

MINTECH

CNC SOLUTIONS

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Model
TR48



Model
TR510



Model
TR720



MINTECH CNC ROUTER TR SERIES

Product Overview

The Mintech TR Series CNC Router is a highly regarded industrial-grade CNC machine, delivering exceptional performance and outstanding value for businesses of all sizes as well as professional machining applications. Equipped with a high-power spindle and an automatic tool-changing system, it ensures efficient, high-quality engraving and cutting—particularly suitable for industries requiring intensive processing of plastics, composite materials, flexi sign and more.

Key Features:

1. Powerful Spindle Performance.
2. Automatic Tool-Changing System
3. Stability and High Precision
4. Versatile Material Compatibility
5. User-Friendly Design
6. Cost-Effective Performance
7. Flexible Custom CNC Router Solutions

Applications:

- Plastics Processing
- Composite Materials
- Furniture & Interior Design
- Metal Decoration
- Advertising & Signage

Performance Advantages:

- Excellent value proposition with professional-grade performance
- Reliable operation with minimal maintenance requirements
- Easy setup and operation suitable for various skill levels
- Wide material compatibility including wood, plastics, and composites
- Consistent quality results for production and custom applications
- Rooted in the U.S., with CNC equipment training & maintenance in California and nationwide

The TR Series CNC Router is the ideal entry point into professional CNC machining. It combines reliability with high performance, meeting the demands of industrial production while maintaining accessibility and ease of use for operators of all skill levels.

Applicable Materials

Plastics and Polymers

- PMMA (acrylic), PC, PVC, PETG, POM, PE, PP, etc.

Composite Materials

- Insulation boards, aluminum composite panels, honeycomb panels, carbon fiber composites, fiberglass (FRP), and MDF.

Wood and Decorative Materials

- Solid wood, plywood, MDF, and acrylic.

Non-Ferrous Metals

- Copper and aluminum.



Technical Specifications

Model	TR48	TR510	TR720
Working Area	4' × 8' (1250 × 2500 mm)	5' × 10' (1530 × 3060 mm)	7' × 20' (2000 × 6000 mm)
Dimensions	133" × 87" × 83"	154" × 97" × 83"	272" × 114" × 83"
Weight	3400 lbs	4500 lbs	8900 lbs
Work Area and Capacity	• Z-Axis Travel: 11 inches (280 mm). • Material Thickness: Up to 5 inches (130 mm). • Cutting Thickness: Up to 4 inches (100 mm) with appropriate tooling. • Worktable Surface: Phenolic composite grid vacuum table with aluminum T-slots.		
Control System	• File Format Support: DXF, AI, CDR, NC, G-code with automatic G-code generation. • Interface: Integrated industrial control computer with a handheld motion controller. • Communication Protocols: MODBUS/TCP, OPC UA, MT CONNECT.		
CAM Software Compatibility	Compatible with industry-standard software like VCarve, Aspire, Alphacam, Engview, MasterCAM, Enroute, Type 3 and others		
Motion and Drive	• Movement Type: Gantry movement. • Drive System: Servo-driven motors. • Transmission: ▪ XY-Axis: Helical rack-and-pinion with linear guides. ▪ Z-Axis: Ball screw with linear guides. • Speed: Max travel speed of 131 ft/min (40 m/min). • Precision: ±0.004 inches (±0.05 mm/300 mm). • Repeatability: ±0.002 inches (±0.05 mm).		
Spindle	• Power: 12 HP (9 kW). • Speed: Up to 24,000 RPM (air-cooled). Options include Hiteco or HSD spindles. • Tool Holder: ISO 30. • Tool Change: ▪ 5-position linear tool rack. ▪ 6-position linear tool rack. ▪ 12-position linear tool rack.		
Power and Utility Requirements	• Main Power: 208-240V, 3-phase, 60 Hz, 30A. • Compressed Air: 0.6-0.8 MPa (87-116 psi), ≥3-5 CFM (85-140 L/min). • Vacuum Requirements: 117.7-176.6 CFM (200-300 m³/h), vacuum pressure ≥85 mbar (8500 Pa).		
Misting / Lubricating System	Includes flexible loc-line nozzles for adjustable coolant or mist delivery to the cutting area, ensuring efficient lubrication and extended tool life.		
Environmental Requirements	• Temperature: 10-40°C • Humidity: 40-60%		
Optional Upgrades	• CCD Camera: Automatically scans marks/QR codes to locate files & paths. • Optional Knife System UpgradeOscillating Knife: Cuts foam, rubber, textiles. • Drag Knife: Precision cutting for vinyl, cardboard, thin materials. • Tangential Knife: Accurate cutting for leather, thick materials. • CNC System: Syntec / Siemens		
Advantages	• Powerful Spindle: ▪ Suitable for intensive processing of hard materials. • Automatic Tool Changing: ▪ Enhances productivity with efficient multi-process switching. • Versatile Compatibility: ▪ Support a wide range of materials and industries. • Cost-Effective Performance: ▪ Delivers high-end capabilities at an affordable price.		