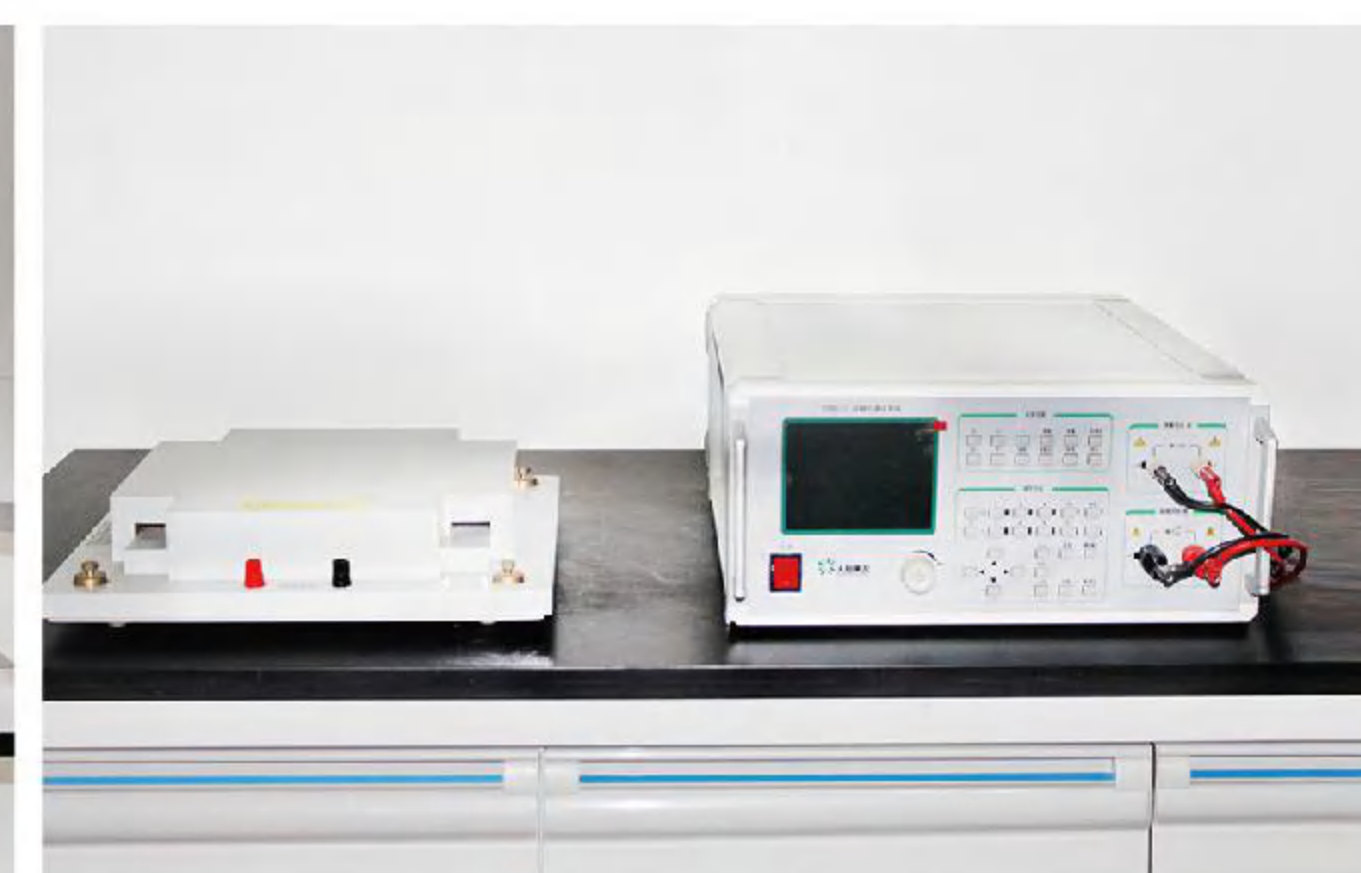
Electrical Steel Laboratory



Raw Materials Laboratory



Franklin Tester



Epstein Frame



Digital Image Inspection Station

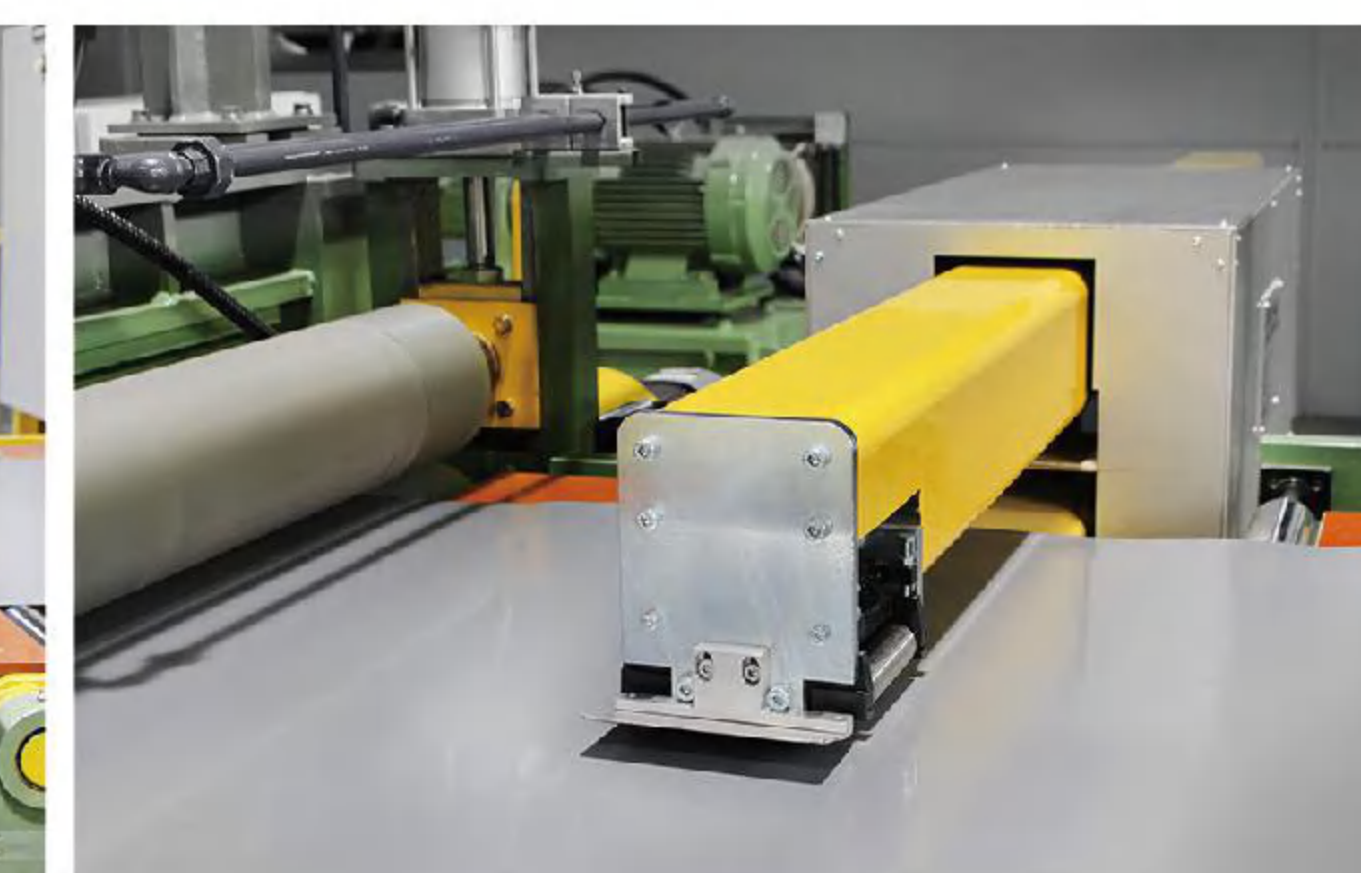
Quality is the lifeline of PTTX. In PTTX, quality control system is working seamlessly with other systems in the smart factory. Through intelligent integration of quality control laboratory, production facilities and MES, PTTX could provide real-time, dynamic and whole-process quality control plans, as well as early warnings, emergency information and automatic counter measures. The key to PTTX' s integrated quality control system is not finding the quality issue during or after production but preventing the quality issue from happening in the first place, so the final products we send to clients will not only meet quality standard required by clients, but also stricter internal standard of PTTX.



