KIOXIA LIGHT RING EQUIPMENT GROUP CO.,LTD.
TEL/WhatsApp: +86 17622605414
Mail: admin@transformercoilwindingmachine.com
Web:www.transformercoilwindingmachine.com

NAME： KX-800PM Vacuum Potting Machine



11

KIOXIA LIGHT RING EQUIPMENT GROUP CO.,LTD.

TEL/WhatsApp: +86 17622605414

Mail: admin@transformercoilwindingmachine.com

Web:www.transformercoilwindingmachine.com



KIOXIA LIGHT RING EQUIPMENT GROUP CO.,LTD.

TEL/WhatsApp: +86 17622605414

Mail: admin@transformercoilwindingmachine.com

Web:www.transformercoilwindingmachine.com



We independently developed the core dual-cylinder plunger pump technology and successfully launched the world’s first plunger pump potting machine. KIOXIA plunger pumps act as the core of the new generation fluid metering

and control system, compatible with fluids of various viscosities, and suitable for liquid-liquid mixing as well as solid-liquid mixing applications. This innovative technology drives dispensing equipment to develop toward high filler content, ultra-high precision, high viscosity media, easy-to-crystallize materials, large flow output and inline automated production lines.

In 2015, we launched the core intelligent potting technology and released the world's first intelligent potting machine to realize intelligent glue filling and smart manufacturing. The global manufacturing industry is undergoing transformation. Customized client demands, differentiated processes, tailor-made production and digital workshops have become mainstream trends. The intelligent potting technology integrates five major module functions: computing, communication, control, remote coordination and autonomous operation. It accelerates the upgrading of intelligent equipment and helps customers build smart factories.

Our company takes the leading position in core technologies of four major categories: potting machines, glue mixing machines, dispensing machines and coating machines. We supply more than 20 models covering four series: manual, semi-automatic, fully automatic and non-standard customized equipment. Our machines are widely applied in LED lighting, new energy, automotive electronics, power supplies, general electronics, capacitors, transformers, ignition coils and many other industries.

Core Technology

KIOXIA LIGHT RING EQUIPMENT GROUP CO.,LTD.

