

SCULPFUN S30 Ultra 22W+roller

SCULPFUN S30 Ultra 22W Laser Engraver with Rotary Roller User Manual

Model: S30 Ultra 22W+roller | Brand: SCULPFUN

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your SCULPFUN S30 Ultra 22W Laser Engraver and its accompanying Rotary Roller. Please read these instructions carefully before use to ensure proper setup, operation, and maintenance.

2. SAFETY INFORMATION

- **Eye Protection:** Always wear the provided laser protective eyewear when the laser is operating. The laser module is equipped with a removable protective cover for additional eye safety.
- **Emergency Stop:** The machine features an emergency stop button. Press it immediately in case of any malfunction or unsafe condition.
- **Key Lock:** A key lock mechanism is included to prevent unauthorized use, especially by children. Ensure the key is removed when not in use.
- **Ventilation:** Operate the laser engraver in a well-ventilated area to dissipate smoke and fumes generated during engraving or cutting.
- **Fire Safety:** Keep a fire extinguisher nearby. Do not leave the machine unattended during operation.
- **Material Safety:** Only engrave or cut materials specified in this manual. Certain materials can produce toxic fumes or catch fire easily.

3. PACKAGE CONTENTS

The SCULPFUN S30 Ultra 22W Laser Engraver with Rotary Roller package includes the following components:

- SCULPFUN S30 Ultra 22W Laser Engraving Machine (main unit)
- SCULPFUN Laser Rotary Roller
- Air Pump (mainboard controlled, 24V, 30L/min)
- Power Adapter (Input: 100-240V AC, 50/60Hz; Output: 24V 7A)
- USB Cable
- Laser Protective Eyewear
- Tool Kit (including spare lenses, cleaning cloth, tweezers, focusing column, setting rings, wrenches)
- Metal Protective Pad (460x460mm splicing size)
- Solid Raising Feet (for elevating the machine for rotary engraving)
- Anti-slip rubber pads for raising feet
- User Manual (this document)

4. SETUP

4.1 Machine Assembly

The SCULPFUN S30 Ultra 22W machine comes largely pre-assembled. Follow the quick start guide for final frame assembly and cable connections. Ensure all screws are tightened securely for stability and accuracy.

4.2 Connecting the Rotary Roller

The rotary roller is 100% pre-assembled for immediate use. To connect it to your laser engraver:

1. Disconnect the original Y-axis cable from the main machine.
2. Connect the provided rotary roller cable to the Y-axis motor port on the main machine.
3. Plug the other end of the rotary roller cable into the rotary roller unit.

The rotary roller's surface moving speed is precisely designed, eliminating the need for additional software settings. It is compatible with various GRBL motherboards.



6mm-150mm larger engraving space

SCULPFUN has thinner body and clever raising feet, which makes it have a larger engraving diameter range than other rotary roller, meet your various engraving needs



Pen



Thermos cup



Flowerpot



Ring



Cosmetic

Image: SCULPFUN Rotary Roller setup, showing the pre-assembled unit and connection points.

4.3 Installing Raising Feet (for Rotary Engraving)

When using the rotary roller for larger cylindrical objects, you may need to elevate the main engraver. Use the solid raising feet provided:

1. Attach the anti-slip rubber pads to the bottom of the raising feet.
2. Securely fix the raising feet to the corners of the engraver frame using the provided screws and nuts.

4.4 Air Assist Pump Connection

Connect the air assist pump to the designated port on the machine's control board. The S30 Ultra features a 32-bit air-assisted motherboard that intelligently controls the air assist, automatically turning it on for cutting and off for engraving when using compatible software like LightBurn (M8 air assist function).

4.5 Software Installation and Connection

The SCULPFUN S30 Ultra is compatible with popular laser engraving software such as LightBurn, LaserGRBL, Benbox, GbrlController, and LiteFire. It supports Windows and MAC operating systems.

- **USB Connection:** Connect the machine to your computer using the provided USB cable.
- **Bluetooth Wireless Connection:** The machine supports Bluetooth connectivity. Ensure the Bluetooth antenna is attached and follow your software's instructions to establish a wireless connection.

