Genmitsu 3030-PROVer MAX

Genmitsu 3030-PROVer MAX CNC Router Machine User Manual

Model: 3030-PROVer MAX | Brand: Genmitsu

1. INTRODUCTION AND OVERVIEW

The Genmitsu 3030-PROVer MAX is a desktop CNC router designed for precision carving and milling across various materials. This manual provides essential information for the safe and effective operation, assembly, and maintenance of your machine.

Image 1.1: The Genmitsu 3030-PROVer MAX CNC Router Machine, showcasing its compact design and included 710W spindle motor.

2. KEY FEATURES

- **Metal Carving Capability:** Capable of cutting 2mm thick aluminum stock and other materials directly from your desktop.

- **High Precision:** Achieves accuracy down to 0.05mm, supported by dual linear guides and ball screws on the X, Y, and Z axes.

- **Quick Assembly:** Designed for assembly in approximately 10 minutes, featuring indexed parts and a Y-axis notch for easy alignment.

- **Robust Spindle Motor:** Includes a 710W spindle motor with a rotation speed range of 6500-30000 RPM, adjustable across

6 speeds, with constant torque control and soft start.

- **ER11 Collet System:** Comes with a customized 1/8" ER11 collet and nut for secure and precise bit holding. Compatible with shank diameters from 1-8mm to 1/4" (additional collets not included).

- **Sealed Dust-Proof Design:** X and Y axes feature dust-proof covers for linear guides and ball screws, simplifying maintenance and extending component life.

- **Versatile Control:** Equipped with an offline controller for project management without a computer connection.

- **Expandability:** Supports a 4th Axis Module for advanced carving capabilities.

