



AR MACHINERY
Woodworking Technology

AUTOMATIC EDGE BANDING PROEDGE NC680-GCLP-2KM-AR



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EDGE SOLUTION BANDING

COMPANY PROFILE

IMAI SUPER Group, founded in 2012 by Mr. Wang Zeyi, is a leading Chinese manufacturer of high-end edge bander woodworking machines and complete plant automation solutions.

With a main factory spanning 77,000 sqm, the group integrates R&D, production, sales, and service across three advanced facilities.

IMAI specializes in double glue pot systems, double-side edge banding machines, PUR solutions, intelligent servo-driven lines, and the latest magnetic technology for high-speed operations.

Trusted in over 40 countries, IMAI machines are built with world-class components from Siemens, ABB, Beckhoff, Festo, and others. As a long-term partner of AR Machinery, IMAI strengthens our shared vision to deliver exceptional quality, innovation, and precision to the global woodworking industry.





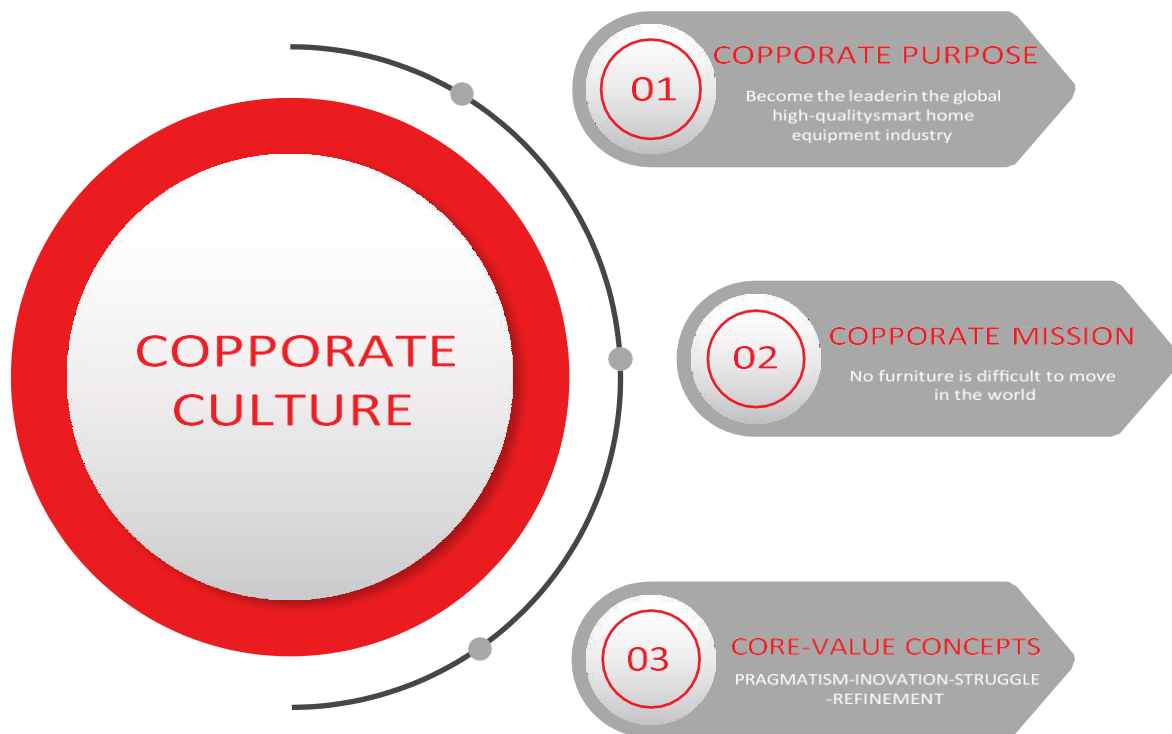
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Cooperation Brand



EDGE BANDING SOLUTION



EDGE BANDING SOLUTION EXPERT

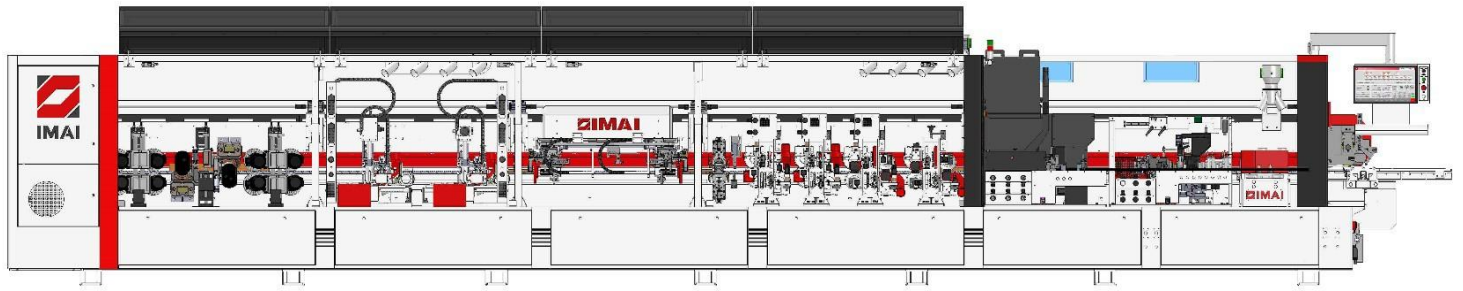


Image only for reference



Our mission and target

Let Chinese woodworking machinery serve the whole world

Create maximum value for customer

To give the best support for our client.

Main technical data

Panel width	≥40mm (narrow option)
Panel thickness	08-60mm
Edge tape thickness	0.4-2mm
Edge tape width	15-65mm
Feeding speed	16-23-32
Frequency	200Hz
Required air pressure	0.6MPa
Total power	40KW
Overall dimensions	10000×970×1970mm

MACHINE DETAILS AND CONFIGURATIONS

PROEDGE NC680-GCLP-2KM-AR is a fully automatic EVA, PUR and Laser purpose high-speed edge banding machine with a maximum speed of 32m/min.

This model has complete functions, stable and powerful system, intelligent operation control and high-speed and efficient production, and is suitable for mass production of panel furniture. Using high-quality materials and brand configurations, it can adapt to high and low temperature climates and other harsh environments for production and operation. It has the characteristics of stable production, low maintenance, and durability.

1. Production Line and Quality Control

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Our machines have successfully obtained the CE certification, confirming its compliance with European Union safety and quality standards.

This certification is a testament to our commitment to delivering high-quality, safe, and reliable machinery.

The CE mark ensures that our machine meets the necessary legal requirements, providing you with confidence in its performance and safety features.



AIRight

IMAI 速派

www.ar-machinery.international

The Caterpillar-style heavy-duty iron pressure beam with conveyor belt ensures exceptional rigidity, durability, and smooth high-speed panel conveying. Built from solid iron steel, both the main machine body and presser beam are engineered for heavy-duty industrial use, providing unmatched stability even under continuous 32m/min operation. The system includes a special dust extraction hood, preventing contamination of the panel surface and ensuring clean, precise edge sealing. The presser beam height adjusts automatically based on workpiece thickness—simply input the size on the touchscreen, and the settings are stored for future use—boosting both efficiency and processing accuracy.

Main Frame Body and Presser Beam

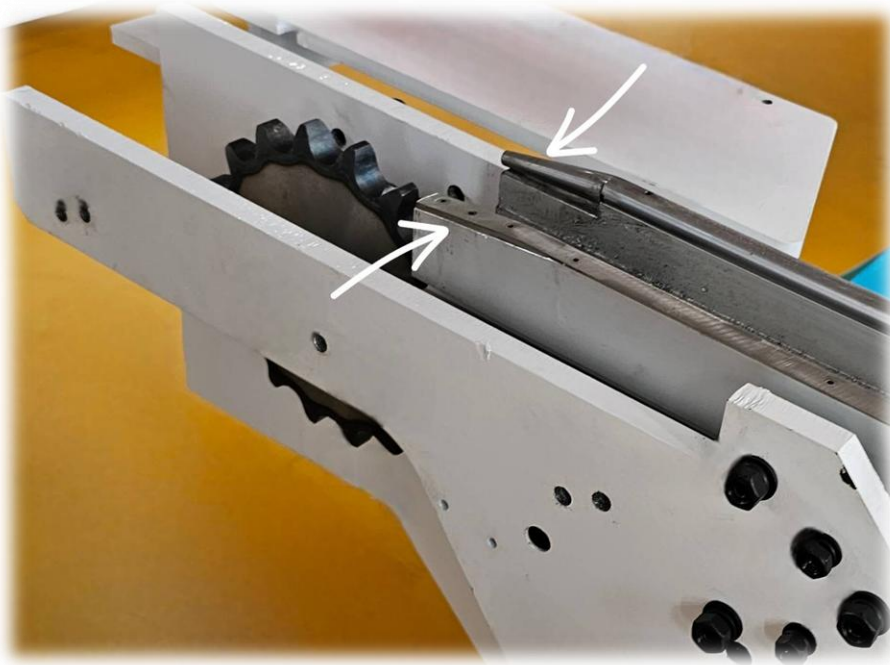
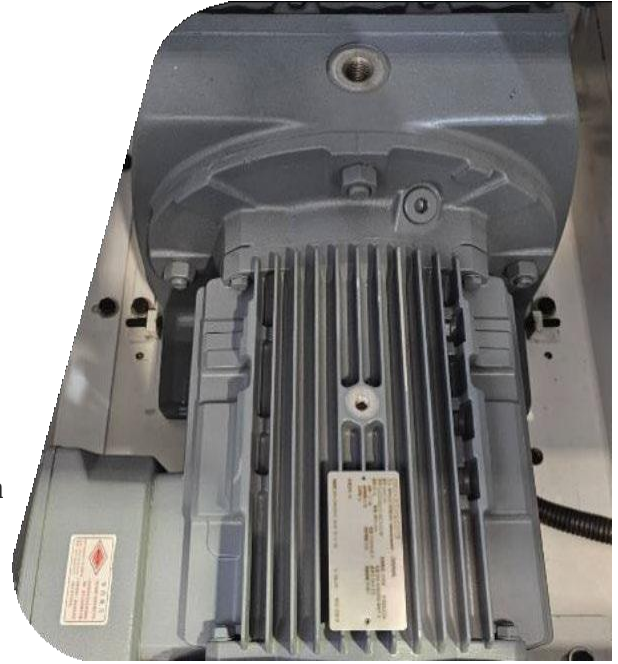


3. Conveyor

The **long straight semicircle guide rail** undergoes **precision hard treatment** before installation to ensure **perfect surface contact** with **minimal gap**, and it is fully **replaceable** for long-term maintenance. The **stretched support conveyor** is stabilized by **two high-rigidity steel rods**, securely linking it to the machine body to support **wide panels**.