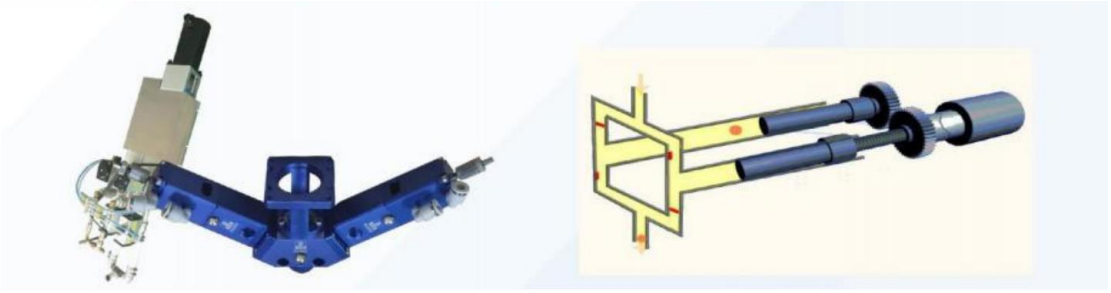
TEL/WhatsApp: +86 17622605414

Mail: admin@transformercoilwindingmachine.com

Web:www.transformercoilwindingmachine.com

Pump Type	Accuracy(Instant dispensing accuracy, frequent start-stop precision)	Adjustable Parameters(Adjustable output flow & mixing ratio)	Continuous OutputUninterrupted dispensing, no commutation delay, good real-time performance)	Service LifeAbrasion resistance, maintenance & replacement difficulty	Applicable RangeFluid viscosity, solid-liquid mixing, fluidity	Applications
Gear Pump	High pressure leads to real-time internal leakage & backflow; not suitable for large-volume output and frequent start-stop	Adjustable	Continuous output	Gear parts wear easily, non-repairable, whole pump replacement required	Only for low-viscosity fluids	Simple machinery with fixed flow and fixed mixing ratio
Screw Pump	Internal leakage exists; not applicable for micro-volume dispensing and frequent start-stop	Adjustable	Continuous output	Stator & liner inner wall prone to abrasion and corrosion; high installation precision, difficult to replace	For large-particle solid-liquid mixtures & high-viscosity fluids	Fluid transmission only, not for high-precision metering
Dahen g Plung er Pump	Supports both micro & large-volume dispensing, stable under frequent start-stop	Wide adjustable range	Continuous ou tput	Wear-resistan t & anti-corrosion	Compatible with full viscosity range, suitable for solid-liquid mixed fluids	Wide range of industrial applications

KIOXIA LIGHT RING EQUIPMENT GROUP CO.,LTD.
TEL/WhatsApp: +86 17622605414
Mail: admin@transformercoilwindingmachine.com
Web:www.transformercoilwindingmachine.com



I.Vacuum Potting Machine (Model KX-800PM)

Workpieces are placed inside a sealed vacuum chamber. A vacuum pump evacuates air to create a preset negative pressure environment inside the chamber, followed by automatic glue dispensing. This machine is designed to eliminate air bubbles — a common defect of atmospheric potting. Air voids inside finished products will cause internal cavities, reduced insulation performance, poor thermal conductivity and uneven surface finish.

1.The machine consists of three core assemblies: automatic glue mixing unit, vertical vacuum chamber, auxiliary cabinet & accessories.

1.1 Glue Mixing Unit: Performs pre-treatment of glue materials including heating, stirring and vacuum defoaming. Metering pumps deliver glue to the vacuum chamber at the mixing ratio and output volume preset by the control program.

1.2 Vacuum Chamber Assembly: Comprises sealed vacuum tank and vacuum control system.

1.3 Auxiliary Cabinet & Accessories: Integrated cabinet for vacuum pump, cleaning bucket and other fittings. Sound insulation cotton is lined inside all cabinet doors for noise reduction.

1.4 This unit is an offline standalone machine requiring manual loading & unloading. Operators manually place workpieces into the vacuum chamber and take them out once potting is completed.



II. Automatic Glue Mixing Machine

The automatic glue mixing machine realizes glue storage, proportioning, metering and mixing, and supplies glue to the dispensing gun inside the vacuum chamber. The machine frame is welded with square steel; all cabinet doors are electrostatically sprayed sheet metal, and the worktop adopts stainless steel plate.

1.Technical Parameters

1.1 Glue tank volume: Tank A 40L, Tank B 25L
1.2 Vacuum defoaming: ≤500 Pa (absolute vacuum)
1.3 Vacuum pumping rate: 8 L/s
1.4 Constant temperature heating: Ambient temperature ~ 80℃ (for A & B glue tanks, A & B hoses, Pump A)
1.5 Mixing ratio range: 1:1 ~ 10:1
1.6 Dispensing flow rate: 1 g/s ~ 12 g/s
1.7 Mixing & metering accuracy: ≤2%

1.8 Mixing type: Dynamic mixing (with monitoring for stirring motor and mixing tube)
1.9 Cleaning mode: Automatic cleaning
1.10 Cleaning bucket volume: 6.5 L
1.11 Metering system: PLC controlled dual-cylinder plunger pump
1.12 Operation mode: Digital setting via touch screen (ratio, flow rate, pressure, etc.)



2. Glue Storage Tanks

Component A and component B adhesives are stored separately inside the machine. Pre-treatment of glue is required before dispensing to meet potting

process standards, which can be completed directly inside the A/B sealed storage tanks. For unused leftover glue, the tanks can be evacuated to vacuum for sealed storage.

2.1 Vacuum Defoaming: Extract dissolved air inside adhesives; defoaming duration can be digitally set on the touch screen.

