OMTech LYF-20BW

OMTech 20W Fiber Laser Marking Machine User Manual

Model: LYF-20BW

1. INTRODUCTION AND OVERVIEW

This manual provides essential information for the safe and efficient operation of your OMTech 20W Fiber Laser Marking Machine. This all-metal body fiber laser engraver offers high precision and speed for various marking tasks.
Key features include:

- **Precision:** Achieves a spot diameter of 0.01 mm for detailed engravings.
- **Speed:** Maximum engraving speed up to 10,000 mm/s.
- **Work Area:** 4.3 x 4.3 inch (110 x 110 mm) workbed.
- **Compatibility:** Fully compatible with LightBurn and pre-installed with EZCad2 software.
- **Dual Red Dot Locator:** Assists in focus adjustment for accurate positioning.
- **Durability:** Designed for a lifespan of over 100,000 hours.

BOOST PRODUCTIVITY AT 10000 MM/S
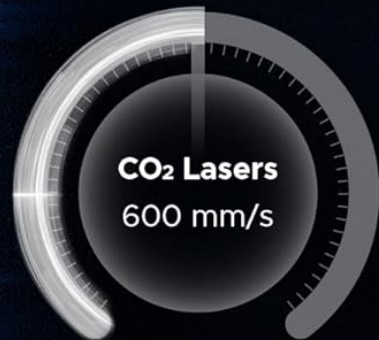
Speed May Vary Based on Materials

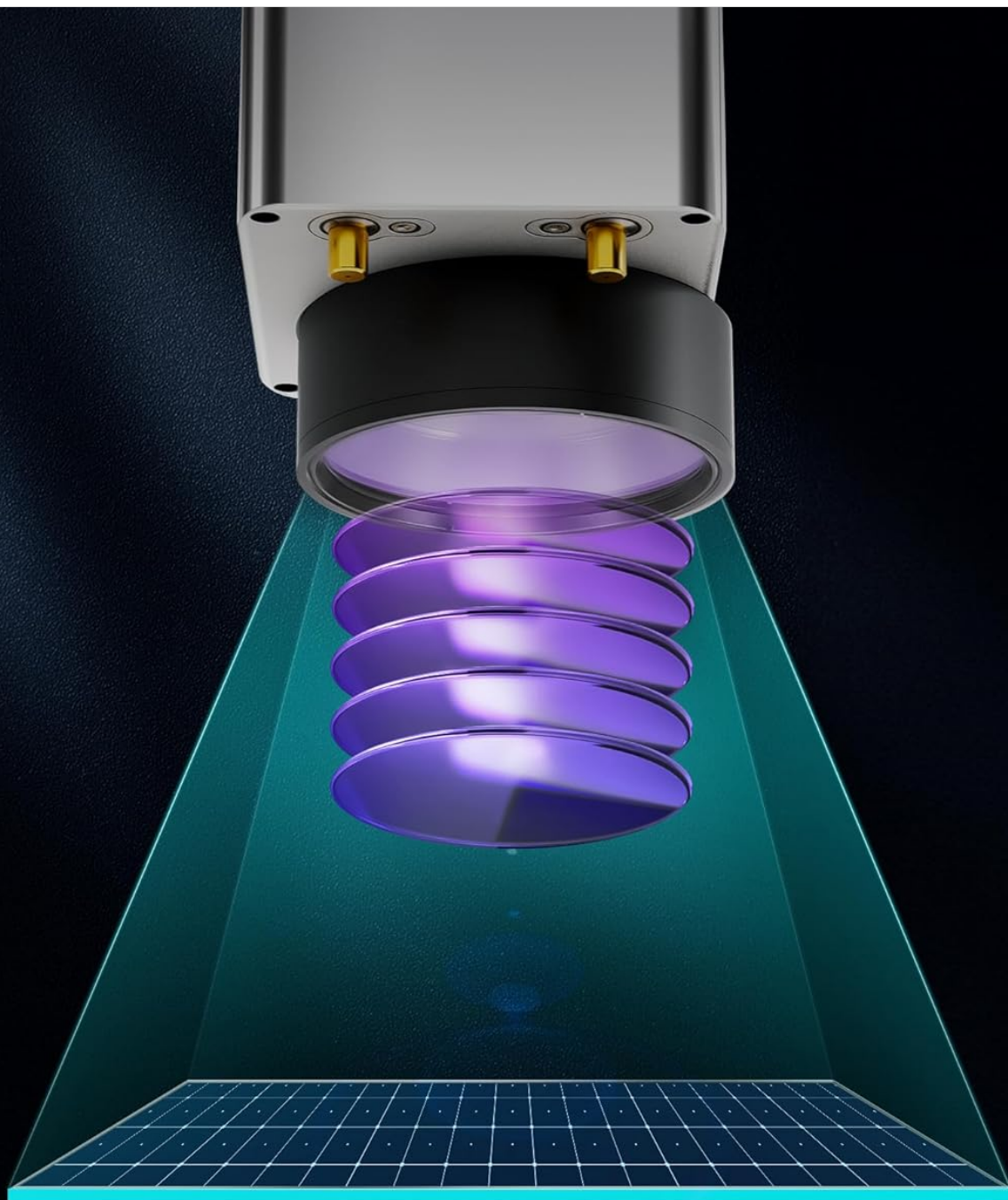*Figure 1: OMTech 20W Fiber Laser Marking Machine.*

Figure 2: The compact design of the OMTech 20W Fiber Laser Marking Machine, showing its dimensions for easy placement.

