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› OMTech 20W Autofocus Fiber Laser Marking Machine with Lightburn User Manual

## OMTech LYF-20W

# OMTech 20W Autofocus Fiber Laser Marking Machine with Lightburn User Manual

Model: LYF-20W

## 1. INTRODUCTION

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This manual provides essential instructions for the safe and efficient operation of your OMTech 20W Autofocus Fiber Laser Marking Machine. This device is designed for precise engraving and marking on a variety of materials, including metals, plastics, stone, gold, and leather. Please read this manual thoroughly before initial use and retain it for future reference.

## 2. SAFETY INFORMATION

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**WARNING:** This product contains a Class 2 laser with 0.874 mW output power. Direct exposure to the laser beam may cause eye injury. Always wear the provided laser safety goggles during operation. Never look directly into the laser beam or at reflections. Ensure the work area is well-ventilated. Keep children and unauthorized personnel away from the machine during operation. Disconnect power before performing any maintenance or adjustments.

## 3. PACKAGE CONTENTS

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Verify that all items listed below are present in your package:

- Control Box with Laser Arm
- Support Column
- Laser Safety Goggles
- 11.8 inch Ruler
- Position Lock Bars
- Hex Wrench Set
- USB Flash Drive
- Laser Keys
- Installation Screws
- Power Cord
- USB Cable
- Remote Control Terminal
- Screwdriver