- **Material Compatibility:** Suitable for engraving and milling various materials including solid wood, metal, acrylic, carbon fiber, and PCB.
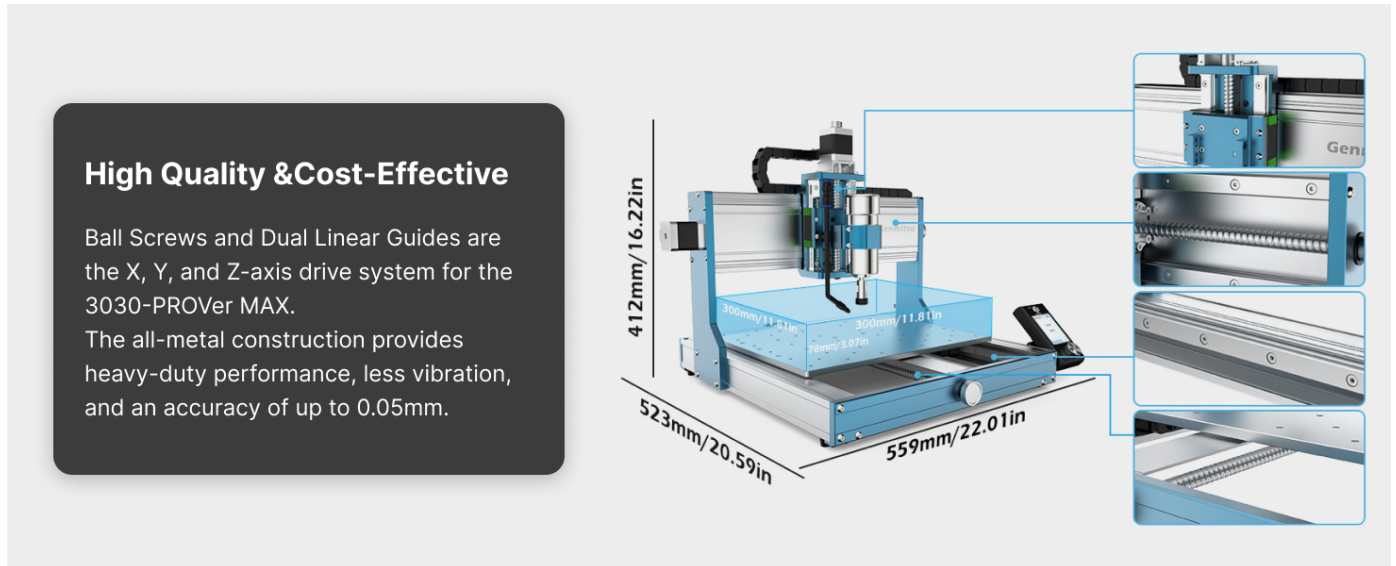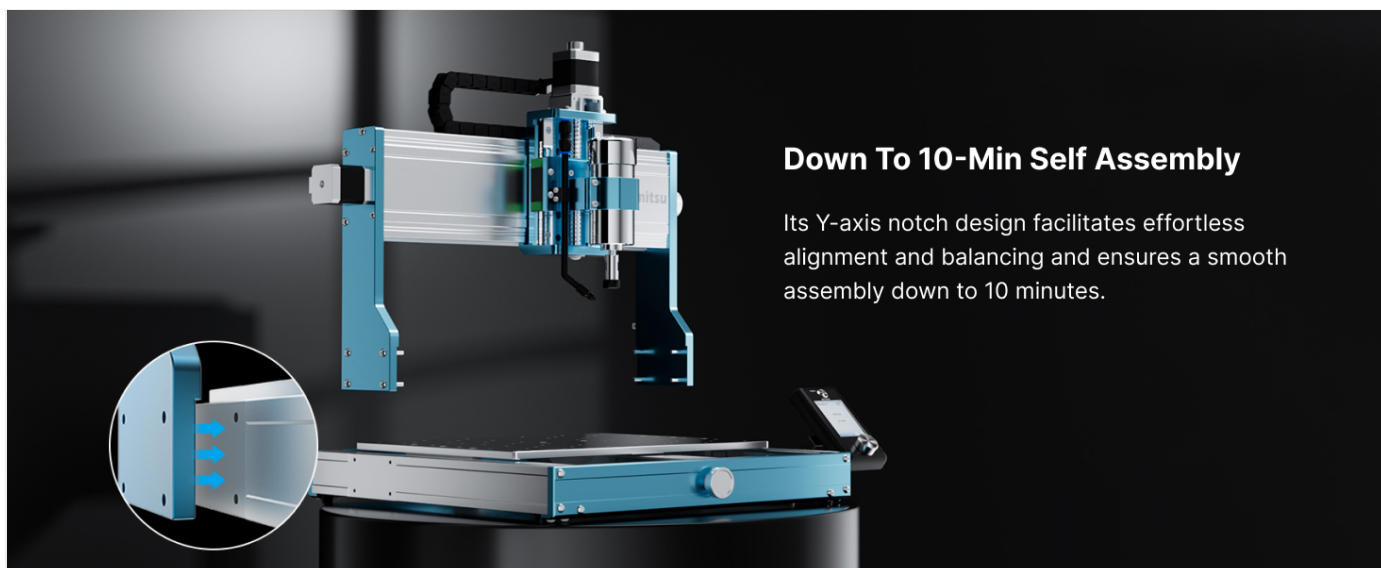

Image 2.1: Illustration of the machine's dimensions and detailed views of the ball screws and dual linear guides on the X, Y, and Z axes, highlighting precision engineering.

3. ASSEMBLY INSTRUCTIONS

The Genmitsu 3030-PROVer MAX is designed for rapid assembly. Follow these general steps for setup:

1. **Unpack Components:** Carefully remove all parts from the packaging and verify against the packing list.

2. **Base Assembly:** Secure the main base frame components.

3. **Y-Axis Alignment:** Utilize the Y-axis notch design for easy alignment and balancing of the gantry.

4. **Gantry Installation:** Attach the gantry to the base, ensuring smooth movement along the Y-axis.

5. **Spindle Motor Mounting:** Install the 710W spindle motor into its designated holder on the Z-axis.

6. **Wiring Connections:** Connect all motor, limit switch, and controller cables according to the provided wiring diagram.

