Multifunctional CNC Series

CNC BUSBAR MACHINE (BENDING-PUNCHING-CUTTING)

I. Product Description

CNC busbar machine is an upgraded version of 3 in 1 busbar machine, consisting of a bending unit, a punching unit, and a cutting unit. Based on the 3 in 1 busbar machine, the operating unit adds a servo motor and a roller screw to realize the servo automatic positioning function. The operator inputs the busbar processing parameters through the PLC system, and the memory is stored to realize the automatic control of the busbar processing, which greatly improves the efficiency of busbar production. (2D/3D drawing import function is not currently supported.)

II.Product Features

Servo Bending Unit

■ Bending Unit

Adopt Siemens PLC system, servo automatic positioning, support 6 bending modes including L-type, Z-type, U-type, etc.

Different from the conventional bending unit with PLC system, the bending unit of this equipment adds a servo stopper (composed of a servo motor and a roller screw) with an effective stroke of 1000mm, which realizes the automatic positioning of the bending processing position, without the operator's manual calibration of the scale, greatly improving the automation degree and production efficiency of the busbar.

The equipment supports 6 bending modes, including L-shaped, Z-shaped and U-shaped, which can meet most bending requirements on the market. However, for bending with complex processes, customers are required to customize additional one-time forming bending molds.

The busbar bending unit supports two operation modes: automatic (6 bending modes) and limit bending. For bending operations of customized molds, the operator needs to use the limit bending module, set the forward limit stroke and backward limit stroke parameters, and manually press the forward or backward button for debugging, and then perform busbar bending. The limit bending mode solves the efficiency problem of unconventional bending and makes up for the shortcomings of the automatic operation mode.

6 Bending Modes

The bending unit supports memory storage function, supports up to 50 bending programs, and each program can store 99 sets of bending parameters.

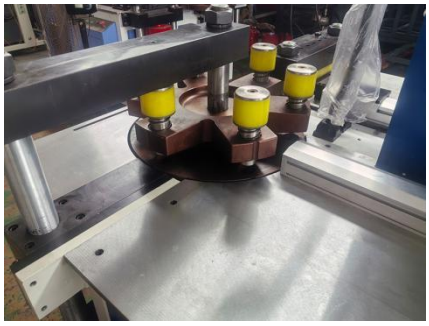
◒ Tip: Our equipment is generally configured with R3, R5, R10, R80 and U-shaped molds by default, which can meet the conventional busbar bending requirements in the world. However, if you have special bending requirements, or the distance between the two bends is less than 40mm, please contact our technical engineers for consultation.

■ Punching Unit

6 punching stations, servo automatically locates the busbar punching position, supports round, oval, square and rectangular hole processing.

The 6 punching stations are designed with servo stoppers with an effective stroke of 1000mm and servo stoppers with an effective stroke of 150mm. The servo motor and roller screw are controlled by PLC to realize the automatic positioning of the busbar punching position, which greatly improves the efficiency of busbar punching.

The punching unit can punch round holes, oval holes, rectangular holes, square holes, including busbar chamfers. The punching range is φ4-φ30, the punching section is smooth and burr-free, and the error is ±0.1mm.



Servo Punching Unit

Width Servo stopper

Length Servo Stopper

■ Cutting Unit

The cut section is smooth and burr-free, and the tearing area is less than 25%.

The cutting die is made of high-quality alloy steel with high hardness and good wear resistance. It is matched with a stable and powerful hydraulic system. The cutting section is free of burrs and the tearing zone is controlled below 25%.

Servo Cutting Unit

■ **Hydraulic System**

Driven by 3 motors, corresponding to the bending, punching and cutting units, supporting 3 operators working simultaneously.

The hydraulic power is provided by a full copper high-power motor, which is stable and reliable, and the hydraulic system maintains excellent performance during long-term continuous operation. The unique solenoid valve design can make the valve core move quickly, with a short response time, improve the responsiveness of the operating unit, greatly reduce the loss rate of the busbar, and ensure the beauty of the busbar processing section.

Hydraulic Center

PLC Control Cabinet

■ **Electrical Control Box**

Adopting Siemens PLC system, the busbar processing accuracy is high and the operation unit responds quickly.

