Photon Mono M7 Pro

User Manual

Dear customer,

Thank you for choosing Anycubic products.

Maybe you are familiar with 3D printing technology or have purchased Anycubic printers before. However, we still highly recommend you read this manual carefully, as the installation techniques and precautions can help you avoid any unnecessary damage or frustration.

Please visit https://support.anycubic.com to contact us if you have any questions. You can also learn more information from the website, such as software, videos, models.

Anycubic support center

Team Anycubic

Safety Instructions

Always follow the safety instructions during assembly and usage, to avoid unnecessary damage to the 3D printer or individual injury.

Please contact our Customer Service if you have any issues after receving the products.

In case of emergency, please immediately cut off the power of the 3D printer and contact our technical support.

UV light is harmful to the eyes; please avoid direct contact. When operating, wear protective equipment such as anti-UV goggles and gloves.

Anycubic 3D printer includes components that can cause injury.

When the smart resin vat heats up for a long time, its surface temperature becomes high. Avoid touching the resin vat without protection after heating.

Be cautious when using the scraper, and make sure to orient the sharp parts of machine and tool away from people.

Keep the Anycubic 3D printer and its accessories out of the reach of children.

Vapors or fumes may be irritating at operating temperatures. Always use the Anycubic 3D printer in an open and well ventilated area.

Do not expose Anycubic 3D printer to any water or rain environment.

Use Anycubic 3D printer in an environment with a temperature of 5℃-40℃ and a humidity of 20%-80%. For optimal performance, do not exceed this range. Also, avoid direct sunlight exposure.
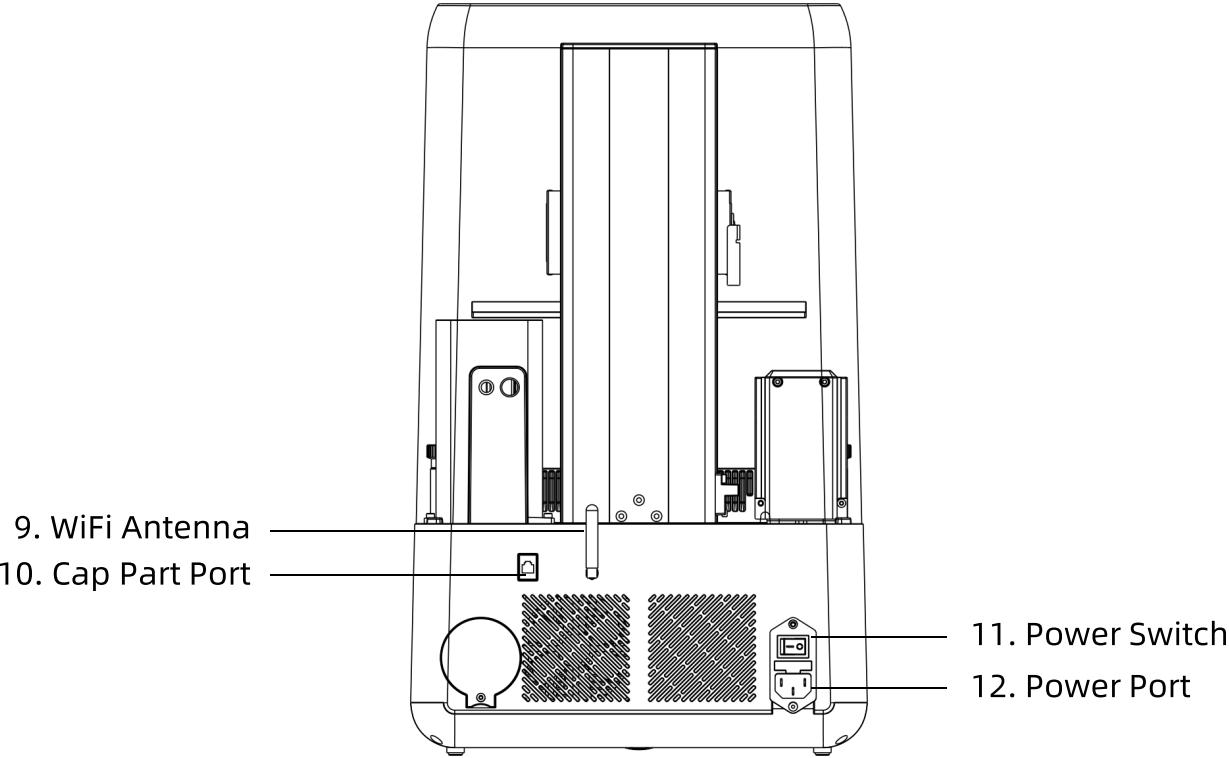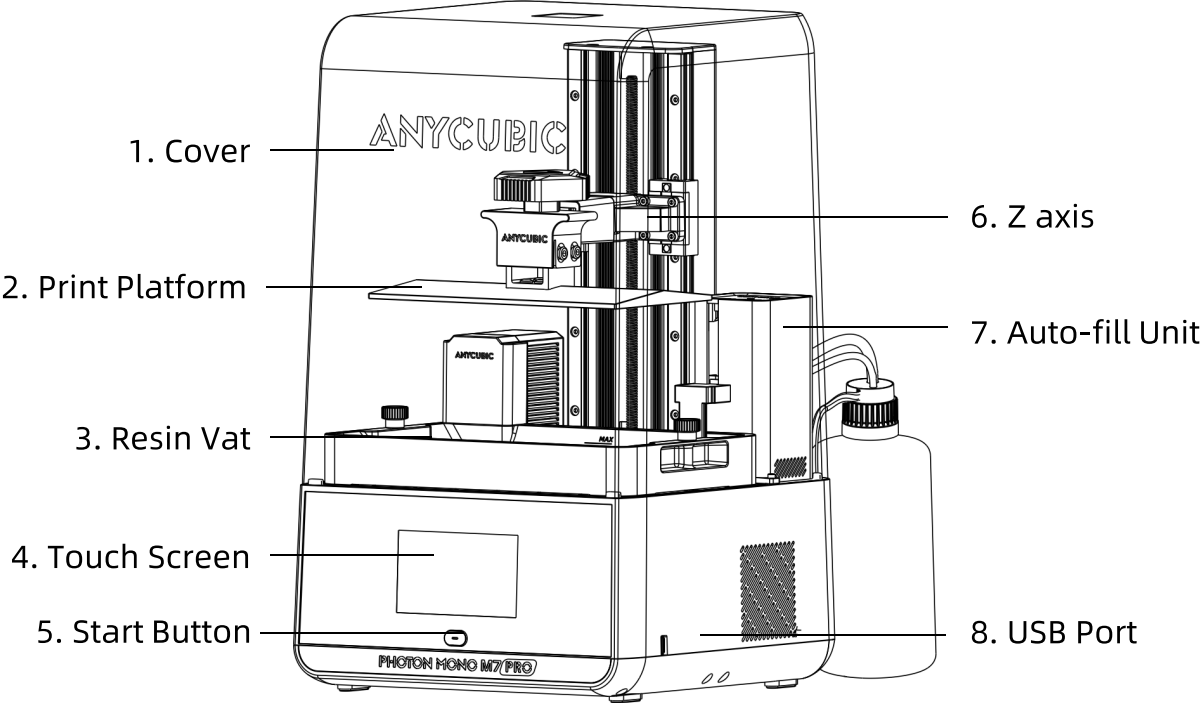
Do not disassemble Anycubic 3D printer, please contact technical support if you have any questions.
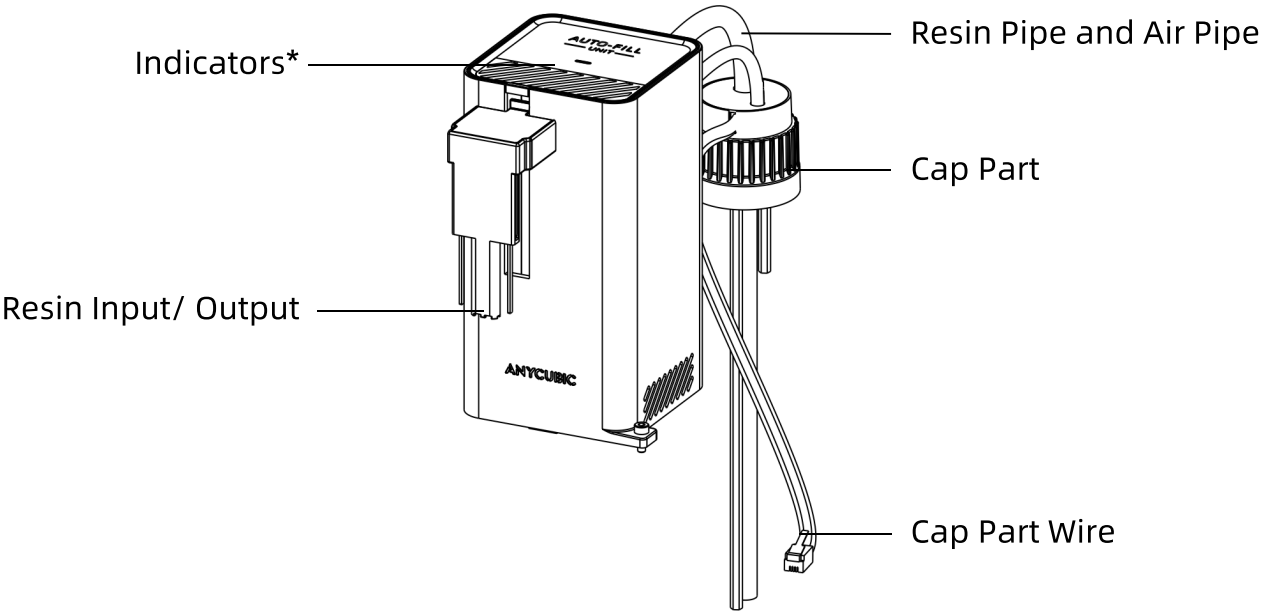
FC CE RoHS ♻ 🗑 ISO 9001 ACM CBJC UK CA

