

## CNC 6-Sided Drilling Machine ND612DCT

[2 drilling block+5.5kw C axis spindle+5.5kw ATC8 main spindle]



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3-year warranty\*  
ensuring no hassle  
and unforeseen costs



Quick return on  
investment



Low Total Cost of  
Ownership

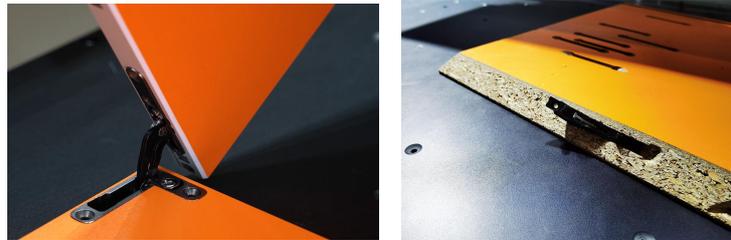


Ensuring low price  
by sourcing cleverly  
in large quantities

### Description

- ND612DCT is an upgraded model capable of 6-sided drilling, front/back grooving, front milling, side milling, and side grooving. It also processes special features like wiring channels, Lamello joints, LogiClip connectors, and top/bottom hinge mortises which meet different process requests and gives batch-size-one production max flexibility;
- Machine is configured with two top and one bottom drilling blocks&5.5kw ATC8 main spindle, And 5.5kw 2-slot changable Crosshead spindle C axis. 2+8 tool changing magazine;
- Software is open port, support most formats in market.
- Standard with side outfeed conveyor table, selectable to outfeed from front and back.

## Overview



## Processing size

<p><b>Drilling&amp;top bottom grooving:</b></p> <p>Thickness 10-60 Width: 30-1220mm Length: 200-3000mm</p>	
<p><b>Four head aggregate:</b></p> <p>Thickness 10-60 Width: Max 800mm Length: 200-3000mm</p>	
<p><b>Angle adjustable aggregate:</b></p> <p>Thickness 18-60 Width: Max 800mm Length: 200-3000mm</p>	

## Details

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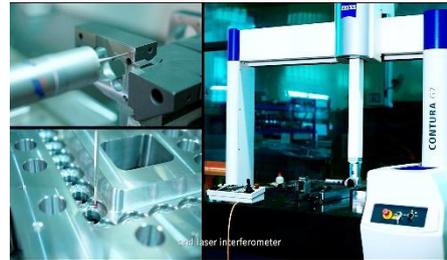
### 1. Machine body

- The machine adopts an integrated heavy-duty frame structure body, designed with finite element analysis to ensure operational precision. 3
- The entire bed undergoes stress-relief annealing, vibration aging, and shot peening treatment to enhance stability.
- Constructed with rectangular square tubes and a monolithic frame, the machine is integrally formed in a single process using Japan's SNK machine tools."



### 2. Quality control

- Advanced measuring equipment and strict QC system also help to make sure the final machine we offer to our customers are of high quality;
- All the machines are delivered with Quality Certificate signed by QC specialist.



### 3. Professional assembly line

- Assembly is final and important step for better machine performance. Nanxing's professional assembly lines from machine body to small electrical components were by experienced technicians that guarantee machine standardization and performance.



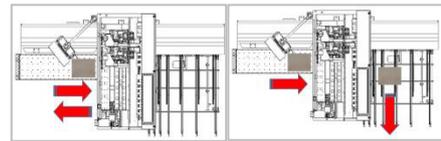
4. Long clamp beam & fast clamps

- The design of 5.5m longer high-rigidity clamp beam ensure stable and fast clamp moving with least vibration, and reduces the frequency of switching clamp during processing, thus higher efficiency.
- Clamp finger is 5-65mm open&closing range; working range 5.3m;



5. Feed-in&out table

- Can choose feed mode feed-in & out in front side or feed-in in front and feed-out in back.
- **Infeed table:** Floating table makes boards smoothly moving on table, avoid scratches on panel surface. Size 2000\*615mm; Air blower: 1.1kw
- **Feed out table:** by crosswise belt table with brush at size of 2400mm\*1630mm;The hairbrush and conveyer belt can offer very good protection to the surface.



6. Positioning

Side aligner

- Dual clampers cooperate well with auto side alignment to guarantee precision and stability in panel processing.  
Mini. 30mm in width



Air jet

- Air jet integrated on side aligner to remove the dust of table.



