

CNC Nesting Machine with AL+UL NCG3021L-PLUS



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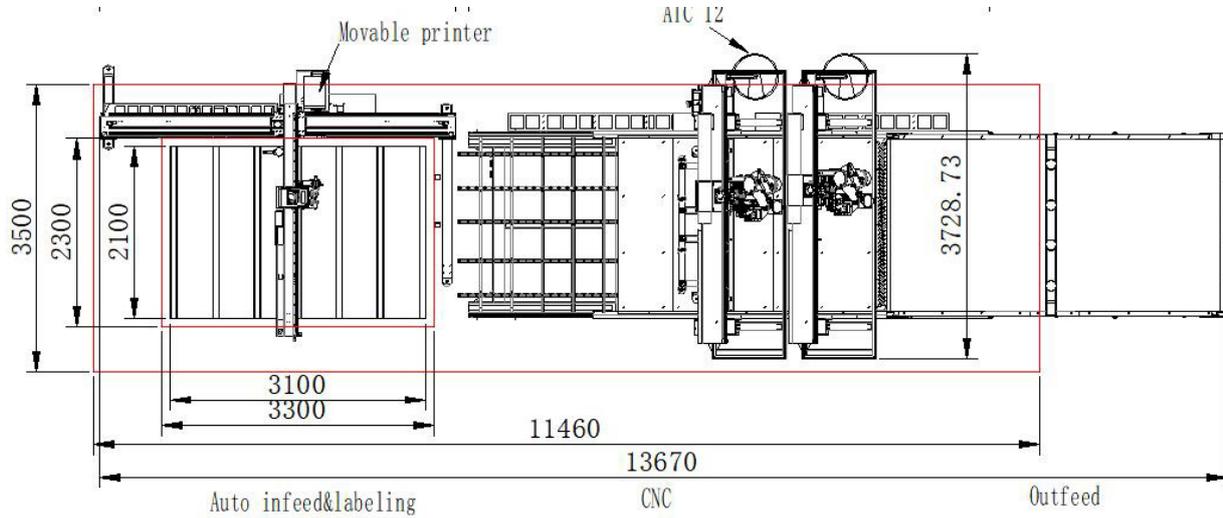
Description

NCG3021L PLUS is a complete big table CNC line with automatic labeling and unloading, Top drilling, grooving, shaping, cutting could be done in one process. Specially twin gantries, each gantry has one Italian **HITECO**

12kw main spindle with auto air blower. And 21-drills drilling block, double working efficiency, 2 gantries work synchronously thanks for optimizing algorithm of standard optimizing software. High cost-efficiency with great performance.

Machine Overview

Fully automatic production including 3 parts: Auto load with labeling, CNC machining center and Auto unload.



Details

1. Machine body & parts processing

- The integrated structure is processed by five-axis machining centre at one time, such that the non-welding structure has higher hardness,
- Vibration and aging to release internal strength
- Parts and machine body are processing by advanced CNC machine for metal work, just one positioning to finish most processing work, hence guarantees processing accuracy and reduce the vibration in the process;



2. Quality control

- Advanced measuring equipment and strict QC system help to make sure the machines and parts are checked and certificated by very high standard.

- All the machines are delivered with Quality Certificate signed by QC specialist.



3. Professional assembly line

- Nanxing follow the SOP and set up the professional assembly lines. All the assembling is worked out by the experienced technicians that guarantee machine standardization and performance.

