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› Woxcker L2 MAX 20W Laser Cutter and Engraver Machine User Manual

Woxcker L2 MAX

Woxcker L2 MAX 20W Laser Cutter and Engraver Machine User Manual

Model: L2 MAX | Brand: Woxcker

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your Woxcker L2 MAX 20W Laser Cutter and Engraver Machine. Please read it thoroughly before initial use and retain it for future reference.

The Woxcker L2 MAX 20W is a high-precision laser engraving and cutting machine designed for a wide range of materials including wood, metal, glass, leather, and acrylic. It features a 20W laser module, a 300x300mm bed size, and a fully enclosed design for enhanced safety and a cleaner working environment.



Image: Woxcker L2 MAX 20W Laser Cutter and Engraver Machine with examples of engraved items.

2. SAFETY FEATURES

Your Woxcker L2 MAX machine incorporates multiple safety features to ensure user protection during operation:

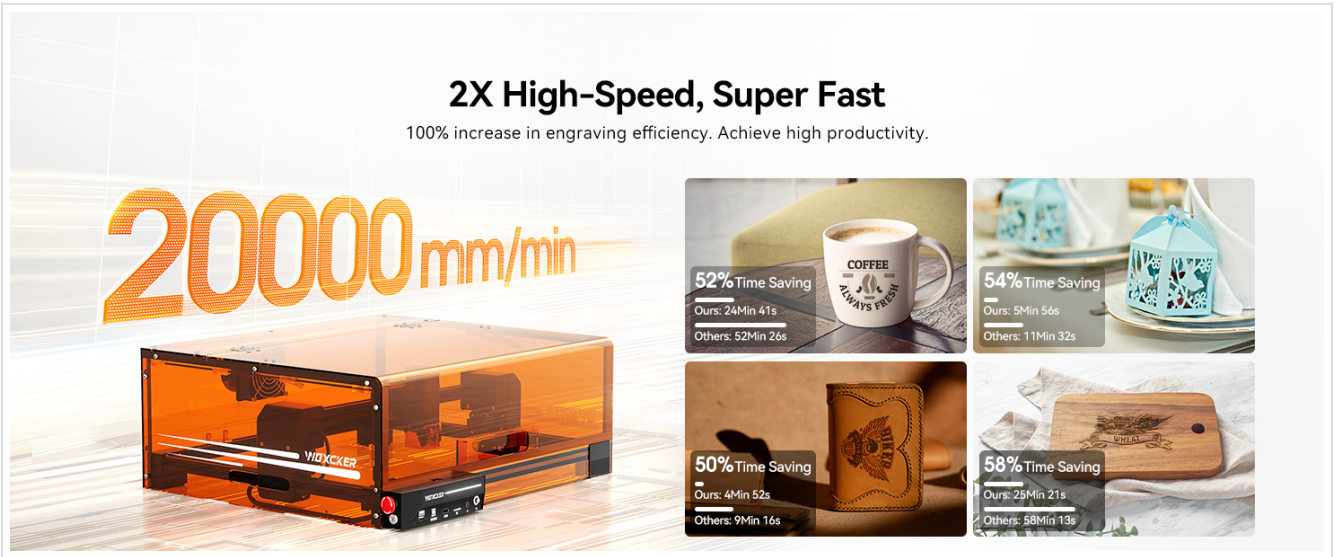
- **Class 1 Laser Certification:** The L2 enclosure system meets Class 1 laser safety standards (IEC 60825-1), ensuring safe operation around children and pets.
- **360° Fully Enclosed Design:** The orange acrylic cover shields users from direct laser exposure, protecting eyes and reducing injury risk. It also helps contain fumes and dust, promoting a cleaner and healthier work environment.
- **Smart Monitoring:** The machine features an auto-shutdown function upon detecting a 15° tilt.
- **Emergency Stop Button:** A prominent emergency stop button is included for immediate shutdown of all machine operations.
- **Lid-Open Safety Stop:** The machine is equipped with an intelligent sensing system that stops operation when

the cover is opened.

- **Child Safety Lock:** A key lock prevents unauthorized use, particularly by children.
- **Built-in Flame Sensor:** Detects unusual heat or flames and halts operation to prevent hazards.
- **Laser Filter Visual Window and Goggle:** The laser cover and included goggles effectively filter out 97% of laser light, allowing safe observation of the engraving process.

