Ovsuqu FL-100W

Ovsuqu JPT MOPA 200W Fiber Laser Engraving and Cutting Machine User Manual

Model: FL-100W

1. INTRODUCTION

Thank you for choosing the Ovsuqu JPT MOPA 200W Fiber Laser Engraving and Cutting Machine. This manual provides essential information for the safe and efficient operation, setup, and maintenance of your new laser system. Please read this manual thoroughly before operating the machine to ensure proper usage and to prevent damage or injury.

This machine is designed for high-precision engraving and cutting on various materials, particularly metals, utilizing a JPT MOPA M7 200W fiber laser source. It offers capabilities for deep engraving, fine marking, and color marking on stainless steel.

Figure 1: Ovsuqu JPT MOPA 200W Fiber Laser Engraving and Cutting Machine with rotary axis.

2. SAFETY INFORMATION

WARNING: This product contains a Class II laser. Avoid direct exposure to the laser beam. Always wear appropriate laser safety goggles during operation.

- **Laser Class:** Class II, 0.874mW Output Power. FDA Accession Number: 2420799-000.

- **Eye Protection:** Always wear OD7+ laser safety goggles to protect your eyes from laser radiation. Never look directly into the laser beam or at reflections.

- **Ventilation:** Ensure adequate ventilation in the work area to dissipate fumes and particles generated during engraving and cutting.

- **Material Safety:** Only engrave or cut materials approved for laser processing. Some materials can produce toxic fumes or catch fire.

- **Emergency Stop:** Familiarize yourself with the location and operation of the emergency stop button.

- **Power Supply:** Connect the machine to a properly grounded power outlet. Do not operate with damaged power cords.

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

3. PACKAGE CONTENTS

Verify that all items listed below are included in your package. If any items are missing or damaged, please contact customer support.
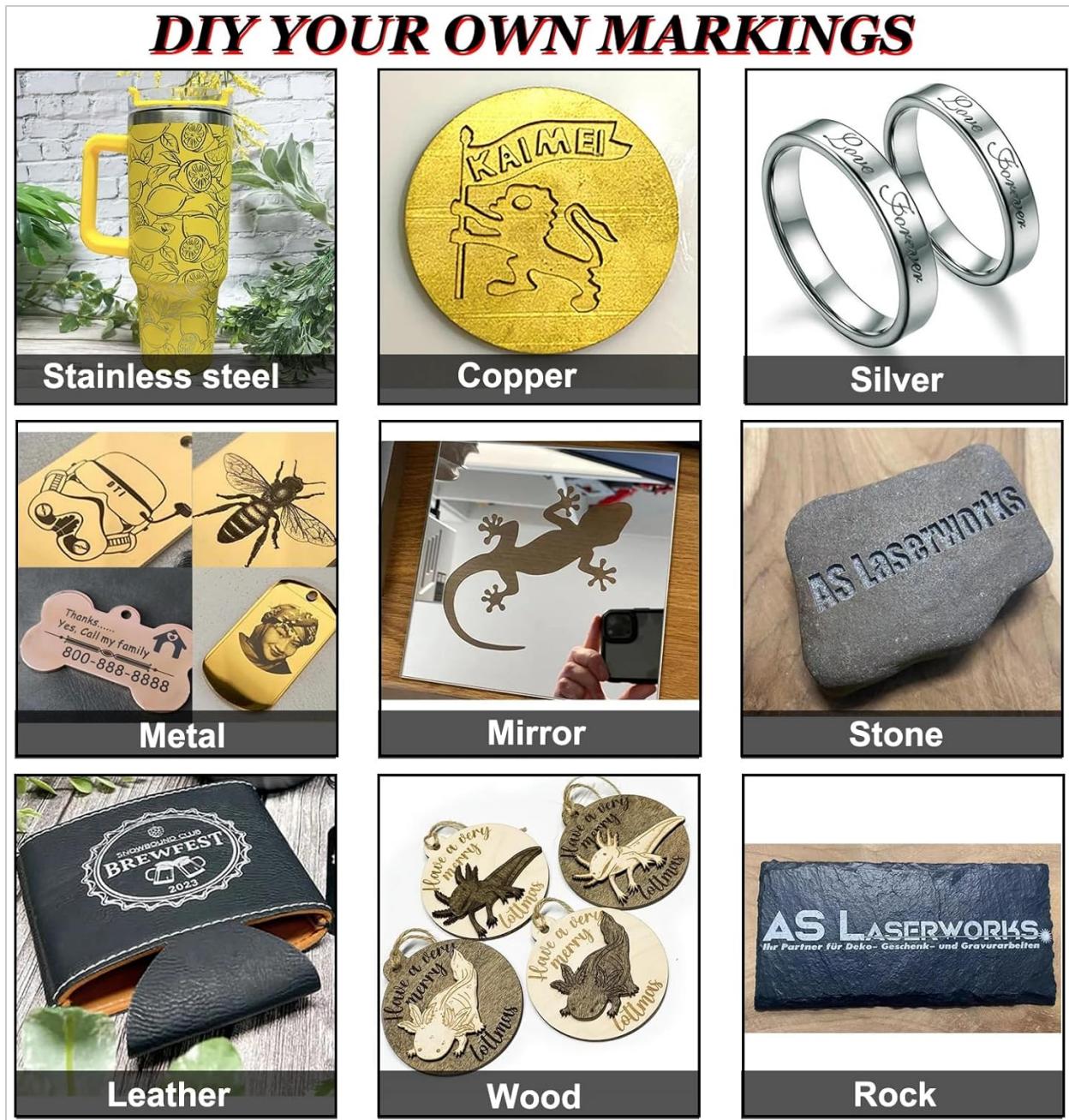
Figure 2: Visual representation of the included components.