# Ultimate Versatility

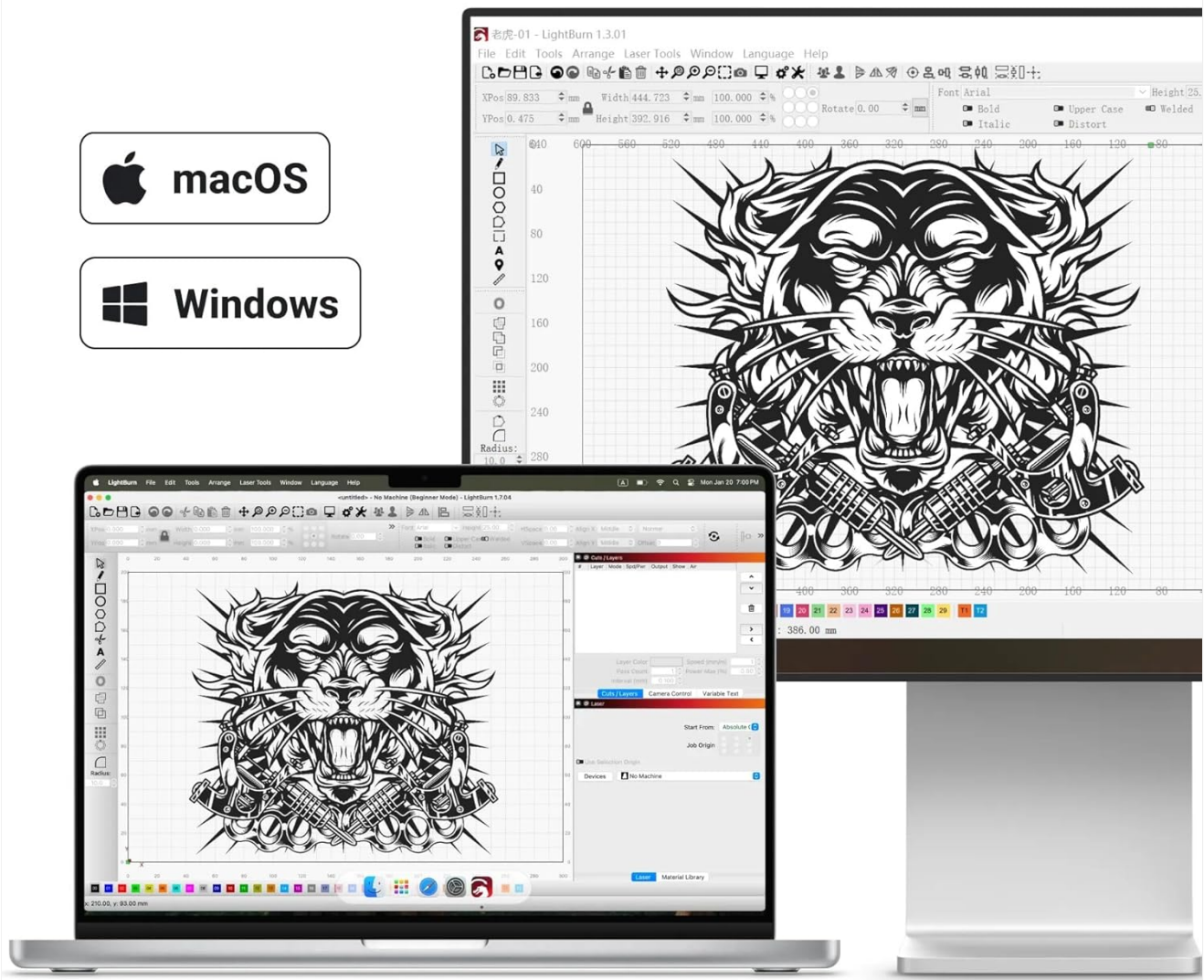


Figure 3.1: All components included in the OMTech 20W Autofocus Fiber Laser Marking Machine package.

## 4. SETUP

Follow these steps to set up your laser marking machine:

1. **Unpack Components:** Carefully remove all components from the packaging.
2. **Attach Support Column:** Connect the support column to the worktable base. Secure it firmly using the provided screws and hex wrench.
3. **Mount Laser Arm:** Fix the laser arm to the support column. Adjust its position based on your project needs and secure it.
4. **Connect Remote Control:** Plug the remote control cable into the designated port on the machine's rear panel and secure it.
5. **Connect USB Cable:** Connect the USB cable from the machine to your computer.
6. **Connect Power Cord:** Plug the power cord into the machine and then into a grounded electrical outlet.
7. **Insert Laser Key:** Insert the laser key into the key switch on the front panel.

Video 4.1: Detailed instructions on how to install the autofocus fiber laser engraver, covering assembly of the support column and laser arm, and connecting peripherals.

## 5. OPERATING INSTRUCTIONS

This section covers the basic operation of your OMTECH Fiber Laser Marking Machine.

### 5.1 Power On and Initial Checks

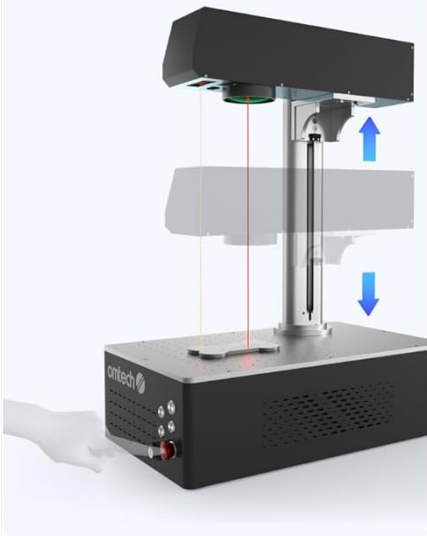
1. Ensure all connections are secure.
2. Turn the laser key to the ON position.
3. Press the Emergency Stop button to release it if it is engaged.
4. Press the Fiber Laser button to activate the laser.

### 5.2 Autofocus Function

The machine features an automatic focusing system for precise engraving.

- Place your material on the workbed.
- Press the 'Autofocus' button on the control panel. The laser head will automatically adjust its height to achieve optimal focus.
- Alternatively, use the 'Head Up' and 'Head Down' buttons for manual fine-tuning if needed.

#### One-Click Autofocus

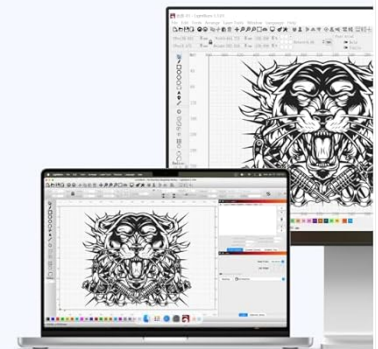


# 20W

Rated Power

#### LightBurn Compatible

EzCad Included



# ±0.01 mm

Engraving Accuracy



# CE

Certified

**100,000 hr.**  
Service Life

# 26.8 × 13.4 × 28 in.

Compact Size

# 1064 nm

Wavelength



Figure 5.1: One-Click Autofocus mechanism.

