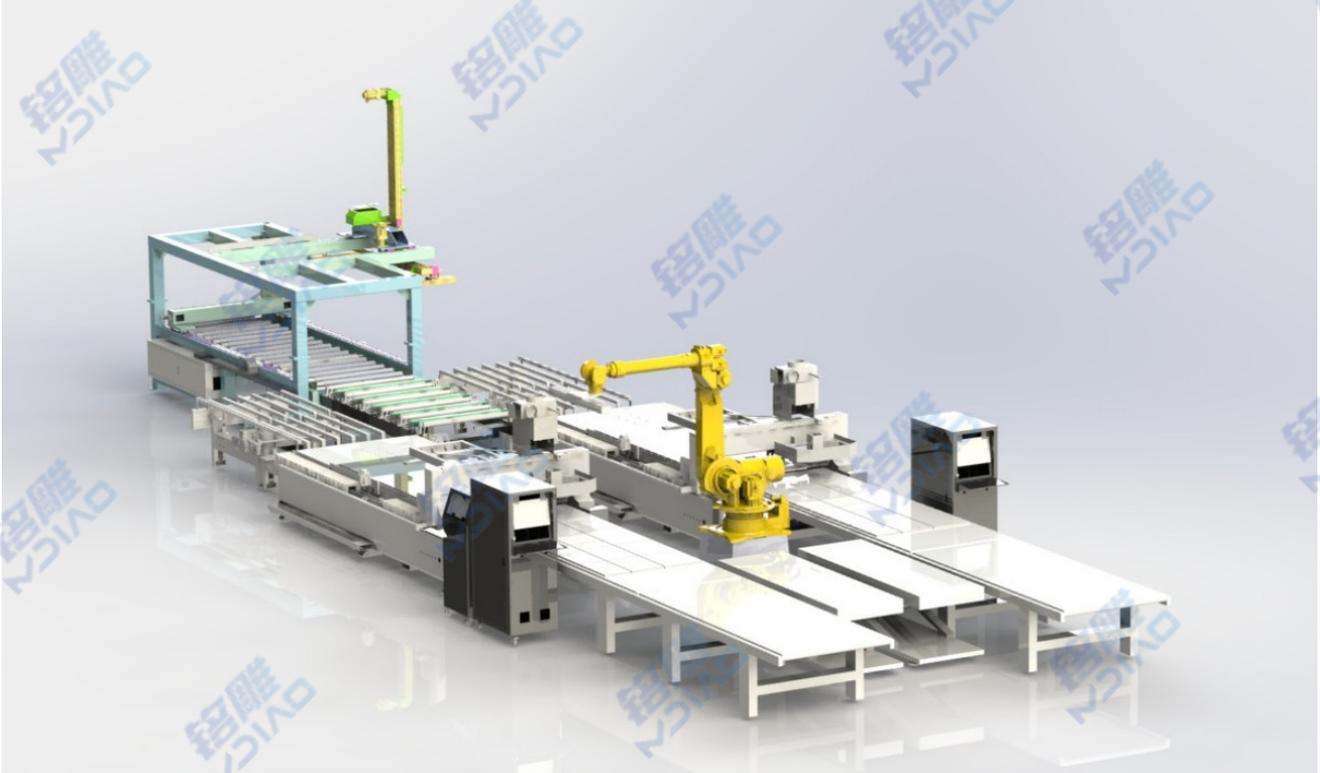


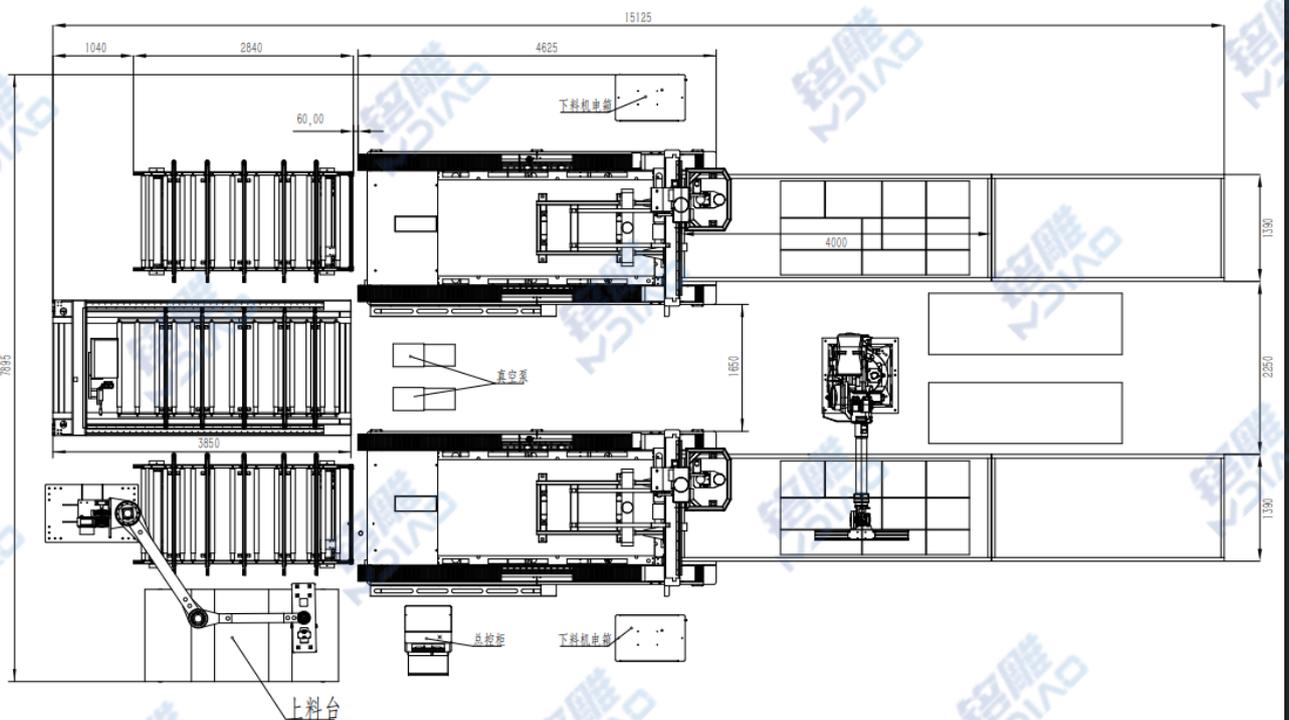
MD-8AL gantry frame feeding 1-to-2 furniture production line+robotic palletizing

Configuration Sheet

- 1、 **Product image display**
- 2、 **Description of the technical features of the equipment**
- 3、 **Device parameters and configuration table**
 - ①、 Cutting machine configuration list
 - ②、 Laser labeling machine configuration list
- 4、 **Features of main parts of equipment and pictures**

1. Product image display





II. Description of the technical features of the equipment

- 1. New dust collection hood with high adsorption capacity, achieving a dust collection efficiency of up to 96%.*
- 2. Suitable for cabinet cutting, significantly improving production efficiency and saving labor costs.*
- 3. High automatic labeling efficiency, greatly reducing the chance of labeling errors and minimizing errors in later production.*
- 4. Processed boards are placed on a hydraulic platform and distributed by the cabinet's intelligent distribution system, reducing damage caused by repeated manual handling.*
- 5. Can be directly and perfectly integrated with subsequent factory automated production lines without secondary upgrades.*
- 6. The transmission guide rails use original imported 30mm square guide rails from Taiwan, and the Y-axis is driven by dual motors, ensuring smooth operation and high cutting torque.*

The overall process of this production line is as follows: Gantry loading --- Labeling machine --- Labeling --- Automatic distribution to left and right waiting tables by the cabinet's intelligent distribution system --- Machine loading --- Machine assembly --- Cutting --- Processed and pushed to the discharge platform --- Robotic palletizing.

III. Configuration Parameters:

①. Cutting machine configuration list

