

ATOMSTACK Kraft 20W+1.2W

ATOMSTACK Kraft 20W Dual Laser Engraving Machine User Manual

Model: Kraft 20W+1.2W | Brand: ATOMSTACK

1. INTRODUCTION

This manual provides comprehensive instructions for the safe and efficient operation of your ATOMSTACK Kraft 20W Dual Laser Engraving Machine. Please read this manual thoroughly before operating the device and retain it for future reference.

The ATOMSTACK Kraft 20W Dual Laser Engraving Machine features a powerful 20W dual laser and a 1.2W 1064nm infrared laser, offering versatile engraving and cutting capabilities on a wide range of materials. Its advanced features include automatic identification and positioning, high safety mechanisms, and compatibility with various accessories and software.

2. KEY FEATURES

- **Dual Laser System:** Combines a 20W dual laser with a 1.2W 1064nm infrared laser for enhanced speed and versatility across different materials, eliminating the need for laser head replacements.
- **Automatic Identification & Positioning:** Smart camera system ensures 0.05mm positioning accuracy, simplifying batch production and allowing continuous jobs without manual adjustments.
- **High Safety Features:** Quasi-enclosed design blocks 99% of laser radiation, triple air filtration controls smoke and odor, and includes flame sensor, active fire extinguishing, emergency stop, fire-resistant honeycomb bed, tilt alarm, unpacking detection, and malfunction alarm.
- **Wide Material Compatibility:** Engraves and cuts materials such as wood, leather, denim, ceramics, MDF, alumina, dark opaque acrylic, dark glass, kraft paper, painted metal, brushed stainless steel, rock, PCB board, paper, bamboo, fabric, jade, marble, shale, brick, and all metals (gold, silver, brass, iron, aluminum, stainless steel, etc.) and plastic with the infrared laser.
- **ATOMSTACK Studio Software:** Free, user-friendly software with over 1000 material library presets and automatic accessory recognition, compatible with Android, iOS, Windows, and macOS. Also compatible with LightBurn (separate purchase required).
- **Large Working Area:** Standard working area of 19.6 inches by 12.6 inches, expandable to 31.5 inches by 19.6 inches with the conveyor belt accessory.

3. PACKAGE CONTENTS

Please verify that all items listed below are included in your package:

- 1 x ATOMSTACK Kraft 20W Dual Laser Engraving Machine
- 1 x Air Assist
- 1 x Honeycomb Panel
- 1 x Instruction Manual (this document)

4. SETUP

4.1 Unpacking and Placement

Carefully remove all components from the packaging. Place the engraving machine on a stable, level surface in a well-ventilated area, away from flammable materials. Ensure sufficient space around the machine for operation and maintenance.

4.2 Connecting Components

1. Connect the power adapter to the machine and a suitable power outlet.
2. Attach the Air Assist system as per the diagram provided in the quick start guide.
3. Place the honeycomb panel inside the working area.
4. Connect the machine to your computer via USB or Wi-Fi for software control.

4.3 Software Installation

Download and install the ATOMSTACK Studio software from the official ATOMSTACK website. Follow the on-screen instructions for installation. The software is compatible with Android, iOS, Windows, and macOS.



Figure 4.1: ATOMSTACK Kraft 20W Dual Laser Engraving Machine and included accessories.

5. OPERATING INSTRUCTIONS

5.1 Preparing for Engraving/Cutting

1. Place the material to be processed on the honeycomb panel within the working area.
2. Close the protective cover of the machine.
3. Open the ATOMSTACK Studio software on your computer or mobile device.
4. Import or create your design within the software.
5. Utilize the camera auto-recognition feature for precise positioning of your design on the material. This ensures 0.05mm accuracy.
6. Select the appropriate laser type (Blue Light, IR, or Dual Light) and adjust power and speed settings based on the material. The software includes a material library with recommended presets.
7. Press the "Auto Focus" button on the machine or within the software to automatically adjust the laser focus for optimal results.