2X High-Speed, Super Fast

100% increase in engraving efficiency. Achieve high productivity.



Item	Time Saving	Ours	Others
Coffee Mug	52%	24Min 41s	52Min 26s
Blue Lantern	54%	5Min 56s	11Min 32s
Leather Wallet	50%	4Min 52s	9Min 16s
Wooden Cutting Board	58%	25Min 21s	58Min 13s

Image: Overview of Woxcker L2 MAX safety features.

Built-in replaceable laser protection lens

Effectively protects the laser and prolongs the laser's service life. The solid machine structure ensures a service life of more than 10,000 hours.

10000H+

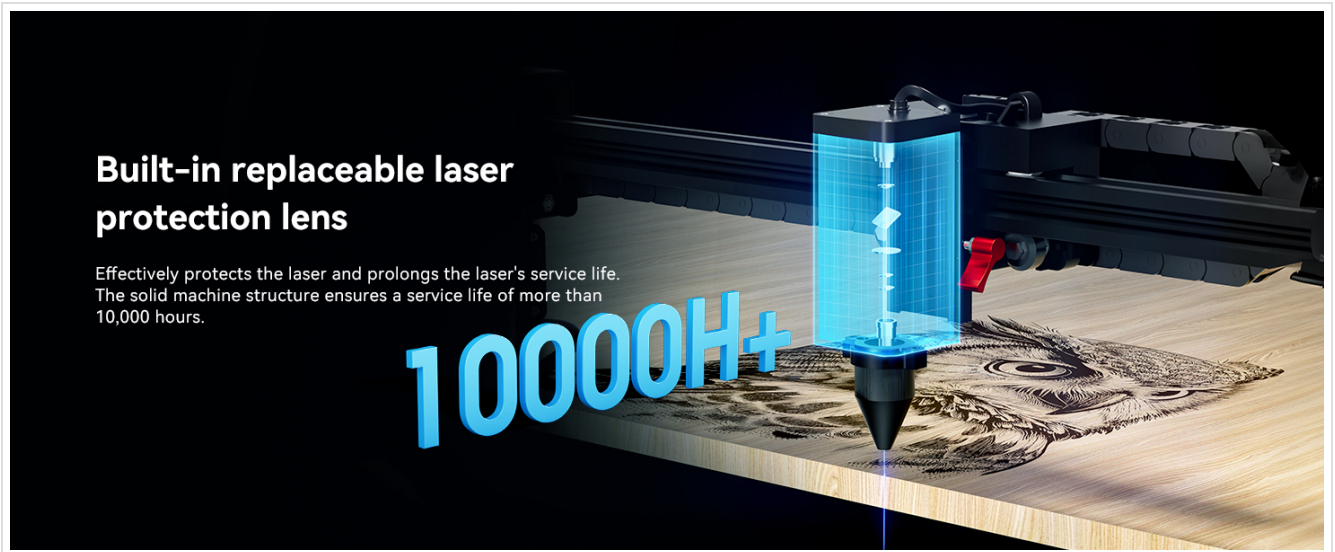


Image: The machine stops automatically when the lid is opened.

Safety Always Comes First

Tested and certified, the L2 enclosure system meets Class 1 laser safety standards (IEC 60825-1), ensuring safe operation around children and pets