A **high-thickness steel guiding plate** adds extra durability and enhances stability during edge banding operations, with **easy position adjustment**.

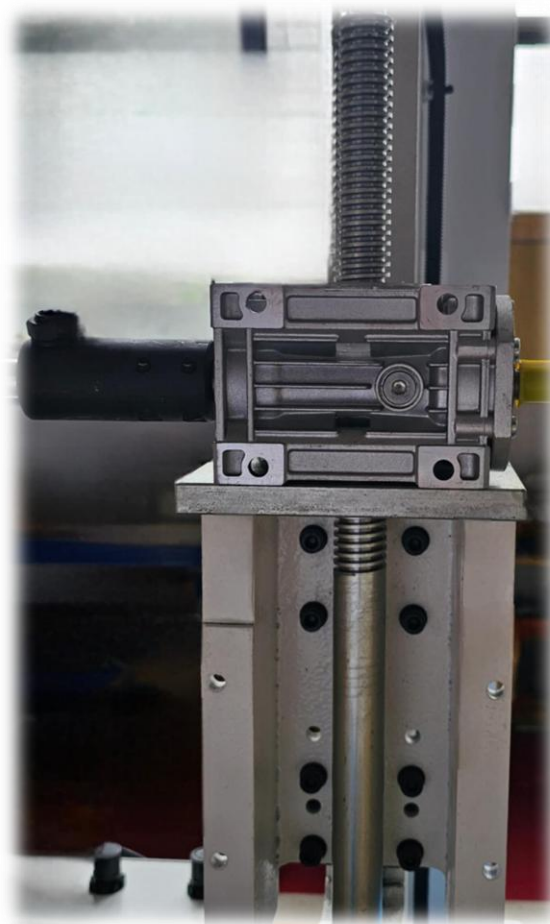
The system is powered by a **SEW EURODRIVE chain motor**, offering **variable frequency start-up**, **smooth operation**, and an integrated **braking system** for precise control. Designed for convenience, all parts are **easy to install and uninstall**, ensuring efficient setup and maintenance.





4. Quick Positioning of Pressure Beam – Fast, Accurate, and Efficient

The **pressure beam** features a **quick positioning system** driven by **1 motor with a 5-gear mechanism**, allowing it to shift into **five preset positions** with enhanced **accuracy, stability, and speed**. Adjustment values are selected automatically via the **main touchscreen**, enabling operators to **instantly set parameters based on workpiece thickness**. This system saves setup time, increases productivity, and ensures consistent performance during **high-speed edge banding operations**.



5. Safety and Thickness Limit System with Operator Support Features



The machine is equipped with a **safety and thickness limit system** designed to **prevent incorrect board positioning** and **avoid machine damage**.

It includes **anti-hand press protection** to safeguard the operator during production, minimizing the risk of injury.

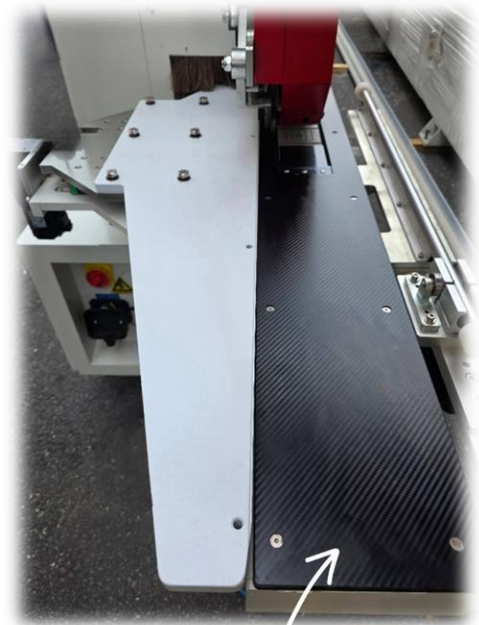
Additionally, a **rubber positioning wheel** assists operators in handling and aligning **long workpieces with ease**, enhancing both **safety and ergonomic efficiency** in daily operation.



6. Initial Feed In

The machine is equipped with a high-pressure laminate (HPL) anti-scratch plate, specifically designed for delicate or decorative panels.

This durable material ensures smooth panel guidance while preventing surface damage, making it ideal for high-quality edge banding on sensitive or high-gloss materials.



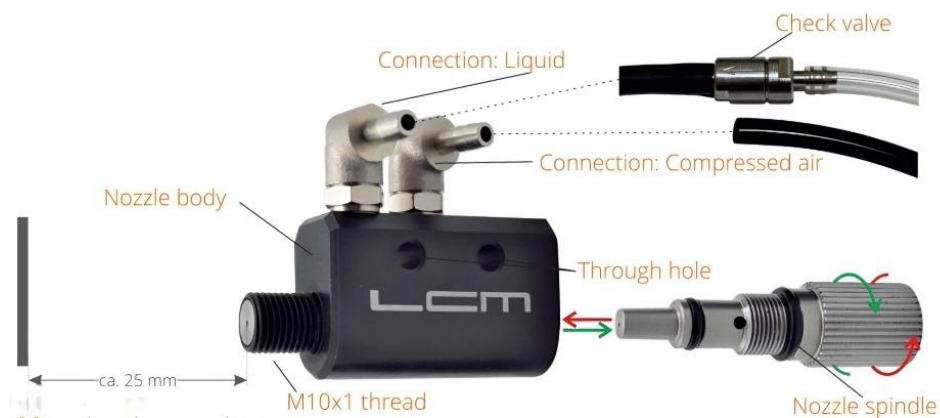


7. Separating Agent Spraying Nozzle - General LCM Brand

Installed before the **pre-milling section**, the **separating agent spraying nozzle** atomizes a fine mist to create a **protective barrier** on the board surface.

This prevents **hot melt glue overflow** during the edge banding process from contaminating the panel, significantly **reducing the need for post-cleaning**.

The system uses the **German LCM brand**, known for its **high efficiency and precision**. Its **narrow spray line** minimizes liquid consumption while delivering **superior glue protection and bonding quality**, ensuring a cleaner process and more professional finish.



8. Pre-milling Unit with Diamond Cutters & Advanced Dust Extraction



LEUCO

The **pre-milling unit** uses **diamond cutters** $\text{Ø}100 \times \text{H}48 \times \text{Ø}30 \text{ Z3+3}$ to precisely trim the workpiece edge before gluing, creating the **ideal surface for strong and clean adhesive bonding**.

It is powered by **2 × 3.7kW motors**, operating at **200Hz** with a **rotating speed of 12,000 rpm**, and is **servo-controlled via the adjustable initial fence** for precise depth control.

A **fully enclosed dust cover** and an **enhanced hood extraction system** ensure the machine remains clean during operation.

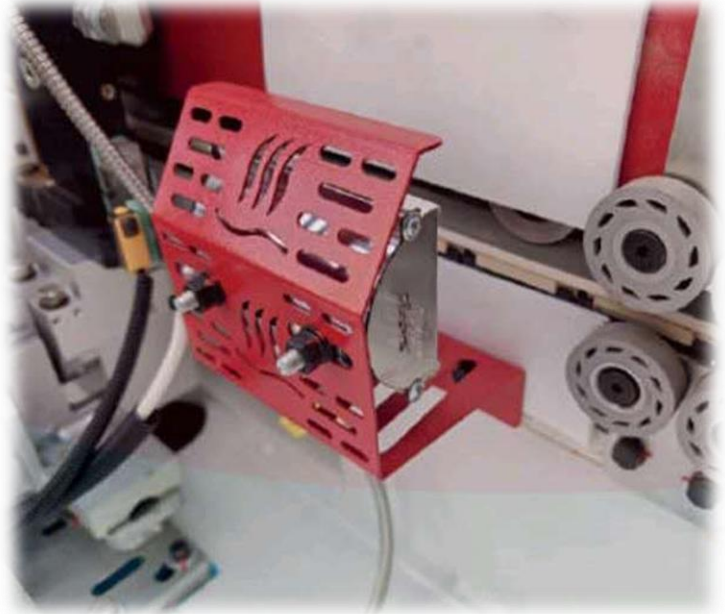
This advanced setup effectively removes wood dust, preventing contamination of the gluing unit and ensuring consistent **glue application quality and machine longevity**.



