Saved from manuals.plus.
Open the live page for links to other documents and user manuals.

ELEGOO Mars 5 Ultra & Mercury Plus V3.0

ELEGOO Mars 5 Ultra MSLA 3D Printer and Mercury Plus V3.0 Wash and Cure Station User Manual

Comprehensive Guide for Setup, Operation, and Maintenance

1. Introduction

This manual provides detailed instructions for the safe and efficient use of your ELEGOO Mars 5 Ultra MSLA 3D Printer and ELEGOO Mercury Plus V3.0 Wash and Cure Station. Please read this manual thoroughly before operating the devices to ensure optimal performance and longevity.



Figure 1: ELEGOO Mars 5 Ultra 3D Printer and Mercury Plus V3.0 Wash and Cure Station.

This image displays the complete package, featuring the sleek ELEGOO Mars 5 Ultra 3D Printer on the left, the ELEGOO Mercury Plus V3.0 Wash and Cure Station in the center, and a large 7.5L transparent container on the right, illustrating the comprehensive solution for resin 3D printing and post-processing.

2. Safety Information

Always observe the following safety precautions:

- Wear appropriate personal protective equipment (PPE) such as gloves and safety glasses when handling resin.
- Operate the printer and wash/cure station in a well-ventilated area.
- Keep devices away from direct sunlight, heat sources, and flammable materials.
- Do not touch moving parts during operation.
- Ensure the power supply is disconnected before performing any maintenance or cleaning.
- Keep out of reach of children and pets.

3. Package Contents

Verify that all components are present and undamaged upon unboxing:

3.1 ELEGOO Mars 5 Ultra 3D Printer

- Mars 5 Ultra 3D Printer Unit
- Build Plate
- Resin Vat
- USB Disk
- Power Adapter
- Tool Kit (Allen wrenches, scraper, etc.)
- Funnel and Filter
- User Manual (this document)

3.2 ELEGOO Mercury Plus V3.0 Wash and Cure Station

- Mercury Plus V3.0 Base Unit
- Washing Container (7.5L)
- Curing Platform
- Washing Basket
- Power Adapter
- User Manual

4. Setup

4.1 ELEGOO Mars 5 Ultra 3D Printer Setup

1. **Unpacking:** Carefully remove the printer from its packaging.
2. **Placement:** Place the printer on a stable, level surface in a well-ventilated room.
3. **Power Connection:** Connect the power adapter to the printer and then to a power outlet.
4. **Resin Vat Installation:** Ensure the resin vat is clean and properly seated on the printer.
5. **Build Plate Installation:** Attach the build plate securely to the Z-axis arm.
6. **Automatic Leveling:** The Mars 5 Ultra features smart automatic leveling. Power on the printer and follow the on-screen prompts to initiate the leveling process. The printer will conduct a self-diagnosis to ensure proper calibration.



Figure 2: Automatic Leveling Process.

This image illustrates the automatic leveling process of the ELEGOO Mars 5 Ultra, showing the build plate descending and the printer performing a self-diagnosis to ensure precise calibration for optimal printing results.

7. **Resin Pouring:** Carefully pour the desired resin into the resin vat, ensuring it does not exceed the MAX fill line.

4.2 ELEGOO Mercury Plus V3.0 Wash and Cure Station Setup

1. **Unpacking:** Remove the wash and cure station from its packaging.
2. **Placement:** Place the unit on a stable surface.
3. **Power Connection:** Connect the power adapter to the station and then to a power outlet.
4. **Washing Container Preparation:** Fill the 7.5L washing container with appropriate cleaning solution (e.g., IPA).
5. **Curing Platform:** Ensure the curing platform is clean and ready for use.

5. Operating Instructions

5.1 ELEGOO Mars 5 Ultra 3D Printer Operation

1. **Prepare 3D Model:** Use a slicing software (e.g., Chitubox) to prepare your 3D model. Slice the model and save it to the USB disk.
2. **Insert USB Disk:** Insert the USB disk into the printer's USB port.
3. **Select Model:** On the printer's touchscreen, navigate to the "Print" menu and select your desired model file from the USB disk.
4. **Start Printing:** Confirm settings and press "Start" to begin the printing process. The Mars 5 Ultra supports high-speed printing up to 150mm/h.



Figure 3: ELEGOO Mars 5 Ultra 3D Printer in operation with a detailed printed model.

This image showcases the ELEGOO Mars 5 Ultra 3D Printer alongside a highly detailed, large-scale printed resin model, emphasizing the printer's capability for high-precision output. The image also features "Gold Winner" and "Tom's Hardware Editor's Choice" badges, indicating industry recognition.



Figure 4: Close-up of a 9K High Precision Resin Print.

A detailed close-up of a resin-printed miniature, highlighting the exceptional 9K high precision resolution (8520x4320p) achievable with the ELEGOO Mars 5 Ultra, showcasing intricate details and smooth surfaces.

5. **Monitoring:** The printer features AI Camera Intelligent Detection for real-time monitoring and time-lapse recording. You can also utilize Wi-Fi for seamless control and monitoring of multiple printers.



Figure 5: AI Camera Intelligent Detection Feature.

This image visually represents the AI Camera Intelligent Detection system, showing a camera lens surrounded by radiating light, symbolizing its capability for real-time monitoring and time-lapse recording during the printing process.



Figure 6: Wi-Fi Cluster Printing Capability.

An illustration demonstrating the Wi-Fi Cluster Printing feature, depicting a central large 3D printed model surrounded by multiple smaller 3D printers, signifying the ability to control and manage numerous printers from a single device for efficient production.