Video 5.1: Demonstration of the autofocus function on the metal etching machine.

### 5.3 Software Connection (LightBurn)

Your OMTech laser engraver is compatible with LightBurn software. Follow these steps to connect:

1. Open LightBurn software on your computer.
2. Go to 'Devices' and click 'Find My Laser'.
3. Ensure your machine is connected via USB.
4. LightBurn will scan for connected devices. This may take a few moments.
5. Once identified, click 'Add Device'. You may rename the device for easier identification.
6. Select your laser origin (e.g., Front Left, Rear Right) and click 'Finish'.

Video 5.2: Instructions on how to connect your laser engraver to LightBurn software.

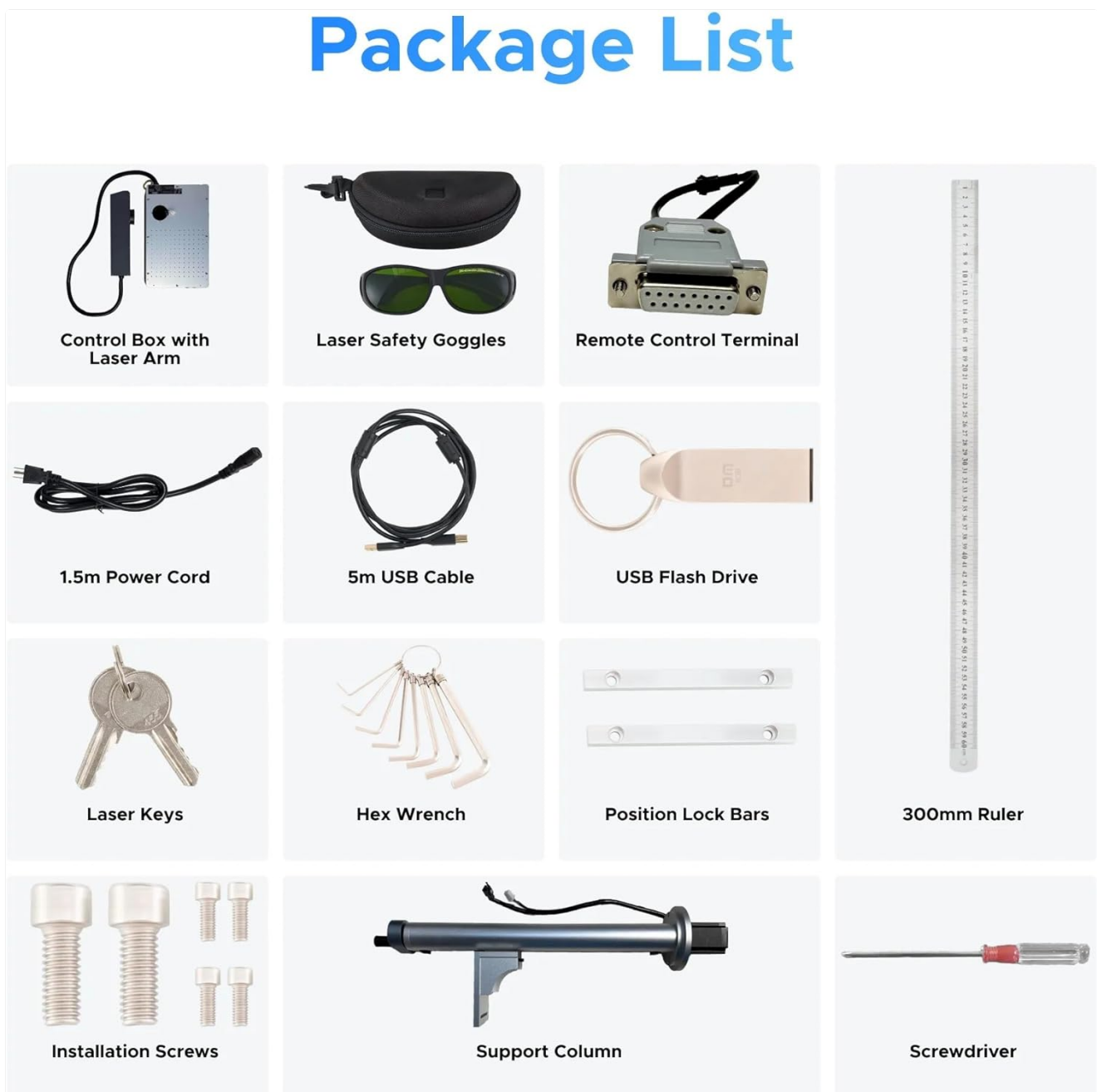


Figure 5.2: LightBurn software compatibility with macOS and Windows.