9. Infrared Baking Lamp – Enhanced Bonding Performance

The **infrared baking lamp** improves the edge banding process by **preheating the panel surface**, ensuring better glue penetration and stronger bonding—**especially beneficial in cold environments**.

This added heat promotes **faster glue activation** and enhances overall **adhesion quality**, resulting in a more reliable and consistent finish.



10. Dual Use Vertical Gluing Unit for EVA and PUR

This advanced **vertical glue unit** supports both **EVA and PUR glue systems**, offering versatility and performance in one compact solution.

- EVA Gluing Unit:

Based on **German technology**, it features a **non-stick glue pot** with an integrated **pre-melting system** and a **sensor for automatic glue refilling**, ensuring continuous operation and easy glue color changes.

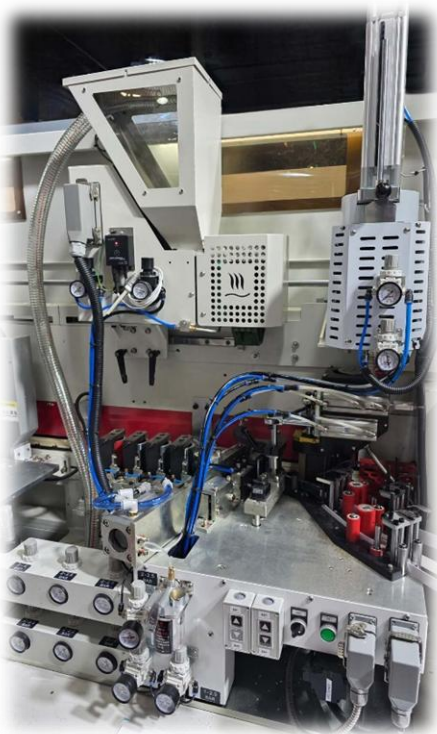
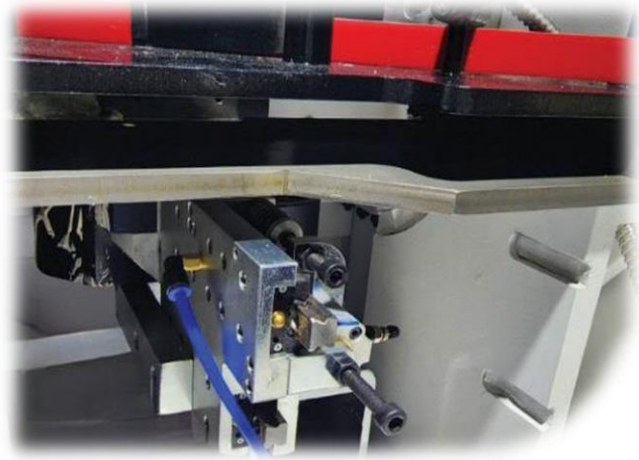
Includes a **pneumatic glue quantity control system** and **pneumatic roller closure** for clean, precise application.

A **pneumatic glue breaker** delivers clean edges even on panels as short as **20mm**, ensuring top-quality finishes.

- PUR Option:

Includes an optional **2kg PUR premelter**, allowing seamless switching to PUR glue for **moisture-resistant and heat-resistant bonding**.

This dual-use system offers **high bonding quality, efficient operation, and clean application**, ideal for both standard and high-performance edge banding tasks.





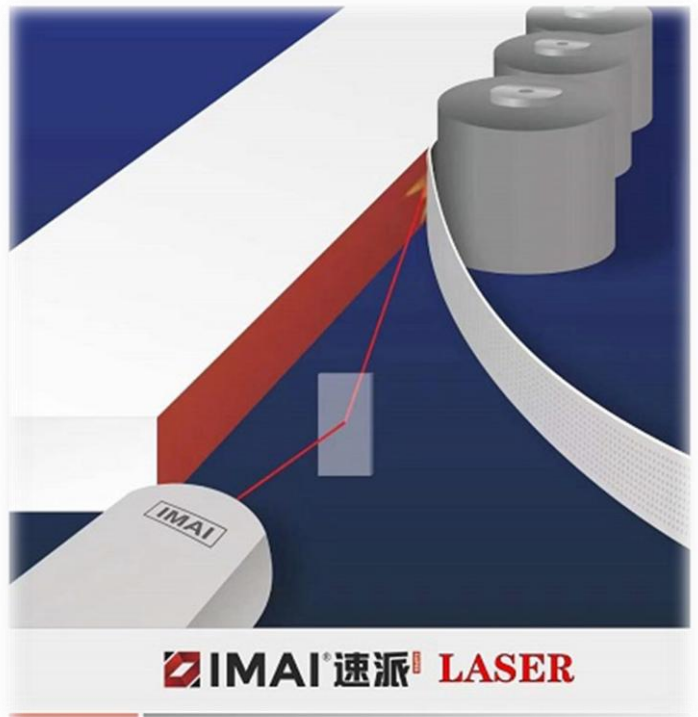
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11. Laser Edge Banding – Seamless & Waterproof Gluing Technology

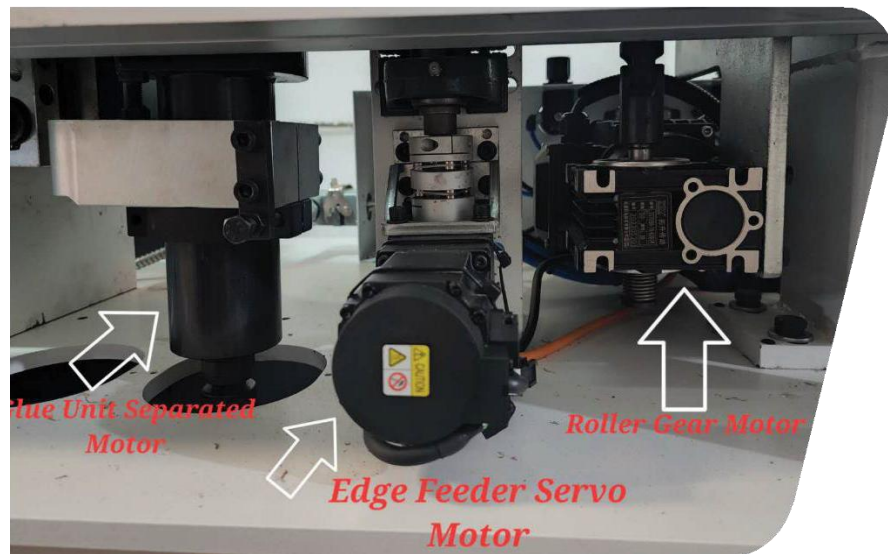
The **laser edge banding system** features a **self-developed adjustable rectangular laser beam**, fully integrated into the machine for **precision, glue-free edge bonding**.

By **instantly melting the pre-applied glue on the back of the edge banding strip**, the laser enables it to **fuse directly to the panel surface**, creating a **perfectly seamless, zero-glue line finish**.

The system automatically adjusts **energy output based on edge material**, ensuring optimal adhesion and consistency. This laser process is also a **waterproof solution**, making it ideal for **moisture-sensitive environments**, while delivering **clean aesthetics, durable bonding, and superior edge quality** without any manual glue application.



12. Servo tape feeding and Cutting – Dual System for EVA-PUR and Laser



The machine is equipped with **two high-precision servo-controlled tape feeding and cutting units**—one dedicated to **EVA + PUR** edge banding and the other for **laser edge banding**.

Driven by **servo motors**, the system ensures **accurate, smooth delivery and precise cutting** of edge banding tape, minimizing material waste and enhancing production efficiency.

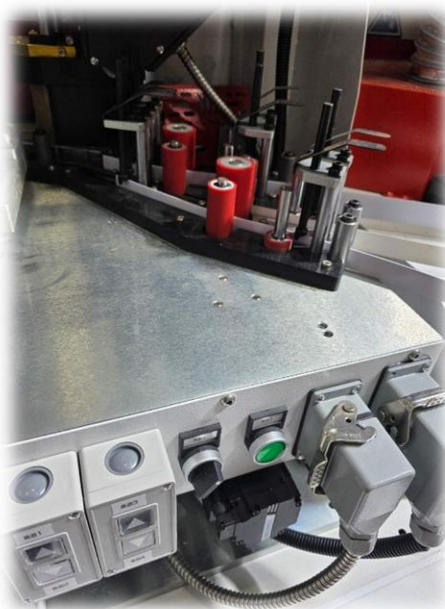
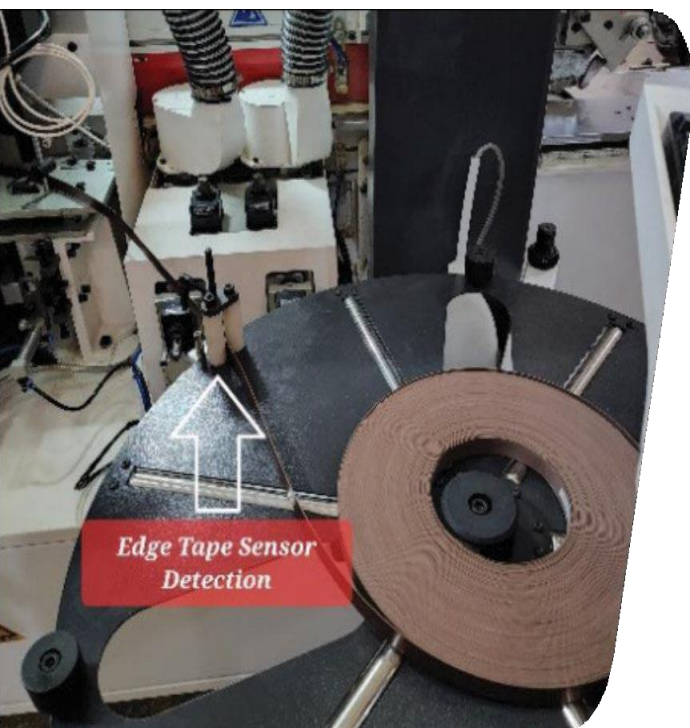
This setup guarantees **consistent tape positioning** and clean cuts, tailored for both **traditional glue-based and seamless laser applications**.