Contents

1. Cover

2. Print Platform

3. Resin Vat

4. Touch Screen

5. Start Button

6. Z axis

7. Auto-fill Unit

8. USB Port

9. WiFi Antenna

10. Cap Part Port

11. Power Switch

12. Power Port

Auto-fill Unit

Indicators*
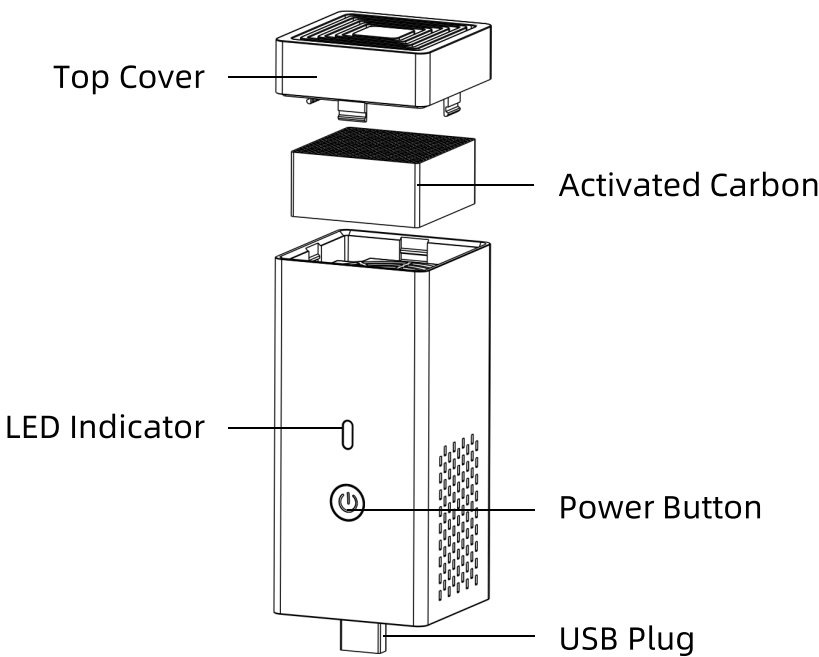
Resin Pipe and Air Pipe
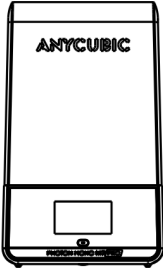
Cap Part

Resin Input/ Output

Cap Part Wire

*Indicators: Green light indicates the connection of the main module.
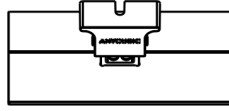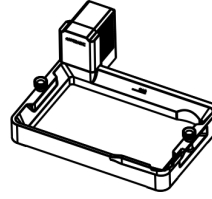Red light indicates that the resin in the bottle is insufficient.

Air Purifier

Top Cover

Activated Carbon

LED Indicator

Power Button
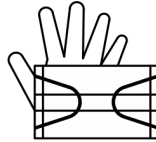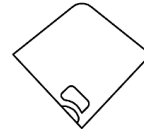
USB Plug

Photon Mono
M7 Pro

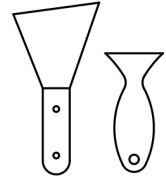Print platform * 1

Resin vat * 1

WiFi antenna

Hex key set

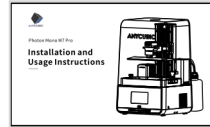Protective equipment

Funnel*5

Scraper * 2

Screen protector kit

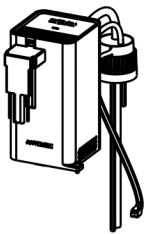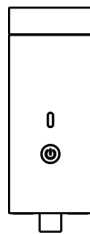**调平检验纸**
Leveling Paper

Leveling paper

Manual * 1

USB

USB drive * 1

Auto-fill unit

Air purifier*1

Power cord

Technical Specification

Operating System

System	Photon Mono M7 Pro
Touch Screen	5-inch Capacitive Screen
Software	Anycubic Photon Workshop
	(also compatible with other software)
Connectivity	USB Drive, WIFI

Specifications

LCD screen	10.1 inch 14K
Light source	COB light
XY Resolution	13312 * 5120
Z axis Accuracy	0.01 mm
Suggested Layer Thickness	0.01 ~ 0.15 mm

Physical Dimensions

Dimension	310 mm(L) *315 mm(W) *520 mm(H)
Build volume	223.64 mm(L) *126.48 mm(W) *230 mm(H)
Weight	12.8 kg

WiFi

Frequency Range	2.4 G (2.400~2.4835 GHz)
Work Mode	AP, STA, AP+STA mode

Parameters Group	① Default Resin_Normal	② Default Resin_Fast	③ High Speed Resin
Layer Thickness	0.05 mm	0.1 mm	0.1 mm
Normal Exposure Time	1.8 s	2.2 s	1.4 s
Off Time	0.5 s		
Bottom Exposure Time	25 s	25 s	15 s
Bottom Layers	5	3	3
Z Lift Distance	8 mm	4 mm	4 mm
Z Lift Speed	6 mm/s	15 mm/s	15 mm/s
Z Retract Speed	6 mm/s	15 mm/s	15 mm/s
Anti-alias	1		
Notice	1.If the print object needs high accuracy, please use **group ①** and modify the anti-alias level as 16 and the image blur as 3. 2. The **group ②③** apply to the model whose hollowed thickness is no more than 2mm. 3. The **group ②③** can significantly increase the print speed by cases test. To ensure the print success and print speed, do not modify the parameters casually. 4. The **group ②③** must work with the ACF release film this printer provided to avoid print failure. The film can be used to print 45000 layers. 5. The **group ③** only apply to Anycubic high speed resin. 6. Refer to 18-19 pages for the instructions of parameter groups.		

