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SCULPFUN SCULPFUN S9

SCULPFUN S9 Laser Engraving Machine User Manual

Model: SCULPFUN S9 | Brand: SCULPFUN

1. INTRODUCTION

The SCULPFUN S9 is a high-performance laser engraving and cutting machine designed for precision work on various materials. Featuring advanced laser beam shaping technology, it offers powerful cutting capabilities comparable to 90W CO2 lasers, along with ultra-fine engraving precision. This manual provides essential information for the safe and effective operation of your SCULPFUN S9 machine.



Figure 1: SCULPFUN S9 Laser Engraving Machine.

2. SAFETY INFORMATION

Operating a laser engraving machine requires strict adherence to safety guidelines to prevent injury. Please read and understand all safety warnings before use.

- **Eye Protection:** The laser filter cover blocks 98% of UV light, allowing observation without protective glasses. However, always exercise caution. Ensure no pets or unauthorized individuals are exposed to the laser point.
- **Emergency Stop:** The machine is equipped with a power switch for immediate shutdown in emergencies. Familiarize yourself with its location.
- **Surface Protection:** Use the provided A4-sized steel pad to protect your work surface from laser damage and reduce fire risks.
- **Ventilation:** Operate the machine in a well-ventilated area to disperse fumes and particles generated during engraving and cutting.
- **Flammable Materials:** Avoid operating near highly flammable materials. Always monitor the machine during operation.



Figure 2: Laser filter cover for eye protection.



Figure 3: A4 metal pad for surface protection.

3. SETUP AND ASSEMBLY

3.1 Package Contents

Verify that all components are present before beginning assembly:

- 1 x X-axis component
- 2 x X profiles
- 2 x Y profiles
- 1 x Control box component
- 3 x Support legs
- 1 x Laser component
- 1 x 12V 5A Power adapter
- 1 x Power cable

- 1 x USB cable
- 1 x Assembly kit with screws for steps 1-5
- 2 x Belts
- 1 x M5 T-type hexagonal screwdriver
- 1 x M4 L-type hexagonal screwdriver
- 1 x M3 L-type hexagonal screwdriver
- 1 x 8-10 mm Screw wrench
- 10 x Ties



Figure 4: Overview of included components.

3.2 Assembly Instructions

The SCULPFUN S9 features an all-metal structure designed for robustness and stability. Assembly is straightforward and typically takes 10 to 20 minutes. Follow the detailed instructions provided in the included assembly guide (not part of this digital manual) for step-by-step installation. Ensure all screws are tightened securely for optimal performance and safety.

Reserved fixing holes are present on the four feet and the body for securing the machine and data cable, enhancing stability during operation.

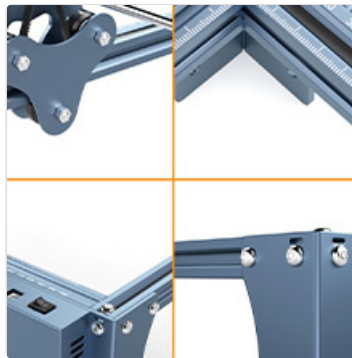


Figure 5: Close-up of the robust metal frame.

4. OPERATING INSTRUCTIONS

4.1 Software Compatibility

The SCULPFUN S9 is compatible with a wide range of mature engraving software:

- LaserGRBL
- LightBurn (supports Windows and Apple systems)
- Benbox

- GrblController
- LiteFire

It supports PWM mode engraving.



Figure 6: Compatible software and operating systems.

4.2 Supported File Formats

The machine supports various engraving file formats, including:

- JPG
- PNG
- DXF
- SVG
- G-code
- NC
- BMP
- TIF
- PDF
- AI

4.3 Engraving and Cutting Capabilities

The S9 utilizes the latest 5.5W diode laser beam shaping technology, resulting in an ultra-fine compressed laser focus spot of 0.06*0.06 mm and an engraving accuracy of 0.01 mm. This provides superior penetration and cutting precision.

- **Cutting:** Capable of cutting wood up to 15mm thick, 10mm acrylic, and 10mm plywood.
- **Engraving:** Suitable for engraving ceramics and stainless steel, among other materials.



Excelente Penetração de Corte com Efeito de 90 W



Corte de Acrílico de 10 mm



Corte de Madeira de 15 mm

Figure 7: Examples of cutting capabilities (15mm wood, 10mm acrylic).