Cut Safely, Auto-FireStop, Always On Guard

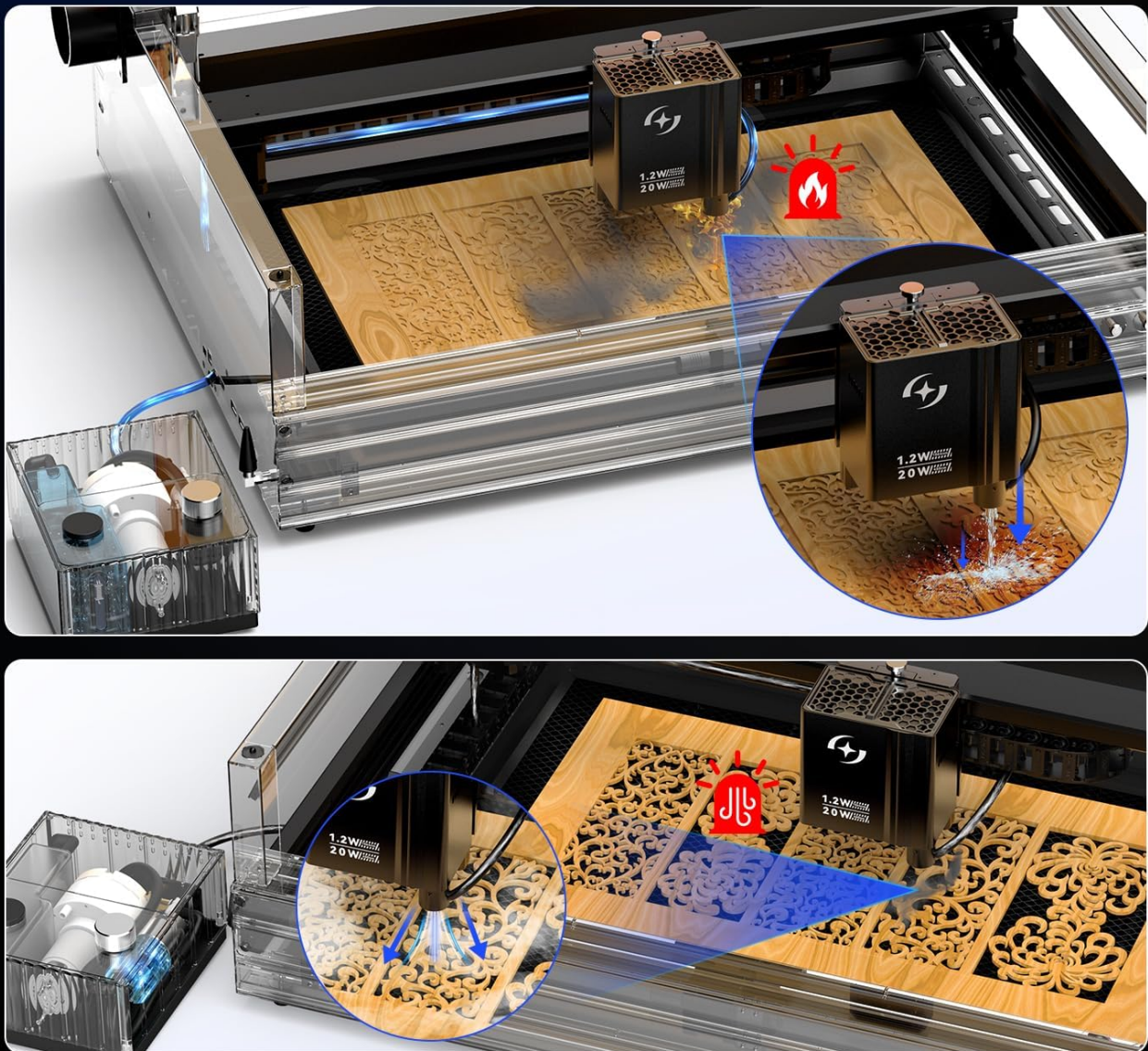




Figure 5.1: Placing material on the honeycomb panel and the laser head in position.