--The data above root in Anycubic lab, only for reference.

Note: The current interface is for reference only. Please refer to the latest firmware for accurate information.
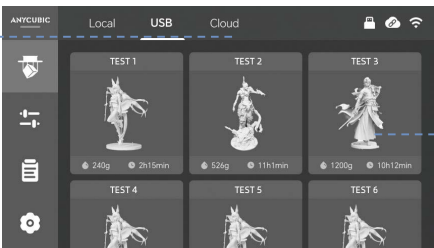
Home menu
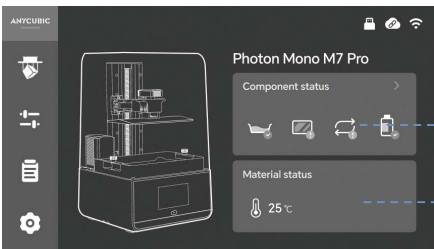
1.Smart resin vat connection
2.Statistic of print layers
3.Statistic of circulation time
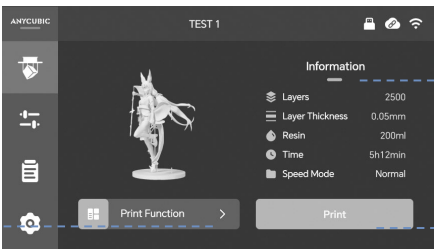4.Resin bottle connection

Resin temperature

Print

Print:

Switch to local/ USB drive/cloud file list

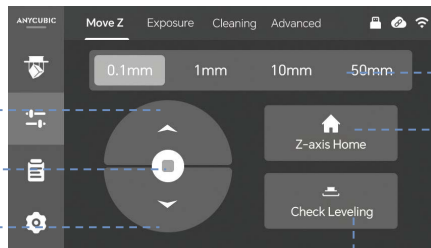Click to enter into file details; long press to edit the files.

File Details:

Print file information

Print function setting

Start the printing

Tools

Move Z:

Move Z by 0.1mm /1mm/10mm/50mm

Move the Z axis upwards

Return to Zero

Stop moving the Z axis

Move the Z axis downwards

Move to check the effect of manual leveling (see page 30-31)

Exposure:
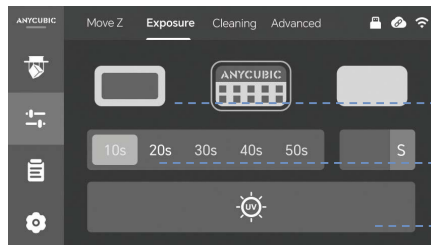
Choose an image to expose

Set the exposure time

Start exposure

Vat Cleaning:

Set the exposure time

Start exposure

Advanced:
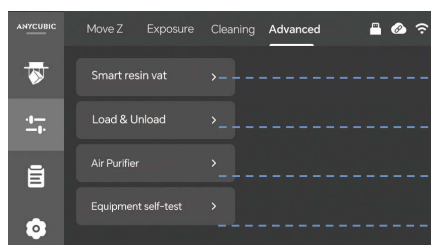
Smart resin vat

Loading and unloading

Air Purifier

Equipment self-test

11

Tools

Advanced-Smart resin vat:

Set heating temperature

Start heating

Circulation cleaning steps

Advanced-Load & Unload:

Start loading

Start unloading

Advanced-Air Purifier:

Enable/disable the connection of air purifier

When you enable "Air Purifier", the connection of auto-fill unit will be disabled. To use the auto-feeding and unloading functions, please turn off air purifier connection first.

Advanced-Equipment self-test:

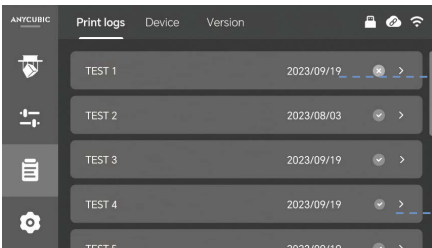Check whether WIFI module is on

Statistics of print layers

Start force detection

Statistics of print times
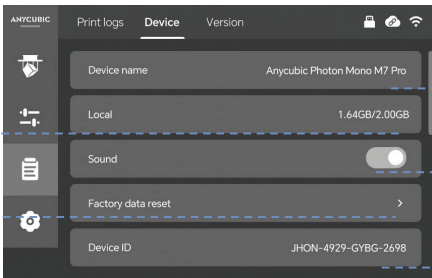
Statistics of circulation time

Information

Print logs:

Print history,
Long press to edit

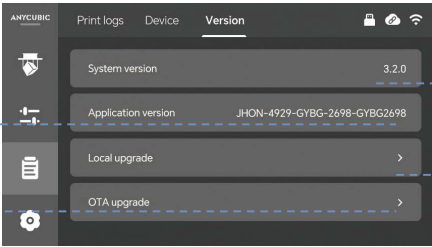Click to check more details

Device:

Used space/total space

Factory reset

Machine type

Turn on/off the screen sound

Printer ID

Version:

Application version

OTA upgrade

System version

USB upgrade

Settings

Cloud:

App connection

App connection

WiFi connection status

WiFi connection

Printer's hotspot (which is hidden when the network is connected)

Network:

WiFi connection

Set server
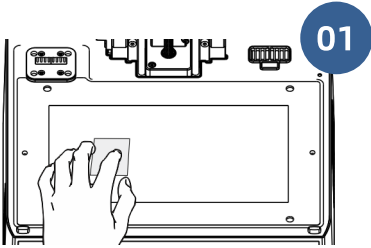
Check printer's CN

IP address
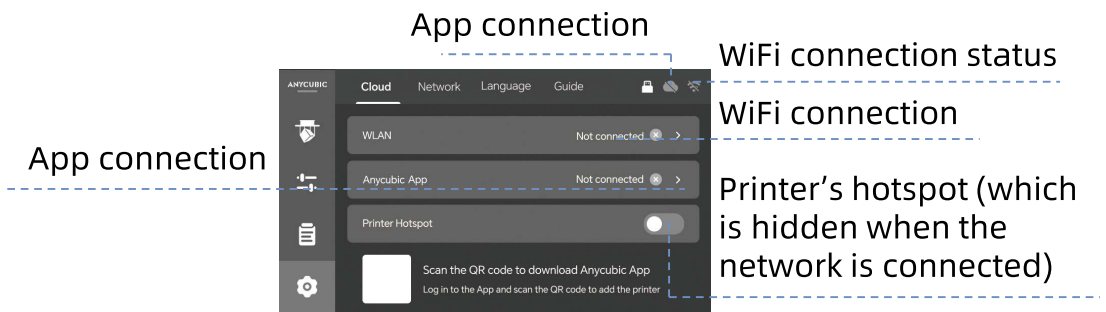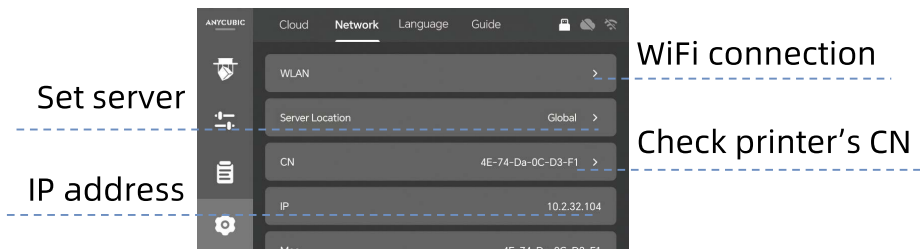
Language:

Set the language

Guide:
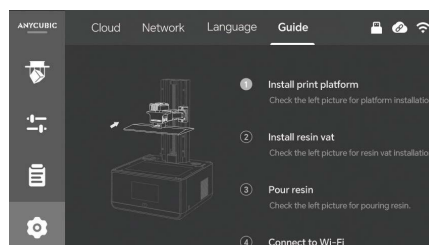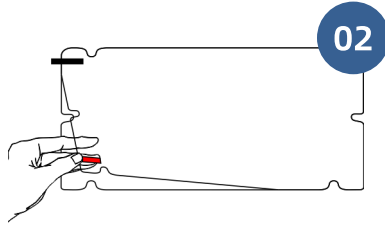
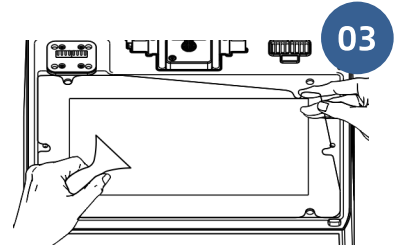1. Unbox, and take out the machine and its accessories.
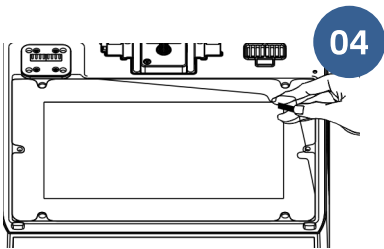
2. Install the screen protector.

Peel off the protective film
Clean the LCD screen

Peel off the film ①

Align the locating holes
Squeeze out the air bubbles
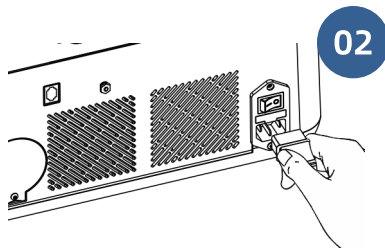
Peel off the film ②

3. Check the input mode of power voltage first. The one shown as "230" is suitable for 200V-240V; and the other one shown as "115" is suitable for 100V-120V. Then, connect to the power adapter, flip the rocket switch to ON position and hold down the start button for 2s.
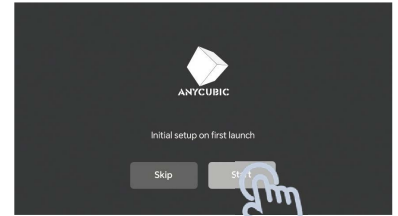
115V 230V 230V
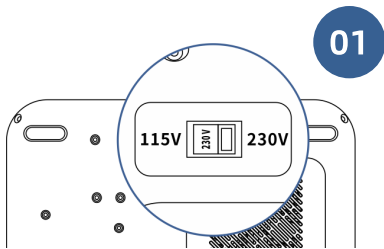
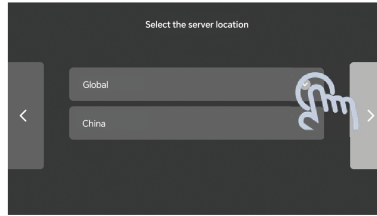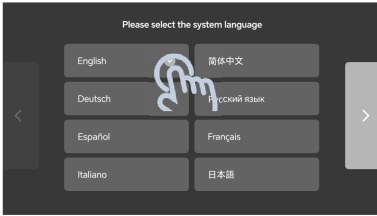Voltage switch is located on the underside of printer

PHOTON MONO M7
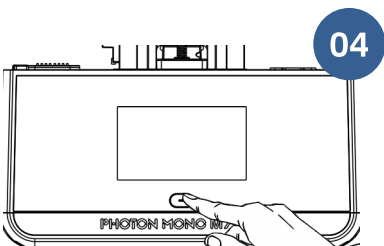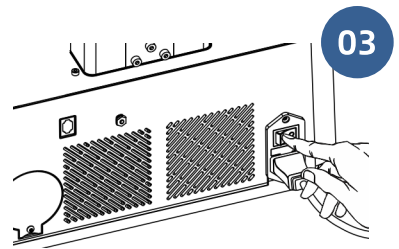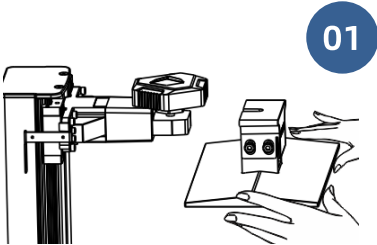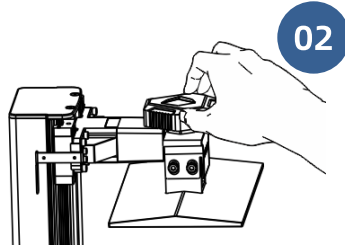
4. Set the system language and choose "Global" server. Then, complete the on-screen setup steps.
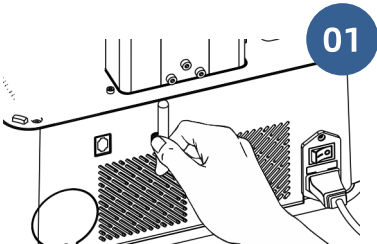

5. Install the print platform.

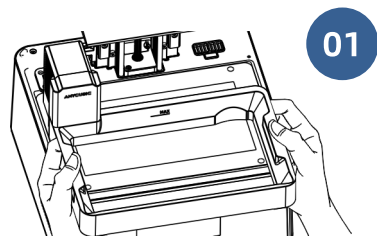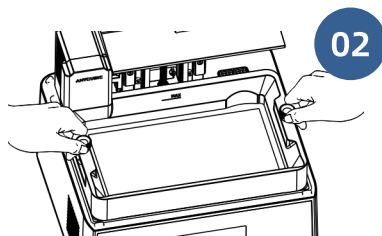Push the platform onto the platform carrier

Tighten the knob

6. Install the WiFi antenna.

7. Install the resin vat.
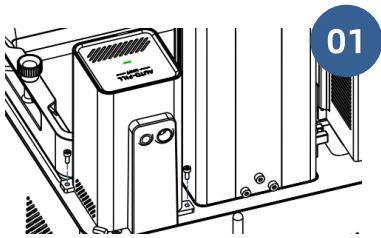

Put resin vat with its feet stuck in locating holes

Tighten the two knobs
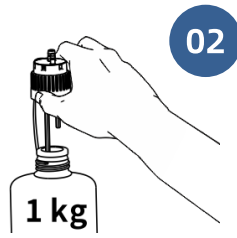
8. Install the auto-fill unit (optional).

Secure the main module

Use Anycubic 1kg resin bottle
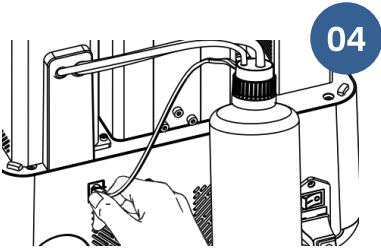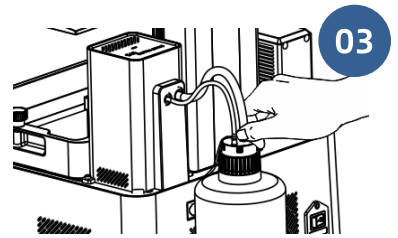
Attention:

1. It is suggested to use the resin with a viscosity below 2000pcs, and place the resin bottle behind or on the right side of the printer.

2. Never vigorously shake or turn over the resin bottle when the cap part is installed. If the inside of the cap is stained by resin, please immediately clean it to avoid malfunction or damage to auto-fill unit.

3. The operating temperature for auto-fill unit is 10-40°C and the humidity range is 20-80%. For optimal performance, do not exceed these limits. If using Anycubic Bio Resin or Anycubic Rigid 100 Resin, the recommended ambient temperature is over 25°C. Otherwise, the functions of auto-fill unit may fail.