Online Iron Loss and Thickness Detector



EBA - Continuous Inline Magnetic Properties Measurement System



TGD - Continuous Inline Thickness Measurement System

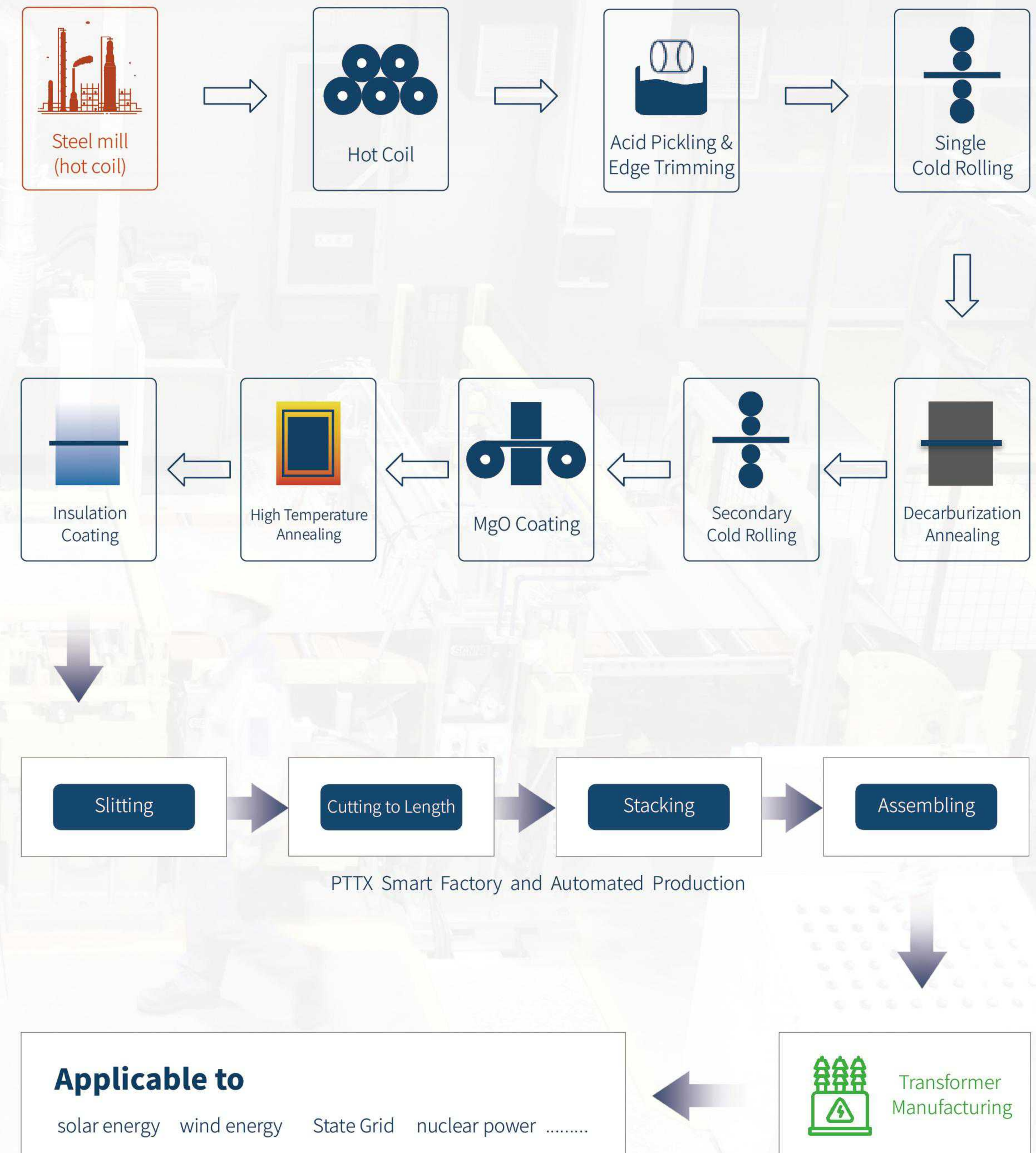
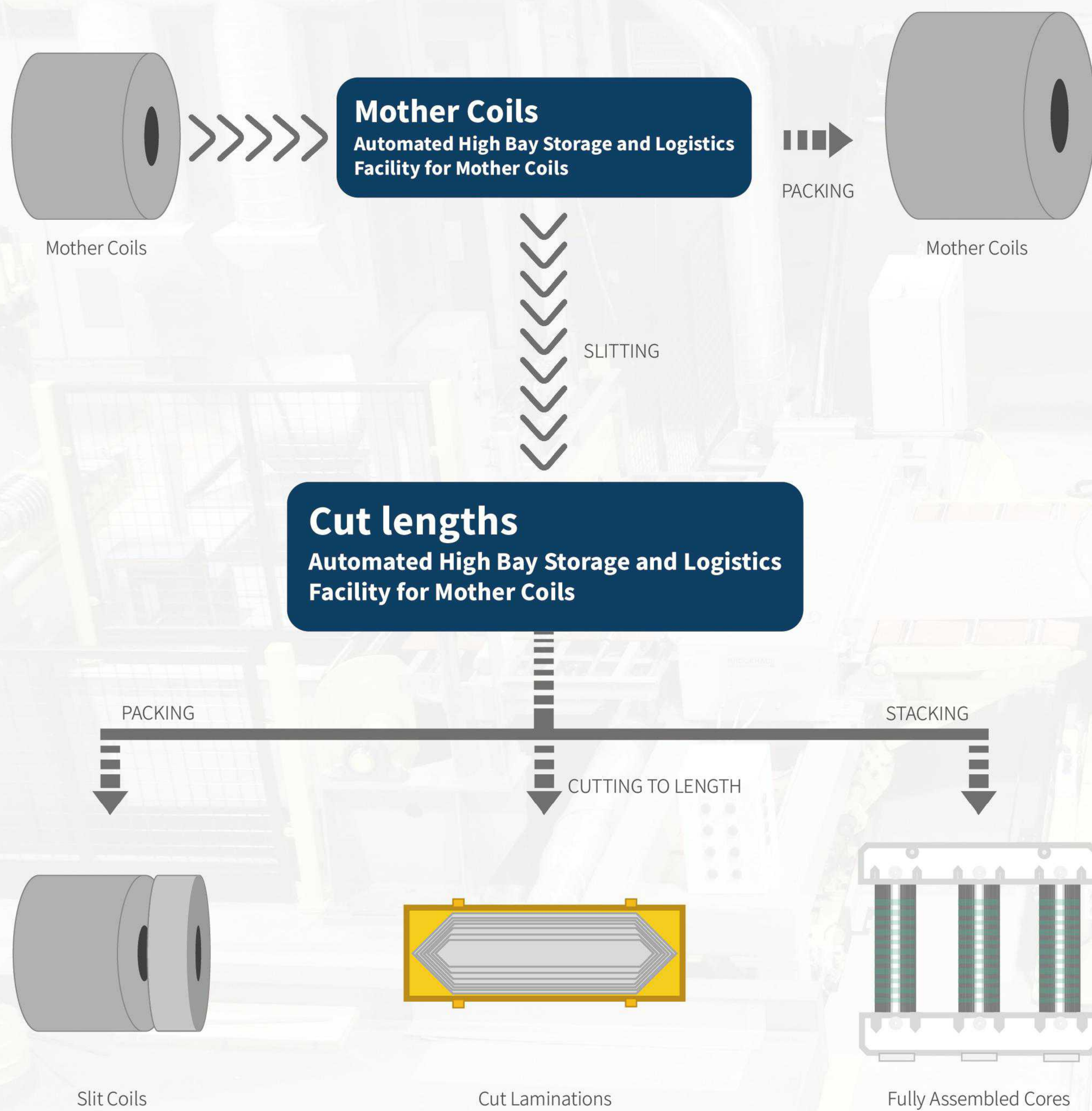