5. OPERATION

5.1 Basic Engraving and Cutting

The S30 Ultra 22W laser module features an ultrafine 0.08x0.08 mm compression spot, allowing for delicate and clear engraving. The machine has a standard engraving area of 600x600mm.

- **Supported Materials:**

Engraving: All types of wood (including high-density woods like walnut and cherry), MDF, bamboo, cardboard, plastic, leather, PCB, aluminum oxide, 304 stainless steel, ceramic, dark stone.

Cutting: All types of wood (including high-density woods), MDF, acrylic, cardboard, non-woven fabric, bamboo sheets, leather, some plastic, PCB.

- **Cutting Performance:** The 22W laser can cut 15mm wood, 10mm acrylic, and 0.08mm steel in a single pass.
- **Speed:** Engraving speeds can reach up to 400mm/s.

5.2 Using the Rotary Roller

The rotary roller expands the machine's capabilities to engrave cylindrical objects. It supports cylinder diameters from 5-150 mm and lengths from 0-230 mm. The adjustable axis distance allows for continuous sliding adjustment and is fixed with hand screws.

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Video: Demonstrates the setup and use of the SCULPFUN Rotary Roller for engraving cylindrical objects like flowerpots and bottles.

5.3 Focusing

The S30 Ultra uses a fixed focus column and sliding device for focusing. Refer to the quick start guide for detailed instructions on achieving optimal focus for different materials.

5.4 Using the Metal Protective Pad

The included 460x460mm metal protective pad is designed to protect your work surface during cutting operations and to facilitate smoke exhaust from the bottom.

6. MAINTENANCE

6.1 Laser Lens Cleaning and Replacement

The S30 Ultra 22W laser module features an interchangeable lens design, which helps maintain laser power and extends its lifespan. Regularly inspect the lens for dust or debris. Use the provided cleaning cloth and tools from the laser repair kit to clean or replace the lens as needed.

6.2 Air Nozzle Cleaning

The air assist nozzle can accumulate residue over time. Use the air nozzle brush from the tool kit to keep it clean and ensure optimal airflow.

6.3 General Cleaning

Keep the machine's rails, belts, and other moving parts clean and free of dust and debris to ensure smooth and precise operation.

7. TROUBLESHOOTING

- **Laser Not Firing:** Check power connections, ensure the key lock is in the ON position, and verify software settings.
- **Poor Engraving/Cutting Quality:** Verify laser focus, adjust power and speed settings in your software, and ensure the material is flat and properly secured. Clean the laser lens and air nozzle.
- **Machine Not Moving:** Check all cable connections, especially the Y-axis and motor cables. Ensure the software is properly connected and sending commands.
- **Rotary Roller Issues:** Ensure the rotary roller cable is correctly connected, replacing the Y-axis cable. Check the belt tension on the rotary roller.

For further assistance, refer to the online user manual or contact SCULPFUN customer support.

8. SPECIFICATIONS

Feature	Specification
Product Model	SCULPFUN S30 Ultra 22W Laser Engraver + SCULPFUN Rotary Roller
Laser Output Power	22W (light power)
Laser Focus	0.08x0.08 mm
Laser Wavelength	455±5nm
Engraving Accuracy	0.005 mm
Engraving Area	600x600mm
Machine Electrical Power	~114W
Air Pump Flow Rate	30L/min
Motherboard	32-bit air-assisted, Bluetooth compatible
Operating System Support	Windows, MAC
Data Transmission Method	USB, Bluetooth
Power Input	100-240V AC, 50/60Hz
Power Output	24V 7A
Certifications	CE, FCC, RoHS, FDA, ICE
Rotary Roller Engraving Diameter Range	5-150 mm
Rotary Roller Engraving Length Range	0-230 mm

9. WARRANTY AND SUPPORT

SCULPFUN products are designed for quality and reliability. For warranty information, technical support, or service inquiries, please refer to the official SCULPFUN website or contact your retailer. Keep your purchase receipt as proof of purchase.