9. Prepare the air purifier (optional). Due to sharing a single interface, the air purifier and the auto-fill unit cannot be used simultaneously. You can choose one device to use according to the personal requirement.
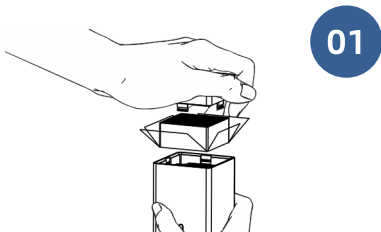
Remove the package of carbon

USB

1. Use Anycubic Photon Workshop software to process the 3D model file. The installer and instructions is saved in the USB drive.

2. When you set the parameters in Anycubic Photon Workshop, there are three groups of parameter which can be apply to the print with different needs.
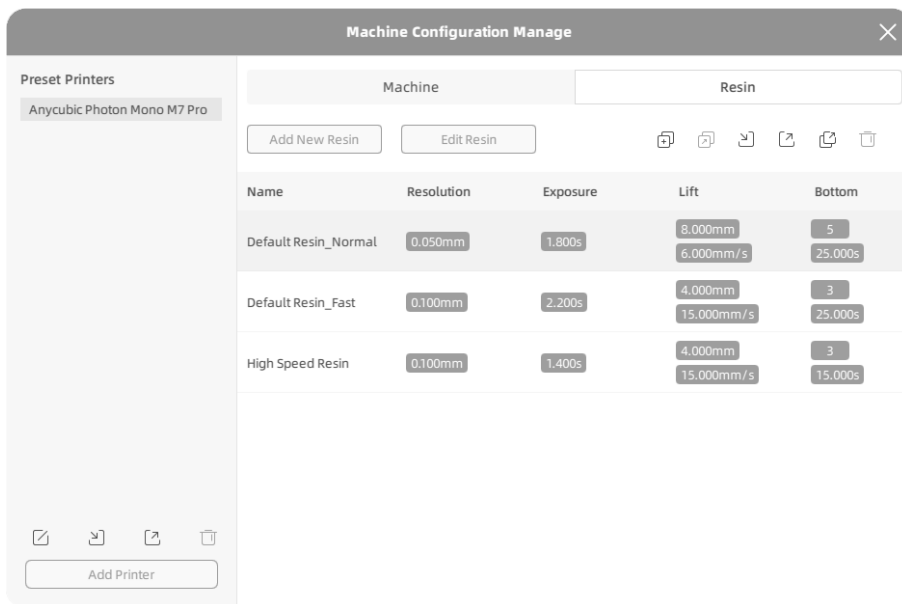
Choose the parameter group according to the personal requirement

① **Default Resin_Normal**

Apply to the Anycubic resin with normal printing speed. If the print object needs high accuracy, please modify the anti-alias level as 16 and the image blur as 3.

② **Default Resin_Fast**

 Apply to the Anycubic resin with fast printing speed. The layer thickness is 0.1mm. Optimizing the Z-axis motion control increases the print speed.

③ High Speed Resin

Only apply to the Anycubic high speed resin with the fastest printing speed.
The layer thickness is 0.1mm. Optimizing the Z-axis motion control
increases the print speed.

Notice for parameter group②③:
1. The parameters apply to the model whose hollowed thickness is no more than
2mm.
2. The parameters must work with the ACF release film this printer provided to
avoid print failure. The film can be used to print 45000 layers.

3. Save the sliced file to USB drive.

4. Then, insert the USB drive to the printer.

USB drive:
1. It is recommended that use the USB drive we provide. If you are using your
own USB drive, please ensure that it is formatted to **FAT/FAT 32** and has a
memory size of less than **64G.**
2. To ensure proper file reading, please put print files in the root directory of USB
drive.

Cloud

Please connect the printer to Anycubic App first for remote uploading and monitoring.
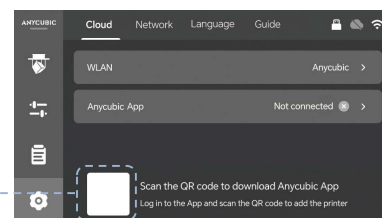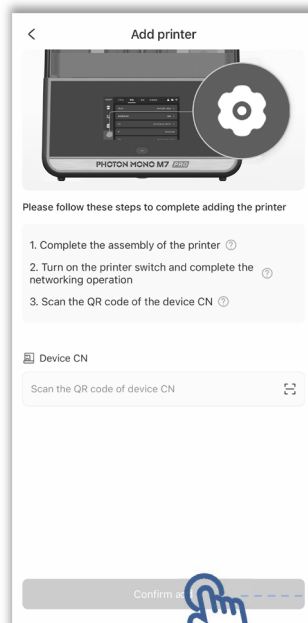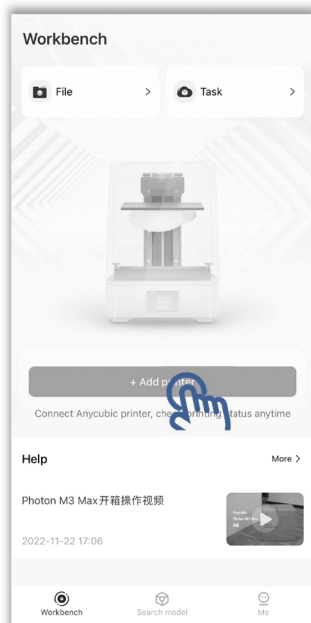
1. Connect to the network.
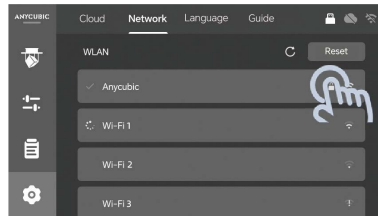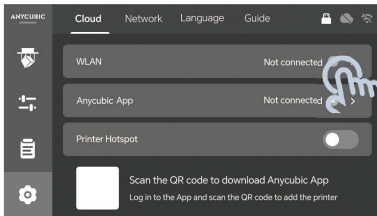
2. Please search "Anycubic" in App Store or Goolge Play, or scan the QR code on the printer, to download Anycubic App. Then, sign up and sign in.
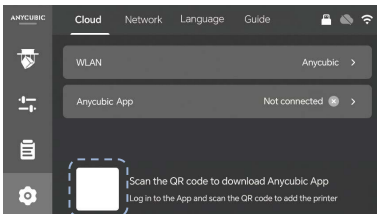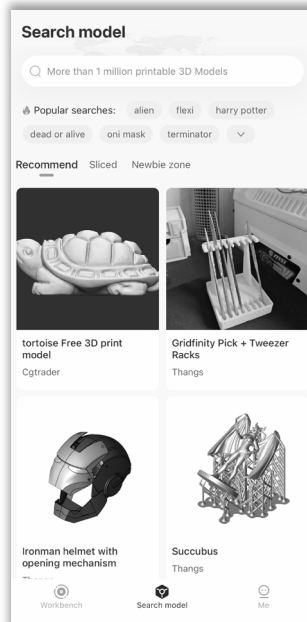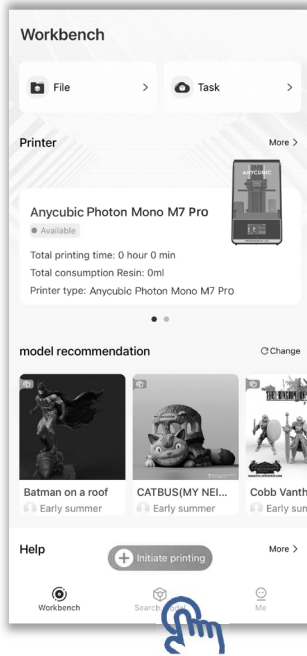