Transformer Core Integrated Test Center



# Digital Lean Production

# The Whole Supply Chain



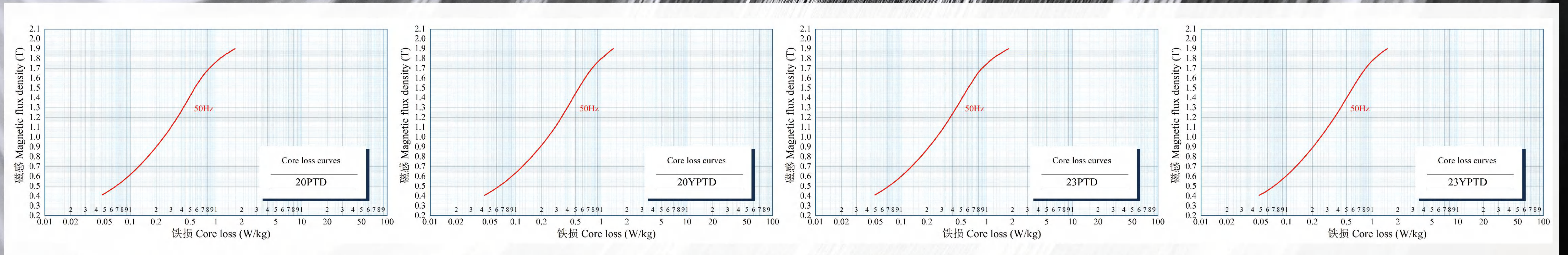


# PRODUCT SOLUTION

MAIN PRODUCTS

# 01 Mother Coils

We provide raw Electrical Steel with negotiable length and width, from self-managed processing with intellectual property rights; or outsourced processing from global steel mills, with PTTX standards and quality control.





# 02

## SLIT COILS

Excellent quality electrical steel is the basis of an excellent transformer core product. As the leading professional transformer core manufacturer in China, PTTX established strong and mutual benefit partnerships with major mills in China, so PTTX could get priority supply of first choice prime steel from these mills. In the meantime, by establishment of Joint Laboratories, PTTX is working seamlessly with these mills to research and develop new materials for the market.

All electrical steel raw materials are verified, approved and accepted by internal quality control system. Characteristics and real performance data of each coil are measured and recorded, and these data are traceable through the whole production process.

Slit Coil Width	30-1300mm
Width Accuracy	- 0.1-0mm
Burr Height	<0.015mm
Edge Camber	<0.1/2000mm
Winding Side Surface Deviation	±0.1mm

Material Grade	Thickness
Maximum Core Loss@1.7T/50Hz w/kg	mm
0.70	0.20
0.75	0.20/0.23
0.80	0.20/0.23
0.85	0.20/0.23
0.90	0.23





# 03 CUT LAMINATIONS

Product solution



All cut lamination products are carefully wrapped with anti-corrosion, protective and cushioning materials. Recyclable steel pallets are used for all cut lamination orders to prevent any potential deformation of sheets during all kinds of transportation. These steel pallets could be stacked one on top of another, in order to save clients' storage space. After clients use them, PTTX will recycle these pellets from clients' factories, saving clients the trouble of disposing wood pellets, also, doing a favor for mother nature.