13. 4 Edge Tape Supporter with Fiber Optic Sensor & Multi-Channel Setup

The machine features a **high-quality edge tape supporter** positioned at the optimal height to ensure **smooth, tangle-free tape feeding** and **extended service life**.

Integrated with a **fiber optic edge tape detection sensor**, the system guarantees **accurate tape positioning** and **automatic feeding**.

Equipped with **4 dedicated edge channels**, it supports seamless operation for both **PUR and EVA glue units**, allowing quick switching between different edge materials and maximizing production flexibility and efficiency.



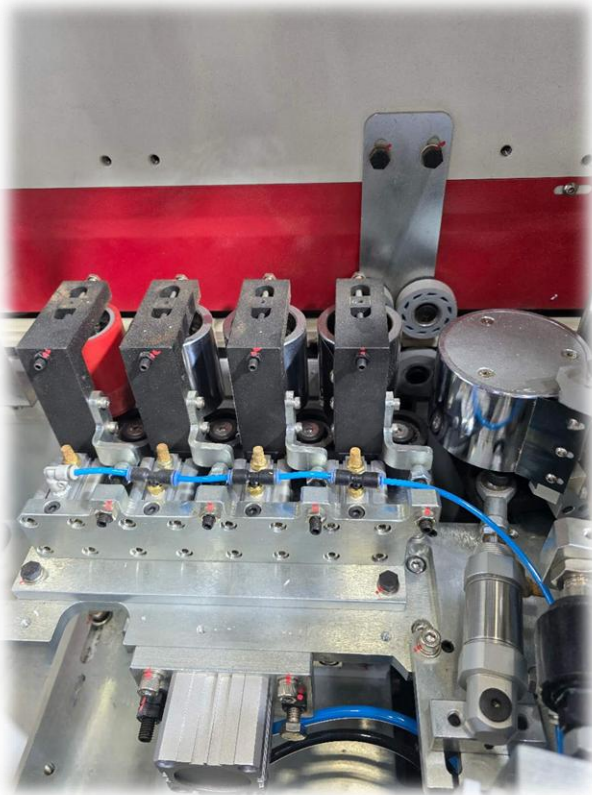
14. 2 Snipping and Pressing System with Glue Cleaning Integration

The machine includes **2 flexible snipping air cylinders** with **electronically controlled switches** to ensure **precise and clean cutting** of edge tape at both ends of the panel.

A **pre-pressure roller** and **four post-pressure rollers** firmly press the edge tape onto the panel surface for **perfect bonding**, even at high speeds.

The system also features an **automated cleaning unit** with a **spraying mechanism and scraping glue plate** to remove any **excess glue from the rollers**, maintaining consistent performance and cleanliness.

The **main pressure roller** is **servo-driven**, fully synchronized with the glue unit speed, ensuring **stable pressure application and consistent glue distribution** for high-quality edge sealing.





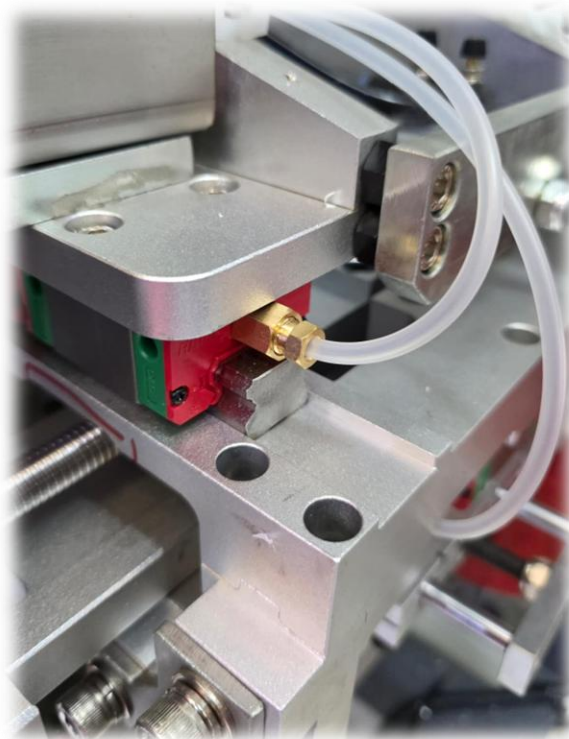
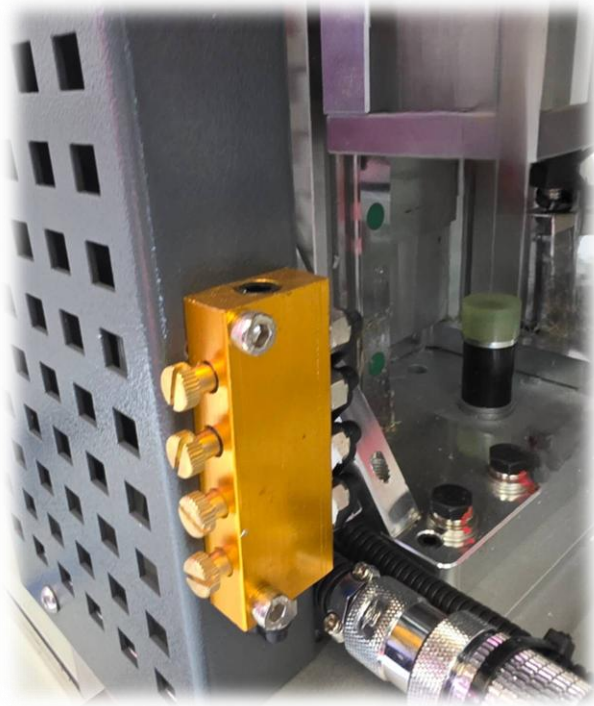
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15. Automatic Lubrication system

The machine features a **fully automatic lubrication system** designed for all **slide bearing components**, ensuring smooth and consistent operation.

This system supports **daily maintenance requirements** with minimal effort, reducing **wear and tear**, improving **machine longevity**, and helping to **minimize operational costs**.



16. Flat Rough Trimming Unit – Top & Bottom Edge Preparation

The **Flat Rough Trimming Unit** is designed to **remove excess edge banding material** from both the **top and bottom** of the panel edge, ensuring a clean and even surface before fine trimming.

Powered by **TEKNOMOTOR (Italy brand)**, this unit delivers **stable performance, high precision, and reliable durability**, making it essential for achieving **professional-quality edge banding results**.



17. Trimming Units

Trimming of edge banding materials such as PVC, with 4 servo axes from chamfering and rounding using the multifunctional tool

