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› [SCULPFUN S30 Ultra 22W Laser Engraver and Cutter Instruction Manual](#)

## SCULPFUN S30Ultra22W

# SCULPFUN S30 Ultra 22W Laser Engraver and Cutter Instruction Manual

Model: S30Ultra22W

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## 1. INTRODUCTION

Welcome to the SCULPFUN S30 Ultra 22W Laser Engraver and Cutter instruction manual. This device is a high-precision CNC laser engraving machine designed for both engraving and cutting various materials. It features a powerful 22W laser output, smart air assist, and an extended 600x600mm working area, making it suitable for a wide range of creative and professional projects. Please read this manual thoroughly before operating the machine to ensure safe and efficient use.

## 2. SAFETY INFORMATION

**WARNING: This is a Class 4 laser product. Direct exposure to the laser beam can cause severe eye and skin damage. Always wear appropriate laser safety goggles (OD6+) when operating the machine. Never look directly into the laser beam.**

- Ensure the work area is well-ventilated to dissipate smoke and fumes.
- Keep a fire extinguisher nearby.
- Do not leave the machine unattended during operation.
- Keep children and pets away from the operating area.
- Ensure the emergency stop button and key lock are functional and used to prevent accidental operation.
- Do not engrave or cut highly reflective, flammable, or unknown materials.
- Always use the protective cover or shield provided.



Image: SCULPFUN S30 Ultra 22W Laser Engraver with safety warnings and features like 22W output power, intelligent air assist, 0.05mm engraving accuracy, wireless connection, emergency stop, safe & easy to use, 600x600 working area, and 10x lifespan.

## 3. SETUP

### 3.1 Package Contents

Verify all components are present before assembly. Refer to the packing list provided with your product.

### 3.2 Assembly Instructions

The SCULPFUN S30 Ultra is designed for straightforward assembly. Follow the step-by-step instructions provided in the separate assembly guide. Key components include:

- Frame components (X-axis, Y-axis, support legs)
- Laser module (22W)
- Smart air assist pump and tubing
- Control box with power supply
- Limit switches
- Cables (USB, power)

