

CNC Nesting Machine with AL&UL NCG3021LE (LL)

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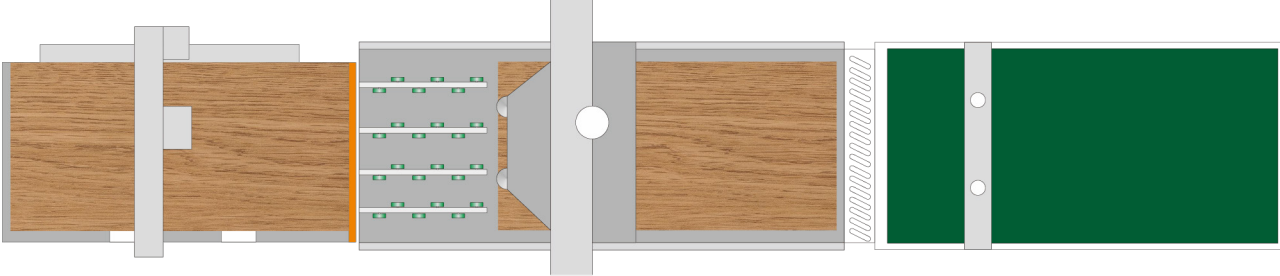
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Description

NCG3021LE is a CNC machine made flexibly easy for sizing and drilling, it is usable for different panel size. The machine has completed with labeling, infeed, drilling, grooving, cutting panel in line and shape, and unloading. This means the combination of automation, intelligence, and IT in production. Open port is equipped to link with furniture software in following the preset data for processing work. With this type of processing work can save labor force but without compromise in accuracy and efficiency.

Main parts

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



Details

1. Machine body

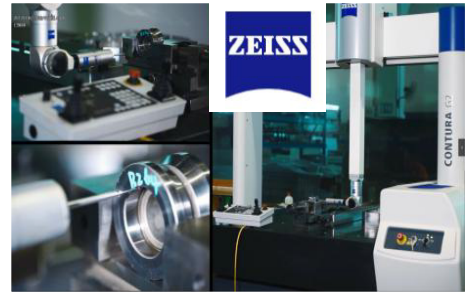
- Heavy duty bed structure machine body is welded with square tube and laser-cut steel plates by professional robots welding line, even welding marks and distance ensures high stability of body.
- Vibration and aging to release internal strength
- Parts and machine body are processing by advanced CNC 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.



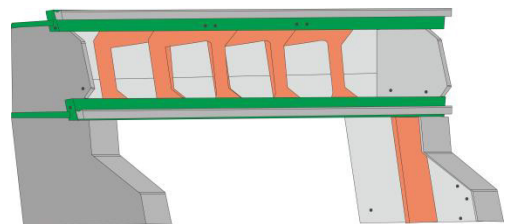
4. Split type machine body

- Specially split design of machine body, working table and infeed area is separate. Whole body is integrally processing and tested in factory, contacting surface is being specially surface processed, don't need to remove machine gantry for shipment and accuracy can be ensured after connecting which ensures the machine accuracy.



5. Gantry frame

- Gantry frame, 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.



6. Working table

- Pressure plate is easy to install or change.
- 3098*2103mm size
- Table has divided by 10 sections; easy to control by valve based on processing requirement.
- The crisscrossed grooves on top side ensure uniform distribution vacuum of absorption zone.
- 2 layers table plate with a chamber in between ensure uniform distribution vacuum of absorption zone.



7. 2pcs vacuum pump

- 2pcs 7.5kw cooling vacuum pumps with suction flow rate 250m³/h, pressure 0.5 kg/cm² for high-performance sorption on the table, thus panel could be fixed on the table firmly.



8. Automatic loading

Hydraulic lift table

- Lift table with safety curtain on all 4 sides, stop falling when someone's hand is there;
- Single scissor
- 3 tons load capacity;
 - Min height:390mm;
 - Max.height: 1650mm;
 - Stack height:560mm(machine height 950mm)



Pre-pushing

- A pushing device to pre-push the panel to front position, save loading time



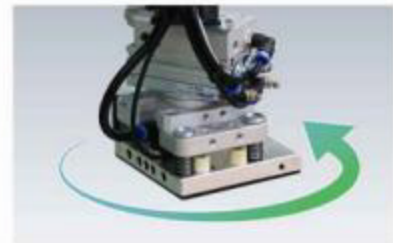
9. Infeed by 4 suction cups

- Four suction cups installed on machine gantry to infeed panel.
Extended roller brackets, friendly for different size panel;



10. Rotatable labeling

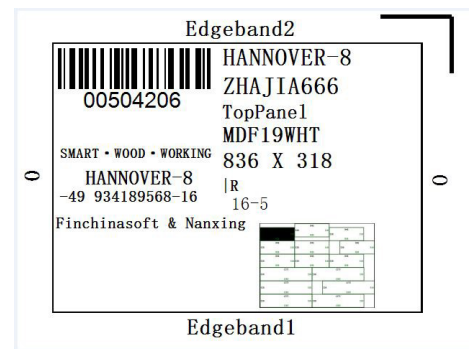
- Movement of X and Y axis by rack and pinion makes labeling accurate.
- Label printer moves with rotatable labeling bar, and printer is Honeywell brand, stable and fast.
- Perfect time arrangement: auto labeling and nesting processing work simultaneously saves waiting time;
- Independent automatic electricity 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.