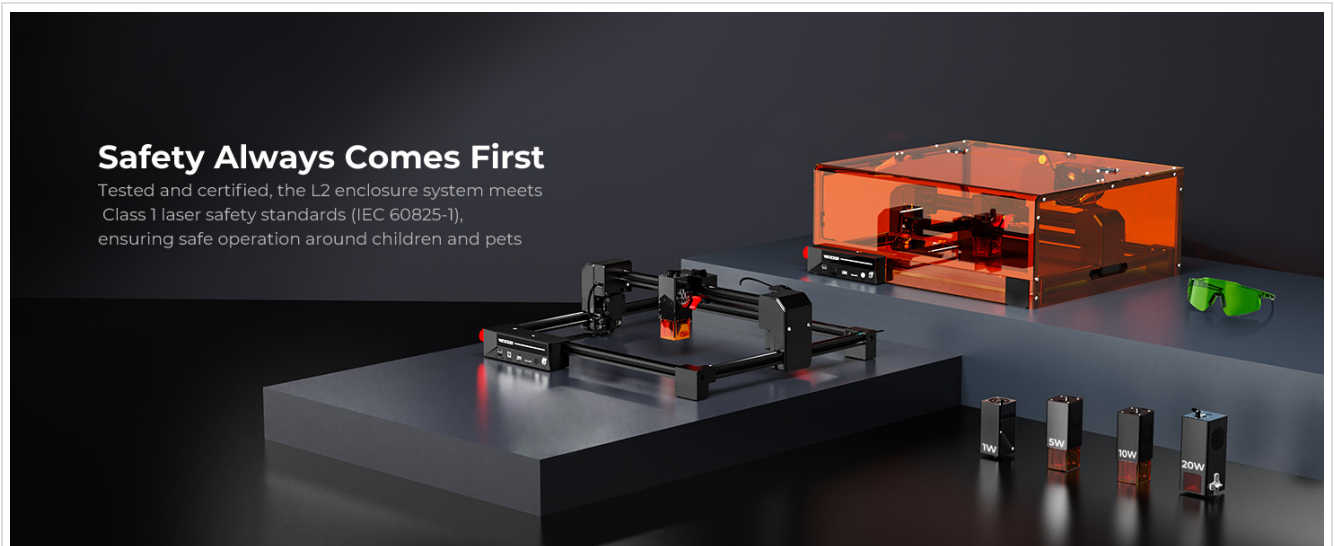


Image: Emergency stop button and child safety lock for secure operation.



Image: Laser filter window and safety goggles for eye protection.

Video: Woxcker L2 Series Laser Engraver overview, demonstrating safety features like tilt stop and lid open safety.

3. SETUP

The Woxcker L2 MAX features a new modular assembly design, divided into five main components. This simplified setup makes it easy for beginners to assemble the machine without needing to adjust belts or perform other complex tasks, potentially saving 30 to 40 minutes during installation.

3.1 Unpacking and Initial Assembly

1. Carefully unpack all components from the packaging.
2. Follow the included quick start guide for step-by-step assembly instructions. The modular design ensures a straightforward process.
3. Ensure all connections are secure before proceeding.

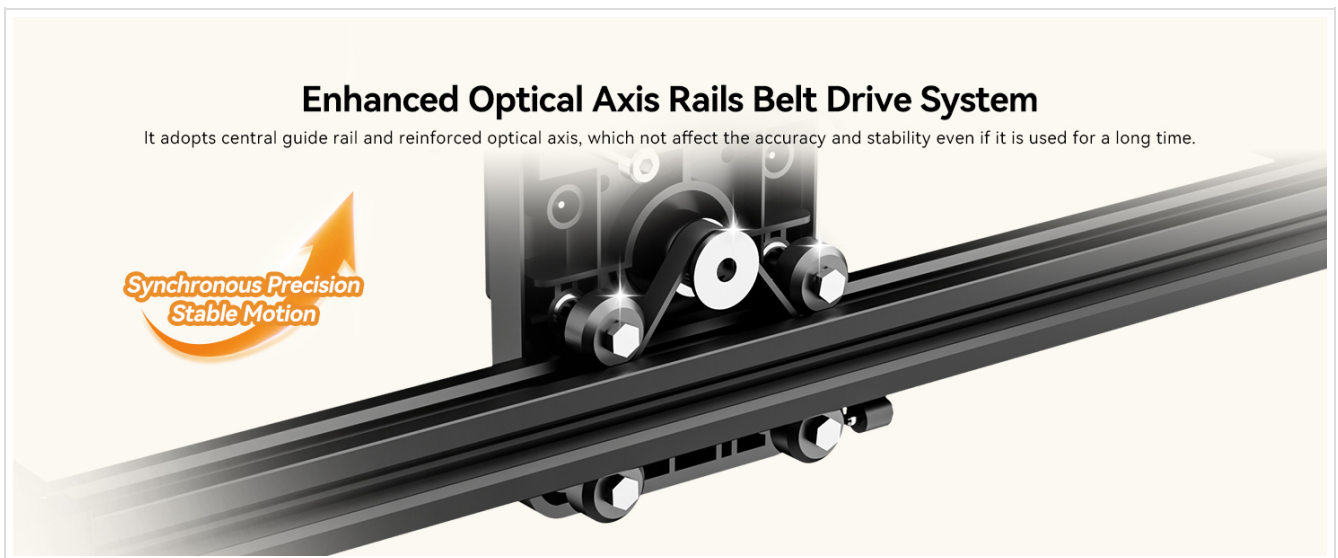


Image: Diagram illustrating the modular assembly of the Woxcker L2 MAX.

