

Cloudray CLM50F

Cloudray CLM50F 50W Fiber Laser Engraving Machine User Manual

Model: CLM50F

1. SAFETY INFORMATION

This device is a Class 2 laser product. Adherence to all safety guidelines is critical for safe operation. Failure to follow these instructions may result in serious injury or property damage.

- **Always wear appropriate laser safety goggles** (included) when operating the machine.
- Never look directly into the laser beam or at reflections from shiny surfaces.
- Ensure the work area is well-ventilated to dissipate fumes and particles generated during engraving and cutting.
- Keep flammable materials away from the laser's path.
- Do not operate the machine if any covers are removed or damaged.
- Disconnect power before performing any maintenance or adjustments.
- Keep children and unauthorized personnel away from the operating machine.

Refer to the IEC 60825-1G Report Number SHES240501075771 and FDA Accession Number 2221422-000 for detailed safety compliance information.

2. PRODUCT OVERVIEW

The Cloudray CLM50F is a 50W fiber laser engraving machine designed for high-speed and precise marking, cutting, and etching on various materials, including metals, plastics, and leather. It features a durable design with a Max and GSOBK galvo scanner head, ensuring a long lifespan of over 100,000 hours.

Key Features:

- **High Speed & Precision:** Max marking speed of 10,000mm/s with an accuracy of 0.01mm. Capable of cutting up to 0.5mm deep.
- **Versatile Working Area:** Includes two F-theta lenses for working areas of 4.3"x4.3" (110x110mm) and 6.9"x6.9" (175x175mm). The manual lift column allows for adjustable height, supporting larger items.

- **Software Compatibility:** Fully compatible with EzCad2 and Lightburn (core version) software, supporting Windows 7, 8, 10, 11, and macOS.
- **360° Rotary Engraving:** Comes with a D69 rotary axis attachment for engraving cylindrical or round objects like rings, bracelets, and metal rods.
- **Material Capability:** Effectively engraves and cuts metals such as stainless steel, aluminum, and brass, as well as plastics and leather.



Image: Overview of the Cloudray 50W Fiber Laser Engraver, showing the main unit and laser head.

10000mm/s
Max Marking Speed

0.01mm/s
Accuracy

0.5mm
Max Cutting Depth

2 Lens
Include

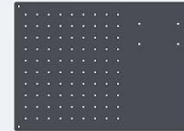
50W
Laser Power



Manual
Lift column



110*110mm
175*175mm
Working Area



Height
Adjustable



Lightburn
/EzCad2
Compatible



Rotary Axis D69

10000H+

Lifespan

Image: A summary of the ClouDray CLM50F's key features including marking speed, accuracy, cutting depth, laser power, working area, and software compatibility.

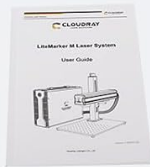
3. PACKING LIST

Upon unpacking, verify that all items listed below are present and in good condition:

- 1 x ClouDray CLM50F 50W Fiber Laser Machine Set
- 2 x F-theta Lenses (110x110mm, 175x175mm)
- 1 x 360° Rotary Axis Attachment D69
- 1 x User Manual & Reports
- 1 x Power Cable
- 1 x USB Cable
- 1 x Safety Goggles
- 1 x U Disk (containing software and drivers)
- 1 x Allen Wrench Set
- 1 x Positioning Bar

- 1 x Aluminum Card (for testing)
- Screws and other small accessories

Packing List



User Manual
& Reports



Power Cable



USB Cable



Safety Goggles



U Disk



Screwdriver



Positioning Bar



Allen Wrench



Screw



Aluminium Card

Image: Visual representation of the ClouDray CLM50F's packing list, showing the machine, lenses, rotary attachment, cables, safety goggles, and tools.

4. SETUP

4.1 Initial Assembly

1. Place the main laser unit and the manual lift column on a stable, level surface.
2. Securely attach the laser head to the manual lift column.
3. Connect the necessary cables (power, USB) between the main unit and the laser head.
4. If using the rotary axis attachment D69, connect it to the designated port on the laser unit and secure it to the work platform as needed for cylindrical objects.

Portable & Lightweight

50W fiber laser is easy to move when you move around from one place to another

Gross Weight: 43 lbs

Adjustable Height



Image: The Cloudray CLM50F machine, highlighting its portable design and key dimensions for setup.

4.2 Software Installation

1. Insert the provided U Disk into your computer.
2. Install the EzCad2 or Lightburn software according to the instructions on the U Disk. Ensure your operating system (Windows 7/8/10/11 or macOS) is compatible.
3. Install any required drivers for the laser machine.

Compatible Software & OS

The fiber laser engraver is compatible with EzCad2 or lightburn pro version.



Image: Illustration of the Cloudray CLM50F's compatibility with EzCad2 and Lightburn software across various operating systems.

4.3 Focusing the Laser

Proper focusing is essential for optimal engraving and cutting results.

1. Place your material on the work platform.
2. Adjust the height of the manual lift column until the laser's focal point is precisely on the material's surface. Consult the software interface for focus assistance or use a focusing tool if provided.

5. OPERATING INSTRUCTIONS

5.1 Preparing Your Design

1. Open EzCad2 or Lightburn software.
2. Import or create your desired design.
3. Adjust parameters such as laser power, speed, frequency, and number of passes based on the material

type and desired effect (engraving depth, cutting). Refer to material testing guidelines for optimal settings.