3. Add a printer in Anycubic App.

Scan the QR code to add printer

4. Search model or upload the model files.

- Search model

- Upload the model files
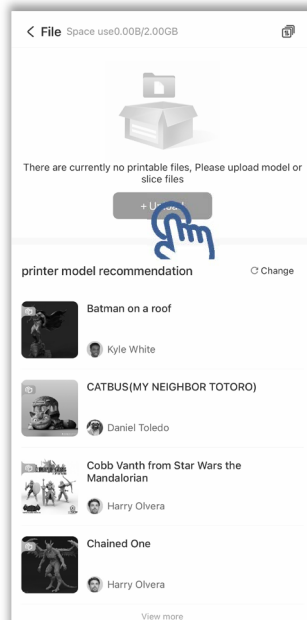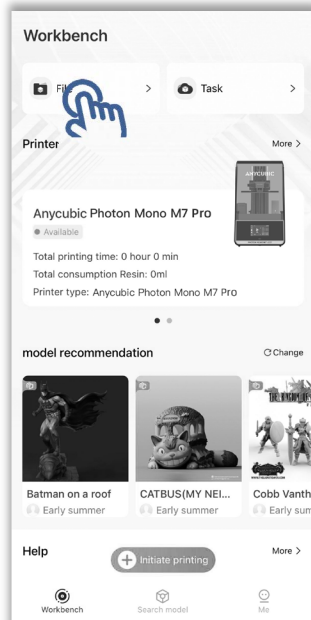
Resin Preparations

*The release film on the resin vat is consumable. Please pay attention to the status of release film on the touch screen and replace the film timely.

Please check the release film carefully before and after every printing. If the film is broken, replace it immediately to avoid further damage to the machine.

1. Make sure to wear a mask and gloves (to avoid direct skin contact with the resin), slowly pour resin into the vat, and make sure it is within the vat's maximum scale.
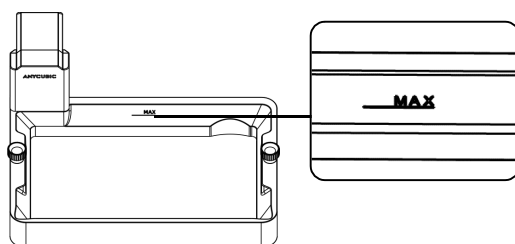
2. Enable the automatic feeding (optional). Please install the auto-fill unit before using.
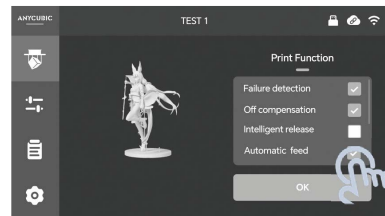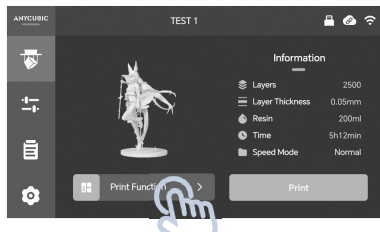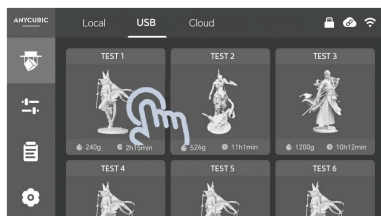
TIPS：When using resin with a viscosity over 500cps at room temperature (25°C), the resin bottle may experience slight deflation or inflation due to pressure changes. This is normal and does not affect loading and unloading.

3. Insert the air purifier (optional). There are two methods to turn off the purifier: (1)Enable the connection of air purifier on the touch screen and then press the power button of purifier; (2)Unplug the air purifier.
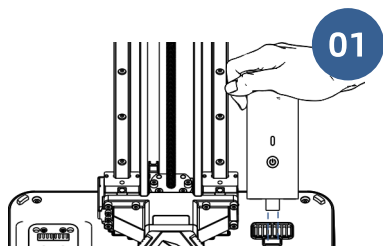
Insert the purifier
and it will start
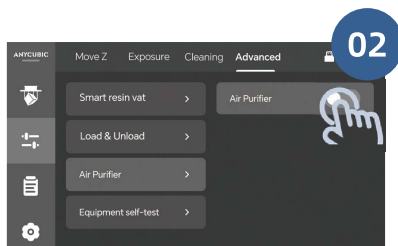
Enable the connection
of air purifier

Press its power button

4. When the ambient temperature is below 20 °C, it may cause the detachment of printed bottom or partial loss of printed objects. You can enhance the printing effect by enabling preprint heating.

Enable preprint heating. The printing starts when the resin temperature reaches 25 °C.
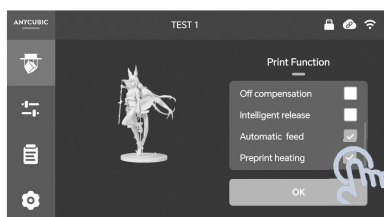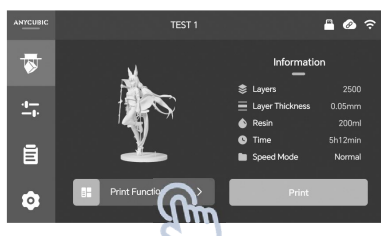
Attention：
1. Material circulation is enabled by default during heating process.
2. When the resin vat heats up for a long time, its surface temperature becomes high. Avoid touching the resin vat without protection after heating.

5. Put on the cover.

Print File

Print USB drive file
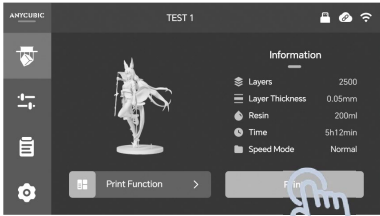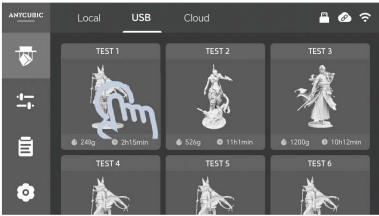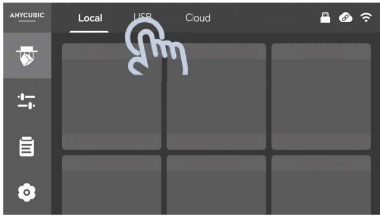
Remote print
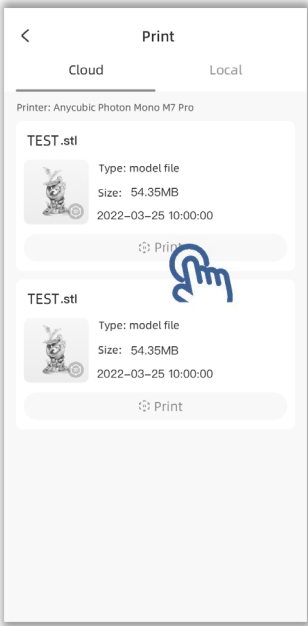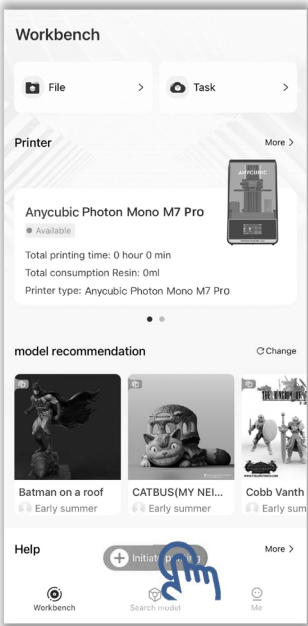
Before printing

1. Before printing, the printer checks the hardware condition, resin volume and residue before each print job. When there is an error, the printer will pop up the error QR code. Please scan the code and follow the guide.
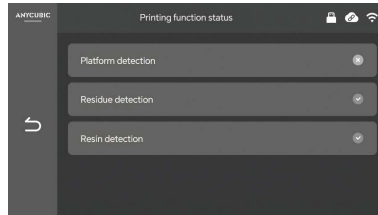
Platform Detection
Before printing, check whether the print platform is installed.
Residue Detection
Before printing, check if there are the solid residues* in the resin vat. If residues are detected, please clean the vat and check again.
*solid residue: height≥3mm, cross section≥9mm²
Resin Detection
Before printing, check whether the resin in the vat is sufficient to finish the print job. Usually, the required volume is a little more than the volume estimated by the slice software.
If the auto-feeding is enabled, the equipment will automatically replenish the resin when it detects the resin insufficiency.