2.2 Automatic Feeding: Insert the suction tube into raw material barrels; the machine automatically pumps glue into the storage tanks.

2.3 Constant Temperature Heating: Heating plates are fitted on tank bottom and inner wall; heating auto-starts and stops once target temperature is reached.

2.4 Tank Agitation: Prevent glue sedimentation and oil-water separation, ensuring uniform temperature across all glue inside the tank.

2.5 Liquid Level Alarm: Triggers alarm and halts feeding at low liquid level; cuts off automatic feeding when high liquid level is reached.

2.6 Drying Filter: Specially for B-component hardener, blocks moisture from air entering the tank to avoid glue crystallization.

2.7 Debris Filter: Stop solid impurities from flowing into pumps to prevent pump or pipeline blockage.

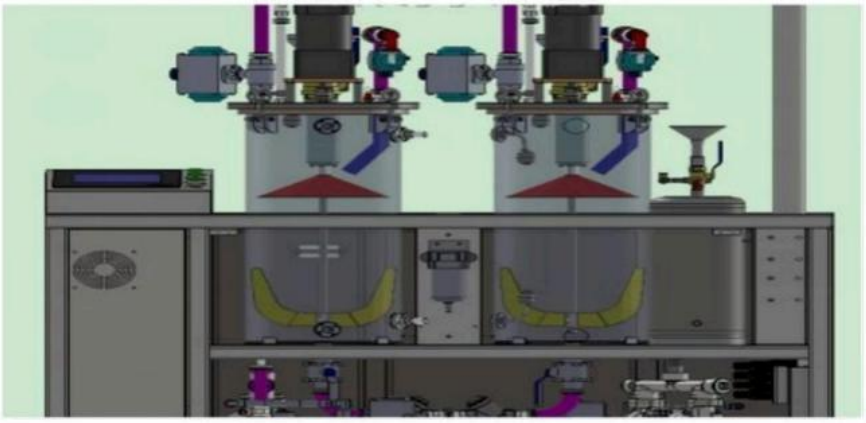
Vacuum Defoaming (Thin Film Defoaming)

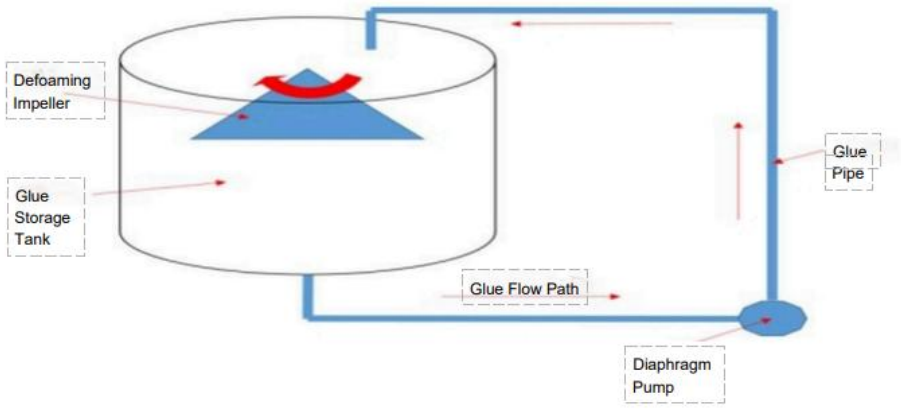
2.8 For processes with strict defoaming requirements, thin film defoaming is adopted as the pre-treatment method for adhesives.

2.9 As shown in the figure above, a defoaming impeller is installed on the stirring shaft of both A and B glue tanks. Each tank is equipped with circulation pipelines, glue circulation pumps, as well as matching valves and detection switches.

2.10 When the defoaming program is activated, the tank stirring function turns on. The glue circulation pump circulates adhesive from the tank bottom up to

the liquid surface and pours it onto the rotating defoaming impeller. Driven by centrifugal force, the glue spreads outwards in a thin film. Meanwhile, the tank is kept under negative vacuum pressure, so dissolved air trapped inside the adhesive can be extracted more efficiently by the vacuum pump. This delivers superior defoaming performance compared with conventional defoaming methods.