The electrical control cabinet uses Siemens electronic components, which are internationally renowned brands that are more durable, versatile and have low maintenance costs. Customers from any country or region can purchase backup components in the local market to reduce downtime losses caused by the difficulty in purchasing components.

III. Technical Parameters

Mold	MAC-303CN PRO	MAC-503CN PRO	MAC-803CN PRO
Max Bending Thickness/Width	12mm/160mm	16mm/250mm	20mm/300mm
Max Cutting Thickness/Width	12mm/160mm	16mm/250mm	20mm/300mm
Bending Error	±0.3°	±0.3°	±0.3°
Bending Servo Effective Stroke	1000mm	1000mm	1000mm
Punching Diameter	Φ4.3－Φ30	Φ4.3－Φ30	Φ4.3－Φ30
Punching Unit Turret Station	6	6	6
Punching Servo Length Effective Stroke	1000mm	1000mm	1000mm
Punching Servo Width Effective Stroke	150mm	150mm	150mm
Punching Error	±0.1mm	±0.1mm	±0.1mm
Cutting Servo Length Effective Stroke	1000mm	1000mm	1000mm
Cylinder Pressure	300KN	500KN	800KN
Motor Power	4KW*3	5.5KW*3	7.5KW*3
Voltage	380V 50HZ	380V 50HZ	380V 50HZ
Having PLC Controller	3 set	3 set	3 set
HIM Mobile Panel	3 set	3 set	3 set
Language	Chinese/English	Chinese/English	Chinese/English
System	Siemens	Siemens	Siemens

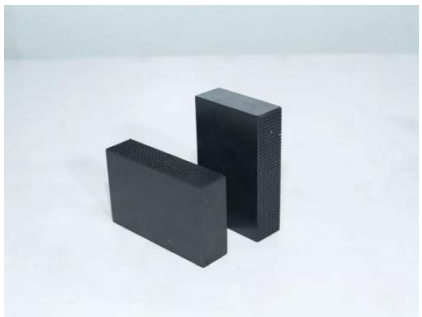
Note: If the industrial voltage in your area is not 380V 50HZ, please inform our technical engineer when placing an order. Our factory can customize special voltage for you, such as 400V 60HZ, 415V 50HZ, 220V 60HZ.

IV. Mold and Accessories

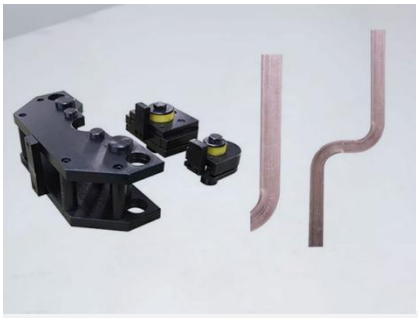
Round Punching Mold	Ø7, Ø9, Ø11, Ø13, Ø17
Oval Punching Mold	Ø11×15, Ø13×18, Ø17×21
Bending Mold	R3, R5, R10, R80 or R50, U-SHAPE Mold
Embossing Mold	1 set
Cutting Mold	1 set
Twist Mold (option)	1 set

Bending Mold

Punching Mold

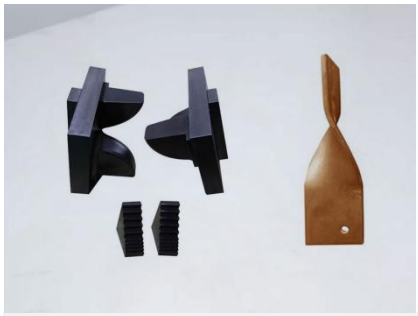


Embossing Mold



Bending Mold R80

Cutting Mold



Twist Mold

V. Customer Service

1. The overall quality guarantee of the equipment is 1 year, and the system is upgraded for free for life.
2. Delivery time: 15working days.
3. After the equipment arrives at the customer's site for the first time, our factory technical engineers will arrive at the site to guide customers to install and debug the equipment free of charge, and provide training, but the travel expenses (air tickets, accommodation) incurred must be borne by the buyer.