

MINTECH

CNC SOLUTIONS

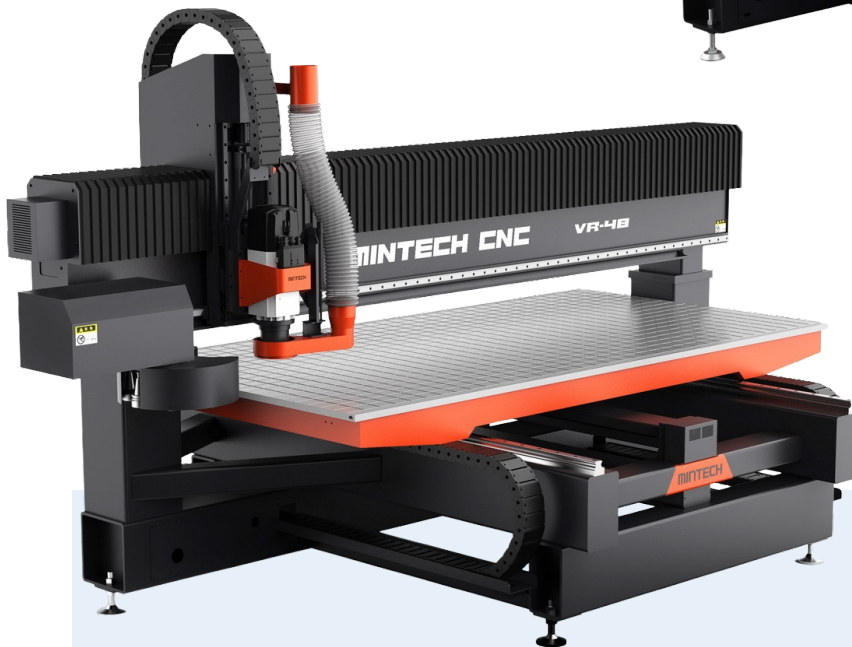
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Model VR22



Model VR44



Model VR48

MINTECH CNC ROUTER VR SERIES



Product Overview

The VR Series Mintech CNC Router is a high-performance machine specifically designed for Precision CNC Machining. Featuring a full ball screw transmission system, it ensures exceptional accuracy and outperforms traditional rack-and-pinion models, particularly in Plastic and Aluminum Sheet Cutting applications where high precision is critical.

With its moving table structure for convenient material handling and a high-efficiency rotary automatic tool changer, the VR Series maximizes productivity and represents the ideal choice for industries seeking advanced CNC Solutions that combine both precision and efficiency.

Key Features:

1. High-Precision Ball Screw Transmission
 - All three axes utilize ball screw transmission, delivering higher accuracy than rack-and-pinion systems. This makes it ideal for Ultra-precision CNC Router applications requiring complex details and strict tolerances.
2. Moving Table Structure
 - The moving working table design ensures a stable frame while allowing easy material loading and unloading, significantly improving operational efficiency—especially suitable for Plastic and Aluminum Sheet Cutting.
3. Efficient Rotary Tool Changer
 - Equipped with a rotary automatic tool changer, enabling fast and stable tool changes. Perfect for multi-step machining, it dramatically reduces cycle times and increases throughput.
4. Robust Structural Integrity
 - Constructed with a high-strength welded steel frame, stress-relieved through thermal treatment, the VR Series ensures long-term durability and stability even under heavy-duty production demands.

Applications:

- Precision Manufacturing
- Furniture & Decoration
- Advertising & Signage
- Industrial Component Machining
- Aerospace & Automotive

The VR Series Mintech CNC Router is the ideal choice for manufacturers requiring high-precision CNC Solutions. Built with premium components and engineered to exacting standards.

Applicable Materials

Metal Materials

- Copper, aluminum, and other light metals.

Plastics and Polymers

- Includes PC, PMMA, PETG, POM, and other engineering plastics.