3.Metering Pump (Dual-Cylinder Plunger Pump)

The glue metering pump serves as the core component of the potting machine and plays the most critical role in the whole equipment. Our machine adopts Daheng dual-cylinder plunger pumps for glue supply. The pump forms sealed chambers with cylindrical plungers and cylinder bores. Flow rate can be adjusted simply by changing the plunger stroke, which facilitates variable output and delivers ultra-high mixing ratio precision. Compared with gear

pumps and screw pumps, plunger pumps feature superior wear resistance, stable operation and higher precision. This innovative glue feeding solution extends the equipment service life and prolongs machine replacement cycles.

3.1 Fixed-volume cylinder metering system with high mixing ratio accuracy (±1%), suitable for proportioning two-component materials of medium & low viscosity.

3.2 Graphite sealing assembly with self-lubricating property, extending pump service life and resisting corrosion.

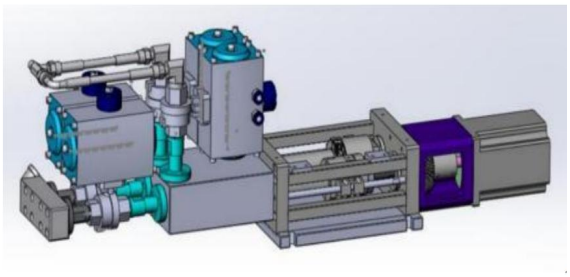
3.3 Advanced system control supports precise programming of dispensing output, and multiple potting programs can be pre-stored.

3.4 Control system module with built-in self-diagnosis function enables rapid fault detection.

3.5 Matching different metering cylinder combinations meets variable mixing ratio demands ranging from 1:1 to 10:1.

3.6 The dual-cylinder plunger pump is an invention patent of Zhengqi. Its unique structure delivers excellent performance for high-filler and high-density adhesives.





4. Comparative Analysis of Metering Pumps

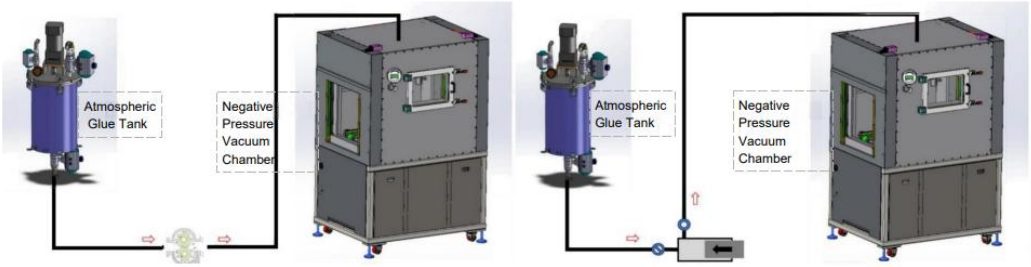
As the core component of potting machines, the type of metering pump determines its applicable working scenarios.

Gear Pump: Not applicable for filler-containing adhesives; greatly affected by external working conditions. Gear parts wear easily and cannot be repaired. It features simple structure and low cost.

Screw Pump: Suitable for high-viscosity adhesives with fillers; sensitive to external environments and unfit for high-precision metering. Stators and rotors are prone to abrasion, so it only applies to working conditions requiring large glue output.