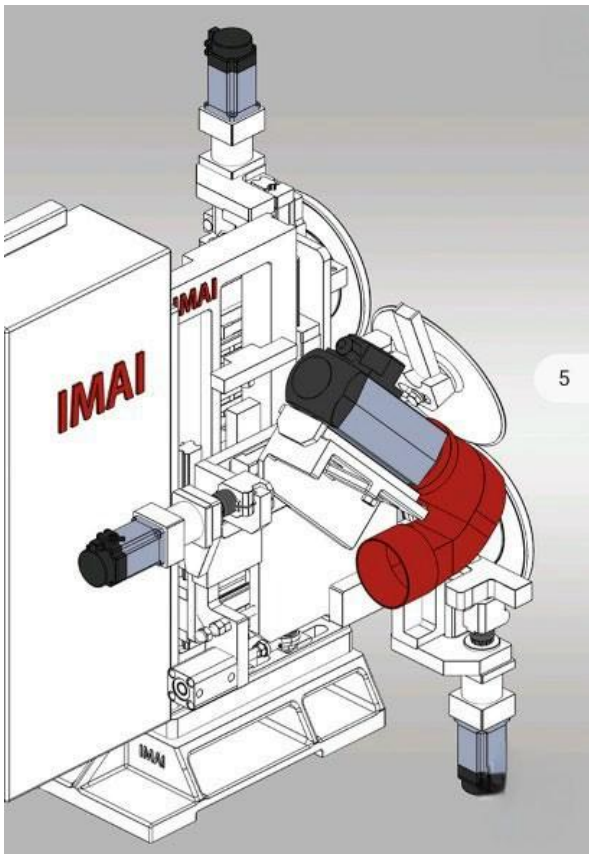
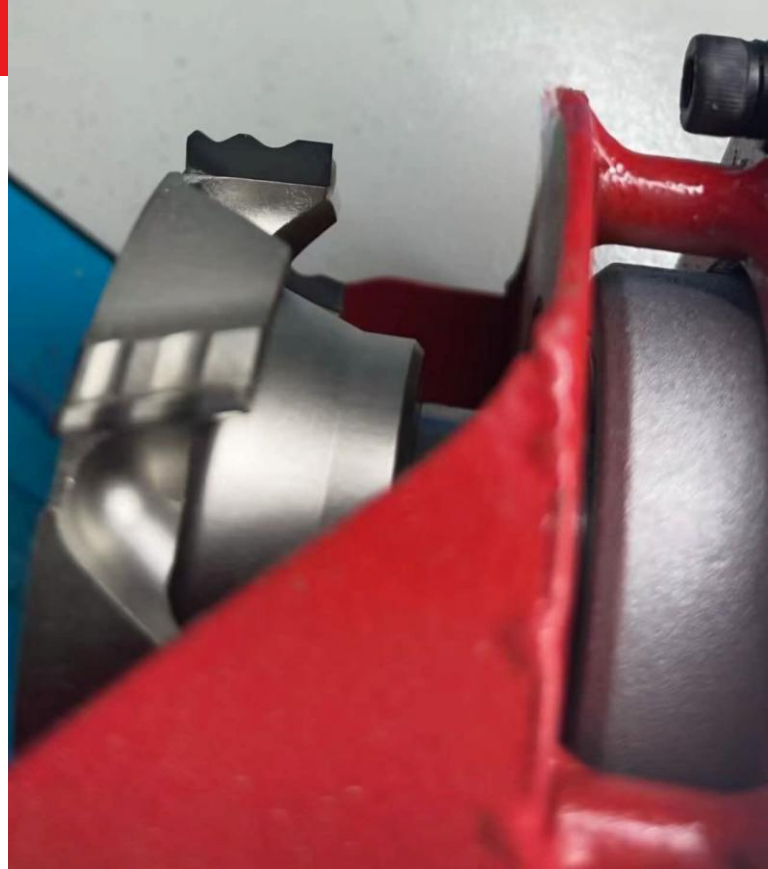
2 motors, 0,75kw each, **TEKNOMOTOR (Italy brand)** 200 Hz, 1200 rpm, **diamond tools leitz 6 tips with double tool radius 1mm and 2mm**

Servo adjust the position of cutting edge of the tool, which can transition from chamfering to rounding.

Height adjustable with the upper pressure beam

The tool shaft rotates against the feed direction (up cut-milling)

Includes electronic frequency converter with motor braking function, and nesting copier option.

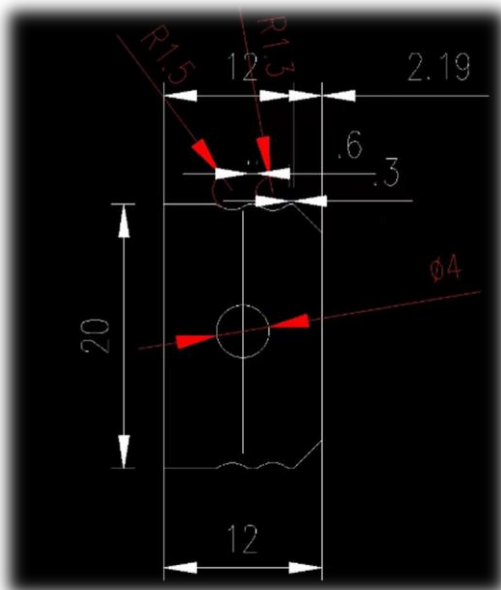
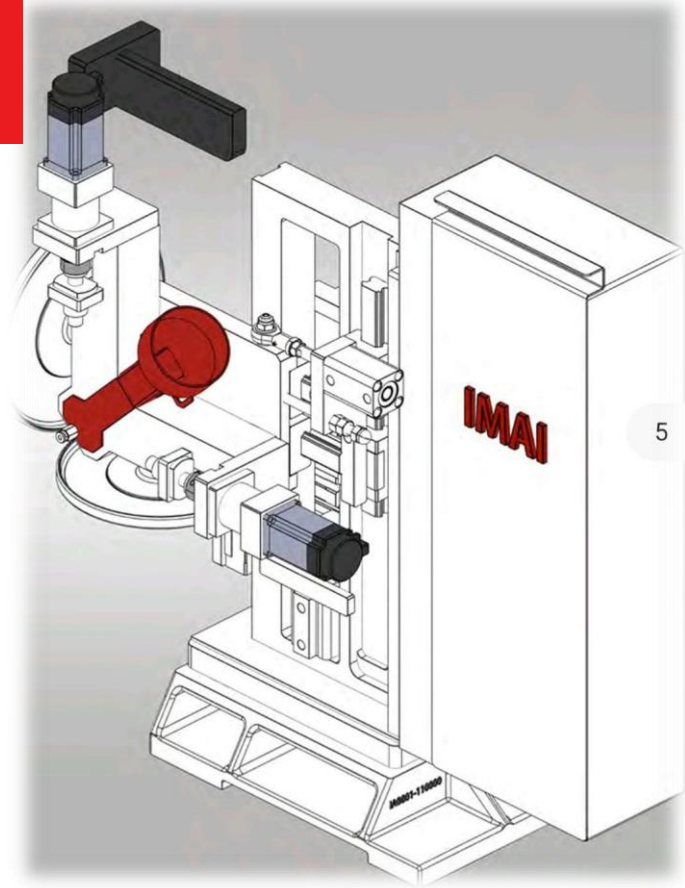


18. Edge scraping unit

Scraped edge for edge banding, with 4 servo axes and 2 radius tools.

Servo control and lateral adjustment and work piece position, can transition from chamfering to rounding

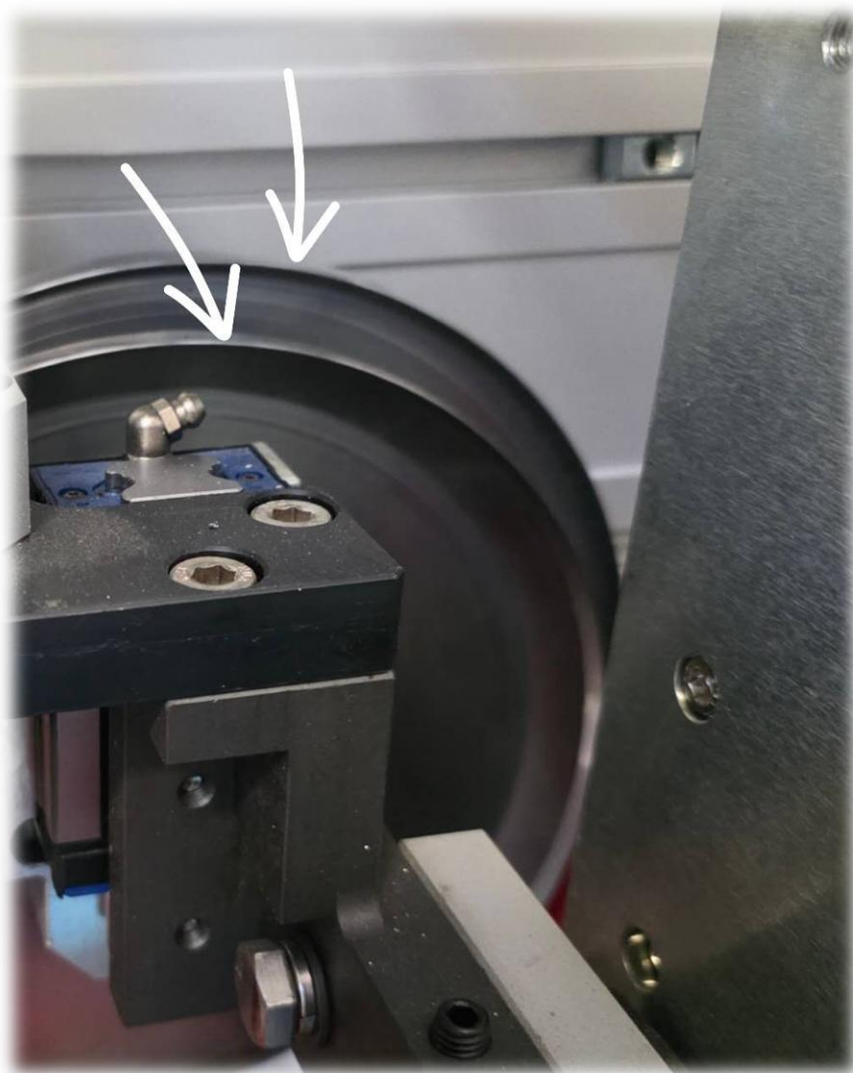
The scraper traces and scrapes the surface of the edge band in three directions: up, down and Sideways



19. 2 In 1 Copier

The **round copiers** on both the **fine trimming unit** and the **edge scraper unit** (top and bottom) feature **two copiers mounted in one center**, ensuring better surface tracking and **more accurate results at high speed**, especially at the **start of the workpiece**.

This design minimizes vibration and enhances **cutting stability and finishing quality**.



20. Flat Scraper Unit – Dual-Tool Design for Superior Finishing

The **Flat Scraper Unit** features **2 tools on the top and 2 on the bottom**, ensuring thorough cleaning of any **excess glue** from the edge surface.

Its **flexible structure** adapts smoothly to both **standard panels and textured grain panels**, delivering a **clean, consistent finish**.

