

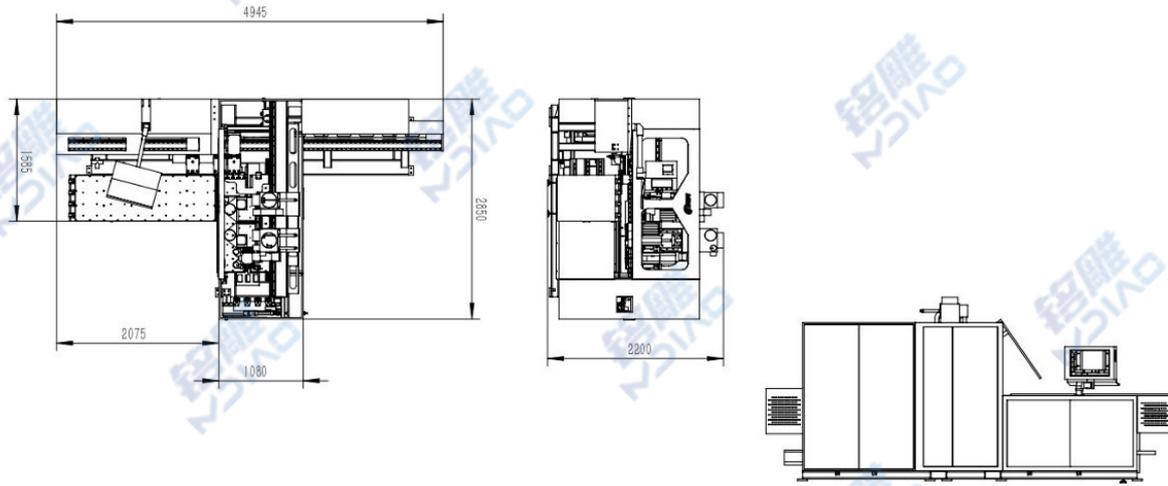
HD12D CNC Three-diamond package with six-sided diamonds

Configuration Sheet

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1. Product image display





II. Description of the technical features of the equipment

1. The "two upper drill bags, one lower drill bag" six-sided drilling system is a technological upgrade based on the standard six-sided drilling system. One upper drill bag is dedicated to machining standard system holes (such as connector holes and hinge holes), while the other can be equipped with a high-speed spindle or special tools for milling grooves (such as hidden part grooves), shaping, and even some simple engraving operations.
2. When performing machining tasks, the two upper drill bags can work like an "assembly line." After the sheet metal has had some holes machined by the first drill bag, it can immediately move to the working area of the second drill bag for subsequent milling or grooving operations without stopping. This parallel processing mode greatly reduces the pure machining time.
3. Simultaneously, a single drill bit at the bottom completes all the hole and groove machining on the bottom surface of the sheet metal, while the horizontal drill arms on both sides precisely drill holes on the four sides. This achieves one-time positioning of the sheet metal, completing all processes on all six sides.
4. Single clamping ensures extremely high relative accuracy of hole positions. Furthermore, due to the clear division of labor, the workload of each drill bit is more balanced, resulting in less wear. Dedicated tools not only ensure the optimization of each machining quality (such as smoother milled grooves and higher precision), but also easily handle the complex process requirements commonly encountered in customized production, such as machining various irregular grooves, mounting grooves, and chamfered edges, achieving a seamless integration of drilling and precision milling functions.

III. Configuration Parameters

model	M-HD12D
Packaging dimensions (XYZ) mm	5000/2900/2200
Gross Weight (kg)	3000
Total Power (kW)	25.5
Working Air Pressure (MPa)	0.6
Maximum Speed (m/min)	120(x)/100(y)/30(z)
Minimum Machining Size (L*W)	100*20
Maximum Machining Size (L*W)	2800*1300
Maximum Speed of Y-axis/B-axis	100m/min
Maximum Speed of Z-axis/C-axis	40m/min
Number of cutting tools	Up drilling: 10 vertical drills+6 horizontal drills Down drilling: 7 vertical drills+lower support plate
workpiece thickness	10-60 mm
Workpiece width	20-1300 mm
Workpiece length	100~2800mm
Air consumption	Grooving: 550L/min Drilling: 5L/min
Overall dimensions	4945/2850/2200
suction inlet	8 inches * 2 4 inches * 1
spindle power	Upper Spindle 3.5kW / Lower Spindle 3.5kW
Maximum speed of gripper	130m/min
Diamond bag brand	Taiwanese brand
control system	Hyde League
Drill clamp specifications	φ10