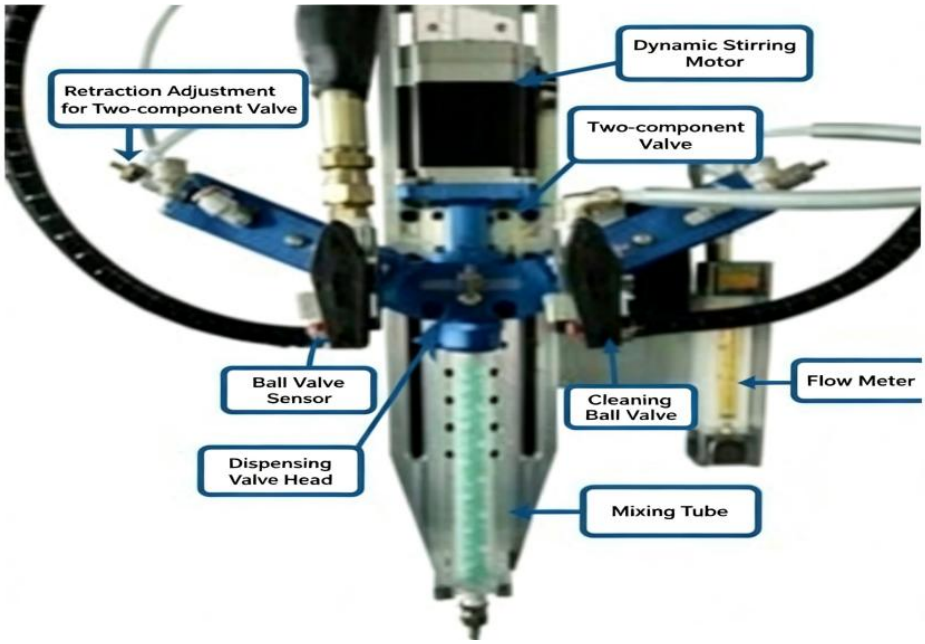
Dual-Cylinder Plunger Pump: Compatible with medium & low viscosity adhesives with fillers, supports high-precision metering and covers a wide range of applications with low operation costs.

Comparative Analysis of Metering Pumps under Vacuum Potting Environment



During operation of gear pumps and screw pumps, the pump inlet and outlet stay interconnected all the time. When a plunger pump is dispensing, its inlet is closed while the outlet opens. Under vacuum potting conditions, there is a huge pressure difference between the external glue tank and vacuum chamber, which will interfere with metering accuracy.For gear pumps (or stators & rotors of screw pumps), abrasion will widen internal clearances. The existing pressure difference further amplifies metering errors and leads to inaccurate mixing ratios. In contrast, dual-cylinder plunger pumps are immune to pressure difference interference and maintain stable metering performance continuously.

5. Dynamic Mixing



6 .Anti-Curing Function

For short-time equipment shutdown, the machine can perform automatic glue purging based on the adhesive reaction time preset by users. Both purging duration and purging volume are adjustable, which prevents mixed glue from solidifying inside the mixing tube.

6.1 The dynamic stirring motor drives the stirring shaft to rotate at a high speed of 2000 RPM to fully mix component A and component B adhesives.

6.2 It is provided with monitoring and alarm functions for the stirring motor.

6.3 It features an alarm function for abnormal operation of mixing blades inside the mixing tube.

6.4 The A and B glue valves are retractable mixing valves, which realize zero dripping when glue output stops.

6.5 The split structure of A/B glue valves lowers long-term maintenance costs.

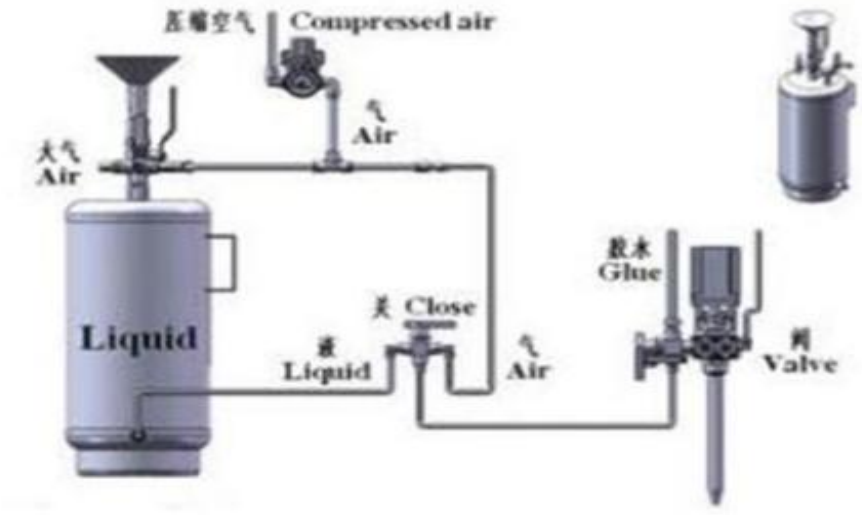
6.6 All moving chambers of the valve body and valve head adopt grease sealing. Regular grease injection is required to expel residual glue trapped inside the chambers, so as to avoid abrasion of sealing components caused by solid particles generated from glue reaction.