Maximum Width of Sheet	Maximum Length of Sheet	Stacking Mode	Angle Precision	Length Precision of Sheet
1000mm	6000mm	Automatic	<0.005°	L≤2500mm, ±0.1mm L>2500mm, ±0.2mm



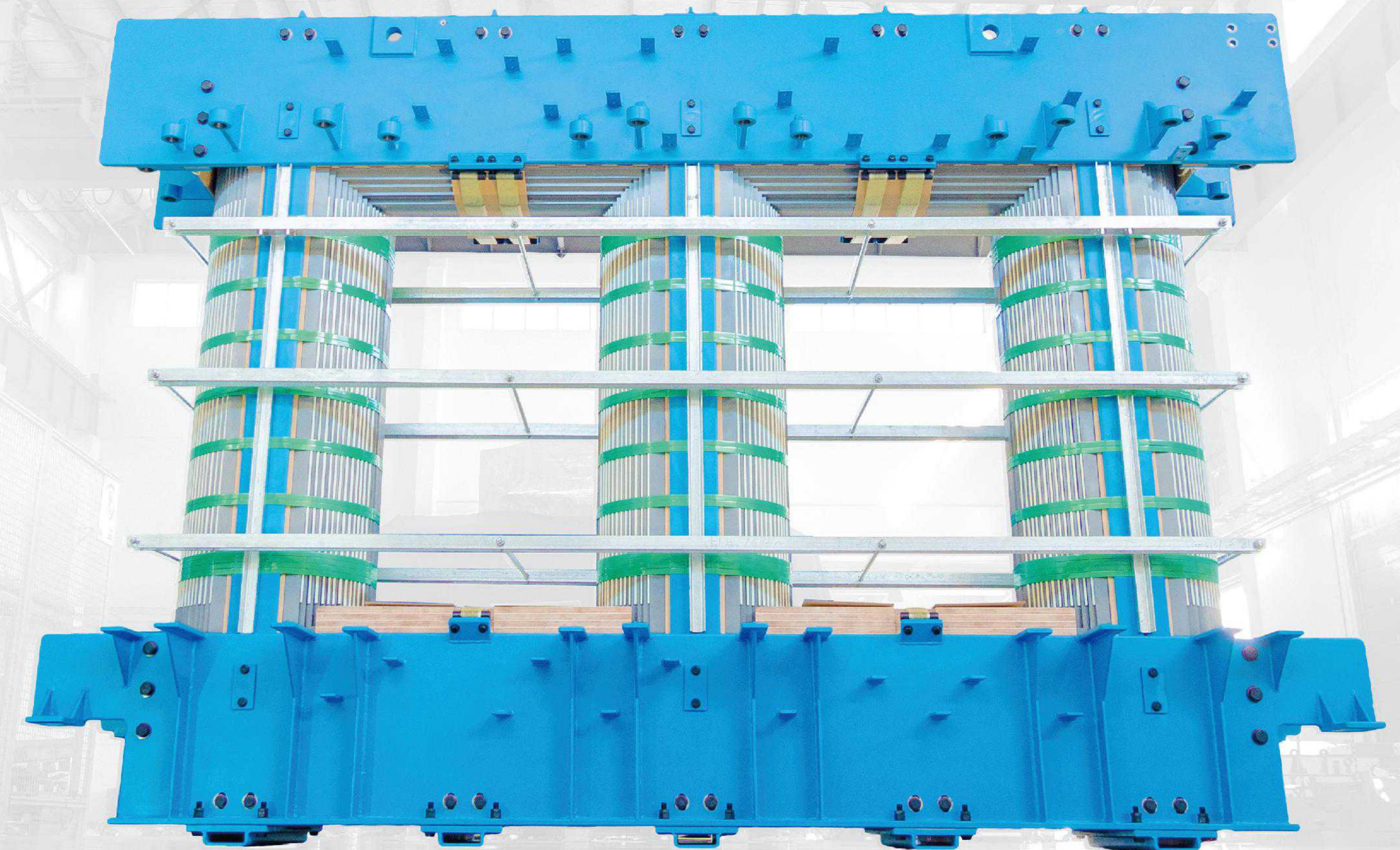
# 04

## FULLY ASSEMBLED CORES

### PRODUCT ADVANTAGES

With tailor made solutions for clients, PTTX offers transformer cores that have superior no-load loss performance, low noise level, low no-load current, high mechanical strength, strong short circuit resistance, small partial discharge, great insulation performance, excellent thermal stability, accurate dimension, small burr height, minimum building factor and a good-looking appearance, etc. Through cooperation with PTTX, clients are ready to take a step further by using energy efficient core design to further reduce overall cost and optimize the performance of transformers, making themselves more competitive in the market.