### 5.4 Engraving with Rotary Axis (Optional)

If your model includes a rotary axis or you have purchased one separately, you can engrave cylindrical objects.

- Connect the rotary axis to the designated port on the machine.
- Place the cylindrical object securely in the rotary axis chuck.
- Adjust software settings for rotary engraving.

Video 5.3: Demonstration of engraving with a rotary axis for cylindrical objects.

## 6. MATERIAL COMPATIBILITY

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The OMTech 20W Autofocus Fiber Laser Marking Machine is suitable for engraving and marking on a wide range of materials:

- Metals: Stainless Steel, Gold, Silver, Brass, Iron, Titanium, Aluminum, Copper
- Plastics: ABS
- Stone: Marble, Granite, Stone
- Other: Leather, Wood (for marking, not cutting)



Figure 6.1: Versatile material processing capabilities.

## 7. MAINTENANCE

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Regular maintenance ensures optimal performance and longevity of your laser marking machine.

- **Lens Cleaning:** Periodically inspect and clean the laser lens using a soft, lint-free cloth and lens cleaning solution. Avoid abrasive materials.
- **Workbed Cleaning:** Keep the workbed clean from debris and dust to ensure proper material placement and prevent interference with the laser path.
- **Ventilation:** Ensure the machine's ventilation openings are clear and unobstructed to prevent overheating.
- **Cable Inspection:** Regularly check all cables for any signs of wear or damage. Replace damaged cables immediately.
- **Software Updates:** Keep your LightBurn software updated to the latest version for improved features and compatibility.

## 8. TROUBLESHOOTING

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This section addresses common issues you might encounter.

- **Machine Not Powering On:**

- Check if the power cord is securely connected to both the machine and the power outlet.
- Ensure the power switch on the machine's rear panel is in the 'ON' position.
- Verify the laser key is inserted and turned to the 'ON' position.
- Check if the Emergency Stop button is released.

- **Laser Not Firing:**

- Confirm the Fiber Laser button is pressed.
- Ensure the software is correctly connected and sending commands.
- Check for any error messages in the software.

- **Poor Engraving Quality:**

- Verify the autofocus function has been performed correctly, or manually adjust the focus.
- Ensure the material is flat and securely placed on the workbed.
- Check software settings (power, speed, frequency) for the specific material being used.
- Clean the laser lens if it appears dirty.

- **Software Connection Issues:**

- Ensure the USB cable is properly connected.
- Restart both the machine and your computer.
- Re-run the device discovery wizard in LightBurn.
- Install the latest drivers for your machine, usually found on the provided USB flash drive or the manufacturer's website.

## 9. SPECIFICATIONS

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Feature	Specification
Laser Power	20W
Laser Source Lifespan	Over 100,000 hours
Engraving Accuracy	±0.01 mm

Feature	Specification
Engraving Area	4.3" x 4.3" (110mm x 110mm)
Max Engraving Speed	10,000 mm/s
Dimensions (L x W x H)	26.8" x 13.4" x 28"
Laser Class	Class 2
Output Power	0.874 mW
Software Compatibility	LightBurn, EzCad
Manufacturer	OMTech
Model Number	LYF-20W

## ±0.01 mm Accuracy



Figure 9.1: Example of engraving with 0.01 mm accuracy.