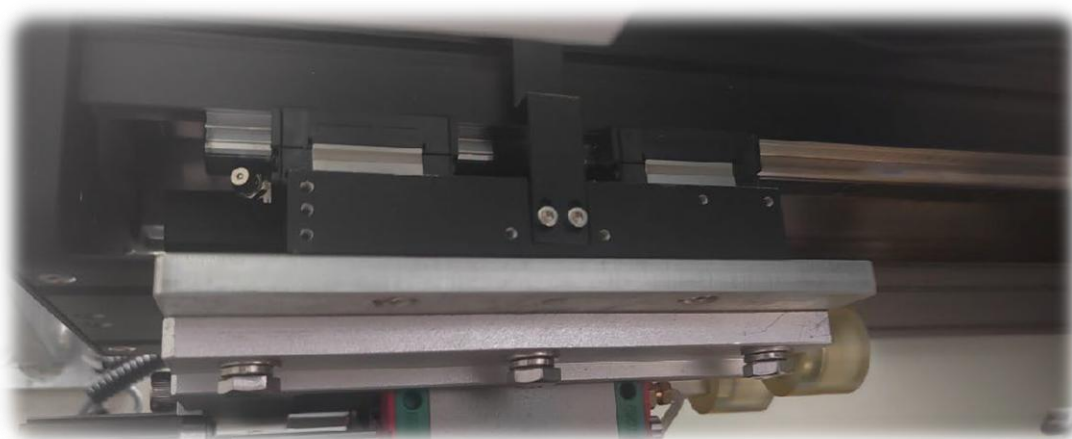
This design enhances the overall **edge quality**, especially in high-speed operations, and is ideal for maintaining a **polished look on complex or decorative surfaces**.



21. Magnetic Horizontal End Cutting



2 motor 0.37kw, (**TEKNOMOTOR, ITALY**) brand it has advantage of being flush horizontally in a **MAGNETIC MOVEMENT SYSTEM**, and will not rub against the edge banding, and will not produce any mark, the cutting speed is faster, and the board is not hit. adopt high speed same eye level compared with the servo level of same industry, the board spacing can be achieved 250mm, better efficiency and better stability, in addition to angle 15 degree tilting option.





22. Corner trimming rounding unit

The **Corner Rounding Unit** in this edge bander machine features advanced technology for precise and efficient corner finishing. Equipped with two high-performance **Italy Teknomotor motors**, the unit ensures exceptional reliability and quality. The use of **Leitz diamond tools** (8 bits each with a 1mm radius) provides a clean, accurate finish, extending tool life and reducing maintenance needs.

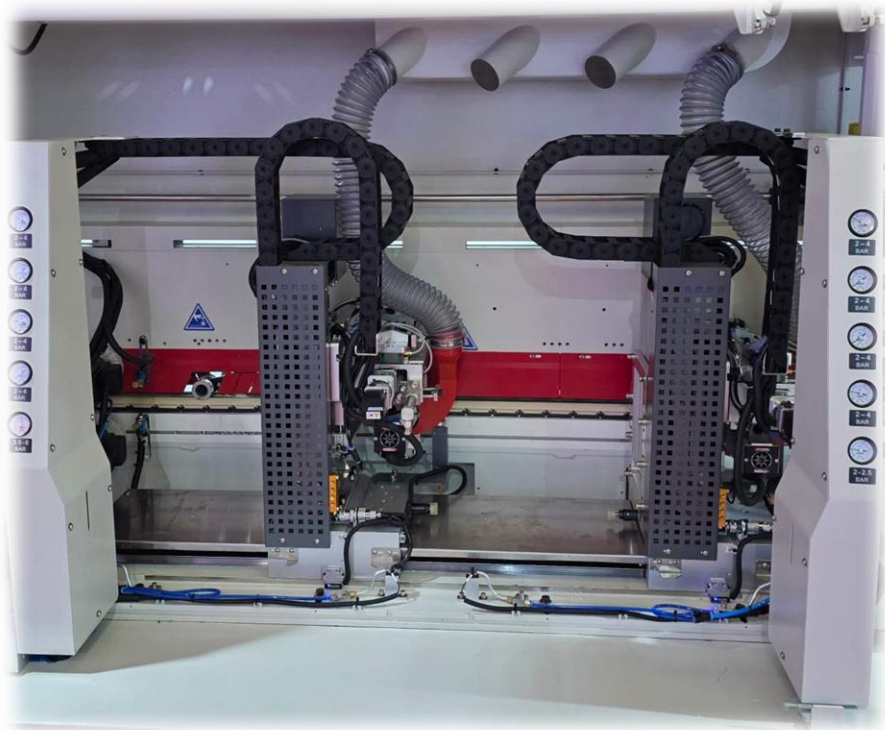
Key Features:

- **Dual Motors:** Two Italy Teknomotor motors deliver consistent power and precision for seamless corner rounding.
- **Leitz Diamond Tools:** Premium diamond tools with 8 bits and a 1mm radius ensure superior finishing quality and durability.
- **Magnetic Movement System:**
 - Revolutionary magnetic technology controls the up, down, left, and right movements of the unit.
 - Unlike traditional pneumatic or servo systems, the magnetic system minimizes torque on the panel when it touches, ensuring a gentle yet firm operation.
 - Ideal for high-precision applications, it prevents surface distortion or damage to the panel.
- **Full 4-Corner Processing:**
 - Capable of rounding all four corners: front top, front bottom, back top, and back bottom, achieving a consistent and professional finish on all edges.
- **Innovative Design:** Incorporates cutting-edge magnetic system technology similar to industry leaders, ensuring state-of-the-art performance.

Benefits:

- Enhanced precision and uniformity across all panel corners.
- Reduced mechanical stress on panels, preserving material integrity.
- Long-lasting components designed for heavy-duty usage and consistent output.

This corner rounding unit represents the next step in edge finishing technology, delivering flawless results with efficiency and reliability.

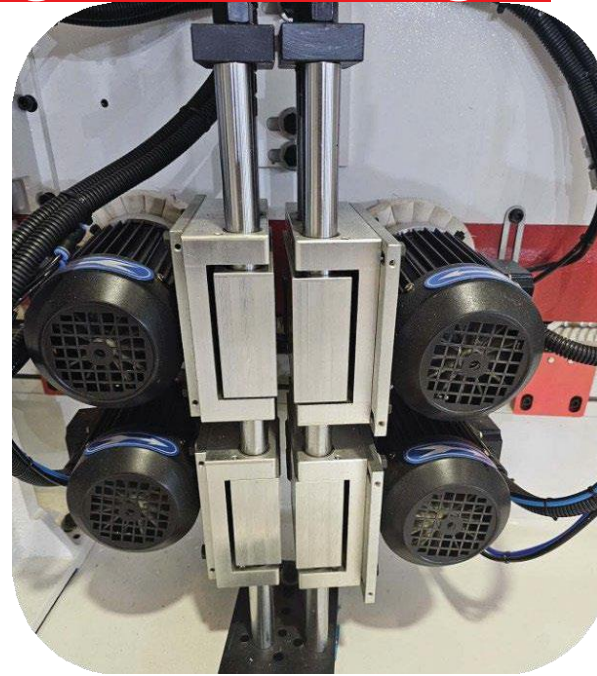




23. 2 Buffing Units – Final Finishing for Perfect Edges

Equipped with **2 buffing units**, this system provides the final touch in the edge banding process by **polishing and cleaning the edge** for a **smooth, shiny, and professional finish**.

The units are **manually controlled**, allowing the operator to adjust them based on material type and finish requirements, ensuring consistently **clean and attractive edges** on all workpieces.



24. High-Precision Chain Control with Servo Encoder for Magnetic System

The machine uses an Inovance servo motor as an encoder for the main chain, replacing the standard encoder system.

This setup offers higher precision and faster response, making it ideal for high-speed operation in combination with the magnetic technology system, ensuring synchronized, stable, and ultra-accurate panel feeding.

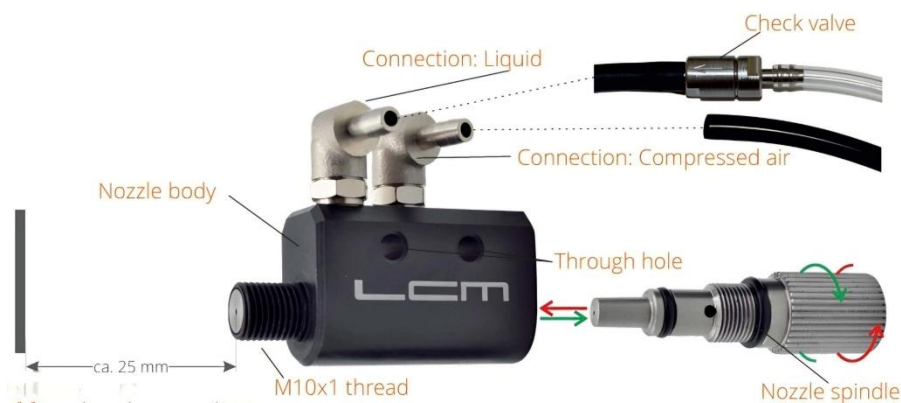




25. Cleaning-adhesive Unit Upper and Lower Anti-Stick

Positioned near the **buffing units**, the **cleaning-adhesive unit** sprays a **German LCM anti-sticking agent** on both the **upper and lower surfaces** of the workpiece edge.