11. Movement of each axis

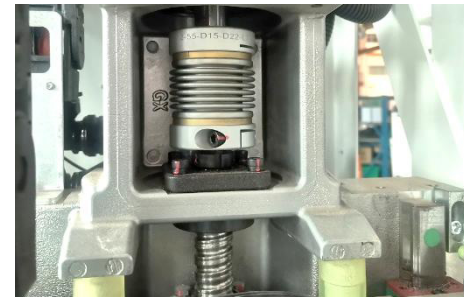
X and Y direction

- Transmitted by high-stiffness inclined rack and pinion with large contact area
- 25mm guiding rail along X direction to ensure accurate and stable movement under high speed
- Processing stroke; X axis: 3100mm; Y axis: 2100mm Z axis: 200mm



Z direction

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



Servo Motor

- The accurate movement of each axis is ensured by the high-power servo motors. Y axis: 1.3kw*2; X axis: 1.3kw Z axis: 1.3kw
- Max travelling speed: X/Y/Z: 100/100/20m/min



12. Automatic greasing

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



13. Side positioning cylinders& Positioning cups

- alignments on each side of Y direction, and each alignment raised automatically via two side positioning cylinders.
- There are 4 vacuum cups around main spindle to move panel in reference point before processing for positioning, friendly for different panel size.



14. 12kw main Spindle+ 10 drills drilling block

Main Spindle

- 12kw air cooling spindle: powerful, max rotating speed up to 24000rpm/min, can work with 50mm thick panel.
- Coupler type ISO30 making contact between tool holder and clamp closely, fix tightly, fast for ATC
- With air jet around the main spindle for better dust collecting performance;



10 drills drilling block,

- rotating speed: 4000rpm/min



Big Cover

- Processing unit is fully covered by dust cover of good appearance for better working condition. With LED light strip, machine status is available at a glance;



15. Automatic Line tool changer with 12 slots

- The automatic line tool change magazine with 12-slots suitable for complicated process requirements, no need to change tool manually offers maximum operation convenience, And shorter distance between main spindle and tool position, changing tool us faster.
- Type ISO30 ER32

Tip: Standard with two tool holders.



16. Unloading pusher&sweeper

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



17. Rear positioning cylinders and dust collector

- Friendly for flip over processing



18. Auto unloading

- Unloading table also equipped with dust extraction reduces dust and chips further while unloading work pieces for better working condition;
- Table's 4 sides are covered



19. Start/Stop Button on gantry

- Additional buttons on side of gantry, easier operation for flip over panel in process for double side process



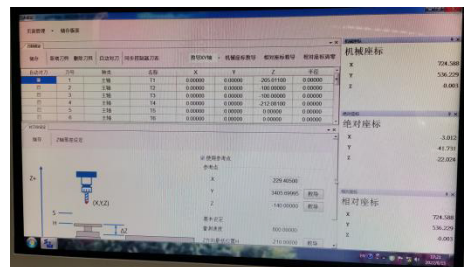
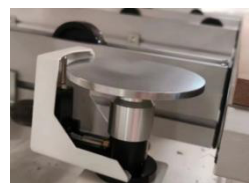
20. Tank cable chain

- 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.



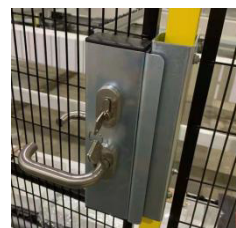
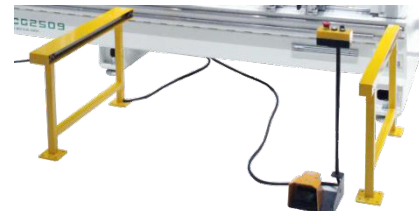
21. Tool measurer and bracket

- Automatic tool measure of 100mm diameter is suitable for different size of cutters, measure tools automatically precise and fast,
- Tool bracket is used to put tool for the time being.



22. Safety fence & Light barrier

- Machine is with whole set safety fence with safety door and light barrier ensure the safety of operator;



23. Hand controller and foot switch

- Hand controller and foot switch make commissioning more convenient.