- JPT Fiber Laser Machine (Main Unit)
- JPT Laser Source (YDFLP-E2-200-M7-M-R)
- D80 Rotary Axis
- OD7+ Goggles (Laser Safety Glasses)
- Foot Switch
- Power Cable
- USB Flash Drive (with Software & Manual)

- Wrench & Position Strip Set
- Data Line (USB Cable)

4. PRODUCT COMPONENTS

Understanding the main components of your laser machine is crucial for proper setup and operation.

4.1 JPT MOPA M7 200W Laser Source

The heart of the system, providing a high-quality fiber output for deep engraving and marking.

JPT MOPA M7 200W Laser Source
YDFLP-E2-200-M7-M-R

- Orignal JPT MOPA M7 Series laser source
- 200W MOPA M7 support deep engraving on metal
- High beam quality fiber output
- Superior reliability, long lifetime.

Compatible with Lightburn

SUPPORTED OPERATING SYSTEMS

LIGHTBURN
BETTER SOFTWARE FOR LASER CUTTERS

- Import artwork in a variety of common vector graphic and image formats.
- Arrange, edit, and even create new vector shapes within LightBurn's powerful editor.
- Apply settings like power, speed, number of passes, cut order, brightness & contrast, dithering mode, and many more!

Figure 3: JPT MOPA M7 200W Laser Source (Model YDFLP-E2-200-M7-M-R).

4.2 Galvo Scanner Head

Responsible for directing the laser beam with high precision and speed.

Figure 4: Close-up view of the laser galvo scanner head.

4.3 Control Board (BJJCZ)

The main control unit, compatible with EZCAD Lite software.

Packing List

JPT Fiber laser machine

JPT laser source

D80 Rotary AXIS

OD7+Goggles

Foot Switch

Power cable

U disk(with Software&manual

Wrench&position strip

Date line

Figure 5: The BJJCZ main control board, compatible with EZCAD Lite.

4.4 D80 Rotary Axis

An optional accessory for engraving cylindrical or curved objects.

Figure 6: The D80 Rotary Axis for engraving curved surfaces.

5. SETUP INSTRUCTIONS

Follow these steps for initial setup of your laser engraving machine.

1. **Unpacking:** Carefully remove all components from the packaging. Retain packaging for future transport or storage.
2. **Assembly:** Place the main laser unit on a stable, level surface. Connect the laser source to the main unit using the provided cables. Ensure all connections are secure.
3. **Rotary Axis (Optional):** If using the D80 Rotary Axis, connect it to the designated port on the machine. Refer to the rotary axis specific manual for detailed setup.
4. **Power Connection:** Connect the power cable to the machine and then to a grounded electrical outlet.
5. **Computer Connection:** Connect the machine to your computer using the supplied USB data cable.
6. **Software Installation:** Insert the USB flash drive into your computer and install the EZCAD Lite software. Drivers may also be included and require installation.