Product Name	Model Number	Tool Magazine Quantity	Remarks
Automatic Tool Changer and Unloading Machine	DY-8A	Follow-up Straight-Line Tool Changer (8 tools)	One-year machine warranty, lifetime maintenance (excluding consumables)
Product Accessories			
Processing Dimensions	X1280mm*Y2800mm*Z200mm		
Motor	New Generation AC Servo Bus Absolute Value X/Y Axis 1100W; Z Axis 1000W (with brake)		
Drive Method	Syntec AC Servo Bus Absolute Value X/Y Axis 1100W; Z Axis 1000W (with brake)		
Guide Rail	Original Taiwan Square Guide Rail (3-axis 30#)		
Spindle	Mingdiao Customized 9.0KW Automatic Knife Changing	Air-cooled	Speed: 24000 rpm/min
Tool holder/clamp	Can clamp ϕ 3.175-12.7M		
Frequency converter	Fuling 11KW/380V		
Power transmission method	X/Y axis: Gear and rack (Taiwan (Mingdiao Custom) high-precision helical rack; ground gear;) Z axis: TBI 2510 lead screw; X/Y adopts Taiwan (Mingdiao Custom) high-precision new type reducer (precision three-arc division)		
Cable	Imported drag chain cable		
Backing positioning	Standard positioning cylinder (thickened ϕ 30)		
Bed	Thickened steel structure	Tempering and aging treatment of steel structure (bed)	
Control system	New generation FC-60CB; 22 inch LCD display; Wireless keyboard and mouse		
Tool diameter	3.175/4/6/12.7/16		
Power supply	380V/220V	Three-phase dry-type isolation transformer	50HZ
Cabinet	Computer control integrated cabinet		
Tabletop	Vacuum adsorption table is made of engineering PVC board with a thickness of 28mm.		
Additional	Water-cooled 7.5KW*1 unit (250 cubic meters)	5.5KW vacuum cleaner*1 unit	New dust collector
All switches, buttons, AC contactors (imported from Honeywell, USA), air switches, etc. of this product are imported products			
The machine weighs approximately 3 tons. The above configuration is the acceptance standard.			

