

## **CNC Nesting Machine with AL+UL NCG3021LE (loading&unloading+label+spindle)**



## Highlights

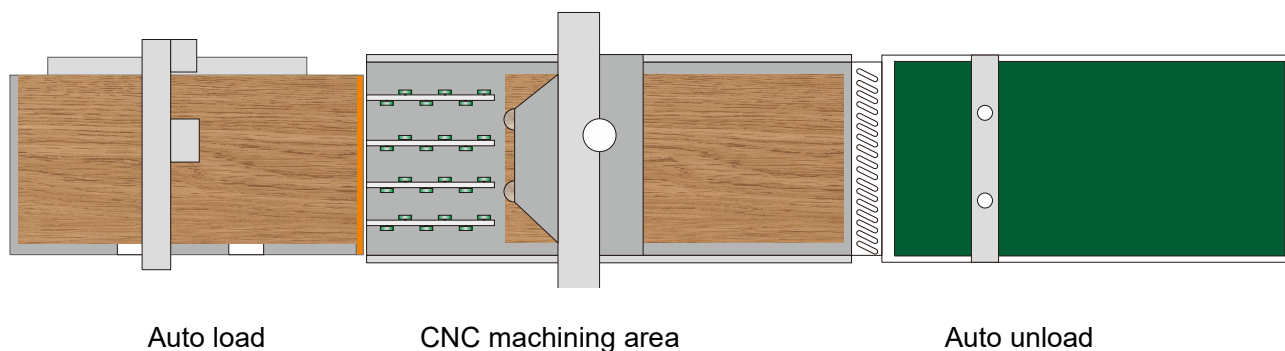
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- NCG3021LE is fully equipped from loading, processing and unloading.
  - Loading part with labeling device.
  - Processing part with 9kw spindle and drilling block.Milling&grooving&drilling can be done.
  - Working table:3000&2100mm.Compatible with 2440\*1220mm,2440\*1830mm.
  - Max. speed along X & Y direction up to 100m/min.
  - SYNTEC system.IPC control with window 7 operation system of high stability and ease of operation.
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## Main parts

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



## Details

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# Part 1 Mechanical

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## 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.



## Part 2 Loading

### 4. Automatic loading

The whole feeding part includes lifting table, pushing device and printer part.



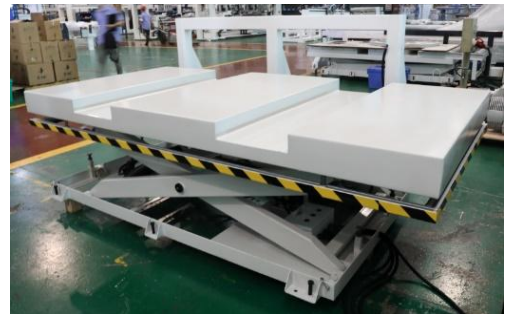
#### Hydraulic lift table

- Flat design.2 forklift arm grooves,easy to put the board.
- Lift table with safety curtain on all 4 sides, stop falling when someone's hand is there;

### 5. Stack height(without pit):

#### ➤ Option 1:

- 5 tons load capacity;
- Min. height:490mm;
- Max. Height:1650mm;
- Stack height:460mm(machine height 950mm)



#### ➤ Option2:

- 3 tons load capacity;
- Min height:390mm;
- Max.height: 1650mm;
- Stack height:560mm(machine height 950mm)

- Hydraulic pump power:5.5kw
- Table size:3000\*2100mm
- Add oil leakage self-locking device on lift table.

## 6. Pushing device

- Rack and pinion drive.

X axis motor power:0.85kw

Y axis motor power:0.75kw



- Pushing device:cylinder control up and down,the extended push block is more suitable for pushing large boards.



## 7. Electric cabinet

Independent electric cabinet,good sealing prevents dust from affecting machine performance.

Inovance servo control.





### 8. Printer

Follow-up labeling printer, shorten strokes for takes labels. save labeling time.

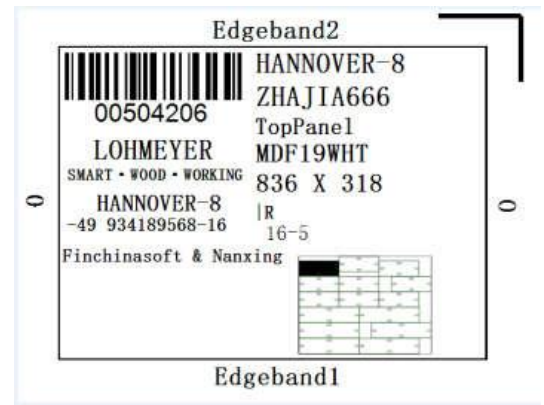
Printer : Zebra ZT410 203dpi



- Electric oil pump: Lubricate the rails regularly. Easy to use and maintain.