6. SOFTWARE AND OPERATION

The machine is compatible with EZCAD Lite and LightBurn software for design and control.

6.1 EZCAD Lite Software

EZCAD Lite is the primary software for controlling the laser machine. It supports various graphic formats and allows for text, barcode, and QR code marking.

Packing List

|		
JPT Fiber laser machine	JPT laser source	D80 Rotary AXIS
OD7+Goggles	Foot Switch	Power cable
U disk(with Software&manual	Wrench&position strip	Date line

Figure 7: EZCAD Lite software working page showing design and parameter settings.

- **Supported Operating Systems:** Windows XP/Vista/7/8/10/11.

- **Supported Formats:** Coreldraw, AutoCAD, Photoshop; PLT, PCX, DXF, BMP, etc.

- **Features:** Supports SHX, TTF fonts, automatic encoding, serial number printing, batch number, date, barcode, QR code, automatic jump number.

6.2 LightBurn Compatibility

The machine is compatible with LightBurn software, offering advanced features for vector graphics and image processing.

Original BJJCZ main board

- ●**Come with Ezcad Lite software**
- ●Compatible with Windows XP/Vista/7/8/10/11
- ●Support Coredraw, AutoCAD, Photoshop;PLT,PCX,DXF,BMP,etc
- ●Support SHX, TTF fonts and Automatic encoding, printing serial number, batch number, date, barcode,..QR code, automatic jump number, etc.
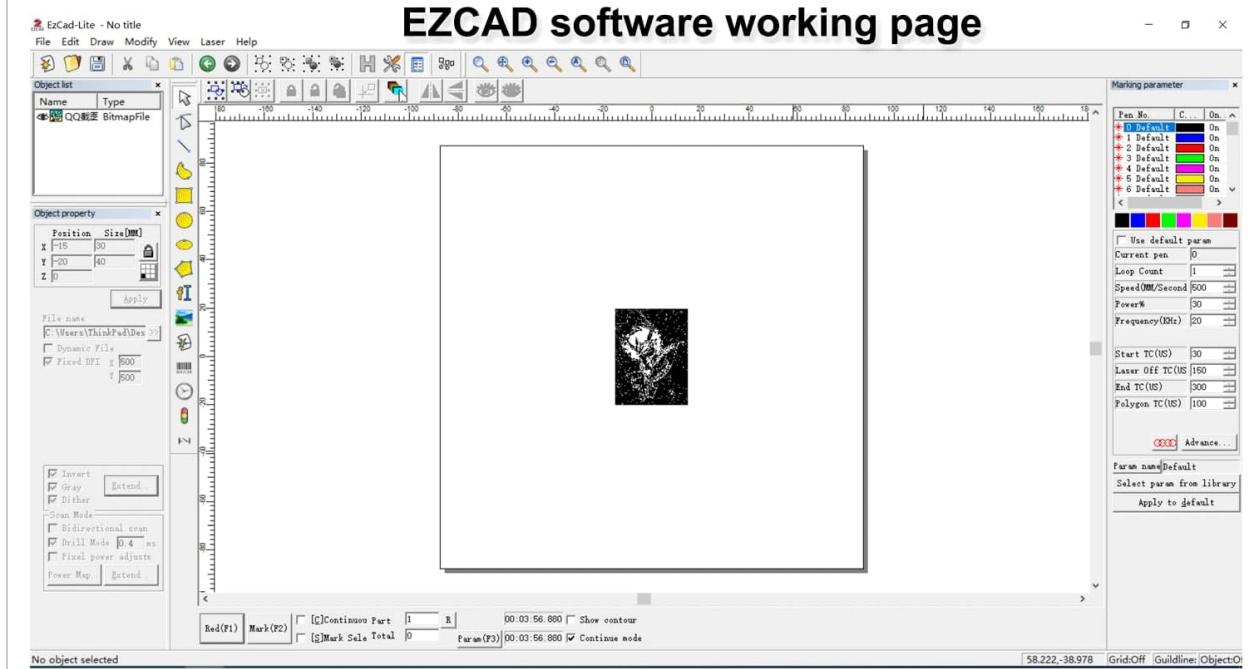

Figure 8: LightBurn software interface demonstrating design capabilities.

- **Supported Operating Systems:** Apple macOS, Linux, Windows.
- **Features:** Import artwork in various common vector graphic and image formats. Arrange, edit, and create new vector shapes. Apply settings like power, speed, number of passes, cut order, brightness & contrast, dithering mode.