# One Step to Best—S30 Ultra



600\*600 Perfect size  
Most ideas can be realized



Upgrade Linear Slide  
Precise and Fast



Upgrade 11/22/33W laser  
New 6W Diode Technology



Automatic Air Assist  
Cut clean and intelligent

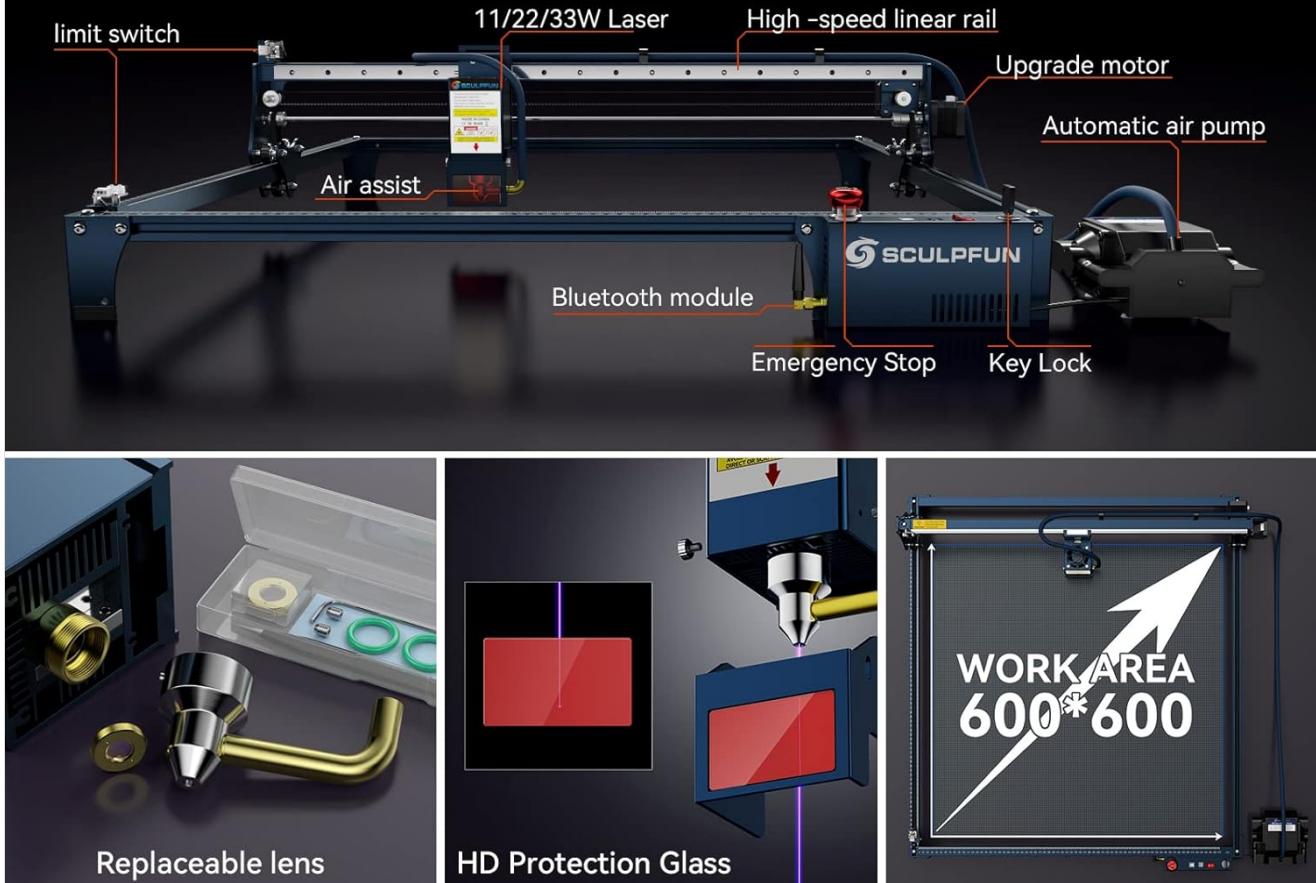


Image: An assembled SCULPFUN S30 Ultra laser engraver, highlighting key features such as the 11/22/33W laser, high-speed linear rail, upgrade motor, automatic air pump, Bluetooth module, emergency stop, and key lock. Also shown are replaceable lenses, HD protection glass, and the 600x600mm work area.

## 3.3 Initial Connection and Software

1. Connect the power adapter to the control box and plug it into a power outlet.
2. Connect the USB cable from the control box to your computer.
3. Install the recommended engraving software (e.g., LightBurn or LaserGRBL). Refer to the software's documentation for installation and basic usage.
4. The S30 Ultra supports Bluetooth wireless connection. Ensure your computer's Bluetooth is enabled and pair with the device.

Your browser does not support the video tag.

Video: This video demonstrates the setup and connection process for the SCULPFUN S30 Ultra series, including Bluetooth wireless connection and the use of the upgraded high torque motor for precise movement. It also shows the industrial-grade linear slide rail and the 32-bit chip for advanced control.

## 4. OPERATING INSTRUCTIONS

## 4.1 Material Preparation

- Place the material to be engraved or cut on the work area.
- For cutting, use the provided fast-use cutting stand or a honeycomb workbed (sold separately) to ensure proper smoke exhaust and clean cuts.
- Ensure the material is flat and securely positioned.