3.2 Software Installation and Connection

The laser engraving machine boasts extensive compatibility with various software and connection options:

- **Supported Software:** LightBurn, LaserGRBL, and Cutlabx.
- **Connection Methods:** Wi-Fi, USB cable, APP, and offline via TF card.
- **File Formats:** JPEG, JPG, PNG, BMP, SVG, DXF, and AI.

Install your preferred software on your computer (Windows XP/7/8/10/11, Mac OS, Linux) or use the mobile app. Connect the machine using one of the available methods.

Note: While the 10W/20W laser engraver enables faster and smoother engraving, due to its higher power, it is recommended to use air assist and a honeycomb worktable (Sold separately)



Image: Illustration of the machine's wide software and system compatibility.

4. OPERATING INSTRUCTIONS

4.1 Laser Module Performance

The 20W laser module offers significant performance:

- **Cutting Depth:** Up to 2x deeper cuts compared to 10W modules.
- **Engraving Speed:** Up to 4x faster than 5W modules.
- **Material Capability:** Engraves hard metals (e.g., Stainless Steel) with precision and cuts denser woods (e.g., oak, plywood) cleanly, reducing charring.

Excellent Laser Compression Technology

Faster • Finer • Stronger

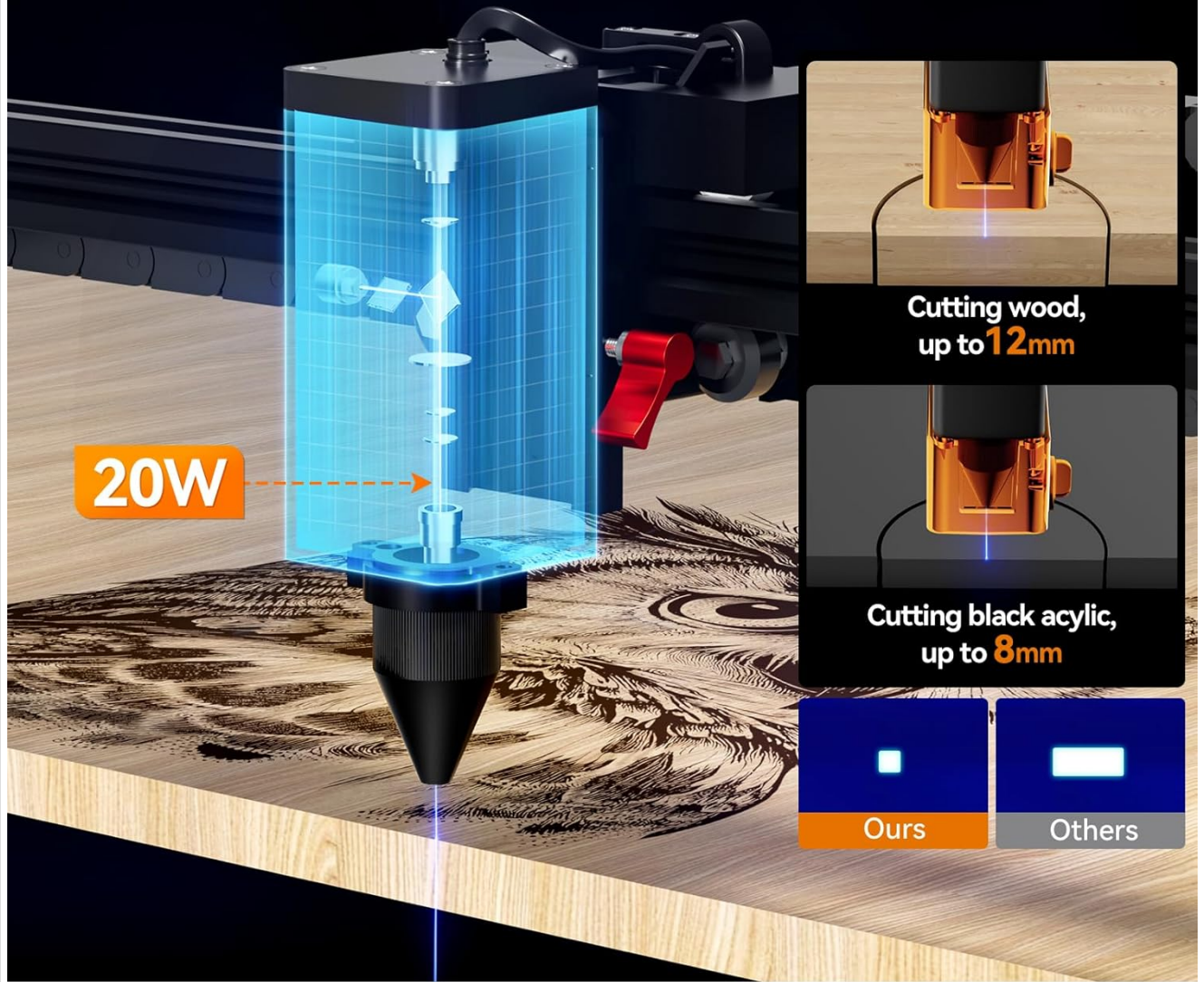


Image: Visual representation of laser compression technology and cutting capabilities.

