

MINTECH

CNC SOLUTIONS

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Model MT44



Model MT48



Model MT510

MINTECH CNC ROUTER MT SERIES



Product Overview

The MT Series features an integral cast structure for both the machine base and the gantry beam, ensuring exceptional overall rigidity and superior vibration resistance. Under high-speed cutting conditions, the machine maintains stable motion accuracy over extended periods, thereby enhancing both equipment durability and operational reliability. The integral casting design significantly minimizes structural deformation and improves the machine's dynamic response speed, consistently guaranteeing high-precision and stable machining performance.

The standard configuration encompasses three core models-the MT44, MT48, and MT510-offering flexible options to suit various requirements. The machining zone is equipped with a fully enclosed, waterproof protective enclosure that effectively prevents cutting fluid spillage and splashing, providing comprehensive protection for the machine's core precision components.

The equipment is compatible with a wide range of materials-including copper, aluminum, engineering plastics, and insulating boards-and is perfectly suited for water-cooled machining applications. It allows for seamless switching between dry and wet machining modes, effectively enhancing workpiece surface finish and extending tool service life.

Performance Advantages:

- **Heavy-Duty Precision Metalworking:** Specialized in processing metals such as copper, aerospace-grade aluminum, and mold aluminum plates. Utilizes emulsion-based cooling to ensure stable, vibration-free cutting.
- **Fiberglass/Epoxy Board Processing:** Optimized for machining composite materials such as FR4 fiberglass and insulation boards. Employs a pure water cooling method-an eco-friendly solution.
- **Engineering Plastics/Plastic Sheet Processing:** Designed for machining engineering plastics such as acrylic, POM, and PC. Supports both dry cutting and cold-air cooling methods.
- **Versatile Multi-Condition Processing:** A single machine model offers the flexibility to seamlessly switch between wet cutting and dry processing modes. It perfectly accommodates the diverse material and process requirements.

Applicable Materials

- **Copper Materials:** Pure copper, brass, bronze, and various other copper and copper alloy plates and profiles; ideal for machining heavy-duty, precision copper components, ensuring exceptional processing accuracy and surface finish.
- **Aerospace Aluminum:** 2024, 5052, 6061, 7075, and other aluminum alloy series; specifically engineered for aerospace-grade aluminum processing to prevent deformation during machining, meeting the rigorous demands of high-end manufacturing.
- **Composite Materials:** Epoxy board, FR4 fiberglass, carbon fiber, aluminum honeycomb panels, synthetic stone, and similar materials; suitable for the precision machining of composites, featuring dust-resistant properties and ease of cleaning.
- **Engineering Plastics:** Acrylic (PMMA), POM, PC, PET, Nylon (PA), ABS, PE, PVC, and others; capable of precision machining a wide range of engineering plastics, balancing processing efficiency with superior aesthetic quality.
- **Non-Metallic Sheet Materials:** Various high-density boards, insulation panels, synthetic wood substitutes, and similar materials; designed for the fine machining of non-metallic substances, suitable for applications such as mold fabrication, insulation components, and other specialized processing scenarios.



Technical Specifications

Model	MT44	MT48	MT510
Machine Dimension	110" X 83" X 87" (2800 X 2100 X 2200 mm)	169" X 83" X 87" (4300 X 2100 X 2200 mm)	105.0" X 225.4" X 98.3" (2666 X 5725 X 2496 mm)
Machine Weight	8800lbs (4000Kg)	12320lbs (5600Kg)	22,000lbs (10,000Kg)
Machining Travel (X/Y/Z)	51.2" X 51.2" X 8.7" (1300 X 1300 X 220 mm)	51.2" X 102.4" X 8.7" (1300 X 2600 X 220 mm)	59.0" X 118.1" X 13.8" (1500 X 3000 X 320 mm)
Worktable Size	4' X 4' (1,300 X 1,300 mm)	4' X 8' (1,300 X 2,600 mm)	5' X 10' (1,500 X 3,000 mm)
Max. Load	1100 lbs (500Kg)	2200 lbs (1000Kg)	3300 lbs (1500Kg)
Machine Structure	Cast Iron Base + Granite	Cast Iron Base	
Sheet Metal Frame	Partial Guard		2.2M Protective
Max. Rapid Rate (X/Y/Z)	1889" (48mm)	1417" (36mm)	945" (24mm)
Max. Feed Rate (X/Y/Z)	708" (18mm)	590" (15mm)	472" (12mm)
Rated Power	10Kw		23Kw
Spindle Power	7.5KW		11Kw
Max. Spindle Speed	24,000rpm (Φ120)		18,000 rpm (Φ150)
Tool Magazine Capacity	Straight-line Tool Magazine 16T		Servo disc tool change 20T
Tool Holder Type	NBT30-SK10/16		NBT40-SK10/16
Guide Rail Specifications (X/Y/Z)	Ball guide rails 30/30/30		Roller guide rail 35/45/35
Number of Z-axis Sliders (pcs)	4		6
Zoned Control of Vacuum Table	Zone2		Zone3
Position Accuracy	0.0006" / 0.0006" / 0.0003" (0.015 / 0.015 / 0.008 mm) (X/Y/Z)		
Repeatability	0.0002" / 0.0002" / 0.0003" (0.005 / 0.005 / 0.00762 mm) (X/Y/Z)		
Workpiece Clamping Method	Vacuum / clamp		
Auxiliary Worktable Material	Aluminum Alloy		
Vacuum Chuck Groove Width	0.236" (6mm)		
Tabletop Screw Hole Specs	M8 x 21mm		
Spindle Cooling Machine	Oil coolers		
Coolant Flush / Air Blast	Standard		
Tool Setter	Standard		
Drive System	Weihong AC Servo		
Power Supply	3-Phase, 208-240V / 60Hz		
Air Pressure	0.6 MPa		
Lubrication Systems	Standard		
Controlling Cabinet Size	28.5" x 23.9" x 83.3" (726 x 608 x 2115 mm)		N/A
Water Tank	304 SS, 200L		

Note: Machine positioning accuracy does not represent actual processing accuracy. Actual cutting accuracy is affected by materials, cutting tools, processing techniques, ambient temperature and other factors.