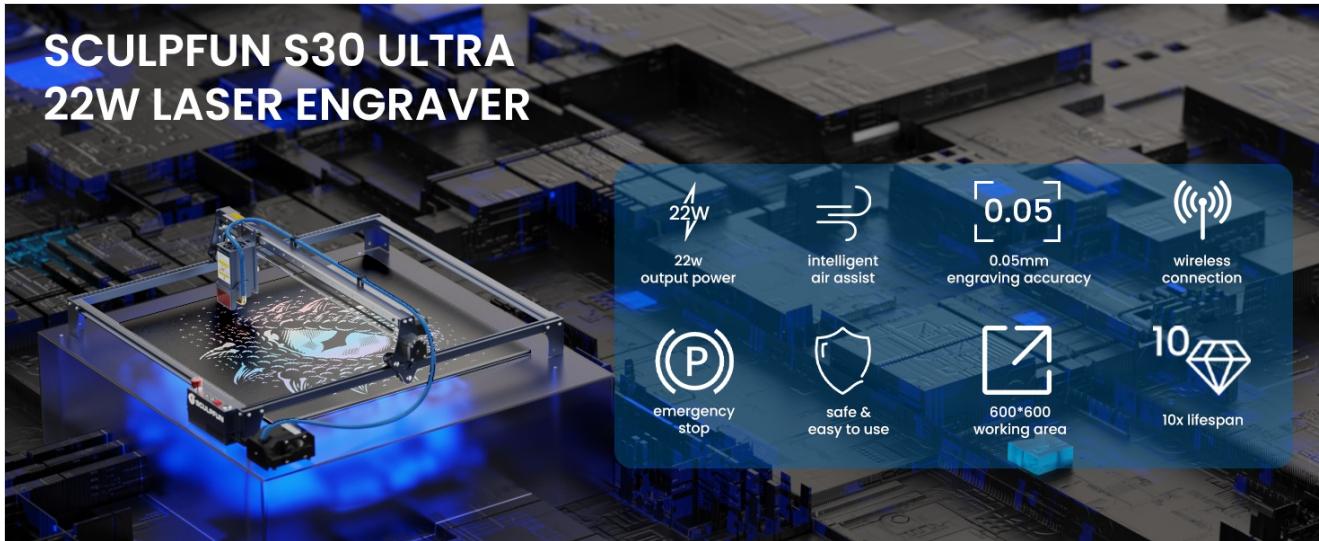


Image: The SCULPFUN S30 Ultra 22W laser engraver in action, demonstrating clean cutting with the included air assist. It shows a comparison between cuts with and without air assist, highlighting the smooth edges achieved with air assist versus the yellowed and rough edges without it.

## 4.2 Focusing the Laser

Use the focusing column to set the correct distance between the laser module and the material for optimal engraving/cutting results.

## 4.3 Using Smart Air Assist

The S30 Ultra features an automatic air assist system. The 32-bit air assist motherboard allows the air assist to automatically turn off during engraving and turn on during cutting. This ensures cleaner cuts and engravings by removing smoke and debris.

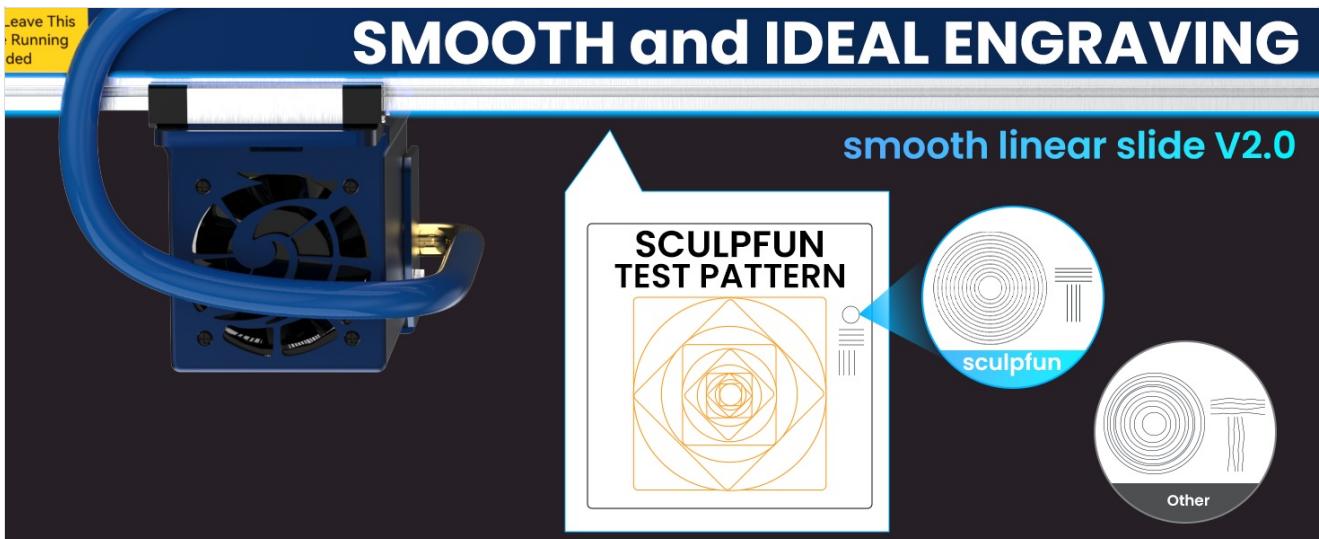


Image: An illustration of the intelligent air assist system of the SCULPFUN S30 Ultra, detailing its functions: 30L/Min airflow, clean surface, smooth edge, faster and deeper cutting, pretty nozzle design, air assist pump, and 32-bit air assist mainboard.

## 4.4 Engraving and Cutting

- Load your design into the software.
- Adjust power and speed settings according to the material. (Refer to material testing charts for guidance).
- Initiate the engraving/cutting process. Monitor the machine closely.

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Video: This video showcases the powerful, fast, and clean laser cutting capabilities of the SCULPFUN S30 Ultra, demonstrating its ability to cut through various materials with precision and efficiency, resulting in clean edges and minimal charring.