2. SAFETY INFORMATION

Your OMTech Fiber Laser Marking Machine is a Class 2 laser product with an output power of 0.874 mW. Always prioritize safety when operating the machine.

- **Wear Protective Eyewear:** Always wear appropriate laser safety glasses to protect your eyes from laser radiation.
- **Avoid Direct Exposure:** Never stare directly into the laser beam or its reflections.
- **Emergency Stop:** Familiarize yourself with the emergency stop button and its location.
- **Ventilation:** Ensure adequate ventilation to remove fumes and particles generated during marking.
- **Supervision:** Do not leave the machine unattended during operation.
- **Authorized Personnel:** Only trained and authorized personnel should operate the laser machine.

Figure 3: The dual red dot galvo head, which assists in precise focus and positioning. Always ensure proper eye protection when operating the laser.

3. PACKAGE CONTENTS

Upon unpacking, verify that all components are present and undamaged. The standard package for the OMTech 20W Fiber Laser Marking Machine includes:

- OMTech 20W Fiber Laser Marking Machine Unit
- Laser Arm and Support Column
- Power Cable
- USB Cable
- Focus Adjustment Tool (Measuring Stick)
- Safety Glasses
- Allen Wrench Set
- User Manual (Printed)
- Software (LightBurn/EZCad2)

Figure 4: Included accessories for the OMTech 20W Fiber Laser Marking Machine, such as safety glasses, tools, and cables.

4. SETUP INSTRUCTIONS

Follow these steps to set up your OMTech 20W Fiber Laser Marking Machine:

1. **Install the Support Column:** Securely attach the support column to the main unit using the provided screws and

Allen wrenches.

2. **Attach the Laser Arm:** Mount the laser arm onto the support column, ensuring it is firmly fastened.

3. **Connect Cables:**

   - Connect the power cable to the machine and a grounded power outlet.
   - Connect the USB cable from the machine to your computer.
   - If using a rotary axis (sold separately), connect it to the designated port.

4. **Power On:** Insert the key into the Fiber Laser key switch and turn it to the ON position. Release the Emergency Stop button by twisting it clockwise. Flip the main power switch to ON.

5. **Software Installation:** Install LightBurn or EZCad2 software on your computer. Ensure your device is connected via USB before proceeding with software setup.

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Video 1: Step-by-step guide on how to install the OMTech Fiber Laser Marking Machine, including attaching the support column and laser arm, and connecting the necessary cables.

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Video 2: Instructions on connecting your OMTech Fiber Laser Marking Machine to LightBurn software for operation.

5. OPERATING INSTRUCTIONS

Operating your laser marking machine involves several key steps to ensure precise and safe results.

1. **Material Placement:** Place your material on the workbed. Use the included positioning bars if needed to secure smaller items.

2. **Focus Adjustment:** Use the focus adjustment tool (measuring stick) to set the correct focal distance between the laser head and the material. The dual red dot locator will assist in finding the optimal focus. Press the focus button to activate the red dot guider.

3. **Software Operation:**

   - Open LightBurn or EZCad2 software.
   - Import or create your design. The software supports various image formats including .bmp, .gif, .jpg, .jpeg, .dxf, .dst, and .ai.
   - Adjust laser parameters (power, speed, frequency) according to your material and desired effect.
   - Use the "Frame" function to preview the engraving area on your material before starting.
   - Initiate the marking process from the software.

4. **Monitoring:** Supervise the machine during operation.

Figure 5: The OMTech Fiber Laser Engraver in operation, demonstrating its ability to mark various materials with precision.

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Video 3: A short demonstration of the OMTech fiber laser engraver performing a marking task.

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Video 4: Demonstration of engraving with a rotary axis, suitable for cylindrical objects.

6. MATERIAL COMPATIBILITY

The OMTech 20W Fiber Laser Marking Machine is designed for marking a wide range of materials, primarily metals and some non-metals. Always test on a scrap piece of material first to determine optimal settings.

Supported Materials:

- **Metals:** Stainless Steel, Aluminum, Brass, Copper, Gold, Silver, Titanium, Tungsten.
- **Some Non-Metals:** Certain plastics, leather, paper, brick, tile, marble, granite.