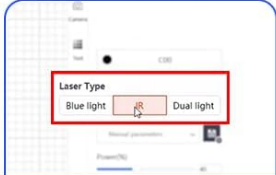
No Disassembly, Atomstack Dual Laser Delivers in 16s



16
Minutes to Complete



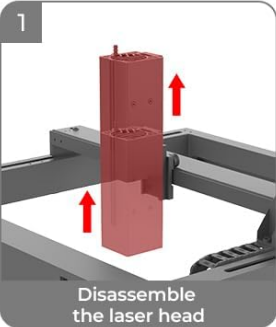
2X Efficiency
No Tool Changes!



One-click Switch of Laser Head

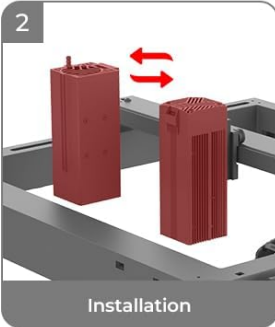
OTHERS

1



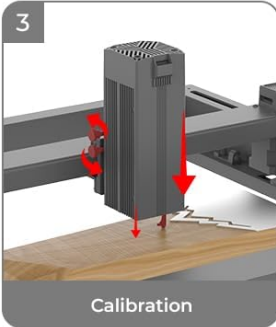
Disassemble the laser head

2



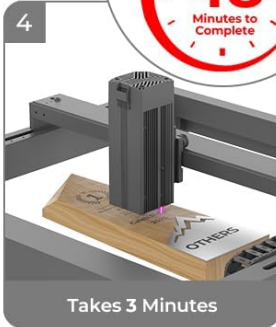
Installation

3



Calibration

4



Takes 3 Minutes

48
Minutes to Complete

Figure 5.2: ATOMSTACK Studio software interface for design and settings.

5.2 Starting Operation

Once all settings are configured, click the "Start" button in the software to begin the engraving or cutting process. The machine will automatically execute the task. Monitor the process and ensure the protective cover remains closed during operation.

Your browser does not support the video tag.

Video 5.1: Demonstration of the ATOMSTACK Kraft 20W Dual Laser Engraving Machine in operation, showcasing material placement, software interaction, and the engraving process.

5.3 Laser Modes and Automatic Switching

The ATOMSTACK Kraft features three working modes: Diode Laser, IR Laser, and Diode + IR Synchronized. The machine automatically switches between these modes based on the material and selected settings, eliminating the need for manual refocusing or module changes.

- **Mode 1: Diode Laser** - Ideal for materials like wood, leather, and fabric.

- **Mode 2: IR Laser** - Suitable for engraving metals and certain plastics.
- **Mode 3: Diode + IR Synchronized** - Combines both lasers for enhanced performance on specific materials, such as metal engraving with increased speed.