This prevents **excess glue from adhering to the panel surface**, ensuring a **cleaner finish** and reducing the need for manual cleaning. The system enhances **edge banding quality** and helps maintain a **spotless surface**, especially important for high-gloss and textured materials.

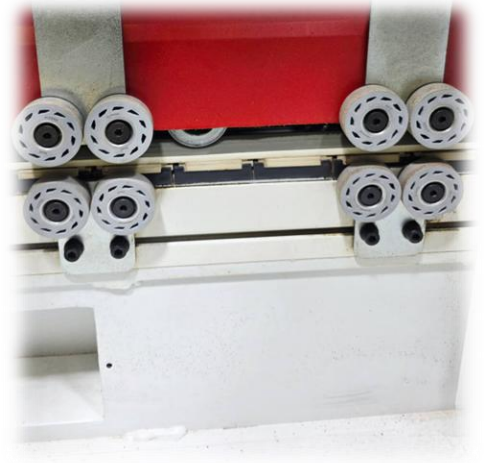




26. Auxiliary Wheels

The machine includes **auxiliary wheels positioned on the top and bottom** at key points where panel movement is most likely.

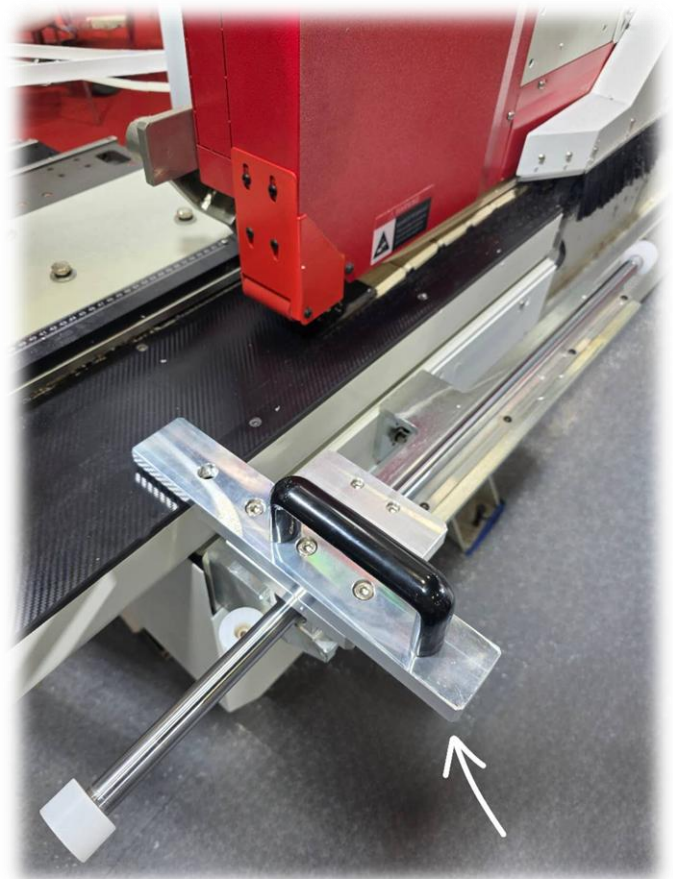
These wheels provide **extra support and guidance**, helping to **stabilize the workpiece** during high-speed processing and **prevent shifting or misalignment**, ensuring consistent edge banding quality.



27. Narrow Feeder for 40mm Panels

The **Narrow Feeder** is designed for **efficient feeding of panels as narrow as 40mm**, improving **operator ease, alignment accuracy, and productivity**.

Built for **durability** and seamless integration with the edge bander, it ensures **consistent results** and reduces handling errors—ideal for high-speed processing of narrow workpieces.





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28 Independent Suction Hoods with Auto Control Ø150mm

The machine features **five independent suction hoods (Ø150mm)**—one each for **rough trimming, fine trimming, scraping, corner rounding, and pre-milling** units.

Each hood is equipped with an **air cylinder for automatic open and close**, activating only when the corresponding unit is in use.

This design ensures **efficient dust extraction**, keeps the machine clean, and enhances overall **energy efficiency and performance**.





29. Control System



Industrial PC control with screen

SCHNEIDER AND SIEMENS components

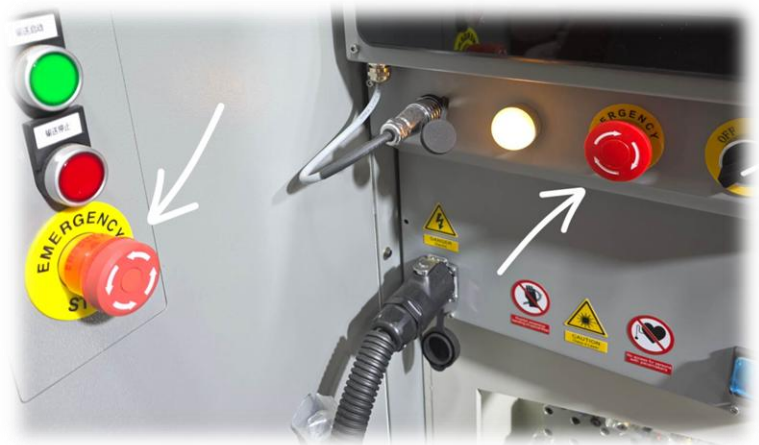
1 INVERTER FOR EACH UNIT



30. Emergency System

The machine is equipped with **5 emergency stop switches** strategically positioned for quick access, ensuring **maximum operator safety** during operation.

Additionally, **3 safety switches** are installed on the machine doors to prevent access during movement, providing an added layer of **protection and compliance with safety standards**.





31. Energy Saving and Smart Integration

Stand-by mode automatically turned on when machine stop working for a certain period (according to setting time); then **glue temperature lower down to prevent carbonization**, so as rotating of glue roller in order to save energy,

In additional, too smart option that let the operator continue pieces working, in case of suddenly emergency, while pieces inside the machine,

And statistic system that let the operator know how many pieces and how many meters has already worked.

32. Pneumatic System



FESTO



FESTO



SMC

SMC, AIRTAC, FESTO pressure regulation valve, electro valve and cylinder are used

33. Switch and Light Indicator

A switch enables the operator to stop or start the machine anytime during the process that provides the max. convenience to adjust or test the machine.

Operation indicating light, the operation status of the machine is available at a glance



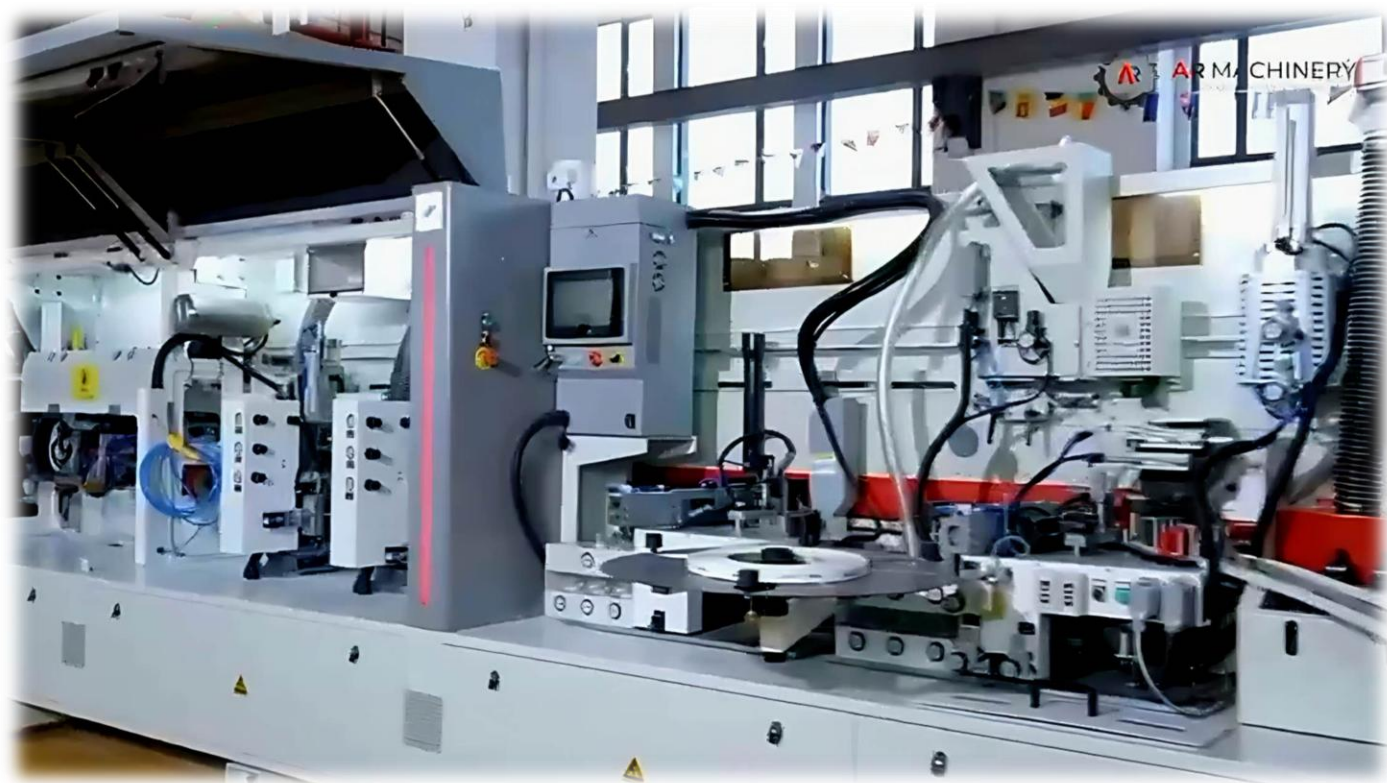
34. Servo Motors

The machine is equipped with Inovance AC servo motors and drives and inverters, the No. 1 servo brand in China, known for their high precision, fast response, and energy efficiency.