Figure 6: Visual examples of various materials that can be engraved with the OMTech Fiber Laser, including metals and some non-metals.
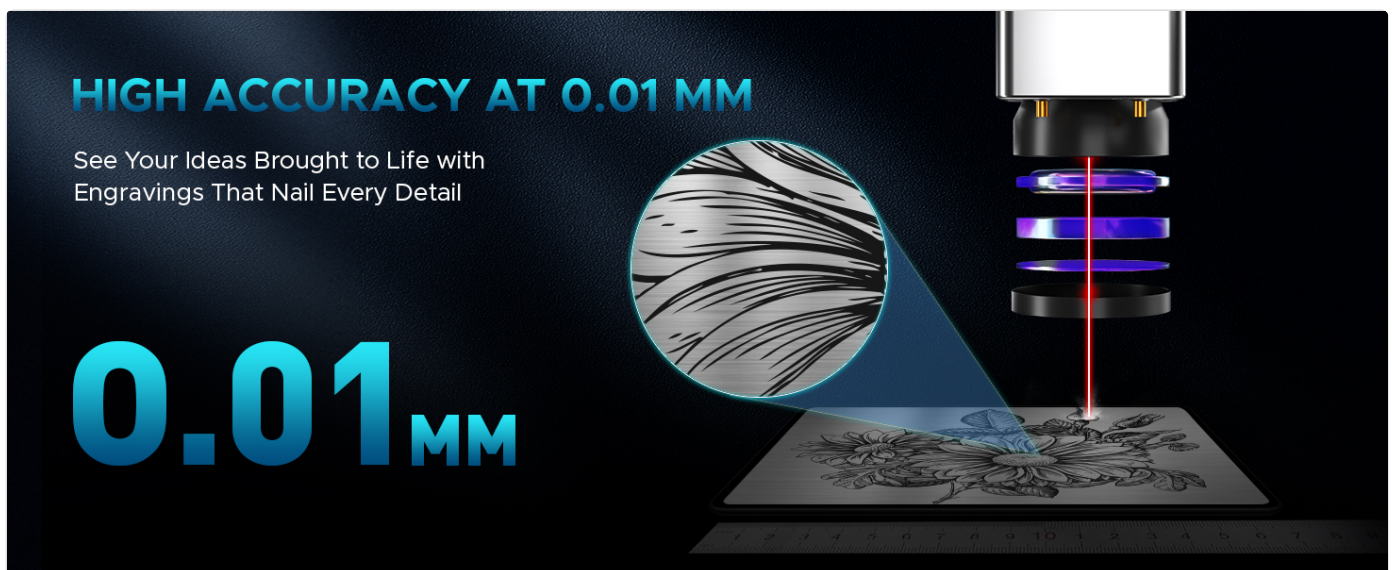

Figure 7: Further examples showcasing the versatility of the OMTech Fiber Laser across different materials and applications.

7. MAINTENANCE

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

- **Clean the Lens:** Periodically inspect and clean the laser lens with a specialized lens cleaning solution and cloth to prevent dust and debris buildup.
- **Keep Work Area Clean:** Ensure the workbed and surrounding area are free of debris and dust.
- **Check Connections:** Regularly inspect all electrical and USB connections for secure fit.
- **Software Updates:** Keep your LightBurn or EZCad2 software updated to the latest version for best performance and features.

8. TROUBLESHOOTING

If you encounter issues with your OMTech Fiber Laser Marking Machine, refer to the following common troubleshooting tips:

- **No Laser Output:**
  - Ensure the key switch is turned ON and the Emergency Stop button is released.
  - Check all power and USB connections.
  - Verify laser parameters in the software are correctly set for the material.

- **Poor Engraving Quality:**
  - Re-check the focal distance using the focus adjustment tool.
  - Clean the laser lens.
  - Adjust laser power and speed settings in the software.

- **Software Connection Issues:**
  - Ensure the USB cable is securely connected to both the machine and the computer.
  - Restart the software and the machine.
  - Check device manager for proper driver installation.

For further assistance, please contact OMTech customer support.

9. SPECIFICATIONS

Feature	Detail
Model Number	LYF-20BW
Laser Power	20W
Laser Wavelength	1064 nm
Max. Marking Speed	10,000 mm/s
Marking Accuracy	±0.01 mm
Work Area	4.3 x 4.3 inches (110 x 110 mm)
Max. Single Pass Marking Depth	0.04 mm

Feature	Detail
Estimated Laser Service Life	100,000+ hours
Product Dimensions	23.62 x 17.72 x 13.78 inches
Net Weight	40 lbs
Compatible Software	LightBurn, EZCad2
Supported Image Formats	.bmp, .gif, .jpg, .jpeg, .dxf, .dst, .ai
Laser Class	Class 2
Output Power	0.874 mW

Figure 8: A summary of the key technical specifications for the OMTech 20W Fiber Laser Marking Machine.

10. WARRANTY AND SUPPORT

OMTech is committed to providing excellent customer service and support for your product.

- **Warranty:** This product comes with a 2-year support period to address any concerns.
- **Customer Service:** A 24-hour service team is available in the US, Philippines, and China.
- **Technical Support:** Comprehensive pre-sales and after-sales technical support is provided.
- **Demo Room Hosts:** Over 50 Demo Room Hosts are available in the US for on-site experience by appointment.
- **Contact Information:** For support, visit omtechlaser.com or call (949) 539-0460.

Figure 9: OMTech's dedicated customer support team ready to assist with any inquiries or issues.