Support plates

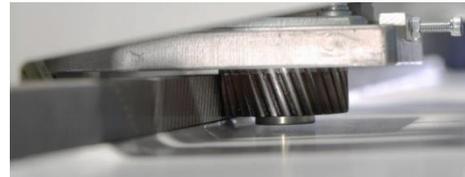
- Top and bottom drilling blocks and main spindles have support plate to offer the board a support force when the other side is being processed to ensure accuracy in process.



7. Accurate movement of each axis

Transmission mode

- X&Y axis by highly precise rack and pinion,
- Z axis by ball screw rod;



Servo motor

- The accurate movement of each axis is ensured by the high quality servo motors.
- X direction:0.75KW
- Y direction:1.3KW
- Z/W/V direction:0.85KW
- V2 axis: pusher :0.4KW
- C axis: 0.4kw
- Max travelling speed:  
X/U/Y/Z/V:135/135/75/30/30m/min



8. Auto greasing

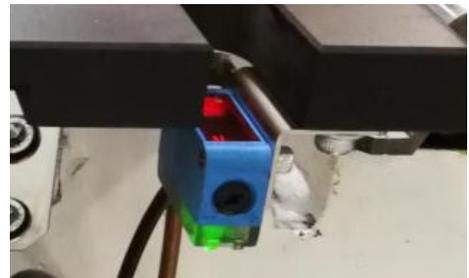
- Linear guiding rail and bearings can be greased automatically by electrically controlled greasing pump, save maintaining job.



9. Board size detector

**X direction board length detect**

- There would be alarm when lengthwise detector detects length is not correct to ensure operator puts the right board.



**Board width detect&offset**

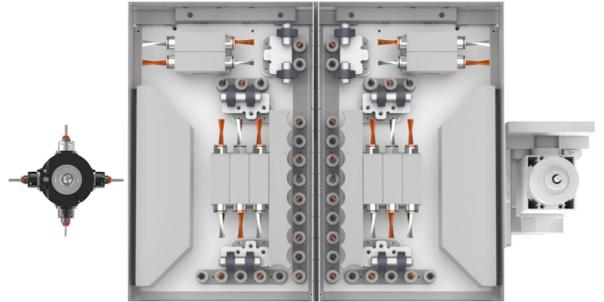
- Configured on drilling block to detect the board width and compensate the board width errors, so as to avoid the hole position error caused by different benchmarks. Accuracy is up to 0.02mm.



10. Processing units at a glance

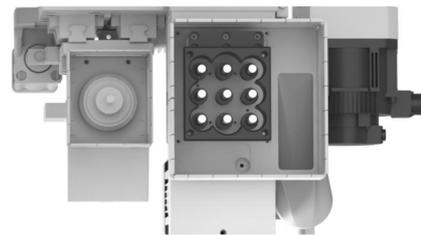
Top Processing unit:

- 5.5kw 2-slot ATC main spindle (with C axis)
- 1 set High speed drilling block
- 5.5kw 8-slot ATC main spindle



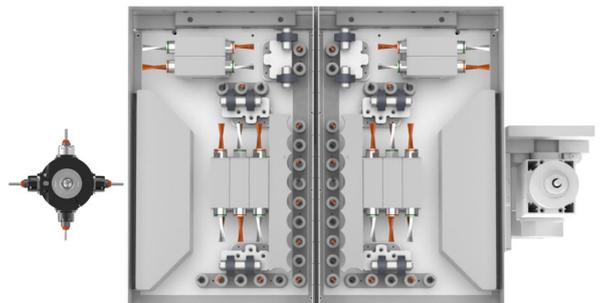
Bottom processing unit

- 3.5kw main spindle ER25+ one boring block 1.68kw with 9 vertical drills 18000rpm
- Bracket rises to support boards when do top processing, prevent accuracy issue caused by board deform;
- Col-linear vertical drills of top and bottom drilling blocks, faster to drill through holes.



11. Top optimal 2 Drilling blocks

- 2 High speed drilling blocks, each is 2.2kw: Vertical drills: 19;
- Horizontal drills: 3\*2 in X direction; 2\*2 in Y direction.
- 5000rpm rotating speed, hole edge is smoother, friendly for hinge hole.  
Max drill bits diameter 35mm, Drill bits spacing 32mm,  
Drill head shank diameter 10mm  
Drill bits length 70mm
- More drills along lengthwise direction and optimized drill bits layout improve the drilling efficiency;
- Drilling block features with stabilized pressure pump ensures drilling depth;



12. 1\*Main spindle with C axis & 2-slot ATC on top

- 5.5kw ATC2 main spindle with C axis, quick switch between cross aggregate and bevel milling aggregate; Machine is standard with 2 aggregates;

**Cross-head aggregate**

- 4 independent tools. It can rotate 360° along 4 directions and perform multi-directional side milling.