Composite Materials

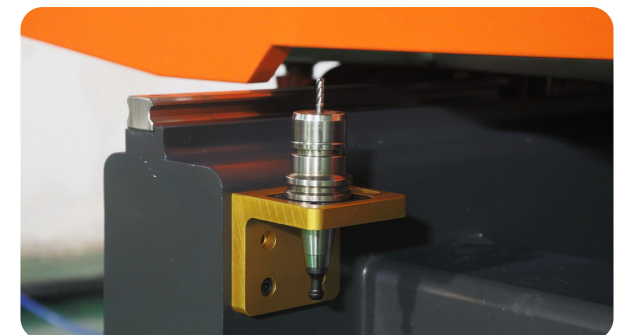
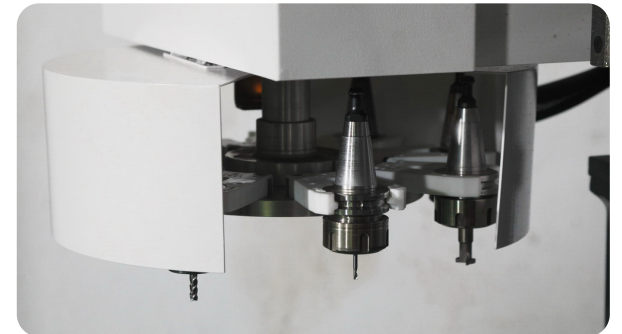
- Carbon fiber composites, aluminum composite panels, honeycomb panels, insulation boards, and other industrial composites.

Composite Materials

- Precision machining of insulation boards, honeycomb panels, carbon fiber composites, and other advanced materials.

Wood and Hard Materials

- Solid wood, plywood, MDF, and other rigid materials.



Technical Specifications

Model	VR22	VR44	VR48
Working area	2'× 2' (610 × 610 mm)	4' × 4' (1250 × 1250 mm)	4' × 8' (1250 × 2500 mm)
Worktable surface	T-slot aluminum table	Phenolic composite vacuum table with precision-milled grid and T-slot aluminum.	
Dimensions	67" × 71" × 83" (1700 × 1800 × 2100 mm)	102" × 87" × 90" (2600 × 2200 × 2300 mm)	146" × 87" × 90" (3700 × 2200 × 2300 mm)
Weight	1800 lbs	To Be Determined	
Z-Axis Travel	11 inches (280 mm)	13 inches (330 mm)	
Material Thickness	Up to 5 inches (130 mm)	Up to 7 inches (180 mm)	
Cutting Thickness	Up to 4 inches (100 mm) with appropriate tooling.		
Spindle Power	5.3 HP (4 kW), 4,0000 RPM	12 HP (9 kW), 24,000 RPM	
Cooling method	Water Cooling	Air Cooling	
Spindle Options	Hiteco or HSD spindles.		
Tool Holder	ISO 20	ISO 30	
Tool Clamping	ER 20	ER32	
Tool Changing System	6-position rotary tool changer	8-position rotary tool changer	
Control System	- CNC System: Supports DXF, AI, CDR, NC, G-code formats for 2D and 3D machining. - Compatible Systems: Weihong, Syntec, Siemens industrial-grade CNC systems. - Interface: LCD with industrial control HMI and handheld controller.		
CAM Software Compatibility	Compatible with industry-standard software like VCarve, Aspire, Alphacam, Engview, MasterCAM, Enroute, Type 3 and others		
Drive System	- Motion Type: Moving table design. - Drive Type: Servo-driven motors. - Transmission:Ball screw with linear guides on XYZ axes. - Speed:Max travel speed: 92 ft/min (28 m/min). - Precision:Positioning accuracy: ±0.004 inches (±0.05 mm). - Repeatability: ±0.002 inches (±0.05 mm).		
Spindle	- Power: 12 HP (9 kW). - Speed: 24,000 RPM (air-cooled). - Options: Hiteco or HSD spindles. - Tool Holder: ISO 30 with ER32 collets.		
Power Requirements	- Main Power:VR22: 208 - 240V, 3-phase, 60 Hz, 30A. - VR44 / VR48: 208 - 240V, 3-phase, 60 Hz, 63A. - 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%.		
Available Configurations	- Optional high-resolution CCD camera for precise positioning and material alignment. - Optional automatic tapping system. - Optional 4-axis / 5-axis multi-axis system		
Advantages	Unmatched Precision: - Ball screw transmission ensures accuracy for even the most demanding applications. Efficient Operation: - Moving table design simplifies material handling and boosts productivity. Advanced Tooling: - High-speed rotary tool changer supports complex multi-step machining with minimal downtime. Robust Construction: - Durable frame ensures long-term reliability and consistent performance. Versatility: - Handles a wide range of materials and applications, from industrial parts to decorative elements.		