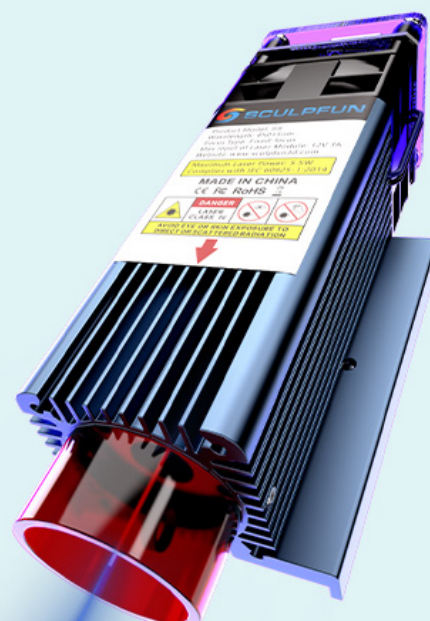
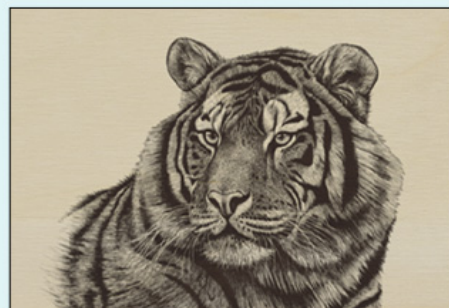
Gravação de Alta Precisão

Foco de Laser Ultrafino de 0,06 mm

S9



Outros



0.06mm

Figure 8: Demonstration of 0.06mm ultra-fine laser focus for high-precision engraving.

Materiais de Gravação



Madeira



Papelão



Couro



Cerâmica



Plástico



Couro



Pedra Escura

Figure 9: Examples of materials suitable for engraving, including wood, cardboard, leather, and ceramics.

Material de corte



Madeira



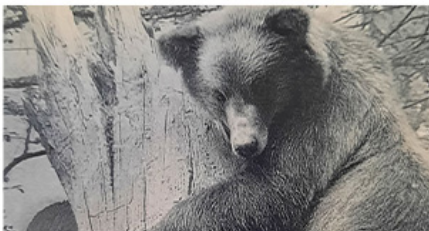
Acrílico



Papelão



Tecido



Bambu



Placa de Plástico

Figure 10: Examples of materials suitable for cutting, including wood, acrylic, cardboard, fabric, bamboo, and plastic sheets.

4.4 Focus Adjustment

The laser module features a fixed focus design with an easy sliding mechanism for height adjustment. Refer to the assembly guide for precise focusing instructions to achieve optimal engraving and cutting results.



Figure 11: Fixed focus and sliding design for easy height adjustment.

4.5 Expandable Engraving Area

The SCULPFUN S9's structure uses standard 2020 V-slot anodized aluminum, allowing for easy expansion of the engraving area. You can purchase the SCULPFUN extension kit to enlarge the working area up to 400x950 mm (37.4"x16.14"), which is beneficial for larger projects.

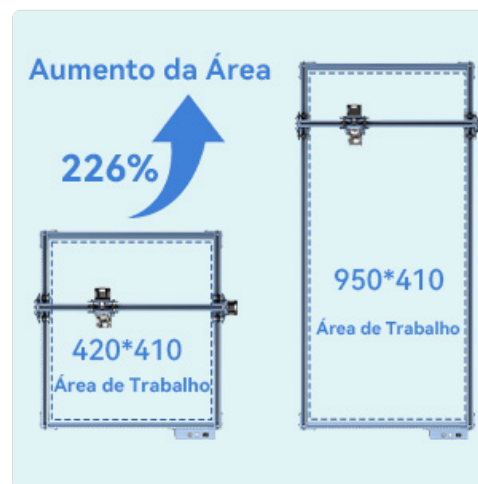


Figure 12: Illustration of the expandable working area from 420x410mm to 950x410mm.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your SCULPFUN S9 laser engraver.

- **Lens Cleaning:** Periodically clean the laser lens with a soft, lint-free cloth and lens cleaning solution to maintain laser power and precision.
- **Rail Lubrication:** Apply a small amount of lubricant to the guide rails to ensure smooth movement of the laser module.
- **Debris Removal:** Regularly remove dust and debris from the machine, especially around the laser module and ventilation areas, to prevent overheating and obstruction.
- **Belt Tension:** Check the tension of the drive belts periodically. Adjust if they are too loose or too tight to ensure accurate movement.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with your SCULPFUN S9.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Laser not firing or weak	Loose cable connection, dirty lens, incorrect focus, software settings.	Check all cable connections. Clean the laser lens. Adjust the laser focus. Verify laser power settings in your software.
Machine not connecting to computer	USB cable issue, driver not installed, incorrect COM port selected.	Try a different USB port or cable. Install necessary drivers. Select the correct COM port in your engraving software.
Engraving/Cutting results are inconsistent	Loose belts, unstable machine, incorrect speed/power settings, material issues.	Check and adjust belt tension. Ensure the machine is on a stable surface. Calibrate speed and power settings for the material. Ensure material is flat and secured.
Machine makes unusual noises	Obstruction in moving parts, dry rails, loose components.	Inspect for any obstructions. Lubricate guide rails. Check for and tighten any loose screws.