WOXCKER L2 MAX 10W/20W

DIY Portable Laser Engraver and Cutter

Speed up | Catch up | Empower up

- Class 1 Laser Certification
- Easy to Assemble
- Easy to Focus
- Spot Compression Laser
- High Precision Motor
- Metal Construction
- Long Working Life
- 7 Security Functions



Image: Details on the high-power semiconductor laser and its 0.01mm ultra-fine focus.

4.2 Focusing and Precision

The machine features advanced point compression technology, delivering an ultra-fine 0.01mm square focus for high-precision engraving. This results in smoother, faster, and more accurate engraving.

- **Fixed Focus:** Equipped with a versatile semiconductor laser, it can easily engrave on a wide range of materials.
- **Fast Focus Knob:** A built-in focus knob allows for quick and convenient adjustment of the laser module height, enabling deeper cutting focus without removing the cover.



Image: Illustration of the fast focus knob for precise adjustments.

4.3 Material Compatibility and Applications

The Woxcker L2 MAX can engrave on a wide range of materials, including metal, wood, leather, plastic, and even food. Achieve high precision with intricate patterns and clear text.

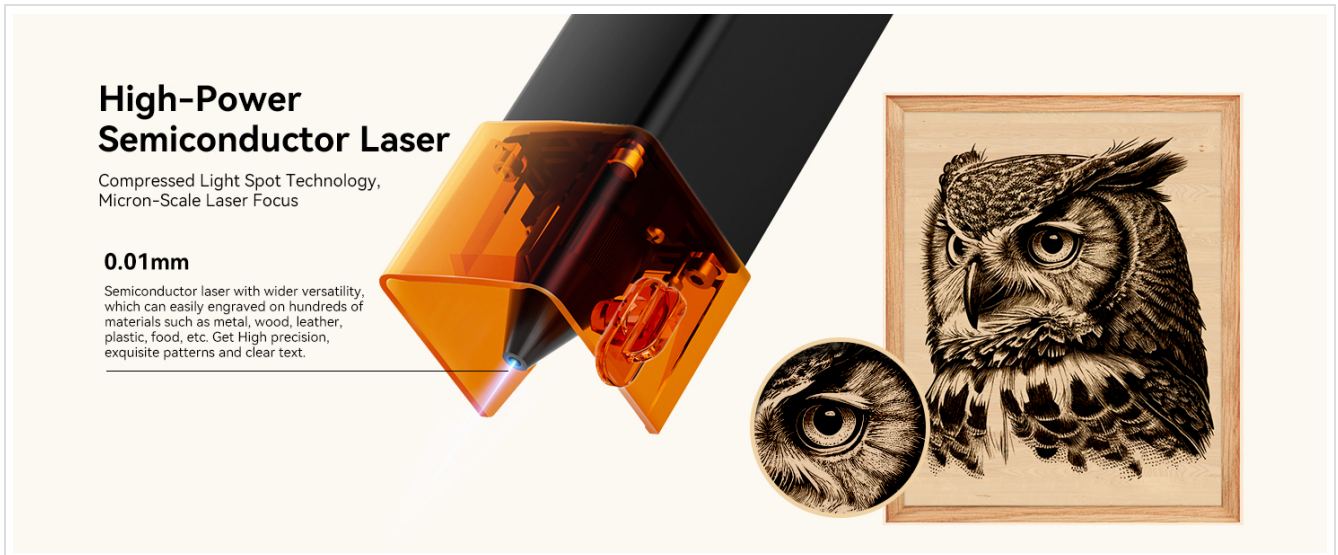


Image: Chart showing various materials compatible with different laser modules.