- ER25

**Bevel milling aggregate**

- Angle is adjustable from 0-90° and is equipped with saw blade tools for bevel Lamello processing.

- Tool speci,  $\phi 100.4 \times 7 \times 35$

- The Lamello saw blade and Lamello mortising router bit can be integrally assembled on the aggregate



13. 5.5kw ATC8 Top main spindle

- Tool type ER25, 5.5kw ATC spindle;
- ISO30, Rotating speed:18000 rpm
- Separate, segmentable motion;
- Replaces the previous generation's one-piece design for greater rationality.



14. 8 slots tool changing magazine

- Tool Holder: ISO30; ER32
- Crescent clamp tool (12.7×9.8×7×20) – Top-side Lamello grooving
- Carbide saw blade (D63×5.0) – 3-edge grooving (excluding gripper side)
- Lamello blade ( $\phi 100.4 \times 7 \times 22$ ) – 3-edge Lamello grooving (excluding gripper side)
- Straight flute milling cutter – Front-side grooving

**Tool measuring gauge**

- Without need of setting tool tip by manual, by using tool setting gauge, main spindle can change tool automatically;



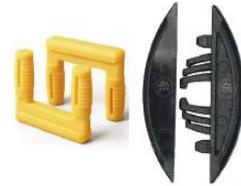
15. Stack processing

- Support stacking processing if hole position is mirror
- Mirror grooving;



16. Invisible hardware

- Machine is configured with aggregate and tools to process Lamello groove and some invisible hardware processing.



Invisible hardware

17. Side Grooving

- Side grooving by adding an saw blade head, suitable for light trough



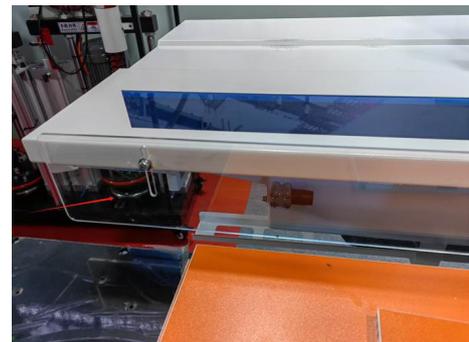
18. Removable rear working table

- Effectively avoiding collisions.



19. Anti-handling device for infeed table

- The design of acrylic plate protects the operator's hand when put board;



20. Dust collection port

- Qty 2
- $\Phi 200\text{mm} \times 1$  (top) 、 $\Phi 125\text{mm}$  (bottom)
- Air speed :  $\geq 28\text{m/min}$



21. Cable chain

- High-quality cable chain used to drag and protect electric wire and air tube during movement of each axis for longer service life.



22. Hand controller

- Hand controller makes commissioning more convenient.



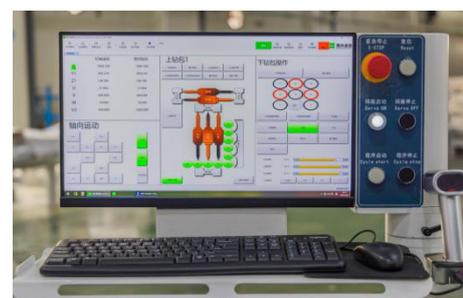
23. Control system

- SYNTEC CNC control system and Operation Software, reliable and the process efficiency is 20%-25% faster



24. Industrial computer

- Windows 10 operating system.
- All-in-one industrial computer



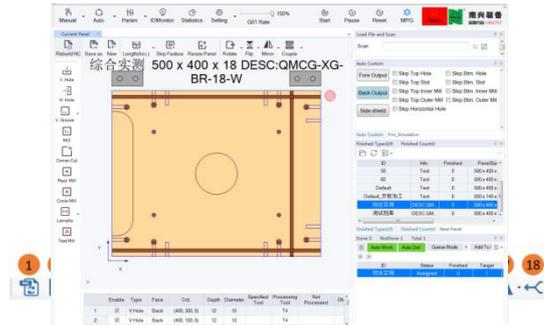
25. Excellent electrical components

- Electrical parts and components are in reliable brand, standard and clean wiring connection make machine reliability and stability.