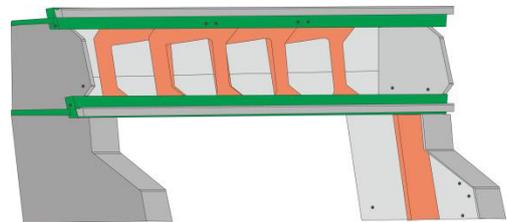


4. Double gantry

- 2 gantries work synchronously through optimizing algorithm of optimizing software, easy to double efficiency;

- Strong gantry frame is reliable for high speed milling work and ensure high precision in the long term. Compact support ribs inside gantry ensure the higher strength and stability, that means higher machining quality and longer service life;

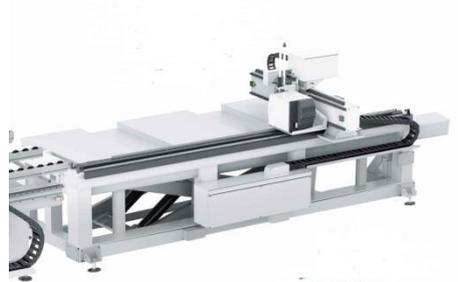
- All the machine bodies and gantries are through stress relief before installation.



5. Automatic infeed

Hydraulic lifting table

- Lift table with safety curtain on all 4 sides, stop falling when someone's hand is there;
- Min height of lift table is 420 mm which allows stack of panels without need of digging pit
- Add oil leakage self-locking device on lift table.



Pre-pushing

- A pushing device to pre-push the panel to front position, save vacuum cups pulling time



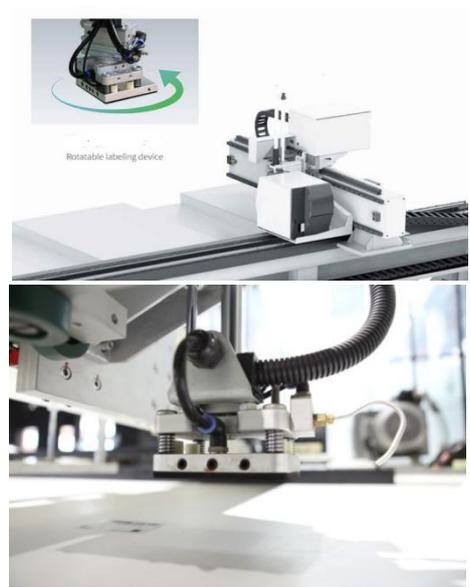
Pulling by 3pcs Vacuum cups

- Three vacuum cups installed on machine gantry equipped with dust collection for better performance. Panel could be transferred smoothly even any one of vacuum cup is air-leak



6. Rotatable labeling

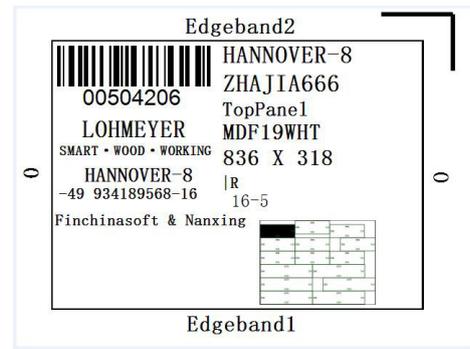
- Movement of X and Y axis by rack and pinion makes labeling accurate.
- Label printer moves with sticking device. And printer is Honeywell brand, stable and fast.
- Perfect time arrangement: auto labeling and nesting processing work simultaneously saves waiting time;
- Air blowing device to remove possible dust on panel surface;
- Independent automatic electricity controlled greasing device.



Label

- The necessary work piece information including panel size, barcode, QR code, customer name, order info, edge banding info can be shown as request.

Tip: Additional furniture making software is necessary for labeling function, but not included in standard machine.



7. Working table

- 3000*2100mm big size table's 2-layer design; The chamber that is evenly distributed between the two layers allows the vacuum to be evenly distributed across every part of the table.



8. 2 pcs low noise oil vacuum pumps

- 2 pcs 7.5kw oil cooling vacuum pumps with suction flow rate 300m³/h, pressure 0.5 kg/cm²,
- Oil-cooled vacuum pumps that has stronger vacuum pressure and lower noise compared to a common air-cooled vacuum pump.