2. If the in the bottle is insufficient, the printer will pop up warning. Please refill or replace the resin bottle timely.
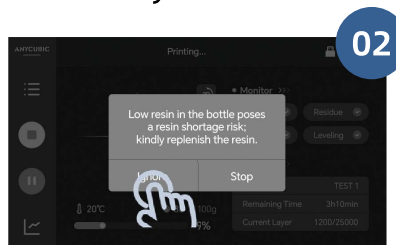
3. The feeding before printing can be skipped. If skipped at this time, it will not occur during printing.

4. You can choose to skip heating if necessary. Please be cautious, as low ambient temperature and insufficient heating time may lead to print failure.

In Printing

Failure detection: During printing, the printer automatically monitors the conditions which may cause print failure to avoid wasting resin or damaging to the printer. When the printer detects an abnormal condition, it will pause the print job automatically and pop up the error report. Please check the sliced file and the model according to the report. The failure detection is enabled by default.

Bottom non-stick detection
It checks whether the model sticks to the print platform.
When the printer detects that the model does not stick the platform, please check the bottom exposure time of the sliced file.

Off compensation: When the exposure area is large during printing, due to the surface tension and the resin characteristic, there may be problems such as delay of Z-axis or delay of resin reflowing, resulting print failure. The function is enabled by default.

Intelligent release: The function can improve the printing success rate by optimizing algorithm. Enabling intelligent release while printing with the default resin_normal parameter group can also increase printing speed. The function is disabled by default.

Before printing, the functions can be enabled/disabled in the print function interface.
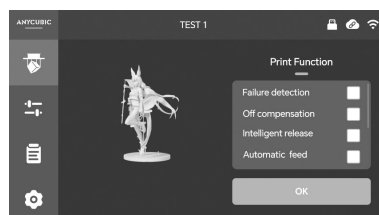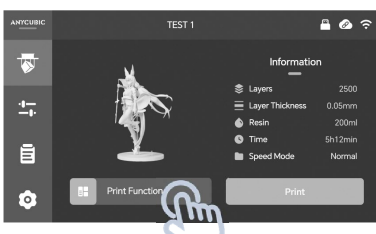
After Printing

1. After printing, remove the platform when resin stop dropping from the platform. Remove the model by metal scraper and then wash it with 95% alcohol or other detergent. After cleaning and drying, proceed with post-curing and any other necessary post processing of the model.
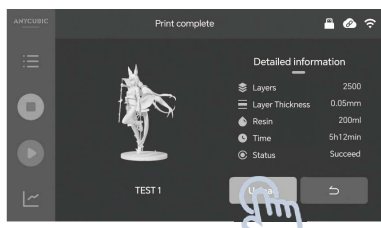
2. After printing, click "Unload" to recycle the resin. Use a plastic scraper to guide resin to the output of the auto-fill unit, facilitating the unloading process. However, if the printing fails, do not enable the unloading function to prevent the auto-fill unit from blocking or being damaged.

3. When the printing fails, resin may be cured partially in the vat. Please set to Cleaning and remove the residue. Otherwise, it may cause damage to the release film or LCD screen.
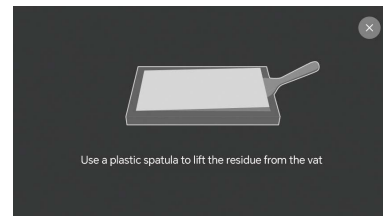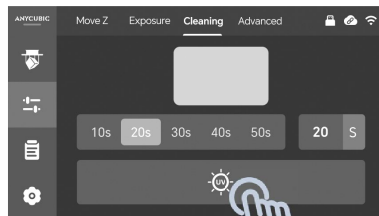
Remove resin sheet
by plastic scraper

4. Please pour out the remaining resin through a front spout of the vat, and filter it by a funnel. Do not pour out the resin through the back side of the vat to avoid the damage to the resin vat.
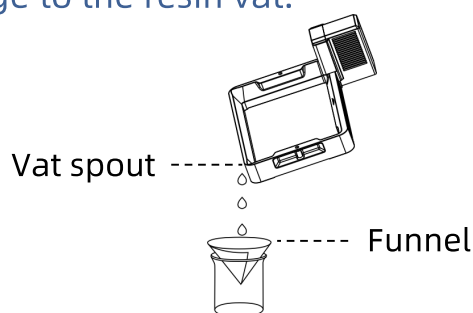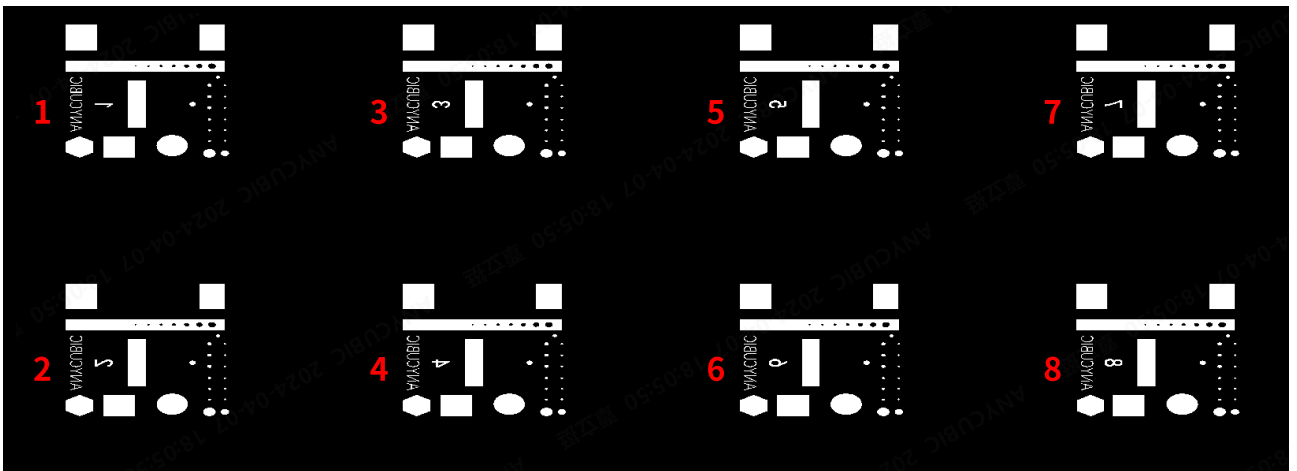
"R_E_R_F" is an abbreviation for "Resin Exposure Range Finder" . This function is used to find out the optimal exposure parameters for different resins.

1. Import the R_E_R_F file which is saved on USB drive into the slicing software. There are eight models in the file. The exposure time for model 1 is equal to "normal exposure time (s)" of the file, and the exposure time for other models will be increased by an increment of **0.25 s**.
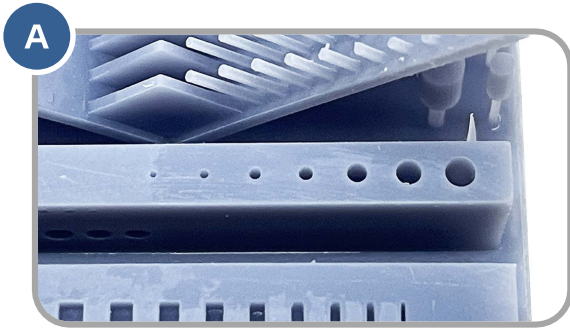For example:

The numbers on the models indicate the order

2. According to the personal requirement, adjust the exposure time of the models by modifying "normal exposure time (s) " of the file. When exposure time for Model No. 1 is changed, the exposure time for other models will be increased by an increment of **0.25 s.**
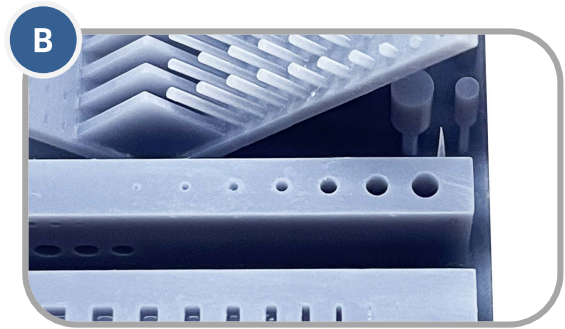
For example, when normal exposure time is set to 1.5 s, the exposure time for Model No.1-8 is: 1.5 / 1.75 / 2 / 2.25 / 2.5 / 2.75 / 3 / 3.25 s.