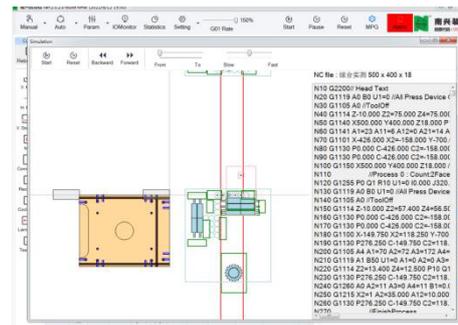


26. User-friendly operation

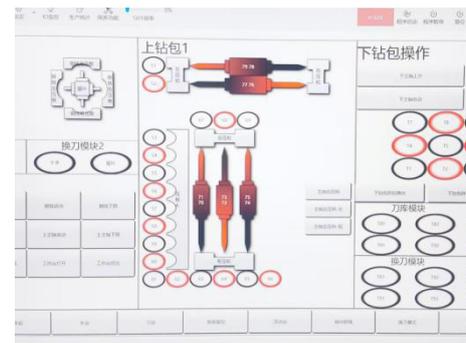
- Control interface is modern and friendly,
- Manual programming interface is easy to operate, functions are available at a glance like horizontal hole, vertical hole, grooving, flip, mirror, rotate etc.



- Simulation function;



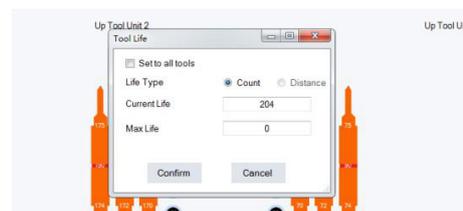
- Easy tools setting;



- Statistics function, production capacity is available at a glance;



- Set tool life, software will remind when tool is time to change for smart tool management.



27. Data interface interaction

- The equipment can be connected to the user's factory network.
- Compatible with various furniture design software. 12
- Supports multiple file formats, including MPR, DXF, BAN, BPP, PDX; XML; XXL.
- Accurately and quickly generates machining paths.
- With bar-code scanner, Scan-and-machine in one step for seamless processing.



## Option

### 1. Board thickness sensor

- Board thickness sensor to avoid the possible influence caused by putting wrong thick board



### 2. Air conditioner on control cabinet

- Control the electrical cabinet temperature in proper status for longer service life which is especially suitable for high-temperature environment



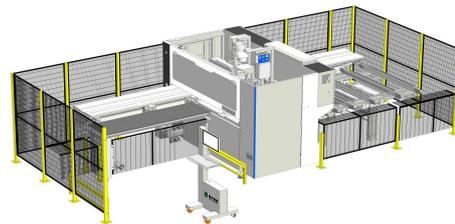
### 3. Safety light barrier

- The light barrier ensures machine won't start when operate is inside the operation range



### 4. Safety fence

- Optional safety fence around the machine to maximize the safety of operator



Technical Data

Total power	31.1 KW	
Machine size	6150×3840×2320mm	
Power supply	380V/50Hz	
Air supply	0.6-0.7MPa	
Total weight	3680Kg	
Control system	Brand	SYNTEC
Panel size	Length	200-3,000mm
	Width	30-1,220mm (aggregate working width 800mm width)
	Thickness	10-60mm
Max. traveling speed	(X/U) axis	135m/min
	Y axis	75m/min
	Z axis	30m/min
Drilling blocks	Drilling block qty	Top 2; Bottom 1
	Vert. drills qty (top)	19*2
	Horiz. drills qty (top)	(X: 3*2 + Y: 2*2)*2
	Vert. drills qty (Bottom) Max	9
	drill diameter Drill spacing	Φ35mm
	Rotation speed Shank	32mm
	diameter	5000rpm
		Φ10mm
Main spindle	qty	Top 2 bottom 1 5.5
	power	kw on top; 5.5kw crosshead spindle with C axis, [ATC2] 3.5 kw on bottom

	Tool slot from top	8 (ATC)
Dust collector	qty	2
	diameter	Top 200mm×1 Bottom 125mm×1
	speed	≥28m/min

\*Thanks for the attention!

The company continuous to improve the product specifications and design details, the specifications are subject to change without notice. 250611