7. **Initial Power-Up:** Connect the power supply and perform an initial power-up to check for basic functionality.

Detailed, step-by-step assembly instructions with diagrams are provided in the separate assembly guide included with your product. Refer to that guide for specific fastening and connection details.
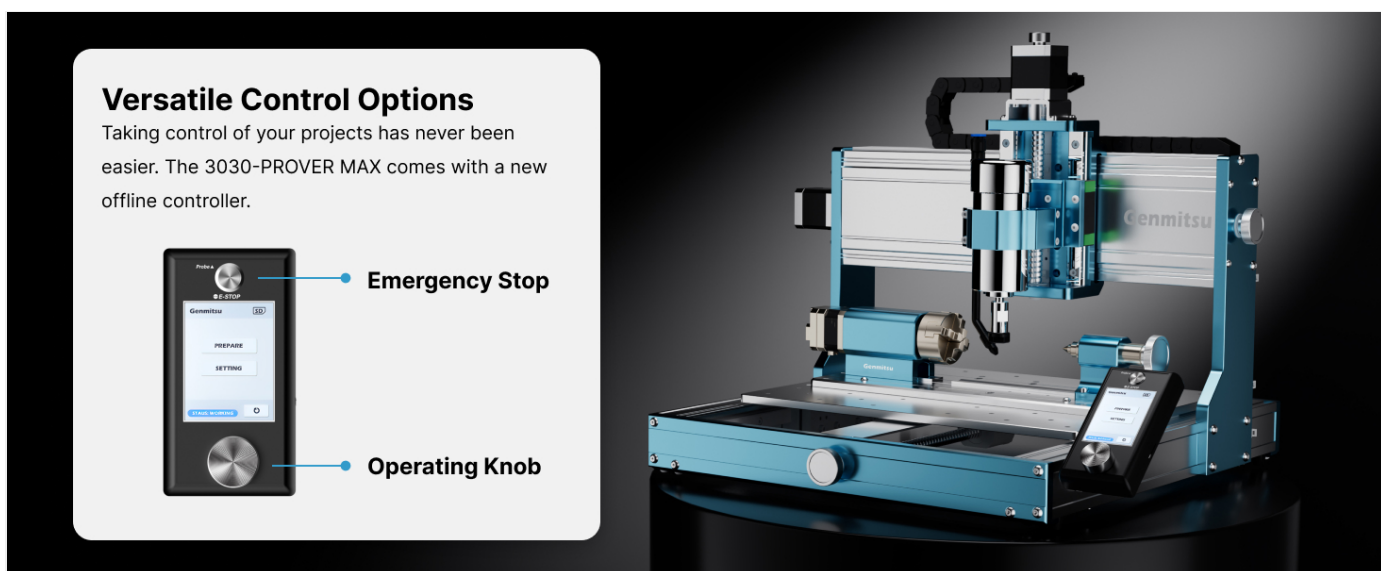
Image 3.1: Close-up view illustrating the Y-axis notch design, which facilitates quick and accurate assembly of the machine.

4. OPERATION GUIDE

4.1 Offline Controller

The 3030-PROVer MAX features an offline controller, allowing you to manage and execute carving projects without a direct computer connection. The controller typically includes:

- **Emergency Stop Button:** For immediate cessation of all machine operations in case of an emergency.
- **Operating Knob:** Used for navigation through menus, adjusting parameters, and manual control of axes.
- **Display Screen:** Shows current status, coordinates, and menu options.

Image 4.1: The Genmitsu 3030-PROVer MAX with a detailed view of its offline controller, highlighting the emergency stop button and operating knob for intuitive control.

4.2 Spindle Motor Operation

The 710W spindle motor offers adjustable speeds for various materials and cutting requirements.

- **Speed Adjustment:** Use the 6-level speed adjusting dial on the spindle motor to set the desired RPM (6500-30000 RPM).
- **Power Switch:** The ON/OFF switch controls the spindle motor's power.
- **Collet Installation:** Ensure the 1/8" ER11 collet and cutting bit are securely installed before operation. Refer to the spindle

manual for detailed collet changing procedures.