6. **Post-Printing:** Once printing is complete, carefully remove the build plate and printed model.

5.2 ELEGOO Mercury Plus V3.0 Wash and Cure Station Operation

The Mercury Plus V3.0 offers both washing and curing functionalities.



Figure 7: Key Features of ELEGOO Mercury Plus V3.0.

This image highlights the main features of the Mercury Plus V3.0, including "Wash and Cure 2 in 1," "Larger Capacity," "Dual Cleaning Options," "360° All-Round Curing," "Easy to Use," and "Anti-UV Cover," presented with illustrative icons.

5.2.1 Washing Mode

1. **Prepare for Washing:** Place the printed model (either directly or still attached to the build plate) into the washing basket.
2. **Insert Basket:** Lower the washing basket into the washing container filled with cleaning solution.
3. **Select Time:** Set the desired washing time using the control panel.
4. **Start Washing:** Press the start button to begin the washing cycle. The station offers dual cleaning options.
5. **Remove and Dry:** Once complete, remove the model and allow it to air dry or use compressed air.
6. **Washing Size:** The maximum washing size without build plate cleaning is 230mm (L) x 135mm (W) x 260mm (H). With build plate cleaning, it is 214mm (L) x 135mm (W) x 180mm (H).



Figure 8: Washing Size Comparison for Mercury Plus V3.0.

This graphic illustrates the "Washing Size-Upgrade" for the Mercury Plus V3.0, showing two transparent containers with blue shaded areas representing the maximum washing dimensions: one for washing without the build plate (230x135x260mm) and another for washing with the build plate (214x135x180mm).

5.2.2 Curing Mode

1. **Place Model:** Place the clean and dry printed model on the curing platform.
2. **Cover:** Place the anti-UV cover over the model and platform.
3. **Select Time:** Set the desired curing time using the control panel.
4. **Start Curing:** Press the start button to begin the curing cycle. The station provides 360° all-round curing.
5. **Remove Model:** Once curing is complete, remove the model.

6. Maintenance

6.1 ELEGOO Mars 5 Ultra 3D Printer Maintenance

- **Clean Resin Vat:** After each print, inspect the resin vat for cured resin bits. Use a plastic scraper to gently remove

any debris. Filter unused resin back into its bottle.

- **Clean Build Plate:** Clean the build plate with IPA after each print.
- **Screen Protection:** Keep the LCD screen clean and free of dust and resin spills. Use a soft cloth and IPA for cleaning.
- **Lubricate Z-axis:** Periodically apply a small amount of lubricant to the Z-axis lead screw.

6.2 ELEGOO Mercury Plus V3.0 Wash and Cure Station Maintenance

- **Replace Cleaning Solution:** Replace the cleaning solution in the washing container when it becomes cloudy or ineffective.
- **Clean Container:** Regularly clean the washing container and basket.
- **Clean Curing Platform:** Wipe down the curing platform to remove any resin residue.
- **UV Lamp Check:** Ensure the UV lamps are clean and functioning correctly.

7. Troubleshooting

Problem	Possible Cause	Solution
Print Fails to Adhere to Build Plate	Build plate not level; insufficient bottom exposure time; cold resin; dirty build plate.	Re-level build plate; increase bottom exposure time in slicer; warm resin to room temperature; clean build plate thoroughly with IPA.
Print Has Distorted Layers	Unstable printing environment; incorrect exposure settings; worn FEP film.	Ensure printer is on a stable surface; adjust exposure time; replace FEP film in resin vat.
Wash Station Not Cleaning Effectively	Cleaning solution is saturated; insufficient washing time.	Replace cleaning solution; increase washing time.
Cured Model Remains Tacky	Insufficient curing time; dirty model surface before curing.	Increase curing time; ensure model is thoroughly washed and dry before curing.

8. Specifications

8.1 ELEGOO Mars 5 Ultra 3D Printer

- **Printing Technology:** MSLA (Masked Stereolithography Apparatus)
- **Resolution:** 9K (8520x4320p)
- **Build Volume:** 6.04 x 3.06 x 6.49 inches (153.6 x 77.76 x 165 mm)
- **Printing Speed:** Up to 150mm/h
- **Leveling:** Smart Automatic Leveling
- **Connectivity:** USB, Wi-Fi
- **Additional Features:** AI Camera Intelligent Detection, Wi-Fi Cluster Printing

8.2 ELEGOO Mercury Plus V3.0 Wash and Cure Station

- **Function:** Wash and Cure 2-in-1
- **Washing Container Capacity:** 7.5 Liters
- **Maximum Washing Size (without build plate):** 230mm (L) x 135mm (W) x 260mm (H)

- **Maximum Washing Size (with build plate):** 214mm (L) x 135mm (W) x 180mm (H)
- **Curing Method:** 360° All-Round Curing
- **Cover:** Anti-UV Cover
- **Cleaning Options:** Dual Cleaning Options

9. Warranty and Support

ELEGOO products come with a standard manufacturer's warranty. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official ELEGOO website.

For technical support, troubleshooting assistance, or spare parts, please contact ELEGOO customer service through their official website or the contact information provided in your product packaging. When contacting support, please have your product model and purchase information ready.

Official ELEGOO Website: www.elegoo.com

© 2024 ELEGOO. All rights reserved. Information in this manual is subject to change without notice.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Open the live page

https://manuals.plus/asin/B0DMNFFNWN

More documents and user manuals: **https://manuals.plus/**