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› Monport 20W Fiber Laser Engraver User Manual

Monport YXF-GM

Monport 20W Fiber Laser Engraver

USER MANUAL

1. Introduction

This user manual provides comprehensive instructions for the safe and effective operation, maintenance, and troubleshooting of your Monport 20W Fiber Laser Engraver. Please read this manual thoroughly before operating the machine to ensure optimal performance and safety.

2. Safety Information

The Monport 20W Fiber Laser Engraver is a Class 4 laser product. Improper use can result in serious injury. Always adhere to the following safety guidelines:

- Always wear appropriate laser safety glasses (OD 6+) when the laser is in operation.
- Never look directly into the laser beam or at reflections.
- Ensure the work area is well-ventilated to dissipate fumes and smoke generated during engraving.
- Do not operate the machine if any covers are removed or safety interlocks are bypassed.
- Keep flammable materials away from the laser's path.
- Ensure the machine is properly grounded.
- Familiarize yourself with the emergency stop procedure.

3. Product Overview

The Monport 20W Fiber Laser Engraver (Model YXF-GM) is a high-precision marking machine designed for a wide range of materials, primarily metals. Its compact design and advanced features make it suitable for various applications.

3.1 Key Components

- Laser Head (Galvanometer System)
- F-theta Field Mirror
- Red Dot Pointer
- Control Unit/Base
- Z-axis Adjustment Column
- Power Button
- USB Port for Software Connection

3.2 Features

- **Integrated Mini Fiber Laser:** Compact and lightweight design with a lifespan of up to 100,000 hours.
- **High Speed and Accuracy:** Max speed of 10000mm/s and carving accuracy of 0.01mm, thanks to a customized galvanometer system and F-theta field mirror.
- **Optimal Working Area:** 110x110mm (4.3"x4.3") marking area, optimized for 20W power to prevent distortion.
- **Versatile Engraving:** Capable of 2.5D metal engraving, deep metal engraving, and some metal sheet cutting.
- **Software Compatibility:** Fully compatible with LightBurn and includes free BSLcad software.
- **Wide Material Compatibility:** Engraves all metals (gold, silver, copper, stainless steel, brass, titanium, etc.) and certain plastics.

3.3 Product Visuals



The Monport 20W Fiber Laser Engraver, showcasing its compact and integrated design.

10000mm/s
Max. Marking Speed



professional Software
BslAppSimple/Lightburn



Smaller, But still Powerful

20W

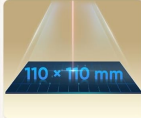
Fiber Laser

Peak power up to 8 kW



High Scalability

Rotary Axis Protection
Enclosure, Fume Extractor, etc



**Sub-micron And
Error-free Accuracy**



Wide Marking Materials

Stainless Steel, Aluminum, Gold, Silver, Alloy, Ceramic,
Marble, Leather, Plastics, Colored Acrylic, etc



**Metal 3D
Engraving & Cutting**

An overview of the key features including maximum marking speed, software compatibility, 20W power, and optimal marking area.

AS FAST AS EVER

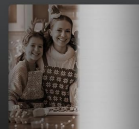


**UP TO
10000**
mm/s



10000
mm/s

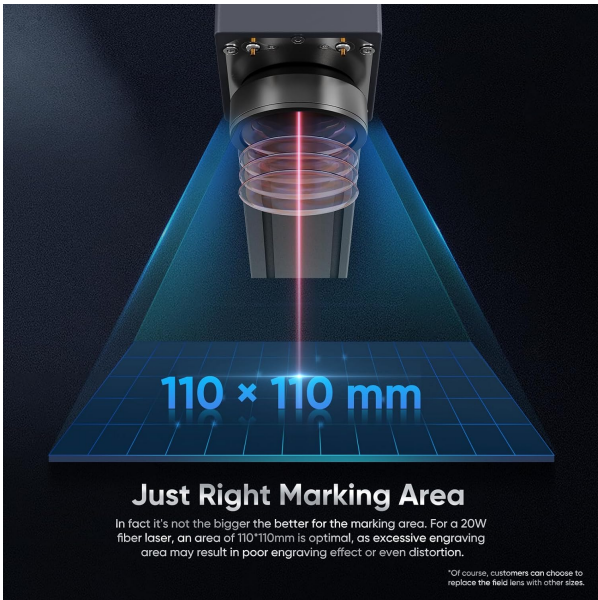
Monport



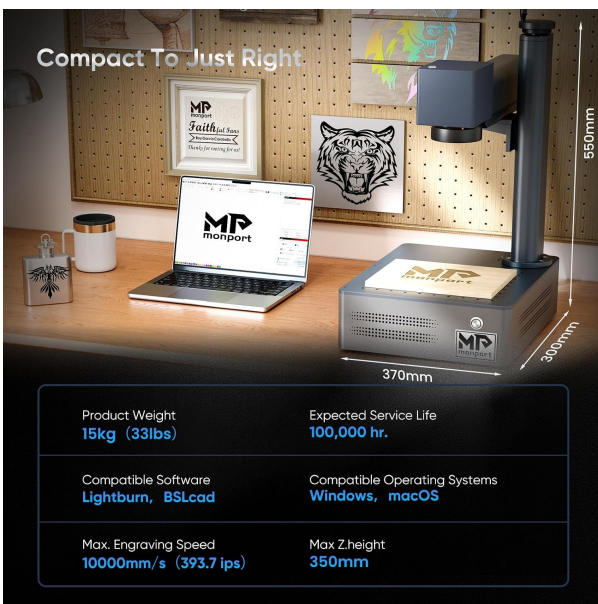
5000
mm/s

Others

Illustration of the machine's high engraving speed, reaching up to 10000 mm/s.