6.3 Basic Operation Steps

1. **Design:** Create or import your design in EZCAD Lite or LightBurn.
2. **Material Placement:** Place the material to be engraved on the work platform. Use the positioning strips for accurate placement.
3. **Focus Adjustment:** Adjust the laser head height to achieve proper focus on the material surface.
4. **Parameter Settings:** Set appropriate laser parameters (power, speed, frequency, pulse duration) based on the material and desired effect.
5. **Preview:** Use the software's preview function to ensure the design is correctly positioned.
6. **Start Engraving:** Initiate the engraving process. Always wear safety goggles.
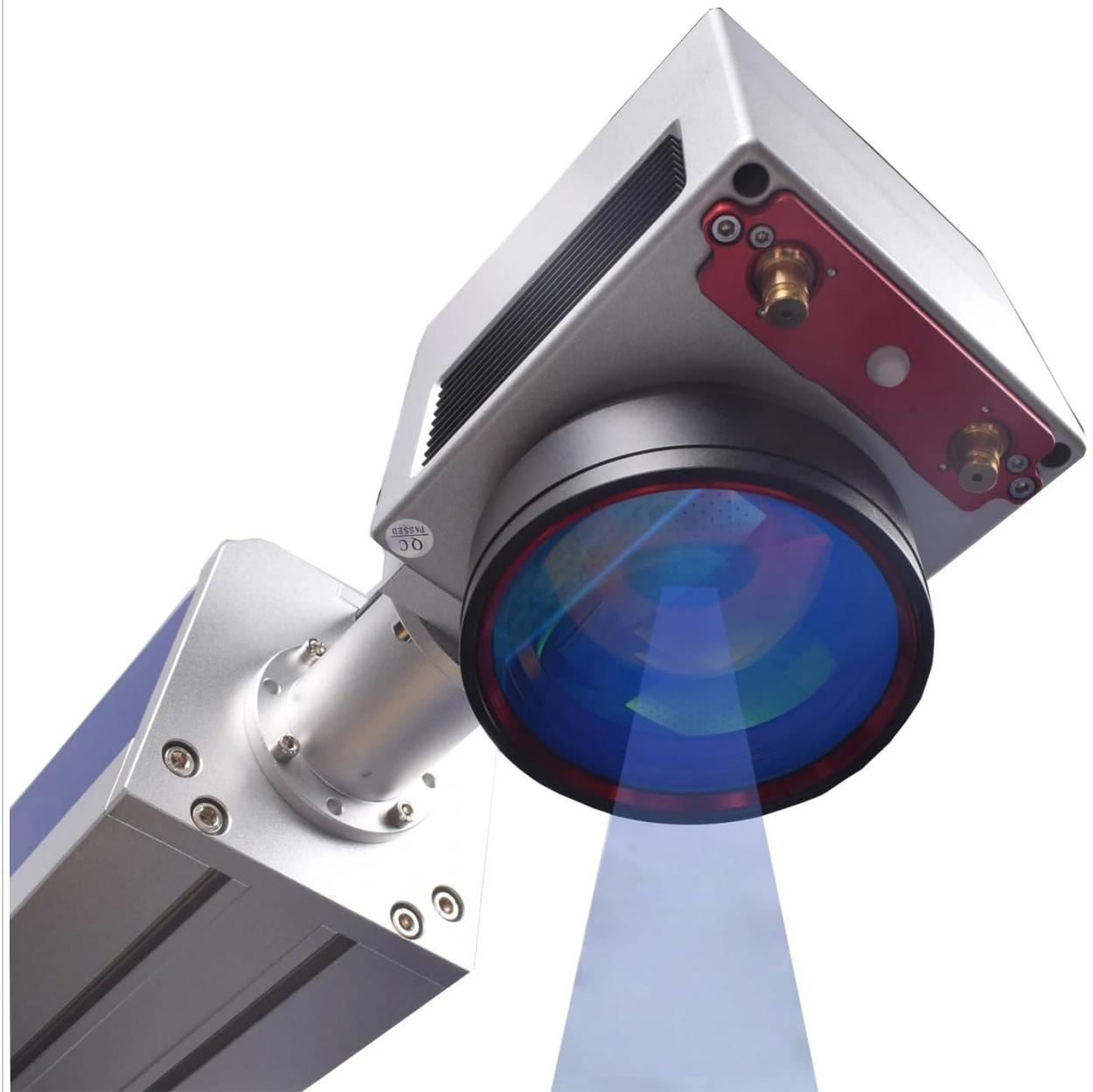
Figure 9: Examples of engraving on stainless steel, copper, silver, metal, mirror, stone, leather, wood, and rock.