6-Level Speed Adjusting Dial

Fast Heat Dissipation

Switch ON/OFF
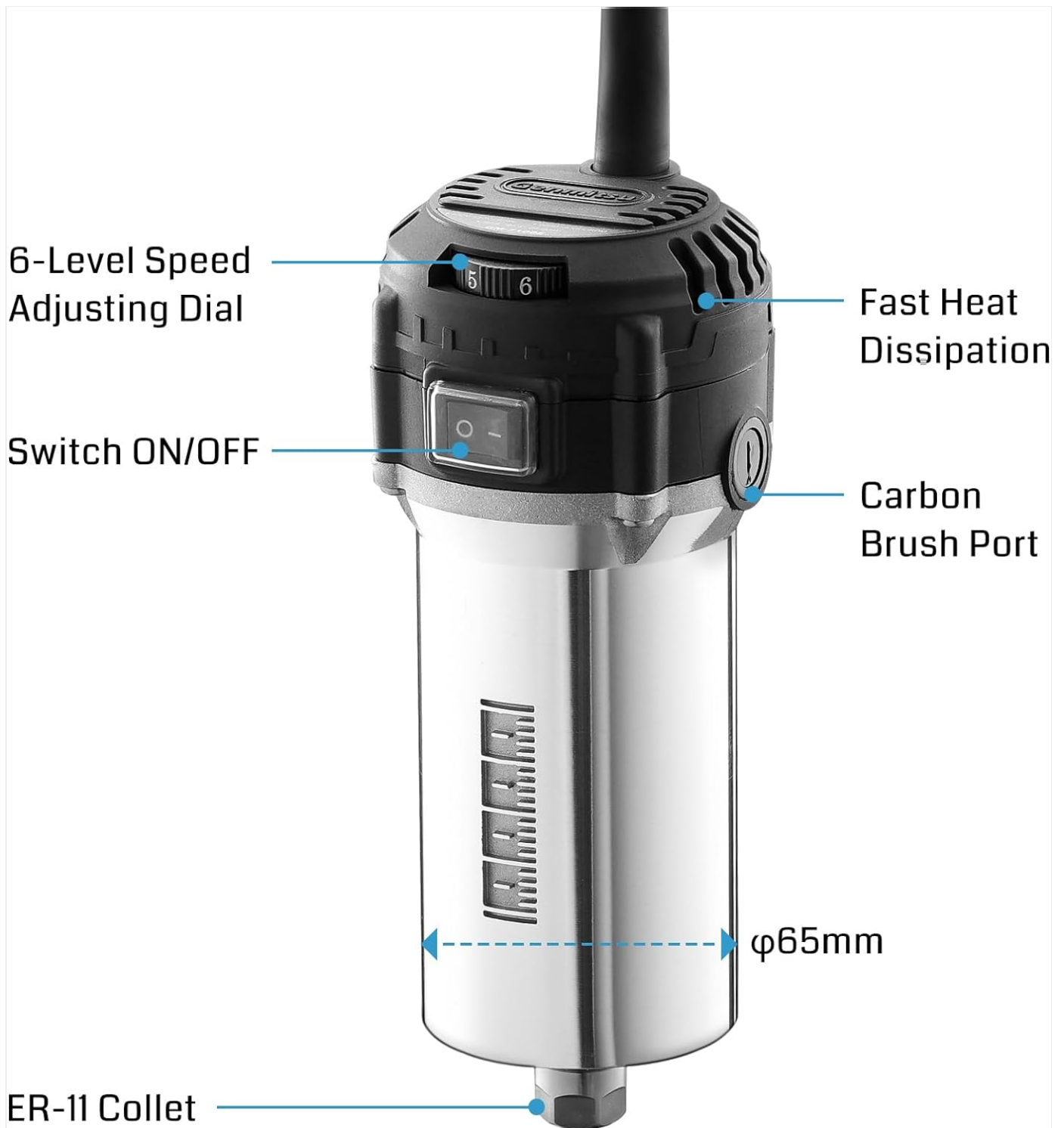
Carbon Brush Port

φ65mm

ER-11 Collet

Image 4.2: Detailed view of the 710W spindle motor, indicating the 6-level speed adjusting dial, ON/OFF switch, carbon brush port, and the ER-11 collet.