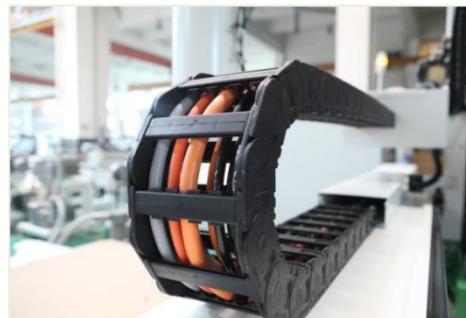
9. Side positioning cylinders and alignments

- 2 alignments on each side of X direction, and each alignment raised automatically via two side positioning cylinders. 8 cylinders, 4 alignments in total to align panel while loading and unloading.
- Two side pushers to align the panel position from two sides
- Additional long aligner to aligner smaller panel size



10. Tank cable chain

- High-quality chain in world famous brand, very wear proof and of longer service life, electric cables and tube can be protected well during high speed movement.



11. Movement of each axis

X and Y direction

- Transmitted by high-stiffness inclined rack and pinion with large contact area, higher accuracy.

- Bigger guiding rail to ensure accurate and stable movement under high speed



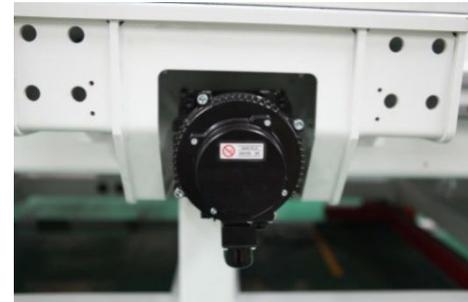
Z direction

- Ball screw gives the machine added precision in Z direction.



Motor

- The accurate movement of each axis is ensured by the high-power servo motors.
X axis: 2x(1.8kw*2); Y axis: 2x1.3kw Z axis: 2x1.3kw
- Max travelling speed: X/Y/Z: 70/70/20m/min



12. Automatic lubrication

- Grease main transmission components automatically so as to prevent machine components from aging thus reducing the maintenance work by operators.



13. 2 sets Main Spindle + 21 drills drilling block

Powerful main spindle

- Each gantry has 12kw Italian powerful air-cooling ATC main spindle, , max rotating speed up to 24000rpm/min, can work with 50mm thick panel.
- Coupler type HSK-63F making contact between tool holder and clamp closely, fix tightly, fast for ATC and suitable for high speed working

- Besides internal air blowing of main spindle, it also features air jets around the spindle to fly the wood chips from table so as to improve the dust collecting effect.



Drilling block

- With the upgraded version of 21 verticle drill bits drilling block, multiple drill bits can drop at the same time to finish the clapboard's drilling at one go to save time.



Cover

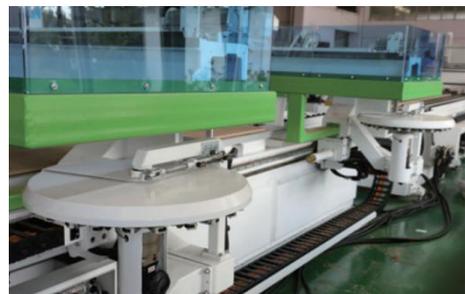
- Processing unit is fully covered by dust cover with brush and this safety cover around



14. 2 sets of 12-slot ATC

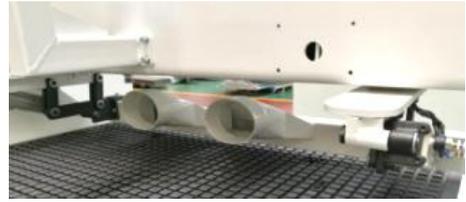
- Independent servo 12-slot ATC on each gantry suitable for complicated process requirements, no need to change tool manually offers maximum operation convenience, save time.

Tip: Standard with 2*2 tool couplers.



15. Unloading pusher

- Unloading pusher with dust collection to clear the scraps left on the working table while unloading work pieces, that offers most convenience for following processing work.



16. Auto unloading

- Unloading table also equipped with dust extraction reduces dust and chips further while unloading work pieces for better working condition;



17. Tool setting gauge and locker

- Automatic tool setting is precise and fast which ensures machine continuous working without need of changing tool by hand, save time.
- Tool locker is used to put tool for the time being.