7. Automatic Cleaning

7.1 When the machine will be idle for a long time, the full-automatic cleaning function shall be activated. The built-in cleaning unit cleans the two-component valve and mixing tube to prevent cured adhesive blockage inside these components.

7.2 The cleaning standard is to blow dry air without moisture through the pipeline after cleaning.

7.3 The mixing tube requires no disassembly, which reduces replacement frequency of mixing tubes and cuts down overall production costs.



III. Vacuum Chamber

1. Vacuum Tank

1.1The base frame is welded with square steel, and the vacuum chamber body is fabricated by steel plate welding. All cabinet doors are electrostatically sprayed sheet metal.

1.2 All pipelines entering and exiting the vacuum chamber adopt flange connections to enhance the overall sealing performance.

1.3 Observation windows are installed on all chamber doors.

1.4 LED lighting fixtures are mounted on the top of the chamber. 1.5 A digital vacuum gauge is equipped and connected to the PLC. Multiple vacuum levels can be set within one potting program, supporting repeated potting and pressure relief glue refilling functions.

2. Vacuum Dispensing Valve

2.1 Special vacuum dispensing valve cuts off glue cleanly without stringing or dripping. 2.2 The vacuum valve is cleaned via automatic cleaning cycles to avoid blockage caused by residual cured glue inside the valve body. 2.3 The dispensing valve is fitted with valve switch detection function.

3. Technical Parameters

3.1 Internal dimension: 500×500×650 mm (customizable per customer's requirements) 3.2 Load capacity: ≥100 kg 3.3 Dispensing flow rate: 1 g/s ~ 12 g/s 3.4 Metering accuracy: ≤2% 3.5 Vacuum degree: ≤100 Pa 3.6 Pumping speed: 200 m^3/H

IV. Main Component Brands

No.	Category	Brand
1	Machine Cabinet	Custom Self-made

No.	Category	Brand
2	Temperature Controller	Yudian
3	Photoelectric Switch / Sensor	Panasonic
4	PLC	Panasonic
5	Touch Screen	MCGS
6	Motion Control System	Jieshi / Yabin
7	Ball Screw	TBI / Yintai
8	Stepping Motor	Leadshine / Yako
9	Motor Driver	Leadshine / Yako
10	Vacuum Pump	Fiyue
11	Pneumatic Components	Airtac / SMC
12	Electrical Components	Idec / Omron / Chint, etc.
13	Vacuum Control System	KIOXIA
14	Dual-Cylinder Plunger Pump	KIOXIA
15	Dynamic Two-Component Valve	KIOXIA
16	Pressure Monitoring System	KIOXIA
17	Control Program	KIOXIA

V. Manufacturing Specifications

1. Mechanical Requirements

1.1 The design, manufacturing and inspection of the equipment shall comply with relevant Chinese laws, regulations and standards.

1.2 In case of equipment malfunction or failure, necessary protective functions shall be equipped to keep the equipment and workpieces in a safe state, and historical alarm records shall be displayed on the operation interface.

1.3 The structural design for equipment operation, handling and maintenance shall follow ergonomic principles. All exposed parts are free of sharp edges and corners, and the design & fabrication meet relevant equipment safety design codes.