If you encounter issues not listed here, please refer to the official SCULPFUN support resources or contact customer service.

7. SPECIFICATIONS

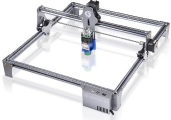




















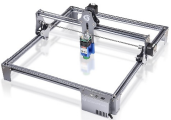














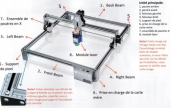
Feature	Detail
Manufacturer	SCULPFUN
Model Number	SCULPFUN S9
Engraving Area	410 x 420 mm (Expandable to 400 x 950 mm with extension kit)
Laser Power	5.5W Diode Laser (90W CO2 laser effect equivalent)
Laser Focus Spot	0.06 x 0.06 mm
Engraving Accuracy	0.01 mm
Material	Metal (Anodized Aluminum)
Color	Blue
Power Source Type	AC
Voltage	100-240V AC, 50/60Hz
Weight	3 Kilograms
Special Features	High-precision engraving and laser cutting, Laser filter protection and safety measures, Broad compatibility and versatile file formats, Durable metal structure and easy assembly.

8. WARRANTY AND SUPPORT

The SCULPFUN S9 machine comes with a one-year warranty. For any inquiries or support needs, please contact SCULPFUN customer service. They aim to provide attentive service and quick responses within 12 hours.

For further assistance, you may visit the official SCULPFUN store on Amazon:[SCULPFUN Store](#).

Related Documents - SCULPFUN S9

<div><p>SCULPFUN S6/S9 Series Laser Engraving Machine User Manual</p><p>Note: Which engraving software should I choose? For professional or advanced engraving, please try LightBurn. For beginners or single-step engraving, please try LaserGRBL. These both have official websites or YouTube tutorials, you can have a quick look to choose.</p><div></div></div>	<p>SCULPFUN S6/S9 Series Laser Engraving Machine User Manual</p> <p>User manual for the SCULPFUN S6/S9 Series Laser Engraving Machine, covering software installation (LaserGRBL, LightBurn), connection, engraving preparation, operation, material suggestions, troubleshooting, and maintenance.</p>
<div><p>SCULPFUN S6/S9 Series Laser Engraving Machine User Manual</p><p>Note: Which engraving software should I choose? For professional or advanced engraving, please try LightBurn. For beginners or single-step engraving, please try LaserGRBL. These both have official websites or YouTube tutorials, you can have a quick look to choose.</p><div></div></div>	<p>SCULPFUN S6/S9 Series Laser Engraving Machine User Manual</p> <p>A comprehensive user manual for the SCULPFUN S6 and S9 series laser engraving machines, covering software installation (LaserGRBL and LightBurn), connection, preparation, engraving settings, material recommendations, troubleshooting, and maintenance.</p>
<div><p>SCULPFUN S30 Laser Engraver Assembly Instructions</p><div></div></div>	<p>SCULPFUN S30 Laser Engraver Assembly Instructions and Guide</p> <p>Comprehensive assembly instructions for the SCULPFUN S30 Laser Engraver. Learn how to build your laser engraver step-by-step, including belt tensioning and focusing tips. Includes software and support information.</p>
<div><p>SCULPFUN S6/S6 Pro Laser Engraving Machine User Manual</p><div></div></div>	<p>SCULPFUN S6/S6 Pro Laser Engraving Machine User Manual</p> <p>User manual for the SCULPFUN S6/S6 Pro laser engraving machine, detailing setup, operation, safety guidelines, software configuration (LaserGRBL, LightBurn), material parameter recommendations, troubleshooting common issues, and maintenance tips.</p>
<div></div>	<p>SCULPFUN S40 MAX Laser Engraver User Manual: Installation, Operation, and Maintenance Guide</p> <p>Comprehensive user manual for the SCULPFUN S40 MAX laser engraving and cutting machine. Includes installation guides, software setup for LaserGRBL and LightBurn, touch screen operation, mobile app connection, maintenance tips, and warranty information.</p>
<div><p>Instructions de montage du graveur laser SCULPFUN S9</p><div></div><p>Aperçu des pièces principales</p></div>	<p>SCULPFUN S9 Laser Engraver Assembly Instructions</p> <p>Comprehensive guide for assembling the SCULPFUN S9 laser engraver, detailing parts, steps, and focusing principles. Includes software recommendations and support information.</p>