5.2 Material Placement

1. Place the material securely on the work platform. Use the positioning bar or clamps if necessary to prevent movement during operation.
2. Ensure the material is flat and within the chosen working area (4.3"x4.3" or 6.9"x6.9").

Large Working Area

provide **two f theta lenses** with various precision scanner head **4.3"x4.3"** & **7"x7"**

213*213CM

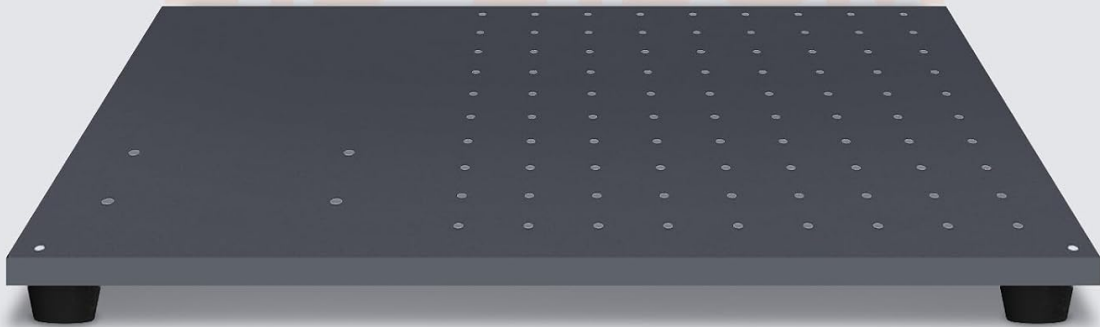


Image: The large working area of the Cloudray CLM50F, illustrating the two F-theta lenses for different engraving sizes.

5.3 Starting the Engraving/Cutting Process

1. With safety goggles on, power on the laser machine.
2. In the software, use the 'Red Light Pointer' or 'Frame' function to preview the engraving area on your material. Adjust material position or design as needed.
3. Initiate the engraving or cutting process from the software.
4. Monitor the process closely. Do not leave the machine unattended during operation.

Faster Marking, Lower Energy Use!

10,000mm/s



Image: Examples of fast marking results on various materials like leather, metal tumblers, and other crafts, demonstrating the machine's speed.

6. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your Cloudray CLM50F machine.

6.1 Cleaning

- **Daily:** Clean the work platform and surrounding area of any debris or dust.
- **Weekly:** Gently clean the F-theta lenses with a specialized lens cleaning solution and lint-free cloth. Avoid touching the lens surface directly.
- **Monthly:** Inspect and clean the internal components for dust accumulation, especially around cooling vents. Use compressed air if necessary, ensuring the machine is powered off and unplugged.

6.2 Component Inspection

- Regularly check all cables for signs of wear or damage. Replace immediately if any damage is found.

- Ensure all screws and fasteners are tight.
- Inspect the rotary axis attachment for smooth operation and cleanliness.

7. TROUBLESHOOTING

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

Problem	Possible Cause	Solution
Laser not firing	Power not connected, emergency stop engaged, software error, laser source issue.	Check power connections, release emergency stop button, restart software/machine, contact support if issue persists.
Poor engraving quality	Incorrect focus, wrong parameters, dirty lens, material inconsistency.	Re-focus the laser, adjust power/speed settings, clean lenses, test on a scrap piece of material.
Machine not recognized by computer	USB cable issue, driver not installed, software not running.	Check USB cable, reinstall drivers from U Disk, ensure software is open and configured correctly.
Rotary attachment not working	Incorrect connection, software settings not enabled for rotary.	Verify connection, enable rotary mode in EzCad2/Lightburn software.

8. SPECIFICATIONS

Feature	Specification
Model Number	CLM50F
Laser Power	50W
Laser Type	Fiber Laser (Max and GSOBK galvo scanner head)
Max Marking Speed	10,000 mm/s
Marking Accuracy	0.01 mm
Max Cutting Depth	0.5 mm
Working Area	4.3"x4.3" (110x110mm) and 6.9"x6.9" (175x175mm)
Software Compatibility	EzCad2, Lightburn (core version)
Operating Systems	Windows 7, 8, 10, 11, macOS
Lifespan	Over 100,000 hours
Product Dimensions	15 x 11 x 15.75 inches
Item Weight	43 pounds

Feature	Specification
Laser Safety Class	Class 2

10000mm/s

Max Marking Speed

50W

Laser Power

Manual

Lift column



110*110mm

175*175mm

Working Area




Lightburn

/EzCad2

Compatible



0.01mm/s

Accuracy

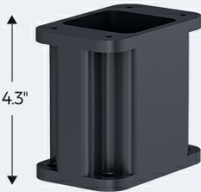


0.5mm

Max Cutting Depth

Height Adjustable

4.3"





Rotary Axis D69

2 Lens

Include

10000H+

Lifespan

Image: Detailed technical parameters and specifications for the Cloudray 50W Fiber Laser Engraver.

9. WARRANTY AND SUPPORT

Cloudray provides a **2-year comprehensive coverage** for the CLM50F Fiber Laser Engraving Machine. Additionally, **lifetime technical support** is available to assist you with any inquiries or operational challenges, from pre-purchase planning to post-purchase optimization. For support, please visit the official Cloudray website or contact their customer service department.