1.4 Rotating components shall be properly enclosed. Clear warning signs shall be posted on heat-generating surfaces and power-related areas.

2. Electrical Requirements

2.1 The safety performance of the electrical system shall conform to corresponding national standards of China.

2.2 Critical faults and abnormal conditions trigger automatic audible and visual alarms together with equipment shutdown, while alarm messages are displayed on the touch screen. 2.3 The equipment shall not start automatically after power restoration; manual intervention is mandatory to resume operation.

2.4 Emergency stop buttons are installed on the operation panel and control cabinet, within easy reach of operators at normal working positions.

2.5 Wiring and pneumatic piping layout shall comply with specifications. No cables or pipes touch the ground; all electric wires are marked with wire numbers, and pneumatic pipelines carry clear identification labels.

2.6 The machine is equipped with complete safety protection measures including motor overload protection devices.

VI. After-sales Service

The whole machine is covered by a one-year warranty commencing from the date of equipment acceptance.

1.Within the warranty period, all repairs caused by equipment quality defects are free of charge. The supplier shall respond to service requests within 2 hours. If on-site maintenance is required, engineers shall arrive for

maintenance within 24 hours as mutually agreed by both parties. Special circumstances shall be settled through negotiation between both parties.

2.After the expiration of the product warranty period, the equipment supplier shall provide free ongoing technical support for the delivered equipment. Service fees will be charged if on-site service is required.

APPLICATION:

A high speed automatic coil taping machine for application of insulation tape to wound coils. it is best suited to toroidal inductor, toroidal transformer, toroidal current transformer, toroidal coil, toroid choke coil, power inductors, power magnetics, UPS inductor, converter inductors, heavy toroidal core,etc.
The coil is placed by an operator on a rotating spindle, and the machine automatically applies the required number of turns of insulation tape, secures the end of the tape with a wiping action, and ejects the coil from the machine.
It's an accurately and reliability digital automatic toroid-taping machine. it is used for wraping the insulation tape on the toroidal core and windings.
Automatic Toroid Transformer Coil Taping Machine is designed to operate with a wide variety of insulation tapes, including Kapton, Polyester, PEN, PVC, PPS, and most other woven and non-woven types.

PRACTICAL APPLICATION :