These components ensure smooth motion control, stable performance, and are ideal for high-speed, high-accuracy woodworking applications.

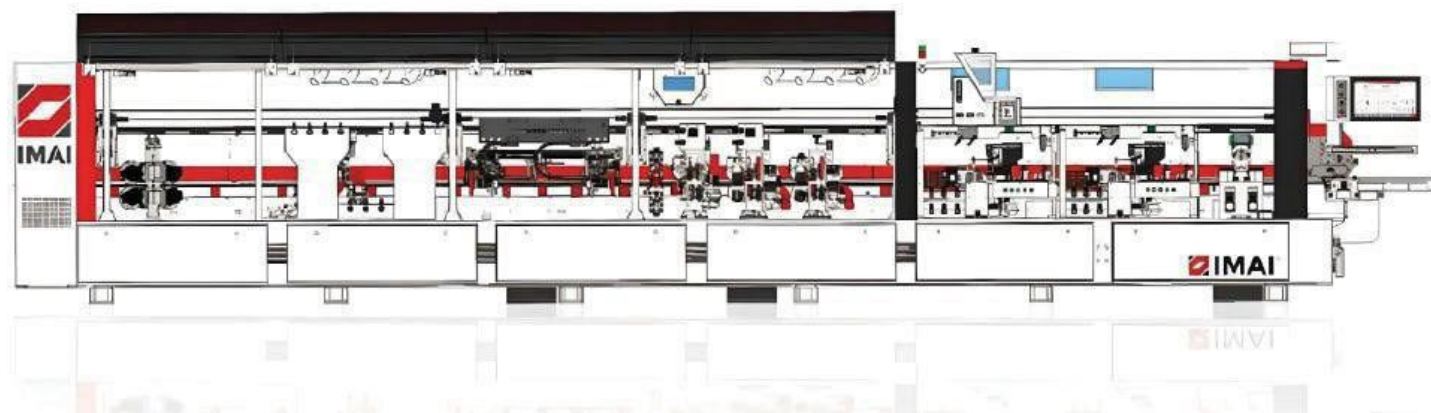








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ABB

SIEMENS

MITSUBISHI ELECTRIC
Cavities for the Motor

Rexroth
Bosch Group

ALPHA

DATALOGIC

EASUN

AVENTICS

KEYENCE

HIWIN

LEUCO

RIEPE

TECO

leitz

TEKNO MOTOR

Schneider Electric

Nordson

FESTO

SICK
Sensor Intelligence

BECKHOFF

CC
板川电机
IT-GETTING

SMC

HENGSTLER

亞德客
AIRTAC

士林電機
SHILIN ELECTRIC

DELIXI

Z 零壹工业
Zing Industrial

HSIC
ACCESSORIES

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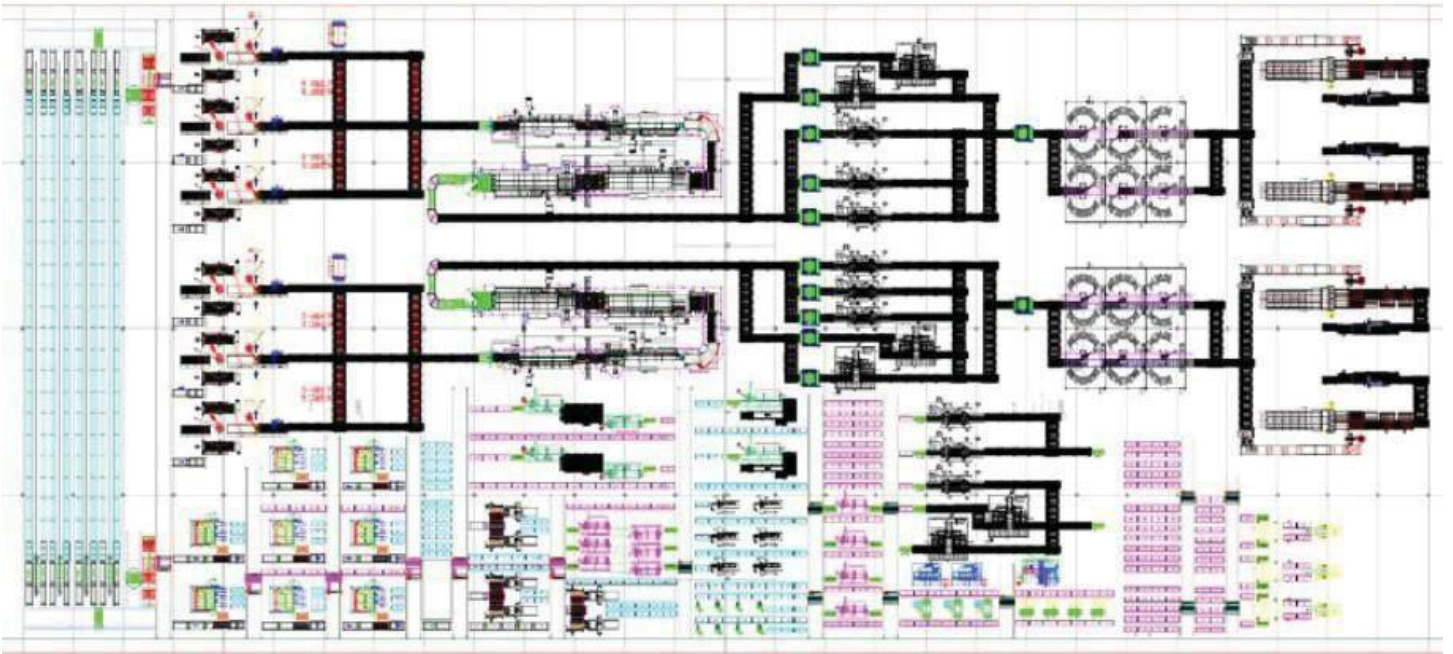
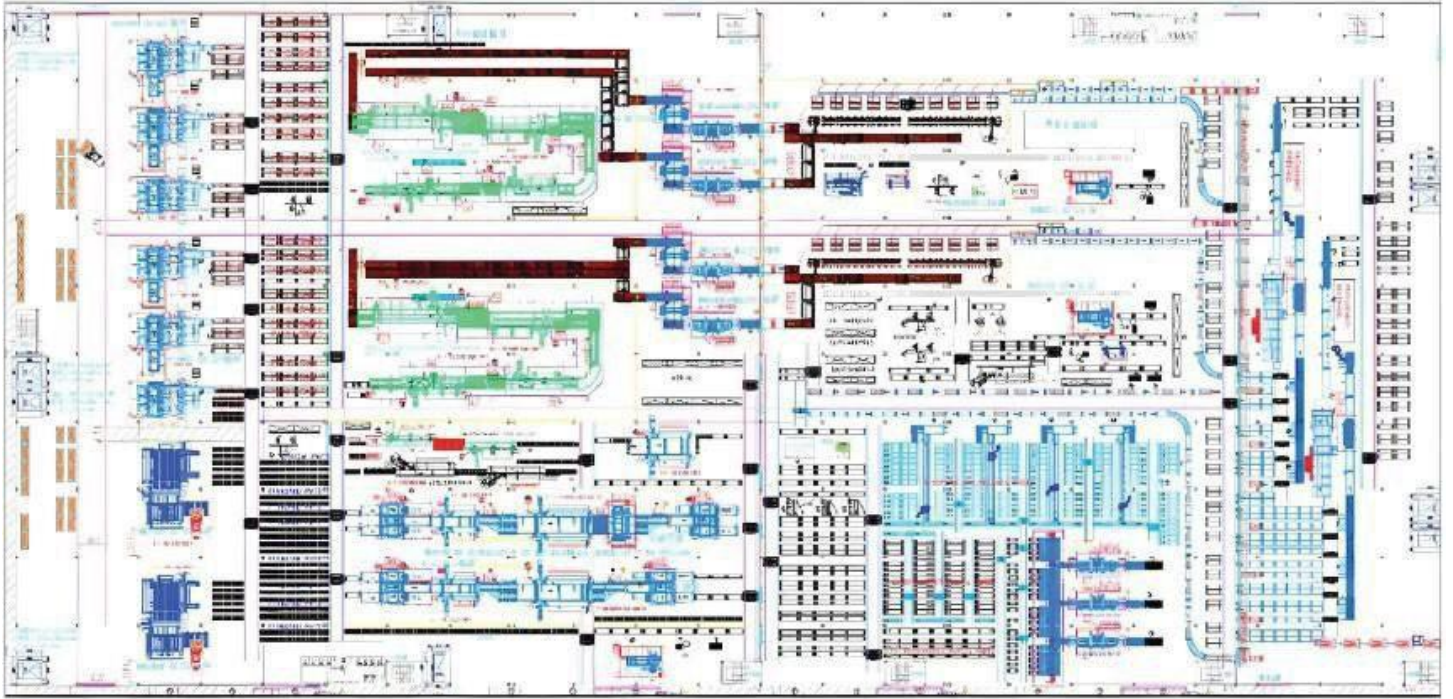


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