# 10,000 mm/s Ultra-Fast Speed

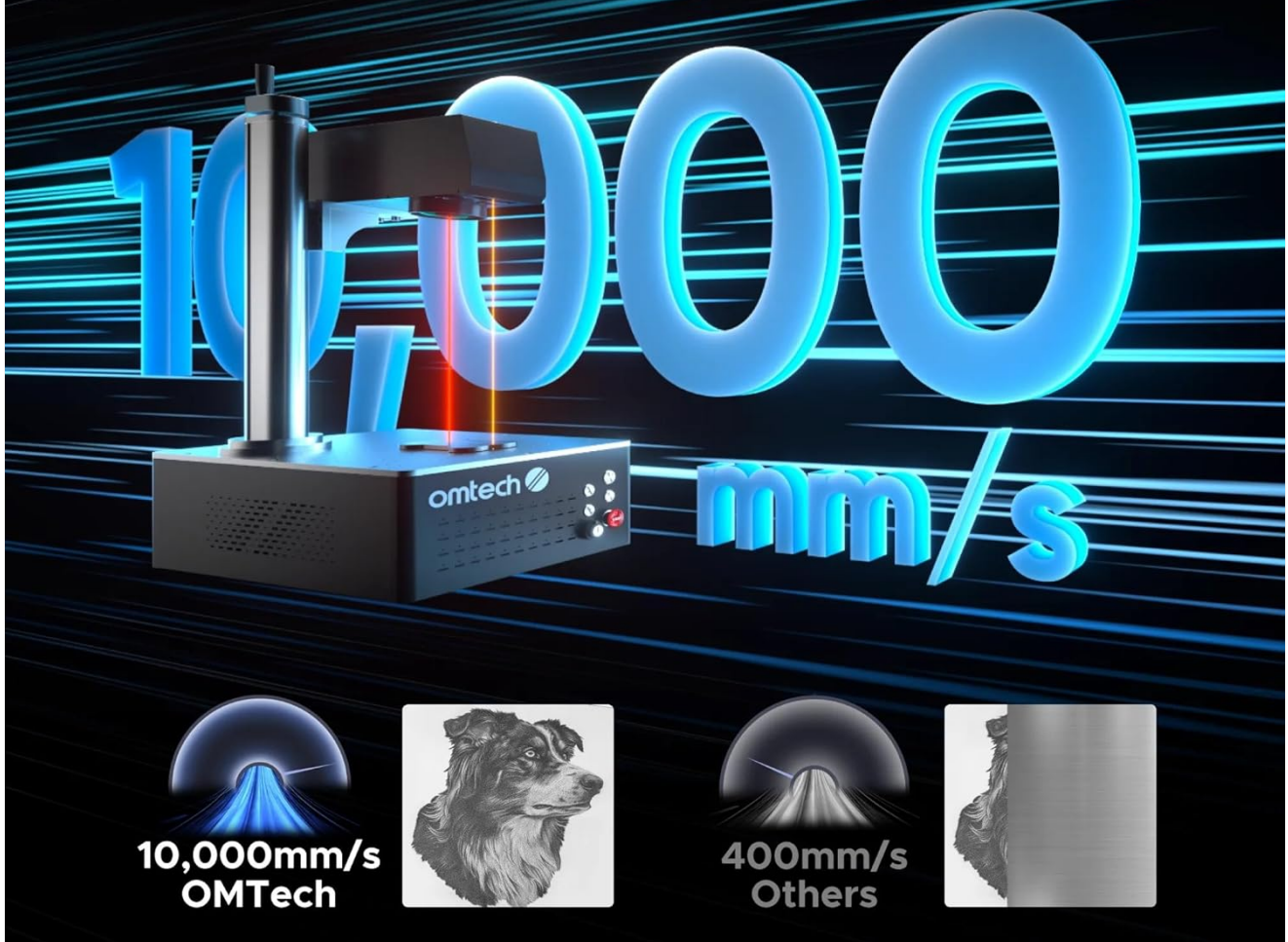


Figure 9.2: Ultra-fast engraving speed of 10,000 mm/s.

# Quiet Operation



Workspace  
80 dB



Conversation  
70 dB



**OMTech**  
**60 dB**



Library  
40 dB

Figure 9.3: Quiet operation at approximately 60 dB.

## 10. WARRANTY AND SUPPORT

OMTech provides comprehensive support for your laser marking machine:

- **Two-Year Support:** Your product is covered by a two-year support period.
- **U.S.-based Technical Support:** Access to technical support located in the United States for quick assistance.
- **24/7 Online Customer Service:** Round-the-clock online customer service is available for inquiries and assistance.

For further assistance, please visit the [OMTech Store on Amazon](#) or contact customer service directly.