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Video: This video highlights the versatility of the SCULPFUN S30 Ultra series, demonstrating its use in creating various intricate designs and products, from detailed engravings to precise cuts on different materials.

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Video: This video demonstrates the mass production capabilities of the S30 Ultra series, showcasing its efficiency and precision when creating multiple items simultaneously, ideal for small businesses or large projects.

## 5. MAINTENANCE

### 5.1 Laser Lens Cleaning and Replacement

Regularly clean the laser lens to maintain optimal performance. The S30 Ultra features an interchangeable lens design, allowing you to restore cutting capability by replacing the lens, extending the laser module's service life by more than 10 times.

- Use a soft, lint-free cloth and lens cleaning solution to gently wipe the lens.
- If the lens is damaged or heavily soiled, replace it with a spare lens from the provided repair kit.

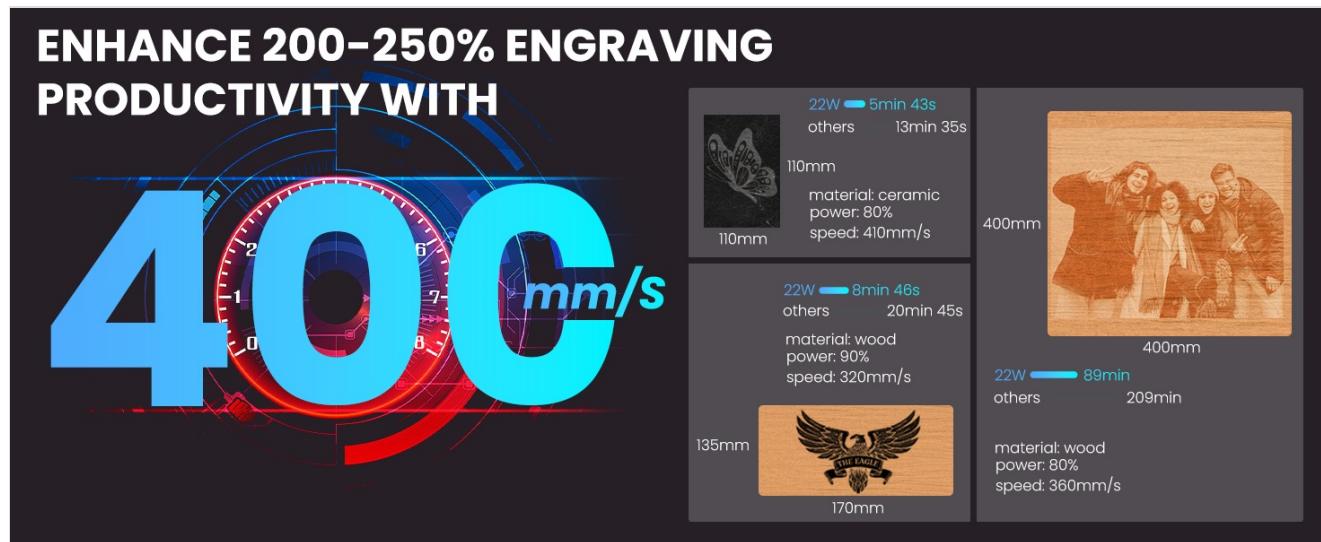


Image: An illustration showing the replaceable lens feature of the SCULPFUN S30 Ultra, which helps maintain stable cutting performance and extends the laser's life for several years without needing to upgrade the entire laser head or engraving machine.