Image 4.3: The spindle motor actively carving, with icons indicating its 710W power, 7000-30000 RPM range, and fast heat dissipation capabilities.

Image 4.4: Illustration of the ER11 collet's compatibility with different shank diameters, including 1-8mm, 1/4 inch, and 1/8 inch, noting that 1/4" and 1-8mm collets are sold separately.

4.3 Material Compatibility

The 3030-PROVer MAX is versatile and can process a wide range of materials:

- **Metals:** Aluminum (up to 2mm thickness)
- **Wood:** Various types of solid wood
- **Plastics:** Acrylic, ABS, PVC
- **Composites:** Carbon fiber
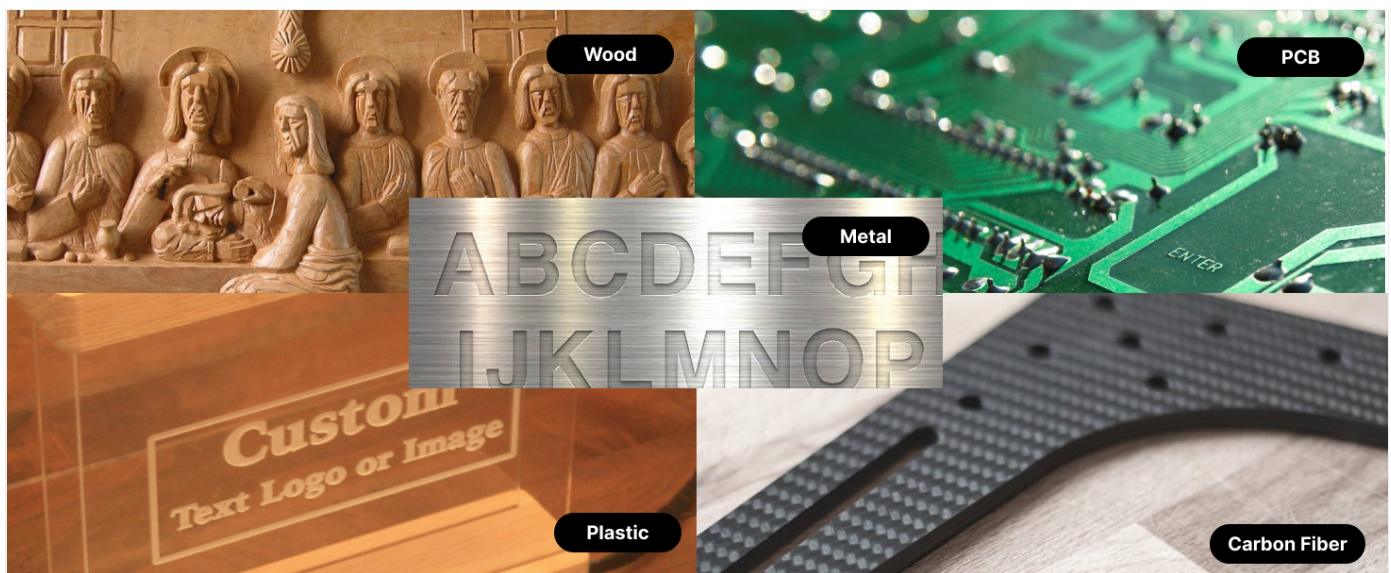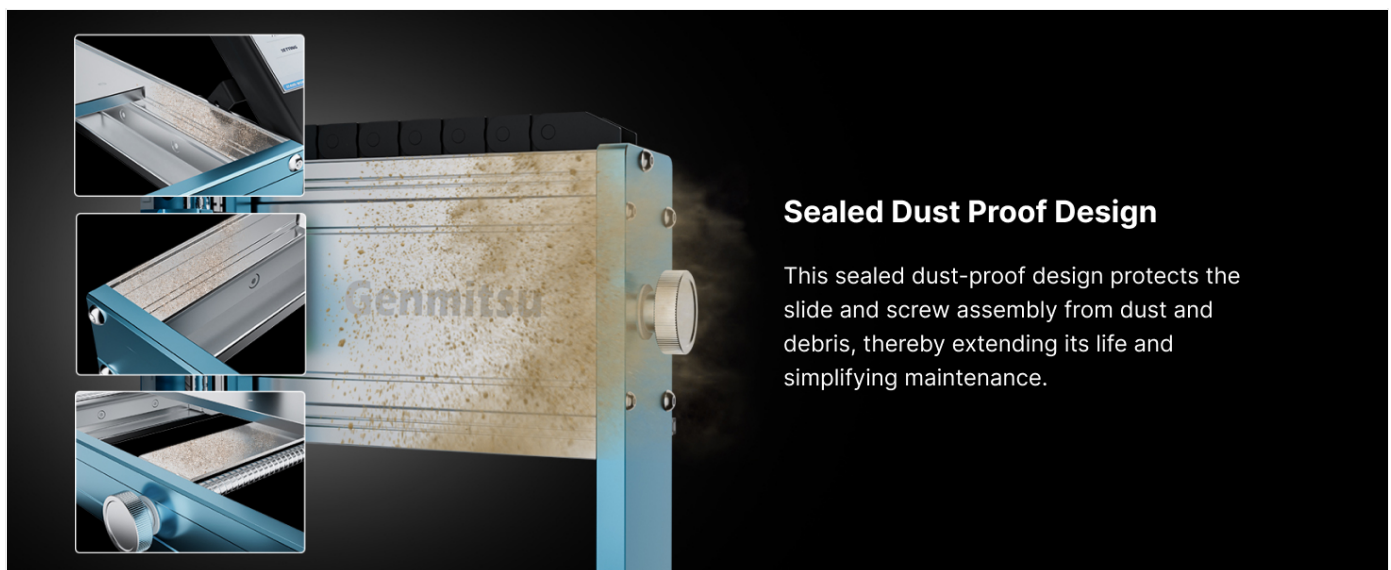- **Electronics:** PCB boards