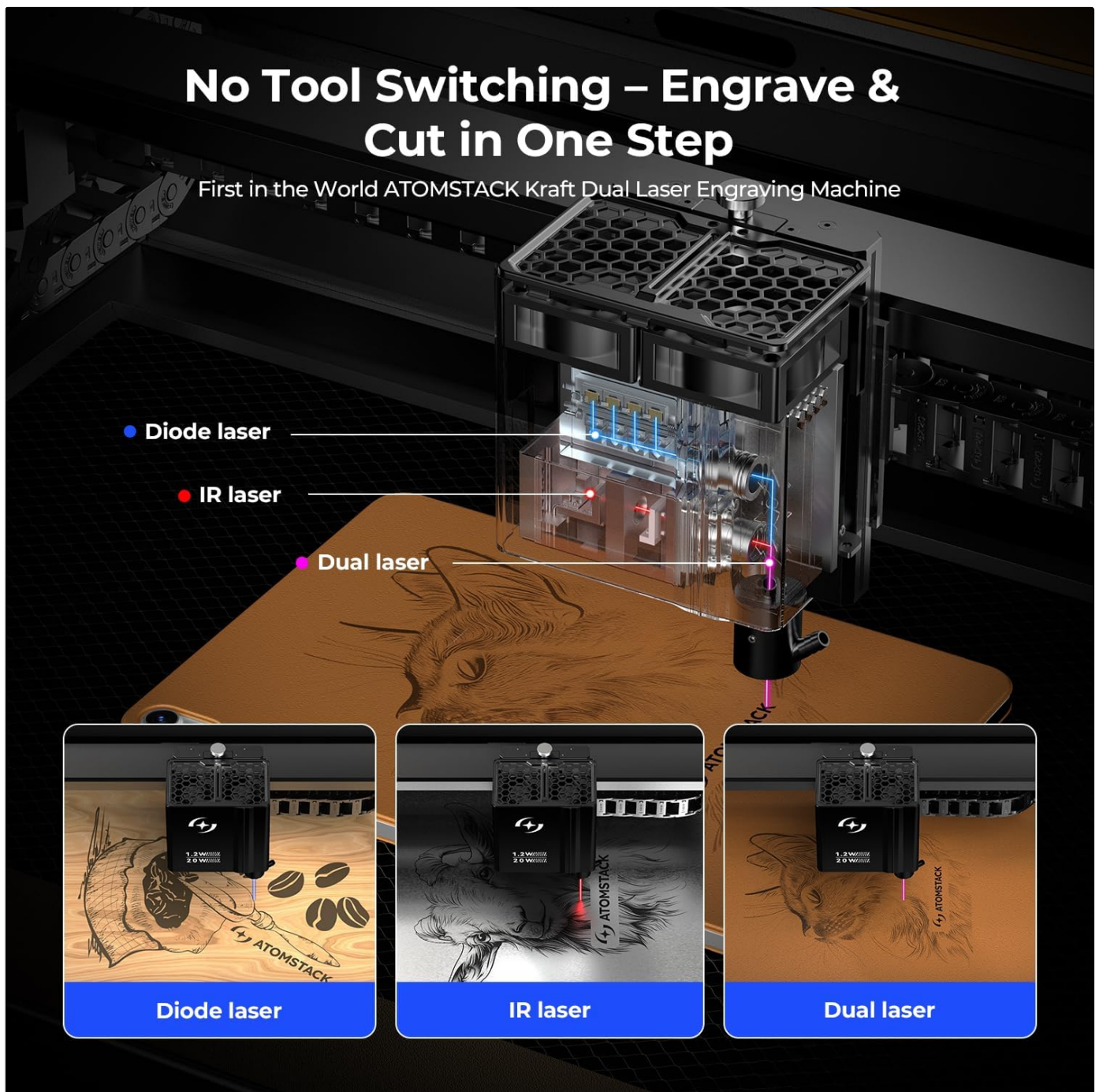
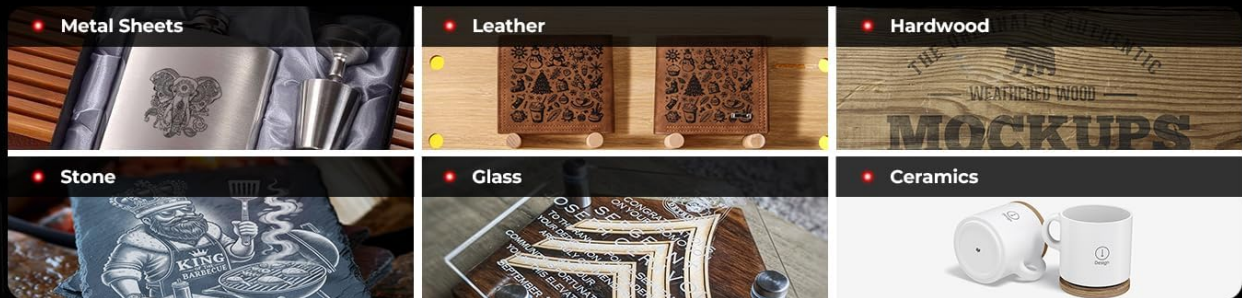


Figure 5.3: Internal view of the dual laser module, showing diode and IR laser paths.

1 Machine, 500+ Materials Atomstack Kraft Cuts It All



200+ IR laser

300+ Diode laser

500+



Figure 5.4: Speed comparison between the dual laser system and a single IR laser.