②、 Laser labeling machine configuration list :

Product Name	Model	Remarks
Automatic Labeling Machine		One-year warranty, lifetime maintenance (excluding consumables)
Processing Dimensions	X1300mm*Y2800mm*Z200mm	
Motor	Taiwan Syntec Motor X/Y axis 1000W	
Drive Method	Taiwan's new generation of drivers	X/Y axis 1000W
guide rail	Taiwan original PMI square guide rail (three-axis 30 #)	
Printer	Imported Honeywell printer from the United States * 1	
Power Transmission Method	High-precision helical rack; X/Y axes use a new type of Taiwanese reducer (high precision 3 arc minutes)	
Cable	Imported Drag Chain Cable	
Backrest Positioning	Standard positioning cylinder (Taiwan Yadeke thickened with a diameter of 30)	
Bed	Thickened Steel Structure, Tempering and Aging Treatment of Steel Structure (Bed)	
Control System	Taiwan Syntec System	
Power Supply	380V/50HZ	
Table	The vacuum adsorption table is made of engineering PVC board	
All switches, buttons, AC contactors (Honeywell, USA), and circuit breakers in this product are imported products.		
The machine weighs approximately 2.8 tons. The above configuration is the acceptance standard.		

IV. Features of main parts of equipment and pictures



1. Gantry Loading Rack:

- Adopts a high-strength steel gantry truss structure, ensuring high stability;
- Driven by a servo motor and coupled with precision gear and rack transmission, the repeatability accuracy can reach ± 0.05 mm to ± 0.1 mm.



2. Labeling Machine:

- New Generation Motor X/Y Axis 1000W;
- High-precision helical rack and pinion; X/Y axis adopts a new type of reducer (high-precision 3 arc minutes);
- Imported Honeywell Printer (USA)



3. Labeling Machine Roller Frame:

- The roller conveyor chain adopts a side-mounted design, which can automatically guide slender round bottles, ensuring stable rolling during high-speed movement;
- The entire system is typically driven by a servo or stepper motor and is made of robust materials such as stainless steel, combining durability and hygiene;



4. Left and Right Translation Stage:

- Uses linear slider guides and high-precision ball screws as core transmission and guiding components to ensure smooth and precise movement.



5. Roller Loading Table:

- Automatic operation allows materials to move easily on it, effectively balancing speed differences between upstream and downstream sections and preventing blockages or waiting. It allows materials to temporarily stop and accumulate, acting as a "reservoir".



6. Estun Robots:

- Their high-load series has achieved a mean time between failures (MTBF) of 120,000 hours;
- Repeat positioning accuracy can reach ± 0.1 mm or even higher, and can achieve millimeter-level dynamic compensation through a vision system;



7. Material Unloading and Palletizing Lifting Platform:

- High load capacity (from hundreds of kilograms to several tons) and smooth lifting stroke;
- Integrated with safety barriers, positioning detection, and other functions to ensure safe human-machine collaboration;



8. Material Pushing:

- Automatic feeding function: After reprocessing, the system automatically pushes out the sheet metal while performing secondary dust removal during the process.



9. Positioning Cylinders:

- Standard positioning cylinders (thickened $\phi 30$) Positioning cylinders: three on the Y-axis and two on the X-axis, forming a right angle. All five positioning cylinders are adjusted with a dial indicator to ensure secondary positioning accuracy during front and back machining. Additional side vanes ensure the pushed-out sheet does not fall off.



10. Bed steel:

- The bed is made of Q235B/H rectangular tubing with a wall thickness of 8mm according to national standards. Q235B/H steel is low-carbon steel with good weldability, and the sawing and welding of the tooling achieves a seamless connection of the bed.



11. Bed tempering and aging treatment:

---After 48 hours of high-temperature tempering treatment and quenching treatment, the hardness of the bed is increased to 36-40HRC, avoiding the occurrence of cracking during the length of the bed or during loading and use.

After more than 10 days of self ignition aging treatment, the bed body is guaranteed to be used for many years without deformation.



12. Body features:

---The bed adopts a large five axis gantry milling machine, which can complete the milling of the guide rail surface, rack surface, and other required installation hole positions in one go.