- The label can set the board information according to the requirements. Customer information, Edge bander and drilling machine can read the barcode by scanner.



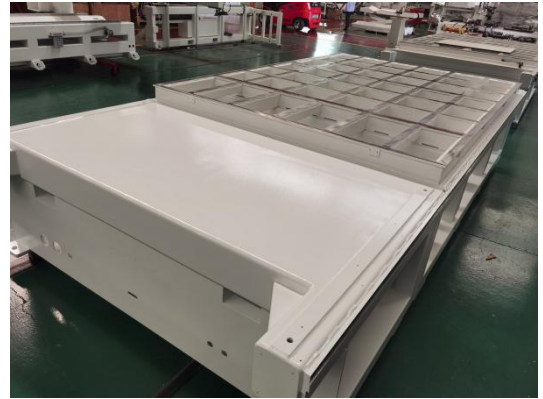
## Part 3 Processing unit

### 9. Table base

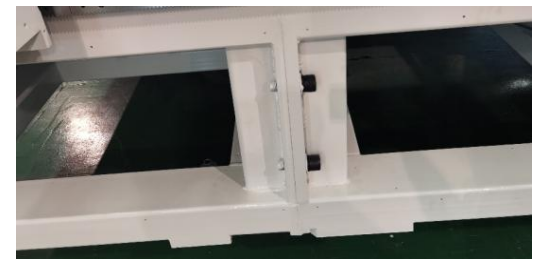
After the frame is welding,the whole frame will be processed integrally on the machining equipment.

Ensure the high precision of the machine.

Size:3000\*2100mm

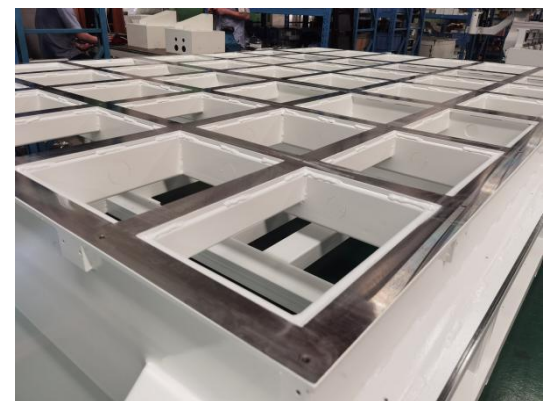


No need to disassemble the beam, easy to install, easy to service.



Mesh steel structure table base.

Machine can run stably at high speed.





## 10. Working table

- Steel base + Bakelite + backing board.
- Working height  
900-950mm
- The crisscrossed grooves on table to improve the vacuum sorption performance.  
Size:3000\*2100mm
- Position  
There are 10 positioning cylinder.  
  
There is a set of positioning blocks controlled by 4 cylinders on the left and right sides.  
  
Front positioning blocks controlled by 2 cylinders.
- Each section of the vacuum area controlled independently by manual and provides with sufficient vacuum.  
  
7 vacuum zones.Evenly distributed adsorption force.Even small workpiece are held firmly.  
  
Vacuum tube diameter:75mm.





### 11. Vacuum pump

2pcs 7.5kw oil cooling vacuum pumps with suction flow rate 300m<sup>3</sup>/h, pressure 0.5 kg/cm<sup>2</sup> for

high-performance sorption on the table, thus even small parts could be fixed on the table firmly.



### 12. 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;

➤ **Transmission method**

X axis: Rack and pinion

Y axis: Rack and pinion

Z axis: Screw

➤ **Processing stroke**

X axis: 3100mm

Y axis: 2100mm

Z axis: 200mm

➤ **Maximum movement speed**

X axis: 100m/min

Y axis: 100m/min

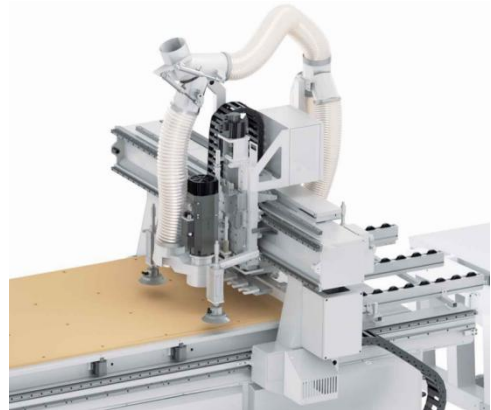
Z axis: 20m/min

➤ **Servo motor**

X axis: 2\*1.3kw

Y axis: 1\*1.3kw

Z axis: 1\*1.3kw





### 13. Spindle:

The high-power spindle can easily complete cutting and milling.