IV. Features of main parts of equipment and pictures



1. Three-Drill Pack + Automatic Tool Changer Spindle||:

---Three-Drill Pack : Double Drill Pack D-HD12D (Changchuan)
20V upper drill + 4*4 drill set, 97V lower drill set + lower tray.
Leapfrog drilling path significantly improves drilling efficiency.



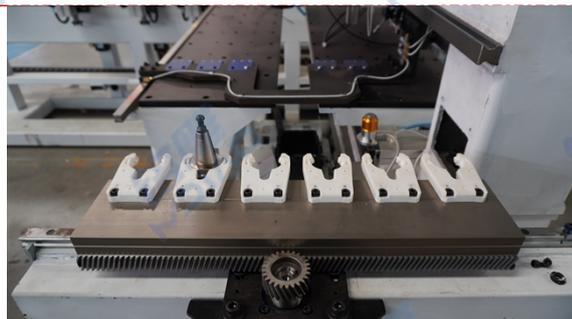
2. Automatic Tool Changer Spindle:

----Brand: Mingdiao Custom Tool Changer Spindle
----Power: 9.0KW
---The spindle is equipped with a frequency converter, which automatically adjusts the optimal speed according to the process to achieve better drilling and milling process results.



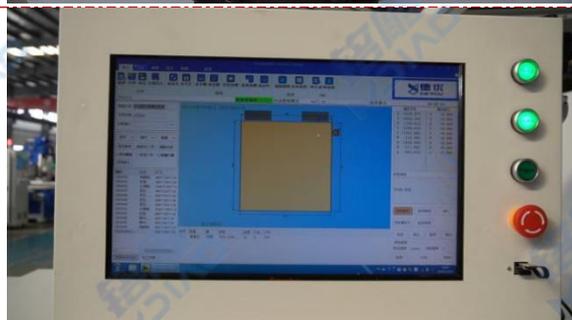
3. Diamond bag:

---Up drilling: 10 vertical drills+6 horizontal drills; Drilling: Vertical drilling of 7+pallets
Suitable for machining large-size boards with many densely distributed holes. Some high-end models, through intelligent algorithm optimization, can achieve simultaneous processing of two drill packs when the hole spacing is $\geq 64\text{mm}$, thereby improving efficiency.



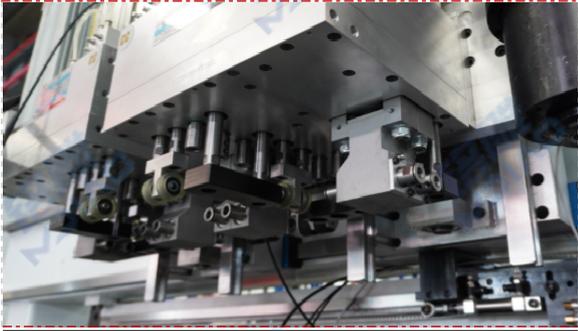
4. Six-position tool magazine:

---The right spindle of the upper machining unit is equipped with a 6-position tool magazine, which can store 6 types of grooving, milling, and other tools.



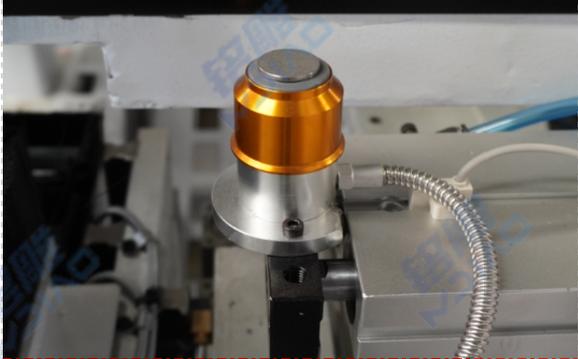
5. Control system:

---Hyde Alliance System
Computer operation + CAD/CAM, convenient operation, label scanning processing, integrating program import, processing list, graphic viewing, program processing, manual programming, and database management, can recognize multiple file formats such as xml, mpr, and bpp, accurately and quickly.