Image 4.5: A collage demonstrating various materials suitable for carving with the Genmitsu 3030-PROVer MAX, such as wood, PCB, metal, plastic, and carbon fiber.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your CNC router.

- **Dust Management:** The X and Y axes are equipped with sealed dust-proof covers. Regularly inspect and clean these covers to prevent debris accumulation on linear guides and ball screws.
- **Cleaning:** After each use, clean the work area and machine components to remove dust, chips, and debris. Use a soft brush or compressed air.
- **Lubrication:** Periodically lubricate the linear guides and ball screws as recommended in the detailed maintenance guide (if provided separately).
- **Component Inspection:** Regularly check all screws, nuts, and connections for tightness. Ensure all cables are free from damage.

Sealed Dust Proof Design

This sealed dust-proof design protects the slide and screw assembly from dust and debris, thereby extending its life and simplifying maintenance.

Image 5.1: Close-up views demonstrating the sealed dust-proof design of the linear guides and ball screws, which protects against debris and simplifies maintenance.

6. SPECIFICATIONS

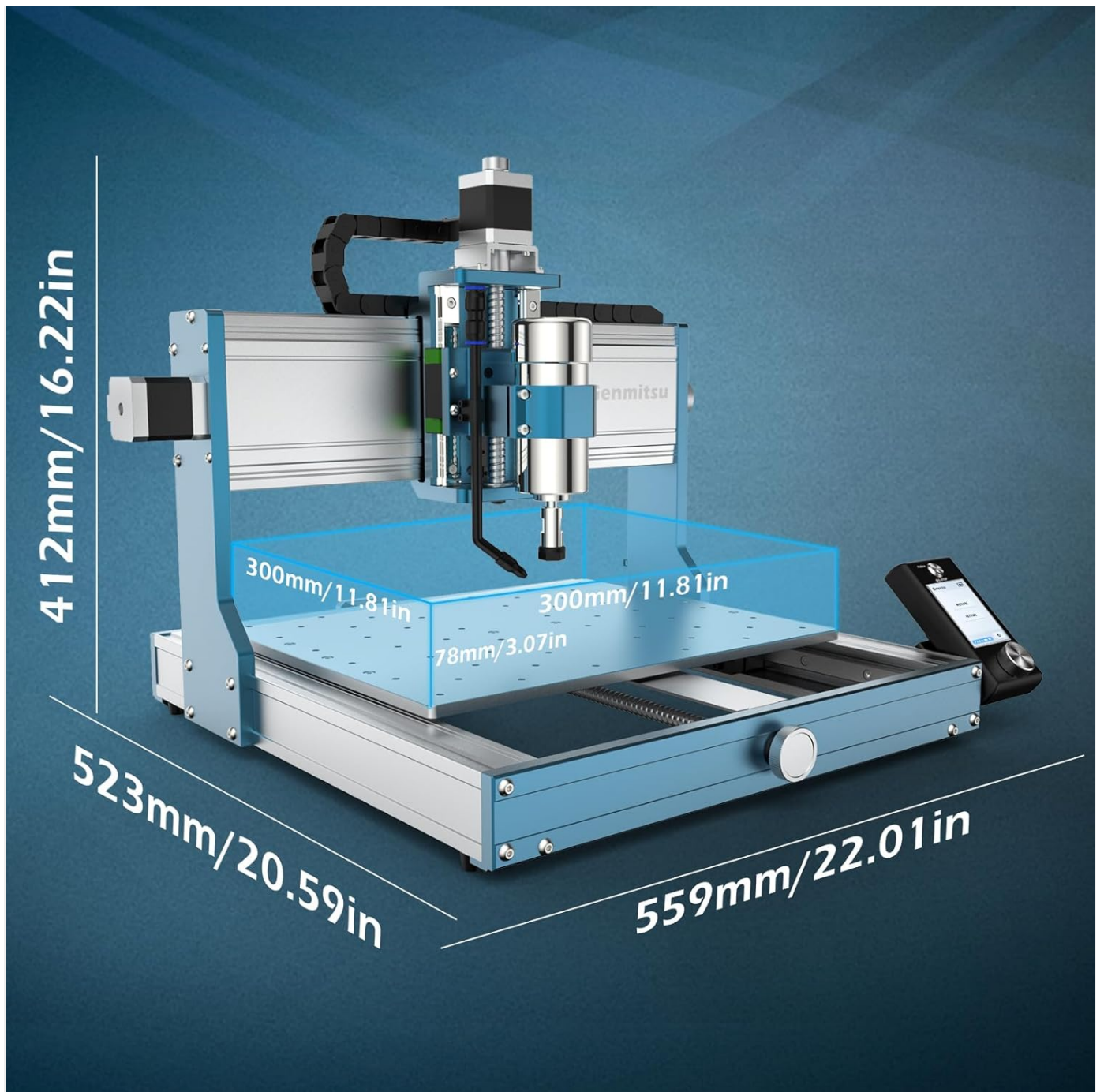| Feature	Specification
Brand	Genmitsu
Model	3030-PROVer MAX
Power Source	Corded Electric
Voltage	120 Volts (AC)
Spindle Motor Power	710W
Maximum Rotational Speed	30000 RPM
Minimum Rotational Speed	6500 RPM
Speed Adjustment	6-level dial
Accuracy	0.05mm
Collet Type	ER11 (1/8" customized included)
Compatible Shank Diameters	1-8mm to 1/4"
Base Type	Fixed
Date First Available	April 3, 2024

Image 6.1: Diagram illustrating the physical dimensions of the Genmitsu 3030-PROVer MAX CNC Router and its effective carving area.