7. MAINTENANCE

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

- **Lens Cleaning:** Periodically clean the F-theta lens with a specialized lens cleaning solution and lint-free wipes. Avoid touching the lens surface with bare hands.
- **Dust Removal:** Keep the machine free from dust and debris, especially around the laser source and galvo scanner. Use compressed air or a soft brush.
- **Cable Inspection:** Regularly check all cables for signs of wear or damage. Replace any damaged cables immediately.
- **Work Area:** Maintain a clean and organized work area to prevent accidents and ensure efficient operation.

8. TROUBLESHOOTING

This section addresses common issues you might encounter.

- **No Laser Output:**

  - Check power connections to the machine and laser source.
  - Ensure the emergency stop button is not engaged.
  - Verify software settings and laser parameters.

- **Poor Engraving Quality:**

  - Check laser focus. Adjust the Z-axis height.
  - Clean the F-theta lens.
  - Adjust laser power, speed, and frequency settings for the material.
  - Ensure the material is flat and securely positioned.

- **Software Connection Issues:**

  - Verify USB cable connection.
  - Reinstall software drivers from the provided USB drive.
  - Restart the computer and the laser machine.

9. SPECIFICATIONS

Feature	Specification
Brand	Ovsuqu
Model Number	FL-100W
Laser Source	JPT MOPA M7
Laser Power	200W
Laser Class	Class II (0.874mW Output Power)
Repetition Rate Frequency	1-4000kHz
Pulse Duration	2-500ns
Max. Pulse Energy	1.5mJ
Marking Speed	Up to 7m/s
Electrical-Optical Conversion Rate	Up to 70%
Engraving Area (Standard Lens)	110x110mm (4.33x4.33")
Engraving Area (Optional Lens)	300x300mm (11.8x11.8")
Material	Aluminum, Metal, Stainless Steel
Color	Silver
Item Weight	60 Kilograms (132 pounds)
Operation Mode	Manual
Power Source	AC

UPC	798386723544

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation included on the USB flash drive or contact Ovsuqu customer service directly. Ensure you have your product model number (FL-100W) and purchase details available when seeking support.

For additional resources and updates, you may visit the Ovsuqu Store on Amazon.

Related Documents - FL-100W

Ezcad3 2.5D Marking User Guide - Cloudray Laser

This user guide provides detailed instructions for operating the Ezcad3 software for 2.5D laser marking applications. It covers essential steps such as setting extended axis parameters, importing 3D files (STL), adjusting file location and layering, adding contours, and initiating the marking process. Designed for Cloudray's laser marking systems, including models like the AR-P-100.
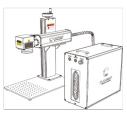
Cloudray LiteMarker Pro MP Series User Guide: Comprehensive Instructions for Laser Marking

This user guide provides detailed instructions for the Cloudray LiteMarker Pro MP Series fiber laser marking machine, covering installation, safety, operation, technical specifications, maintenance, and troubleshooting.

Cloudray Laser Cutting and Engraving Parameters Guide

Comprehensive guide to Cloudray laser cutting and engraving parameters for various materials, including detailed settings for different wattages and thicknesses. Learn about optimal speed, power, and material preparation for laser machines.

Cloudray Ezcad3 Software Installation and Configuration Guide

Comprehensive guide to installing, configuring, and setting up the Cloudray Ezcad3 laser marking software, including driver installation, calibration, focus, and axis settings.

	[Jinan Hongyuan HY-DY13 100W CO2 Laser Power Supply Manual and Specifications](#) Comprehensive manual for the Jinan Hongyuan HY-DY13 100W Power Supply for CO2 Laser Tubes, detailing features, specifications, operation instructions, wiring diagrams, and troubleshooting guide.
	[LASER Laser Engraver User Instructions and Manual](#) Comprehensive user manual for LASER brand laser engraving and cutting machines, detailing installation, operation, safety protocols, maintenance, and troubleshooting. Covers models like USB350, USB460, and USB570 series.