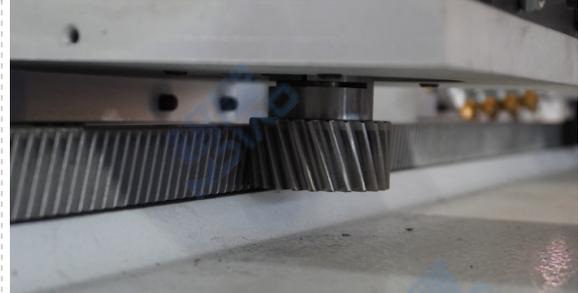
6. High speed drill bag:

--- Quantity of horizontal drills: 2*2 in the X direction, 2*2 in the Y direction; Quantity of vertical drills: 7 lower drills + lower pallet



7. Tool setter:

--- Equipped with an automatic tool setter, the tool automatically measures and corrects its origin, saving time and effort.



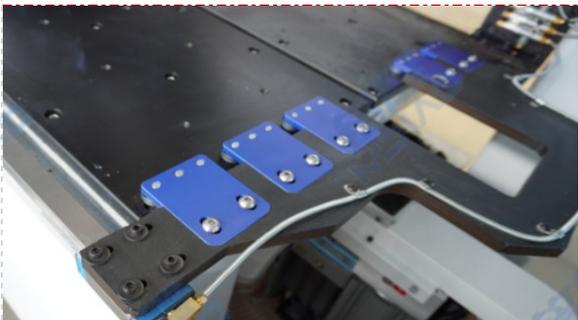
8. Servo control, gear and rack transmission:

--- High-precision servo control, combined with gear and rack transmission, is stable, durable, and easy to maintain.



9. Safety device:

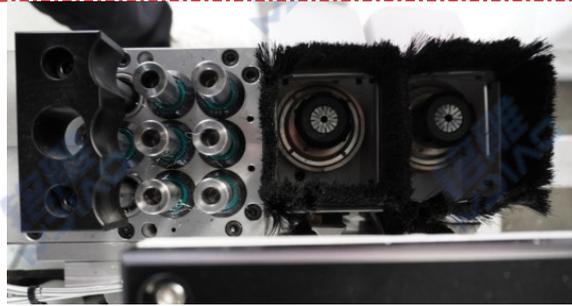
--- Added gripper guard to improve operational safety. Safety protection device to prevent accidental collision damage during equipment operation.



10. Servo side-adjusting device:

---The servo side relies on the mechanism and the side relies on the pressure plate, making the board more stable and drilling more precise.

Clamp the board from the side and check its width to ensure machining accuracy



11. Double spindle and drilling bag:

---Configure drill pack and spindle, optional dual spindle;
Cooperate with the spindle to complete synchronous slotting on both sides, improving processing efficiency



12. Heavy duty frame rack:

---The machine undergoes multiple processes such as welding, natural aging, annealing, and processing to ensure accuracy and stability



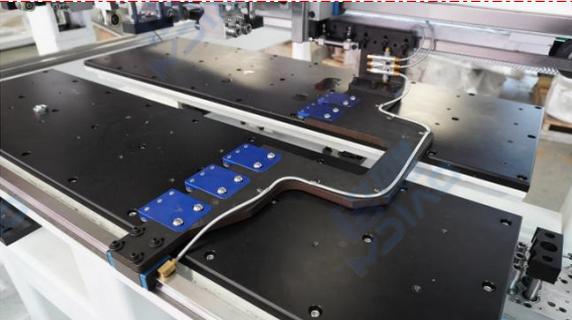
13. Dual linkage gripper (including air floating gripper block):

---The main clamping mechanism is responsible for accurately grasping and moving the board. Air flotation design can avoid damaging the surface of the board



14. Z-axis lead screw:

--- Z-axis: TBI 2510 lead screw; X/Y adopts a high-precision new type reducer (three-arc precision) from Taiwan (Mingdiao custom).



15. Air flotation table/platform:

---Using air flotation technology to lift the board and minimize friction during movement, preventing scratches and improving positioning accuracy;

Uniformly support the plate during processing to prevent deformation caused by gravity or stress and ensure consistent hole depth