Brand: CC brand

Power: 1\*9KW

Rpm: 24000

Handle: ISO30

Collet: ER32



### 14. Tool:

12 in-line automatic tool magazine.

Quick tool change.

Meet customers' multiple tool changing needs.



### 15. Lubricating

Guide rail automatic lubrication, easy maintenance.

lubricating oil



### 16. Dust removal device and unloading pusher

Dust collection clears the scraps and dust while moving panel on working table ensures better absorption efficiency.

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.



### 17. Tank drag chain

High-quality drag 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.



## Part 4 Unloading

### 18. Auto unloading

- Unloading table also equipped with dust extraction reduces dust and chips further while unloading work pieces for better working condition;
- Optical-electronic sensor ensures the panels stop at exact position.
- Table size:3200\*2200mm
- Motor: 1\*0.75kw



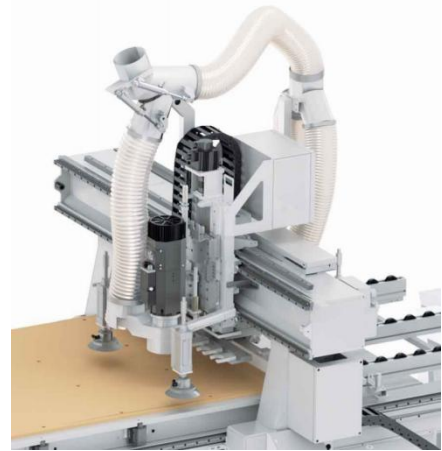
## Part 5 Dust collector

### 19. Dust collector(processing unit+unloading)

1\*Φ150; 3\*Φ125

Air volume requirements:30m/s;

Simple dust collection pipeline improves the extraction performance, dust and scraps generated in the process could be cleared directly and efficiently to get better working condition prevents possible influence caused by chips and scraps in the process.



## Part 6 Electric

### 20. Electric cabinet

#### ➤ Independent electric cabinet

Configure an independent electric cabinet, Good sealing, better prevent dust from entering electrical components.

The machine works more stably.



### 21. Control System

- SYNTEC control system provides stable performance, powerful functions and ease of use with friendly interface. (English and Chinese language are available)
- Combination of automation, Nanxing Smartech, and Nanxing Infotech in production; 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.
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### 22. Electric equipment

#### Computer

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



#### Independent control cabinet

- Electric components are of high quality and famous brand.
- Door with sealing strip avoids dust and chips.



### 23. Manual mode

Hand wheel and foot switch make commissioning more convenient.



## Part 7 Option Includes

### 1. Drilling block

10 vertical drill



- 2. Pressure Roller
- 3. FCC+Editor
- 4. Additional 7.5kw vacuum pumps
- 5. 12KW Spindle
- 6. Labelling

## Part 8 Parameter

<b>Control system</b>	1 spindles controller	
<b>Working range</b>	X-axis: 3,100 mm	Y-axis: 2,100 mm
	Z-axis: 200 mm	
<b>Working table</b>	Size: 3,100×2,100 mm	Height: 900mm
<b>Max. traveling speed</b>	X-axis: 100 m/min	Y-axis: 100 m/min
	Z-axis: 20 m/min	
	Quantity: 1	
<b>Main spindle</b>	Power: 12kw*1;	Max rotating speed: 24,000 rpm
<b>Servo motor</b>	X axis: 1.3kw*2	Y axis: 1.3kw
	Z axis: 1.3kw	
<b>Vacuum pump</b>	Quantity: 1	
	Power: 3*7.5 kW	Suction flow rate: 250 m <sup>3</sup> /h
<b>Dust extraction</b>	Outlet: Φ150mm*1 Φ125mm*3	Speed required: 30 m/s
<b>Air supply</b>	Air pressure required: 6~7 kg/cm <sup>2</sup>	
<b>Power supply</b>	Voltage: 380V, 3-phase	Frequency: 50 Hz
<b>Total power</b>	39.7 kW	
<b>Floor space</b>	L×W×H: 11,800×3,350×2,500 mm	
<b>Net weight</b>	6,000 kg	

*\*Thanks for the attention!*

*The company continuous to improve the product specifications and design details, the specifications are subject to change without notice. 221220*