Note: While the 10W/20W laser engraver enables faster and smoother engraving, due to its higher power, it is recommended to use air assist and a honeycomb worktable (Sold separately)



Image: Examples of DIY projects created with the laser engraver.

4.4 Accessories (Sold Separately)

For enhanced functionality and results, consider using the following accessories:

- **Air Assist:** Improves accuracy and provides cleaner cuts by blowing away smoke and debris.
- **Rotary Roller:** Enables engraving on cylindrical and curved objects like cups, bottles, and pens.
- **Honeycomb Worktable:** Prevents damage to your work surface from high-power cutting and aids in heat release.
- **Heightening Risers:** Allows for engraving on taller objects.

Laser Filter Visual Window and Goggle

Effectively filter out 97% of the laser light.

The laser cover and goggle is made with a strong and Laser-resistant material. Naked eye without pressure, observe the engraving state at any time.

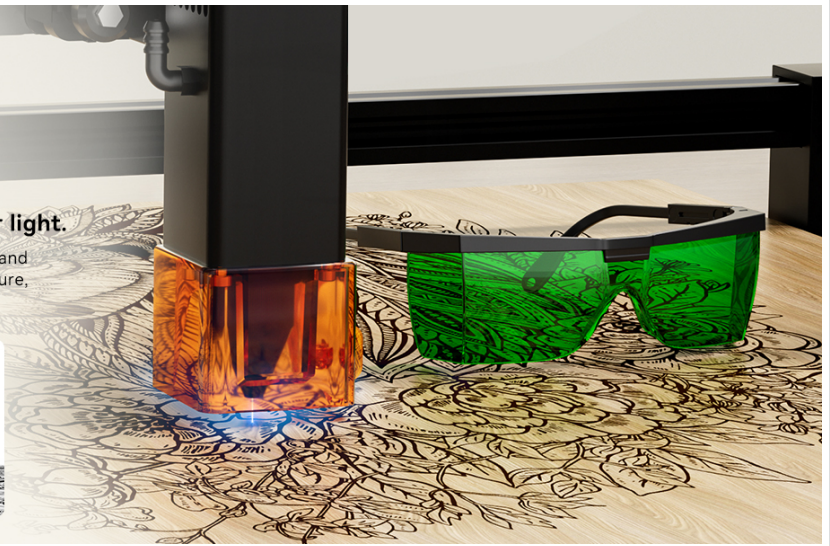
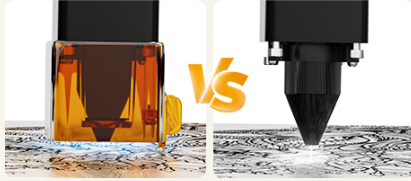


Image: Various accessories available to expand the machine's capabilities.

Expandable with accessories to boost creativity

Note: Accessories sold separately if not part of bundle

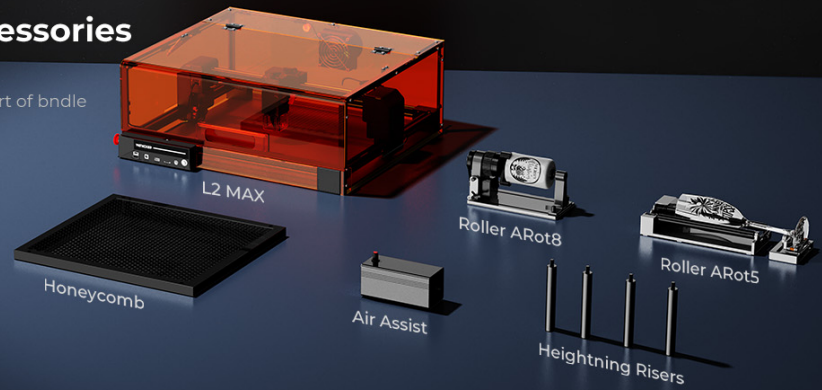


Image: Close-up of Smart Air Assist, Honeycomb Panel, and Heightening Brackets.