18. Electric equipment

Computer

- IPC with Windows operating system; DELL display; USB port



Air conditioner

- Machine is with air conditioner to ensure proper working temperature of electrical components for optimal performance and longer service life, very safe. Especially suitable for high-temperature zone.



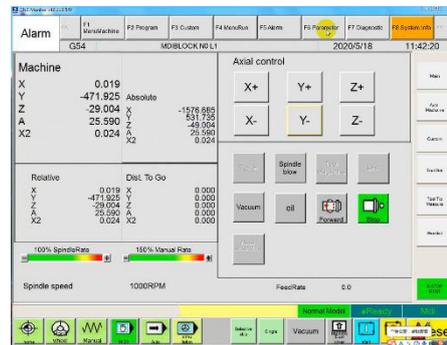
19. Hand wheel and pedal switch

- Hand wheel and pedal switch make commissioning more convenient.



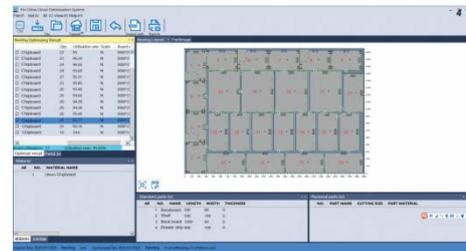
20. Control System

- Powerful SYNTEC control system provides stable performance, powerful functions and ease of use with friendly interface. Processing path is available at a glance (English and Chinese language are available)
- Open port equipped to link with various international nesting software making processing much optimized, under controlled, well managed, design intended, and data networking included for easy operation.



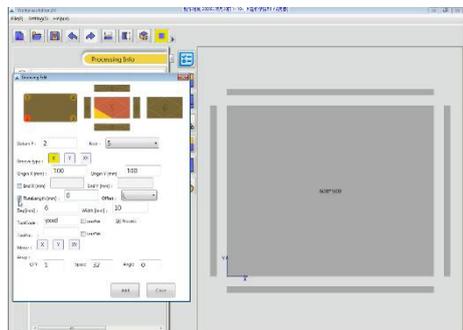
21. Optimizing Software

- Algorithm of FCC optimising software which is developed for this machine can not only harmonise the twin gantries, but also optimise the drilling, shaping and sizing path to maximise the efficiency. When the processing speed is 25m/min, the efficiency can be doubled.



22. Workpiece editor software

- Office version editor software for basic design for single workpiece, linkable to FCC to generate layout, machine is optional even without furniture design software.



Technical Data

Control system	Syntec	
Working range	X-axis: 3,000 mm	Y-axis: 2,100 mm
	Z-axis: 50 mm	
Working table	Size: 3,000×2,100 mm	Height: 1000mm
Max. traveling speed	X-axis: 70 m/min	Y-axis: 70 m/min
	Z-axis: 20 m/min	
Main spindle	Quantity: 2x1	
	Power: 12 kW Tool holder type: HSK-63F	Rotating speed: 24,000 rpm Collet type: ER32
ATC	2x 12 slots ATC	Servo control
Drilling unit	Power: 2.5 kW	Rotating speed: 0-4500rpm
	Vertical drills: 2x21	Max. drill diameter: Φ 35 mm
Vacuum pump	Quantity: 2 Power:	
	7.5 kW	Suction flow rate: 250 m ³ /h
Dust extraction	Outlet: 2x Φ 200 mm Φ 125mm*3	Speed required: 30 m/s
Air supply	Air pressure required: 6~7 kg/cm ²	
Power supply	Voltage: 380V, 3-phase	Frequency: 50 Hz
Total power	65 kW	
Floor space	L×W×H: 15,000×3,450×2,600 mm	
Net weight	8,950 kg	

*Thanks for the attention!

The company continuous to improve the product specifications and design details, the specifications are subject to change without notice. 221230