Product solution

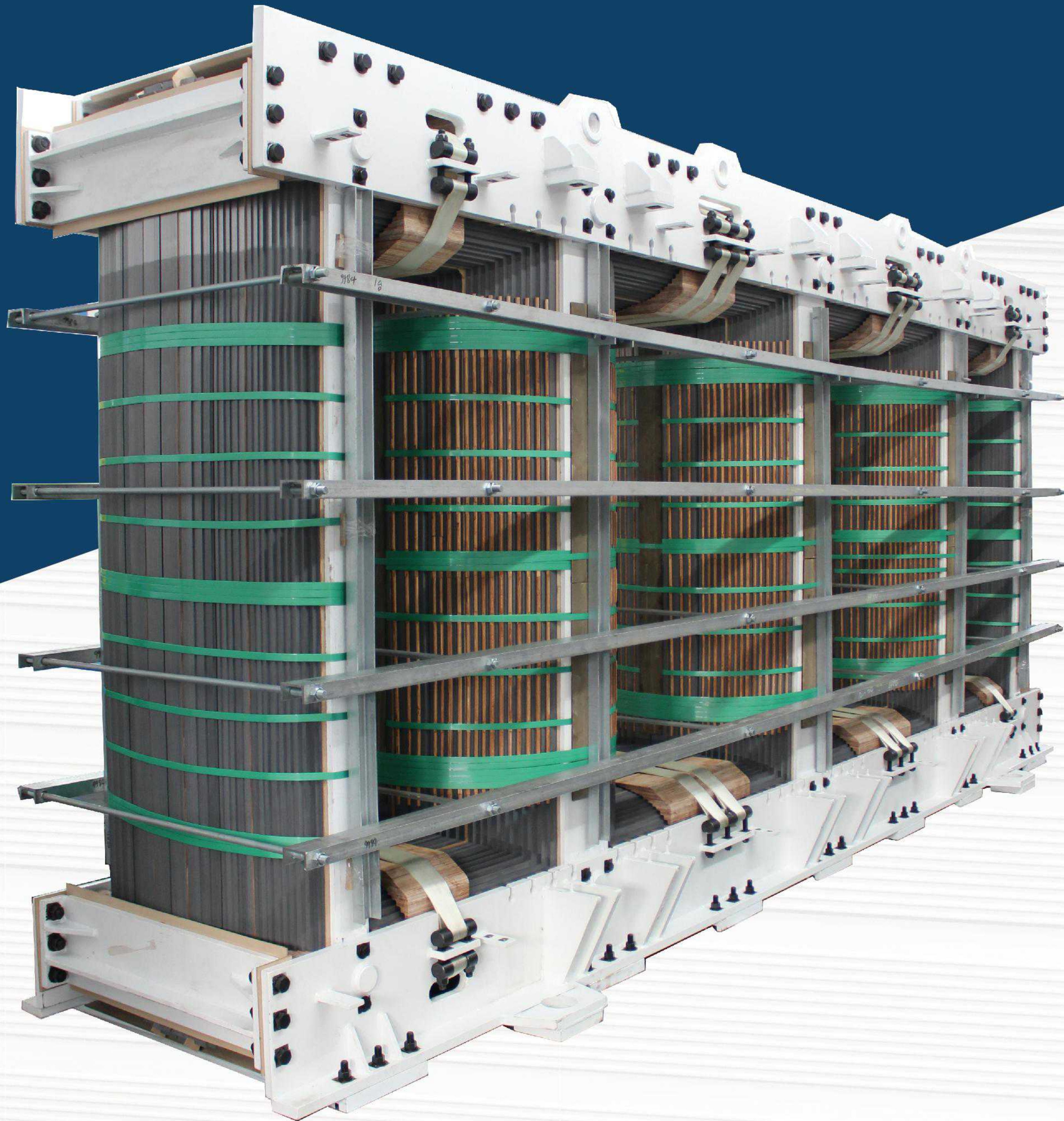


Maximum Weight of Automated Stacked Core	80T
Maximum Weight of Manually Stacked Core	200T
Gap Limit at the Joint	<0.5mm
Window Height Precision	±0.2mm
Window Width Precision	±0.2mm