The reinforcing ribs on the bed are relatively dense, which increases the strength of the bed and ensures that the bottom plate does not deform.

plus Workbench dimensions: X1280mm*Y2800mm*Z200mm;



13. Bed grinding, spraying, baking treatment

---After careful manual polishing, Aksu powder is used for spraying. Aksu is one of the world's largest suppliers of plastic powder, characterized by strong adhesion, high temperature resistance, high gloss, and strong artistic three-dimensional sense.



14. Guide rail:

----Taiwan original square track;

---X/Z axis 30#;Y axis 30#

Square guide rails have advantageous characteristics suitable for specific applications, meeting high stiffness and high load applications. The maximum load of the 30 # square rail can reach 32KN.

During high-speed machining, it can better ensure operational stability.



15. Rack:

----Taiwan original high-precision helical gear rack with precision of three arc minutes;

---Grade 7 precision precision milling oblique tooth mold 2 quenched and tempered gear rack with 20-26 degrees, tooth surface smoothness of 3.2.



16. Gearbox:

--- Taiwan Fordesy Precision Reducer AL-090-5-K3-19
 High precision, good rigidity, large bearing capacity, high efficiency, long service life, low noise
 Timely control start stop and speed change. Increasing the torque through the reducer is equivalent to increasing the input power, which can reduce the power required by the input motor (in situations where speed regulation is needed)



17. Motor drive:

--- Taiwan Shin-Dae motor, AC servo bus absolute value X/Y axis 1100W; Z axis 1000W (with holding brake)
 Large drive motor: (smoother operation; more powerful)
 The machinery adopts a new generation motor, with a speed increase of 30%: (idle speed of 60-80 meters/minute; processing speed of 8-25 meters/minute)



18. Spindle:

----Brand: Mingdiao Customized Tool Replacement Spindle
 ----Power: 9.0KW
 ----Spindle speed, up to 24000RPM, variable frequency speed regulation;
 -----Pulling tool spindle, ISO automatic tool change
 Automatic tool change is achieved through cylinder switching, and machining is achieved by enlarging holes for larger diameters to meet production process requirements.



19. Control system:

---Original Taiwan Syntec 60CB
 It is compatible with various CAD/CAM design and manufacturing software; it can control and complete multi-layer 3D machining.



20. Tabletop:

--Vacuum adsorption table thickness is 28mm
Quality complies with GB/T4454-1996, with good chemical stability, corrosion resistance, high hardness, high strength, UV resistant (aging resistant), fire retardant (self-extinguishing), reliable insulation performance, smooth and flat surface, non-absorbent, and non-deformable.



21. Knife magazine:

---Directly arrange 12 knife magazines
---ISO30 ER32 tool holder, can hold ϕ 3.175-20MM



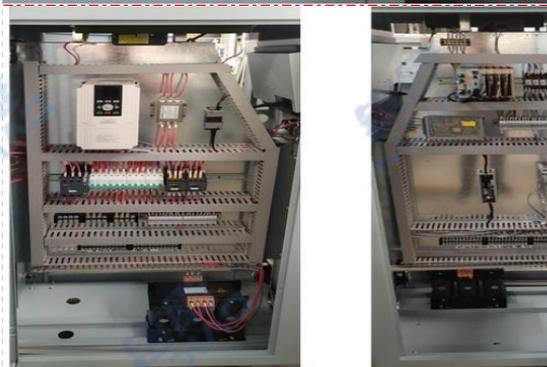
22. Cable&drag chain:

---Shanghai Deruo Cable
The cable adopts high flexibility shielded wire, which has a longer service life. In the field of industrial manufacturing equipment, we focus on high flexibility cables that are resistant to oil and bending
---Adopting a new type of drag chain, divided into four compartments, the signal and power lines are distinguished according to specifications to better defend against signal interference, while also eliminating the twisting of cables together during operation.



23. Automatic fuel box:

---This system can deliver lubricating oil to key friction pairs such as guide rails and screws in a timed, quantitative, and precise manner, forming a stable oil film, effectively reducing wear and heat, preventing "dry friction" and corrosion, thereby significantly reducing failure rates and extending the service life of core components and the entire machine.



24. Electrical control cabinet

---The electrical control cabinet separates strong and weak electricity, with a more reasonable layout, which can effectively reduce interference between electrical appliances. The larger space can effectively increase heat dissipation capacity!



25. Electrical components:

---Switches, buttons, AC contactors, air switches, etc. are imported products (imported from Honeywell, USA)



26. Vacuum pump:

---Thousand amniotic fluid pump 7.5KW;
----Curve number 121V; Product model 2BV5 121
----Drainage capacity: 4.66 m³/min ; 250m³/h mbar(MPa)
33mbar(-0.098MPa)
Motor protection level IP54; Pump speed (rpm) 1440
Noise dB(A) 69; Weight KG 149



27. Exit the machine

---Each machine needs to undergo various precision checks before leaving the factory, and the accuracy of each processing area on the entire table must be tested separately to ensure that there are no blind spots in the machine's processing.