Rotary Engraving Your Creations



Image: Comparison of engraving with and without honeycomb worktable and air assist.

Video: Demonstration of laser engraver accessories, including air assist and rotary roller.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Woxcker L2 MAX machine.

5.1 Cleaning

- Regularly clean the engraving area and the honeycomb worktable (if used) to remove debris and dust.
- Wipe down the exterior of the machine with a soft, dry cloth.
- Ensure the smoke exhaust fan is clear of obstructions for efficient operation.

5.2 Laser Module Care

- The laser module is air-cooled and designed for a long life of up to 100,000 hours with 24/7 continuous operation.
- The machine features a built-in replaceable laser protection lens to effectively protect the laser and prolong its service life. Inspect and replace as needed.

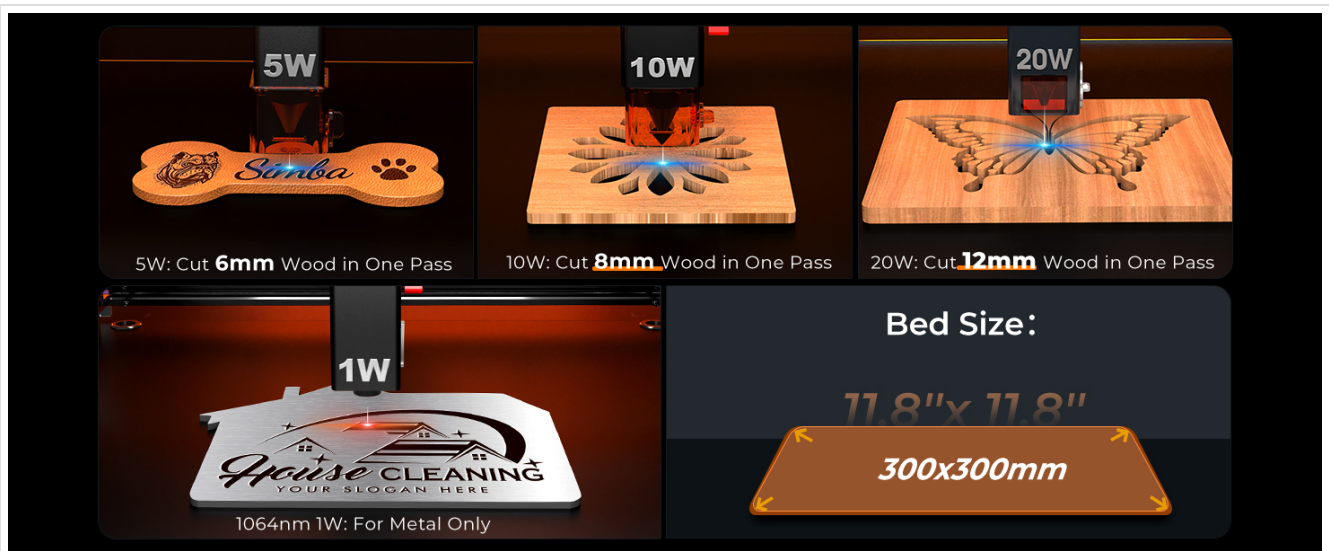


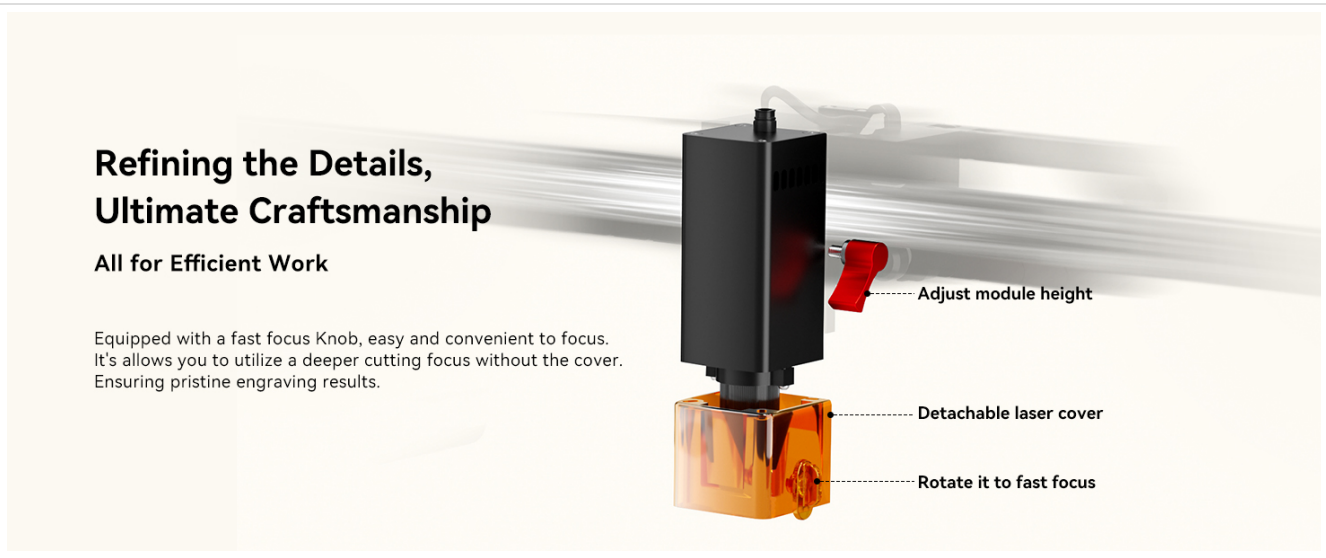
Image: Illustration of the replaceable laser protection lens.

5.3 Cable and Rail System

- The machine features protective guides for cables, ensuring they are unfrayed and corrosion-resistant, contributing to smoother operation.
- The enhanced optical axis rails belt drive system with a central guide rail and reinforced optical axis maintains accuracy and stability over time.
- Dual Y-axis step motors provide strong power and finer trajectory.



Image: Protective cable guides for enhanced durability.



Refining the Details, Ultimate Craftsmanship

All for Efficient Work

Equipped with a fast focus Knob, easy and convenient to focus. It's allows you to utilize a deeper cutting focus without the cover. Ensuring pristine engraving results.

Image: Illustration of the enhanced optical axis rails belt drive system.



Protective guides of unfragile & corrosion resistant cables

Compared to other unprotected and exposed cables, the design of our guide chain not only protects the cables, making the machine cleaner and more beautiful, but also makes the carving process more smooth and smooth.