Image 6.2: Detailed dimensions of the 710W spindle motor, including its height, diameter, cable length, and the included 1/8" ER11 collet.

7. TROUBLESHOOTING

This section provides general guidance for common issues. For specific problems, refer to the comprehensive troubleshooting guide available on the Genmitsu support website or contact customer service.

- **Machine Not Powering On:**

  - Ensure the power cord is securely connected to both the machine and a functional 120V AC outlet.
  - Check the power switch on the machine and the main power supply.

- **Spindle Not Rotating:**

  - Verify the spindle motor's ON/OFF switch is engaged.
  - Check the speed setting on the spindle dial.
  - Ensure all spindle motor connections are secure.

- **Axes Not Moving:**

  - Confirm all motor cables are properly connected to the control board.
  - Check for any obstructions on the linear guides or ball screws.
  - Ensure the emergency stop button is not engaged.

- **Poor Carving Quality:**

  - Verify the cutting bit is sharp and appropriate for the material.
  - Check the collet for proper tightening and bit concentricity.
  - Adjust cutting parameters (speed, feed rate, depth of cut) for the specific material.
  - Ensure the workpiece is securely clamped.
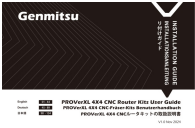
8. WARRANTY AND SUPPORT

Genmitsu products are designed for reliability and performance. For warranty information, technical support, or service inquiries, please refer to the official Genmitsu website or contact their customer service department.
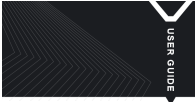
- **Online Resources:** Visit the official Genmitsu website for FAQs, software downloads, and additional guides.
- **Customer Service:** Contact Genmitsu support for assistance with product issues or technical questions.
- **Return Policy:** Refer to your purchase documentation or the retailer's policy for details on returns and replacements. The buybox winner indicates a 30-day refund/replacement policy.

Related Documents - 3030-PROVer MAX

	[Genmitsu 710W Compact Router Installation Guide](#) This guide provides essential information for the installation and safe operation of the Genmitsu 710W Compact Router. It details package contents, dimensions, specifications, and maintenance procedures like collet and carbon brush replacement. For support, contact SainSmart at support@sainsmart.com or join the Genmitsu CNC Users Group on Facebook.
	[Genmitsu 5.5W Compressed Spot Fixed Focus Laser Module User Manual](#) User manual for the Genmitsu 5.5W Compressed Spot Fixed Focus Laser Module, detailing its features, compatibility with Jinsoku and Genmitsu CNC machines, installation, software setup with LaserGRBL, and focusing instructions.
	[Genmitsu PROVerXL 4X4 CNC Router Kits User Guide](#) Comprehensive installation and user guide for the Genmitsu PROVerXL 4X4 CNC Router Kit. Learn about unboxing, assembly, setup, operation, and safety for your precision CNC machine. Access resources at SainSmart.
	[Genmitsu Wireless Control Module User Guide](#) User guide for Genmitsu Wireless Control Modules (GGW-U232, GGW-UART, GGW-JTAG), detailing unboxing, installation steps for various CNC models, and Genmitsu app setup for Wi-Fi connectivity.

	[Genmitsu PROVerXL 4030S CNC Router Kit User Guide](#) Comprehensive user guide for the Genmitsu PROVerXL 4030S CNC Router Kit, covering setup, installation, software configuration, and operation. Includes specifications and support resources.
	[Genmitsu Rotary Module Kit User Manual for PROVer XL 4030/6050](#) This user manual provides detailed instructions for installing and calibrating the Genmitsu Rotary Module Kit with the PROVer XL 4030 and PROVer XL 6050 PLUS CNC routers. Learn about the components, dimensions, and step-by-step installation procedures for 2D and 3D engraving.