24. Electric equipment

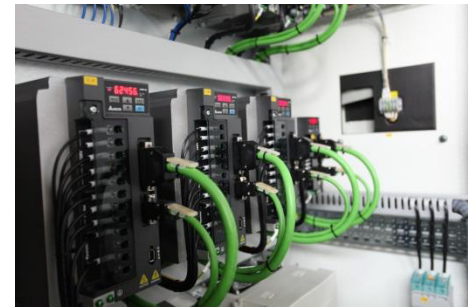
Computer

- IPC with Windows operating system;
- DELL display;
- USB port
- Movable operation computer, easy to use.



Independent control cabinet

- Electric components are of high quality and famous brand.
- Equipped with air conditioner to control the operating temperature for highest performance.
- Door with sealing strip avoids dust and chips.



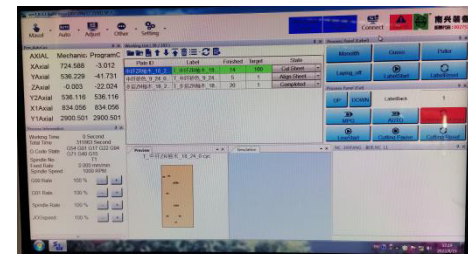
Air conditioner

- 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.



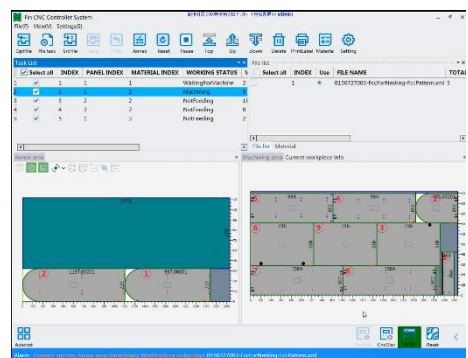
25. Control System

- 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.



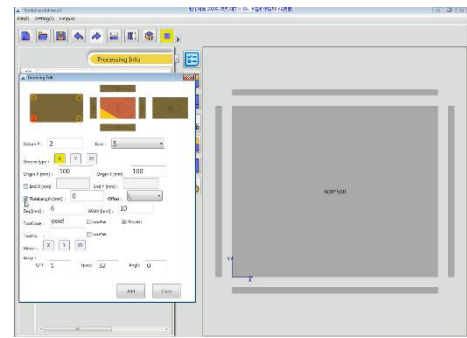
26. Optimizing Software

- Machine is standard with FCC optimizing software. Combination of automation, Nanxing Smartech, and Nanxing Infotech in production;



27. Workpiece editor software (Option)

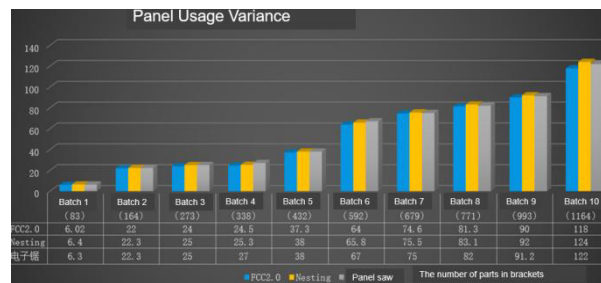
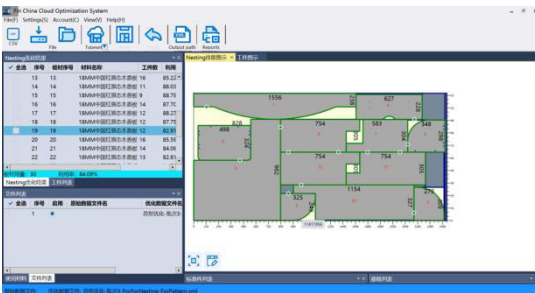
- Office version editor software for basic design for single workpiece, linkable to FCC to generate layout, machine is optional even without furniture design software.



Option

Online Optimizing Software (one year free of charge)

- A typesetting optimization software based on cloud computing, select best typesetting result through 30 times computing on cloud server with higher optimizing rate which saves much material in the long term. Also possible for free-shaped parts typesetting, effectively improving the utilization rate of panels.
- Linkable to MPR/BPP+CSV



Technical Data

Control system	Syntech	
Working range	X-axis: 3,100 mm	Y-axis: 2,100 mm
	Z-axis: 50 mm	
Working table	Size: 3,098×2,103 mm	Height: 950mm
Max. traveling speed	X-axis: 100 m/min	Y-axis: 100 m/min
	Z-axis: 20 m/min	
Main spindle	Quantity: 1	
	Power: 12kw	Max rotating speed: 24,000 rpm
Servo motor	X axis: 1.3kw*2	Y axis: 1.3kw
	Z axis: 1.3kw	
Vacuum pump	Quantity: 2	
	Power: 7.5 kW	Suction flow rate: 250 m ³ /h
Dust extraction	Outlet: Φ150mm*1 Φ125mm*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	37 kW	
Floor space	L×W×H: 12,300×3,200×2,500 mm	
Net weight	5,500 kg	

*Thanks for the attention!

The company continuous to improve the product specifications and design details, the specifications are subject to change without notice. 250523