Detailed view of the 110x110mm optimal marking area, ensuring consistent engraving quality.



The compact footprint of the engraver alongside a laptop, highlighting its portability and key specifications like weight and lifespan.

Smaller, But still Powerful 20W Fiber Laser

Peak power up to 8 kW

For all-metals and plastic, etc.



Visual representation of the wide range of materials compatible with the engraver, including various metals and plastics.

4. Setup

Follow these steps to set up your Monport 20W Fiber Laser Engraver:

1. **Unpacking:** Carefully remove all components from the packaging. Verify that all parts listed in the packing list are present and undamaged.
2. **Placement:** Place the machine on a stable, level surface in a well-ventilated area, away from flammable materials.
3. **Assembly:** If any assembly is required (e.g., attaching the laser head to the column), follow the specific instructions provided in the quick start guide included with your machine.
4. **Power Connection:** Connect the power cable to the machine and then to a grounded electrical outlet.
5. **Software Installation:** Install the provided BSLcad software or LightBurn (if purchased separately) on your computer. Drivers may be required for proper communication.
6. **USB Connection:** Connect the machine to your computer using the provided USB cable.
7. **Initial Power On:** Turn on the machine using the main power switch.

5. Operating Instructions

This section outlines the basic steps for operating your laser engraver. For detailed software-specific instructions, refer to the BSLcad or LightBurn documentation.

5.1 Basic Engraving Process

1. **Prepare Material:** Place your material on the work platform. Ensure it is flat and securely positioned.
2. **Focus Adjustment:** Use the Z-axis adjustment to set the correct focal distance. The red dot pointer assists in

finding the optimal focus.

3. **Design in Software:** Open your engraving software (LightBurn or BSLcad) and import or create your design.
4. **Parameter Settings:** Adjust laser parameters such as power, speed, frequency, and number of passes based on your material and desired engraving depth.
5. **Preview and Frame:** Use the software's preview function to ensure the design is positioned correctly on your material. The red dot pointer can outline the engraving area.
6. **Start Engraving:** Initiate the engraving process from the software. Ensure you are wearing safety glasses before starting.
7. **Monitor Process:** Supervise the engraving process. Do not leave the machine unattended while operating.

5.2 Engraving Demonstration

Your browser does not support the video tag.

This video demonstrates the Monport Fiber Laser Engraver in action, showcasing its ability to precisely engrave intricate designs on various metal objects, including a ring and a tumbler.

6. Maintenance

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

- **Lens Cleaning:** Periodically clean the F-theta lens with a lens cleaning solution and a lint-free cloth. Ensure the lens is free of dust and debris.
- **Work Area Cleaning:** Keep the work platform and surrounding area clean from debris and residue.
- **Ventilation Check:** Ensure the ventilation system (if connected) is clear and functioning properly to remove smoke and fumes.
- **Cable Inspection:** Regularly inspect all cables for any signs of wear or damage.
- **Software Updates:** Keep your engraving software updated to the latest version for improved features and bug fixes.

7. Troubleshooting

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

Problem	Possible Cause	Solution
Laser not firing	Power not connected; Emergency stop engaged; Software error; Lens cap on.	Check power connections; Release emergency stop; Restart software/machine; Ensure lens cap is removed.
Poor engraving quality	Incorrect focus; Incorrect parameters (speed/power); Dirty lens; Material not flat.	Adjust focus; Optimize engraving parameters; Clean the lens; Ensure material is flat and secure.

Problem	Possible Cause	Solution
Machine not recognized by computer	USB cable issue; Driver not installed; Software not running.	Try a different USB port/cable; Install/reinstall drivers; Ensure software is open and connected.
Engraving is distorted or misaligned	Material shifted; Machine vibrations; Software settings.	Secure material firmly; Place machine on a stable surface; Check software origin and framing settings.

8. Specifications

Attribute	Detail
Brand	Monport
Model Number	YXF-GM
Laser Power	20W (20000 mW output)
Laser Class	Class 4
Material	Aluminum
Color	Grey
Operation Mode	Manual
Max Engraving Speed	10000mm/s (393.7 ips)
Carving Accuracy	0.01mm
Working Area	110x110mm (4.3"x4.3")
Max Z-height	350mm
Product Weight	15kg (33lbs)
Expected Service Life	100,000 hours
Compatible Software	LightBurn, BSLcad
Compatible Operating Systems	Windows, macOS
Included Components	Fiber Laser Engraver

9. Warranty and Support

Monport is committed to providing high-quality products and customer satisfaction. For specific warranty details, please refer to the warranty card included with your product or visit the official Monport website. For technical support, troubleshooting assistance, or inquiries regarding parts and accessories, please contact Monport customer service directly. You can also visit the [Monport Store on Amazon](#) for additional resources and product information. Please note that the product has a return policy of 30 days for refund/replacement as per Amazon's terms.