6. SAFETY INFORMATION

Your ATOMSTACK Kraft laser engraving machine is designed with multiple safety features. Adhering to these guidelines is crucial for safe operation:

- **Eye Protection:** The quasi-enclosed design blocks 99% of laser radiation. However, it is always recommended to avoid direct eye exposure to the laser beam. Do not operate the machine with the protective cover open.
- **Ventilation:** Ensure the machine is operated in a well-ventilated area. The triple air filtration system helps control smoke and odor, but proper room ventilation is still important.
- **Fire Safety:** The machine is equipped with a flame sensor and an active fire extinguishing function that automatically stops operation in dangerous situations. A fire-resistant honeycomb bed is also included. Always have a fire extinguisher nearby.
- **Emergency Stop:** An emergency stop button is provided for immediate shutdown in case of any unexpected issues.
- **Hazard Prediction:** The machine includes functions for tilt alarm, unpacking detection, and malfunction alarm to

ensure comprehensive protection.

- **Supervision:** Never leave the machine unattended during operation.



Figure 6.1: Illustration of the machine's safety features, including the enclosed design and air filtration.

7. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your laser engraving machine:

- **Cleaning:** Regularly clean the lens of the laser module with a soft, lint-free cloth and lens cleaning solution. Dust and debris can affect laser performance.
- **Honeycomb Panel:** Clean the honeycomb panel periodically to remove accumulated debris and residue from cutting operations.
- **Air Filter Replacement:** The triple air filtration system requires periodic filter replacement. Refer to the quick start guide for instructions on how to check and replace filters.
- **Lubrication:** Apply a small amount of lubricant to the guide rails and moving parts as recommended in the quick

start guide to ensure smooth operation.

- **Firmware Updates:** Check the ATOMSTACK official website regularly for firmware updates to ensure your machine has the latest features and improvements.

8. TROUBLESHOOTING

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

Problem	Possible Cause	Solution
Laser not firing or weak output.	Dirty lens, incorrect focus, incorrect power settings, loose cable connection.	Clean the laser lens. Run auto-focus. Check power settings in software. Ensure all cables are securely connected.
Machine not connecting to software.	USB cable issue, Wi-Fi connection problem, driver not installed, software version mismatch.	Try a different USB port/cable. Reconnect Wi-Fi. Reinstall software drivers. Update software to the latest version.
Engraving/Cutting results are inconsistent.	Material not flat, incorrect speed/power, laser head loose, dirty optics.	Ensure material is flat and secured. Adjust speed/power settings. Check laser head for stability. Clean optics.
Machine makes unusual noises.	Debris on rails, lack of lubrication, loose components.	Clean guide rails. Apply lubricant. Inspect for any loose screws or parts and tighten if necessary.

9. SPECIFICATIONS

Attribute	Value
Manufacturer	ATOMSTACK
Model Number	Kraft 20W+1.2W
Item Weight	80.3 pounds
Product Dimensions	23.62 x 11.81 x 11.81 inches
Laser Wattage	20000 Milliwatts (20W Diode Laser + 1.2W 1064nm IR Laser)
Voltage	24 Volts
Engraving Speed	Up to 600mm/s
Working Area	19.6 x 12.6 inches (expandable to 31.5 x 19.6 inches with conveyor belt)

Attribute	Value
Material Compatibility	Diode Laser: Wood, Leather, Denim, Ceramics, MDF, Alumina, Dark opaque acrylic, Dark glass, Kraft paper, Painted metal, Brushed stainless steel, Rock, PCB board, Paper, Bamboo, Fabric, Jade, Marble, Shale, Brick. Infrared Laser: All Metals (Gold, Silver, Brass, Iron, Aluminum, Stainless steel, and more), Plastic, Dark opaque acrylic.
Included Components	1*Air Assist, 1*Honeycomb panel, 1*Instruction manual, 1*Laser Engraver

10. WARRANTY AND SUPPORT

The ATOMSTACK Kraft 20W Dual-Light Composite Laser Engraving Machine comes with a**1-year warranty** from the date of purchase.

For any technical assistance, operational queries, or warranty claims, please contact ATOMSTACK Official Store customer service. We are committed to providing 24-hour support to ensure a satisfactory user experience.

Your feedback is valuable and helps us improve our products. Please feel free to provide suggestions for future product enhancements.