### 5.2 General Cleaning

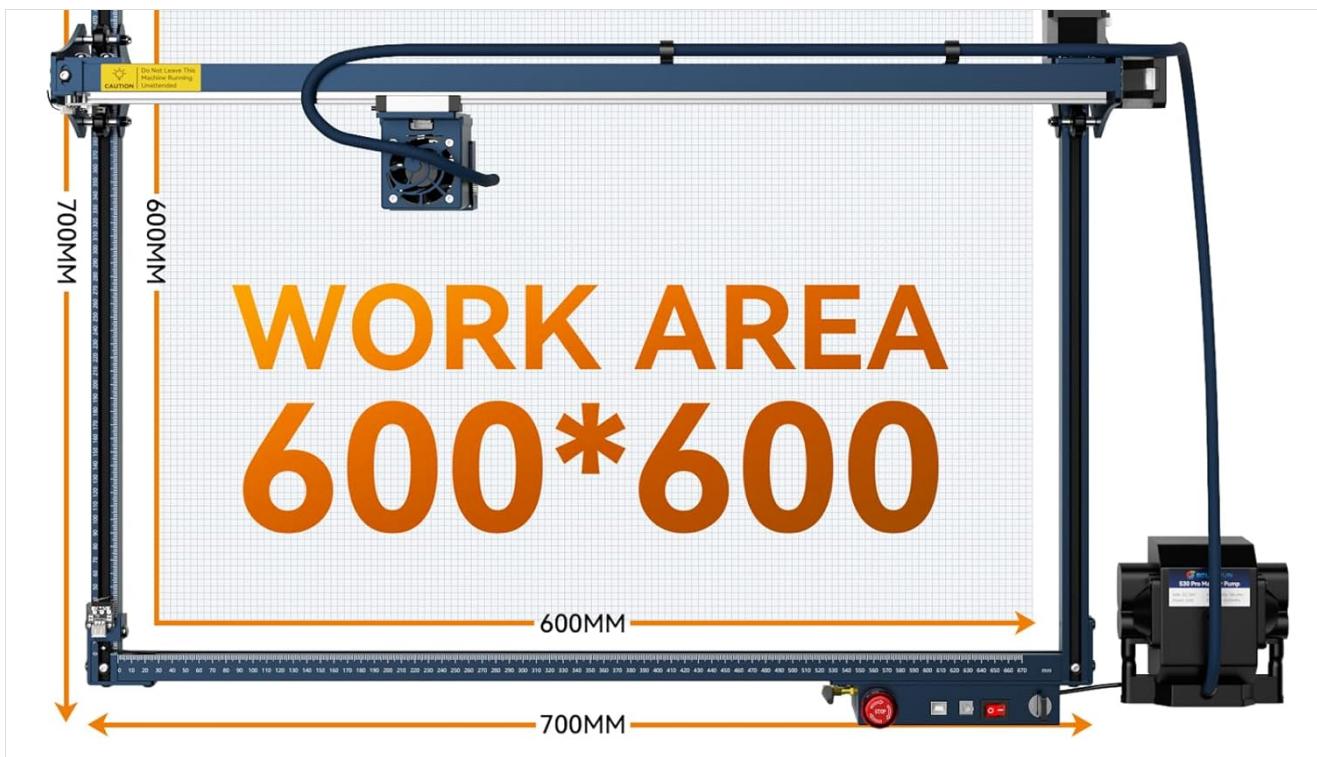
- Keep the linear guide rails clean and free of dust and debris.
- Use the air nozzle brush to clean the air assist nozzle regularly.

## 6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Laser not firing or weak output	Dirty lens, incorrect focus, low power setting, laser module issue.	Clean or replace lens. Adjust focus. Increase power setting. Contact support if issue persists.
Inaccurate engraving/cutting	Loose belts, unstable material, incorrect speed/power, linear rail issues.	Check and tighten belts. Secure material. Adjust speed/power. Inspect linear rails for smooth movement.
Air assist not working	Blocked nozzle, pump not connected, software setting.	Clean air nozzle. Ensure air pump is connected and powered. Check software settings for air assist control.
Machine not connecting via Bluetooth	Bluetooth not enabled, incorrect pairing, driver issues.	Ensure Bluetooth is on and device is discoverable. Re-pair the device. Check for updated drivers.

## 7. SPECIFICATIONS

- **Model:** S30Ultra22W
- **Laser Output Power:** 22W
- **Working Area:** 600x600mm (23.6"x23.6")
- **Engraving Accuracy:** 0.08mm ultra-fine compression spot
- **Engraving Speed:** Up to 400mm/s
- **Connectivity:** USB, Bluetooth, SD Card
- **Air Assist:** Smart Automatic Air Assist (32-bit motherboard)
- **Safety Features:** Emergency Stop Button, Key Lock, HD Protective Glass
- **Product Dimensions:** 28 x 28 x 2.8 inches
- **Item Weight:** 21.3 pounds
- **Manufacturer:** SCULPFUN



## Perfect Larger Working Area( 125% Increase)

No need an extension kit, you can also make bigger pieces with fewer limitations for bigger needs such as tables, large wall art and more large DIYs!



Image: The SCULPFUN S30 Ultra 22W laser engraver highlighting its large 600x600mm working area, which is a 225% increase compared to 400x400mm models, eliminating the need for a separate extension kit.

## 8. WARRANTY AND SUPPORT

SCULPFUN provides a 2-year free warranty service for the S30 Ultra 22W Laser Engraver. For any questions, technical assistance, or warranty claims, please contact SCULPFUN customer support.

**Contact Information:** Please refer to the official SCULPFUN website or your purchase documentation for the most up-to-date contact details.