Image: Dual Y-Axis Step Motor Design for improved performance.

This section provides solutions to common issues you might encounter. For more complex problems, please contact customer support.

6.1 Common Issues

- **Machine Not Powering On:** Ensure all power cables are securely connected and the power outlet is functional. Check the emergency stop button is disengaged and the child safety lock is in the 'on' position.
- **Laser Not Firing:** Verify the laser module is correctly installed and focused. Check software settings to ensure the laser power is set appropriately for the material.
- **Poor Engraving/Cutting Quality:** Adjust laser focus, power, and speed settings. Ensure the material is flat and properly secured. Consider using an air assist for cleaner results.
- **Software Connection Issues:** Confirm Wi-Fi or USB connections are stable. Restart the software and the machine. Check for updated drivers or software versions.
- **Excessive Smoke/Fumes:** Ensure the enclosure is properly closed and the exhaust fan is operating. If using an air purifier, verify it is connected and functioning.

7. SPECIFICATIONS

Feature	Specification
Manufacturer	Woxcker
Model Number	L2 MAX
Item Weight	16 pounds
Product Dimensions	21.57 x 18.78 x 8.43 inches
Size	300mm 20W
Color	Black
Style	20W Enclosure
Material	Metal
Wattage	20000 Milliwatts
Item Package Quantity	1
Included Components	Cover, Engraving Materials, Laser Engraver Machine, Multiple Language Menu, Power Adapter
Batteries Required?	No
First Available Date	May 27, 2025

8. WARRANTY

The Woxcker L2 MAX 20W Laser Cutter and Engraver Machine comes with a 1-year limited warranty. For specific terms and conditions, please refer to the warranty documentation included with your product or contact customer support.

9. CUSTOMER SUPPORT

For any questions, technical assistance, or support, please contact Woxcker customer service:

- **Email:** service@woxcker.com
- **Woxcker Store:** Visit the [Woxcker Official Store on Amazon](#) for more products and information.