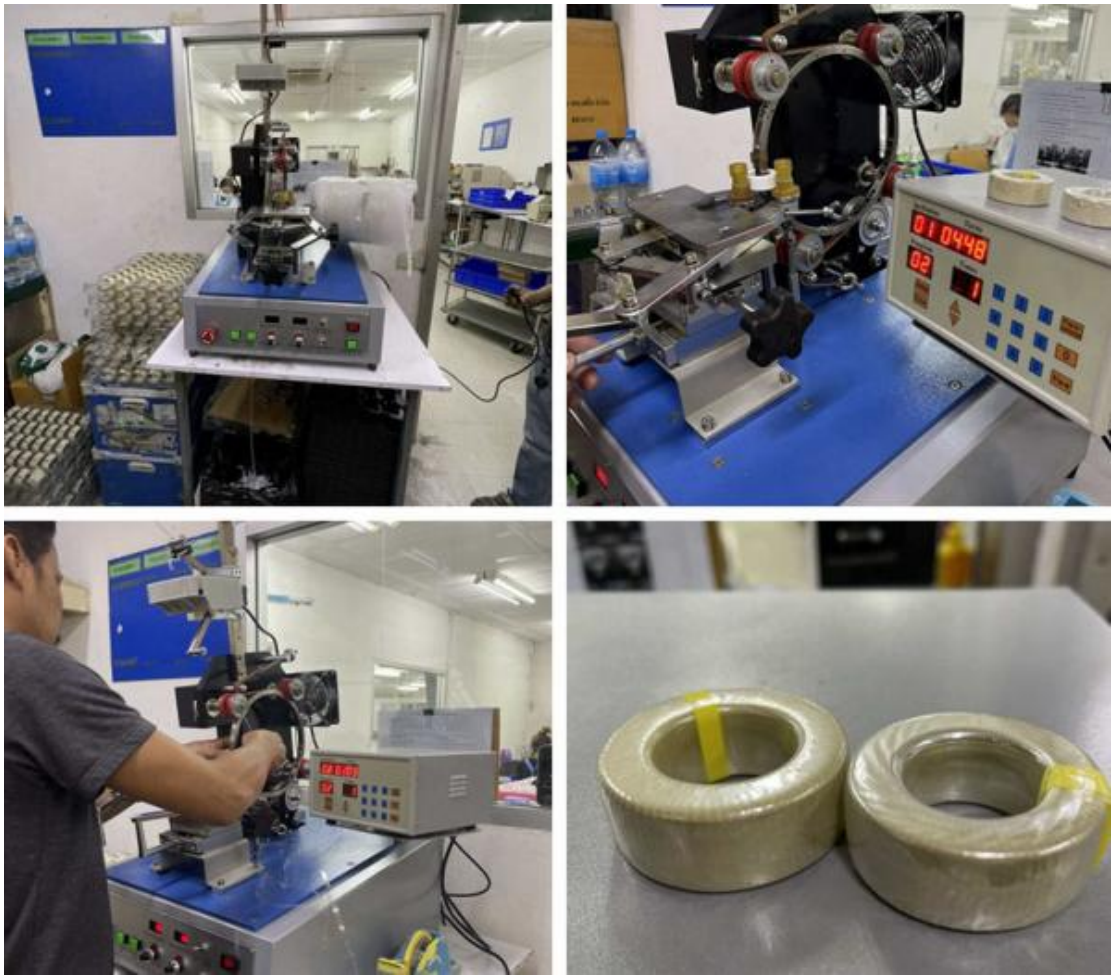
TRAINNING CUSTOMER TO OPERATE WINDING MACHNE :
1.All service engineers with 10 years experience are gotten special technolog y training, who can deal with various breakdown problem.
2.Guide the user to use accurately and how to maintain the Transformer core Taping Machine .
Provide free consultation about production process technology of electronic Hi gh Speed Winding Machine .
3.In order to guarantee the machine used normally, we'd have training on how to operate, use and maintain our product by English manual, video, guiding o n line.

KIOXIA LIGHT RING EQUIPMENT GROUP CO.,LTD.

TEL/WhatsApp: +86 17622605414

Mail: admin@transformercoilwindingmachine.com

Web:www.transformercoilwindingmachine.com



PACKAGING:



Packaging Material: Carton/Wooden case with foam inside.

1. General package(Paper carton or plastic bag): For small euipped parts for Eight Spindle Motor Coil Winding Machine, Package it with form and pack paper to guarantee unbroken during the transport.

2. Wooden case package: For larger scale Eight Spindle Motor Coil Winding Machine ,we have special skilled carpenter, who would make the proper wooden case with exact thickness, density, length. The up arrow ↑ marked on the outer wooden case.

Buffer material would be put in the wooden case to prevent crack and shock.

FACTORY:
We-KIOXIA LIGHT RING EQUIPMENT GROUP CO.,LTD. has 28 years of experience in winding machine lines. Our KIOXIA series (including the KX3B-L model) is equipped with ISO9001:2015 and CE certifications, proprietary machine patents, and the qualification of a government-recognized "high-tech enterprise".



KIOXIA LIGHT RING EQUIPMENT GROUP CO.,LTD.

TEL/WhatsApp: +86 17622605414

Mail: admin@transformercoilwindingmachine.com

Web:www.transformercoilwindingmachine.com



KIOXIA LIGHT RING EQUIPMENT GROUP CO.,LTD.

Add: Building G, No.209 Zhonghuan East Road, Free Trade Zone (Airport Economic Zone), Tianjin