# FULLY ASSEMBLED CORES

FOR ALL OUTPUTS AND PURPOSES



▲ Power Transformer Core



◀ Single - Phase Power Transformer Core

Power Transformer Core ▶





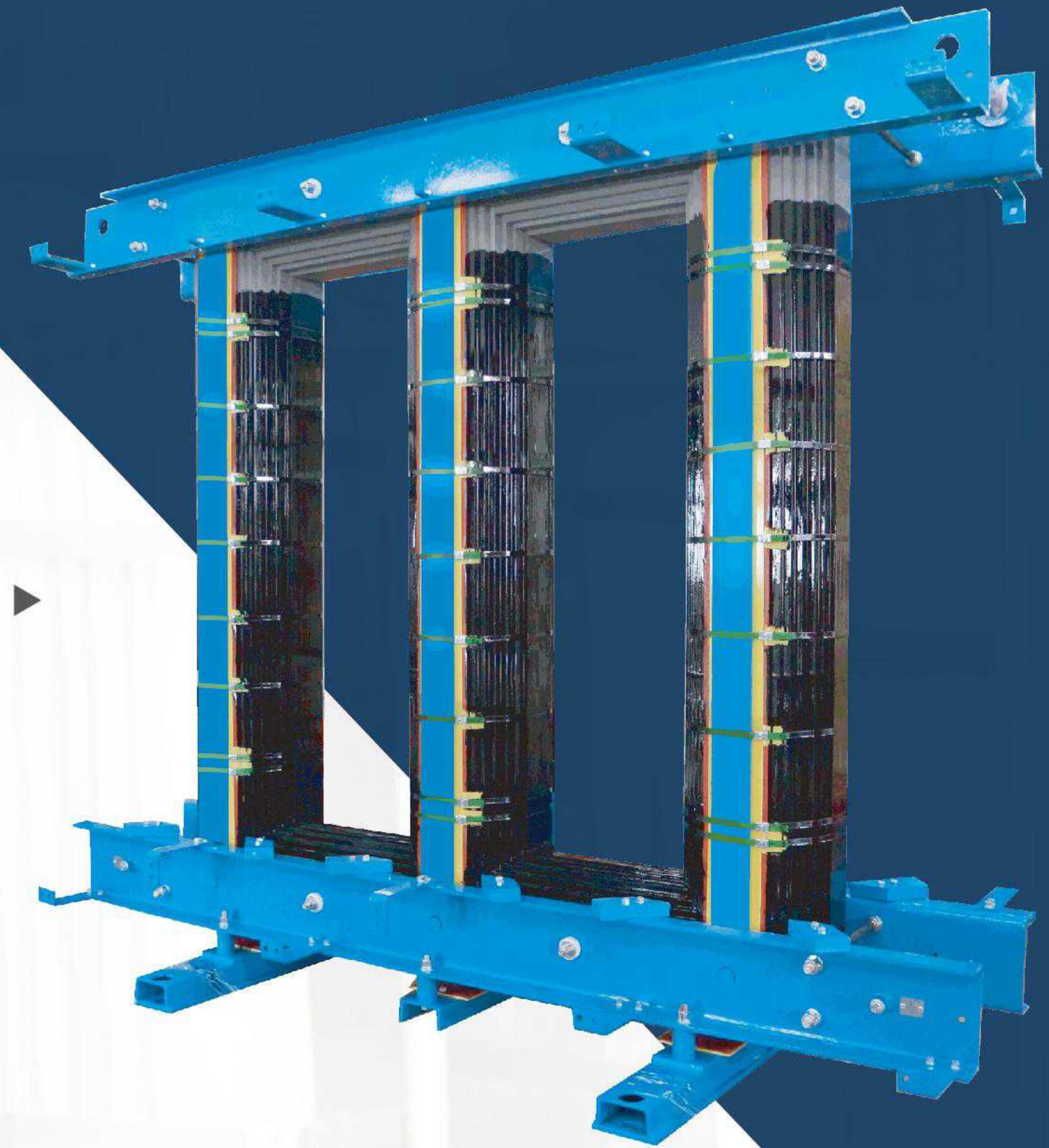
# FULLY ASSEMBLED CORES

FOR ALL OUTPUTS AND PURPOSES

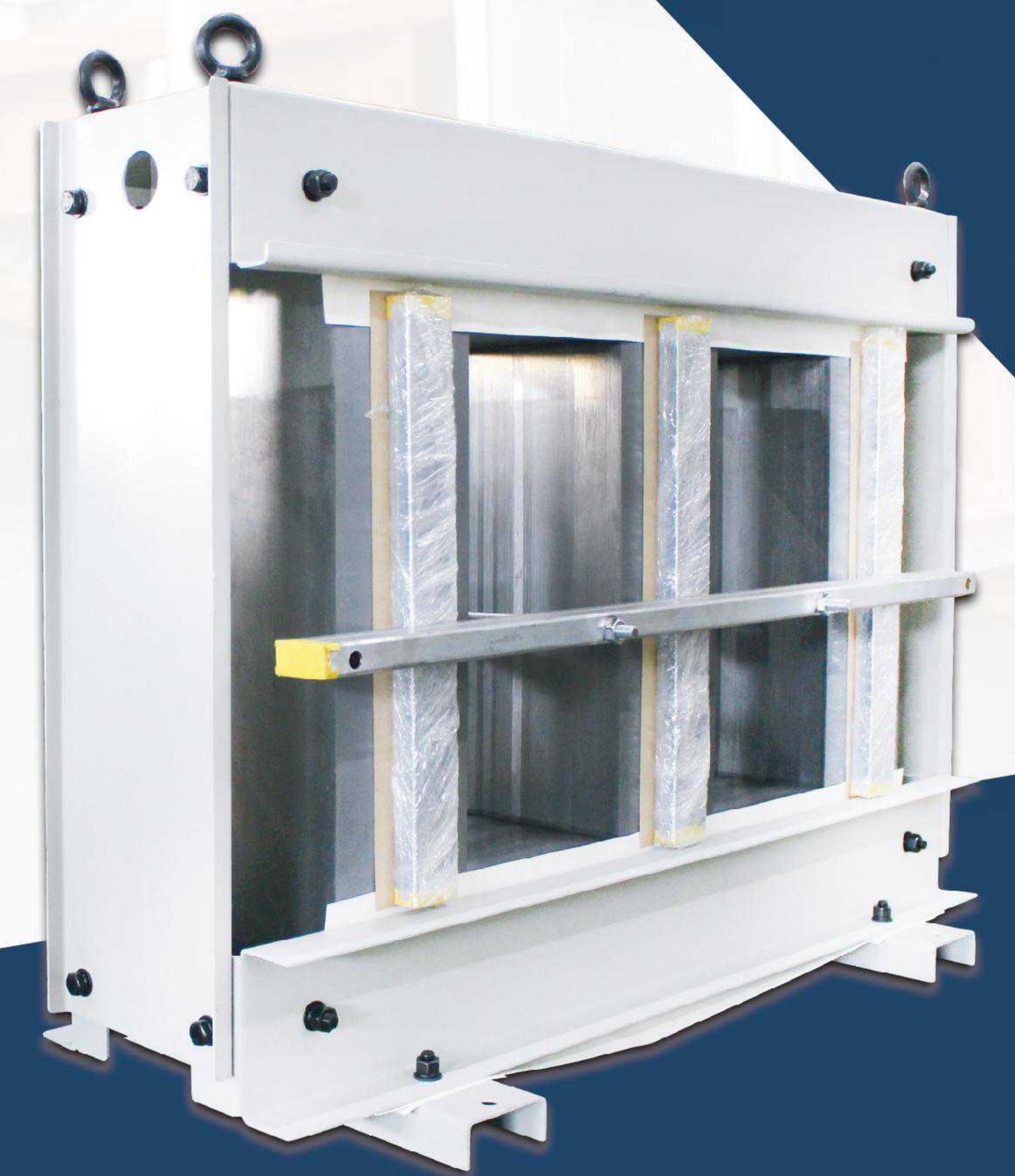


▲ Dry - Type Cast Resin Transformer Core

► Dry - Type Cast Resin Transformer Core



► Oil Distribution Transformer Core





# PRODUCT PACKING AND PROTECTION



To ensure a perfect delivery of PTTX's crafted products, a professional and dedicated team is responsible for packing and transportation. By using professional protective package materials, effective loading measures, PTTX will make sure that all of the products will be securely protected during transportation, so that the products are delivered to clients in time, perfect as they were.



# OUR SERVICE SYSTEM



**LAND / OCEAN / AIR TRANSPORTATION  
TAILOR MADE SOLUTIONS TO OPTIMIZE THE LEAD TIME AND  
TRANSPORTATION COST**

## SERVICE CONTENT

PTTX always adheres to the commitment of high standard, best quality, high efficiency and value-added production methods in the whole production process. With the heart of craftsmanship, PTXX is making efforts to craft every small detail into perfection. It is ready to serve clients around the world with timely response and competitive tailor-made solutions.

## TECHNICAL SERVICE

PTTX provide professional value-added technical service to not only transformer core itself, but also to transformers as a whole. Our experienced technical professionals will analyze clients' design, and provide competitive technical solutions for every order, to make sure that clients' will enjoy the best quality and performance with reasonable cost.

## SALES SERVICE

PTTX will directly import clients' orders into SAP system, monitor and trace the entire production process of all clients' orders during any time of the production. Orders will be executed in time, to ensure minimum lead time and perfect delivery.

## AFTER SALES SERVICE

At any time, clients' voices are very important for PTXX. These valuable feedbacks will make PTXX understand what clients' really want, so that PTXX could provide services that will exceed clients' expectations. PTXX will always work seamlessly with clients and build trust through timely value-added services. Our commitment to clients will make sure that our clients will always be satisfied with PTXX.



# WORLD-LEADING SOLUTION PROVIDER FOR ENERGY EFFICIENT TRANSFORMER CORES.



## SOCIAL RESPONSIBILITIES

By taking initiatives to practice responsibilities to clients, employees, and the society, PTTX was one of the first companies in this industry to gain full-set quality management certificates of ISO 9001:2015, ISO 14001:2015 and OHSAS 18001:2007, and ISO 26000. Shortly after its foundation, PTTX became one of the few members of UN Global Compact, aligned its strategies and operations with universal principles on human rights, labor, environment and anti-corruption, and take fundamental actions that advance societal goals.

PTTX is doing its best to develop energy sustainable, green and ecological transformer cores which save energy consumption and reduce carbon emission by offering better no-load performance. In 2017, there are 1,100TWh of electricity wasted globally due to the loss of transformers, accounted for nearly 4.8% of world total electricity consumption, causing more than 700 million tons of extra greenhouse gas emission. This has a huge impact on our global ecosystem. With its fast-growing market, PTTX is playing a more and more important role to protect our ecosystem by promoting energy efficient transformer cores to more and more clients around the globe.