3. After printing, remove and clean the models. Compare the print effect of models and choose the model's exposure time that meets your needs as the print parameter. Take a comparison of model A&B as an example.
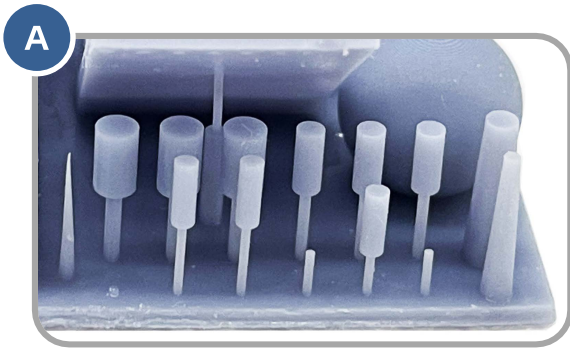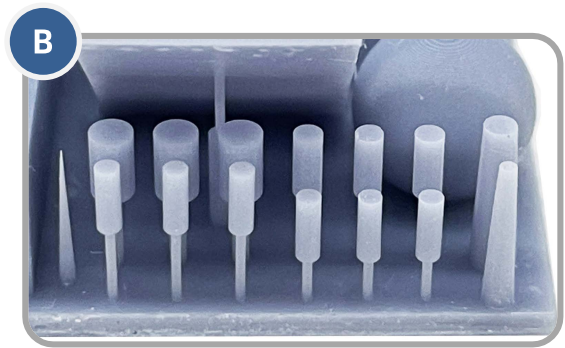
A — More holes

B — Less holes

A — Less cylinder

B — More cylinder

- Model A has more holes and fewer cylinder. If you print by the parameter of model A, more details of model can be printed with high risk of failure.
- Model B has fewer holes and more cylinder. If you print by the parameter of model B, model may be printed successfully yet with some details lost.

In addition, you can compare the bridges, needles or other parts to choose a proper model and find the parameter. If none of them can be chose, adjusting the "normal exposure time (s) " is suggested.

Notice: DO NOT change the file name of "R_E_R_F" , because Anycubic 3D printer can only recognize THIS file name to run this function. Also, do not name other file as "R_E_R_F" .

Leveling

The printer has been designed requiring no leveling for the first use. However, please re-level the printer in the following scenarios:
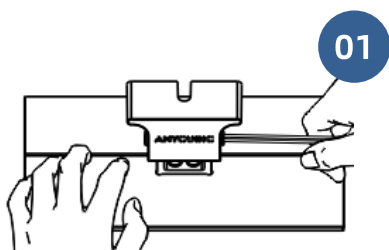
• The print platform has been fallen to the ground.

• Changing new print platform or LCD screen.

• The printed object sticks to the resin vat instead of the print platform.
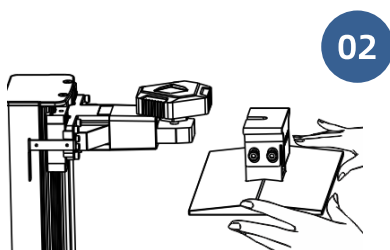
Scan the QR code for the leveling tutorial

Please follow the steps below to install and re-level.
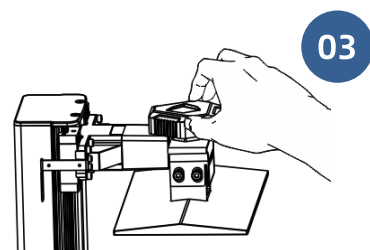
1. Install the print platform.

01	02	03
Loosen the four leveling screws	Push the platform onto the platform carrier	Tighten the knob

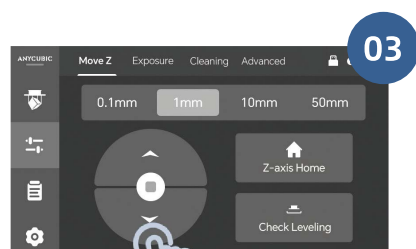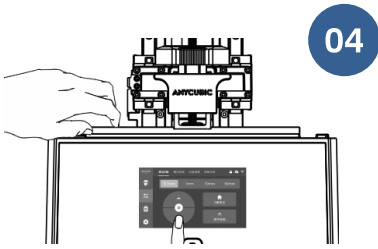2. Leveling.

01

调平检验纸
Leveling Paper

Place the leveling paper (included) on the LCD screen
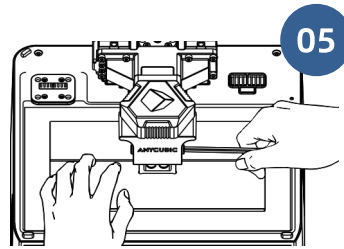
02 Click "Z-axis Home"

03 Lower Z axis by **1mm**

04
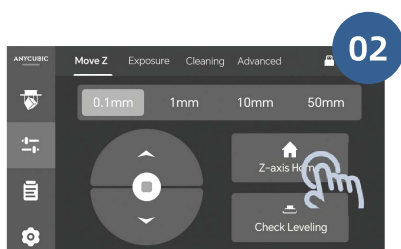
If the print platform
shakes with light press,
lower Z axis by
0.1mm each time

05

Lower until there is resistance
when pulling out the leveling
paper, hold the platform and
tighten the four screws

3. Check whether the leveling is successful. If it does not match the result shown below, please loosen the four leveling screws and follow the step2 to re-level .

01
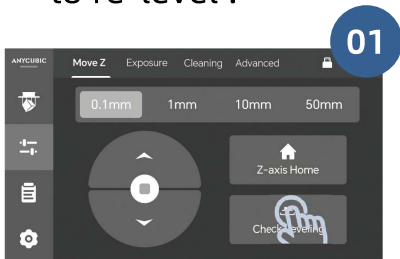
Click "Check Leveling"

02

When you pull the
leveling paper, there is a
significant resistance or
it cannot be pulled out

Resin Vat Maintenance

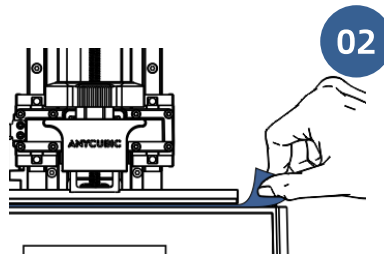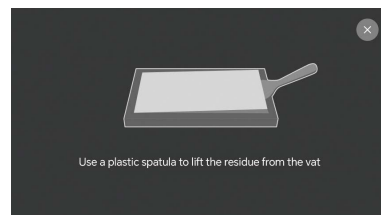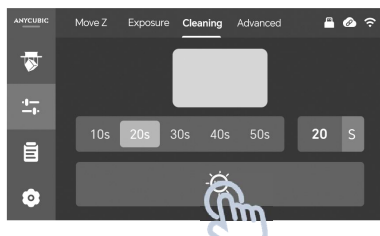- **Remove the cured resin from release film:** Set Cleaning and then remove the cured resin sheet to protect the film. Do not use sharp objects to scrape off the residues from the film.

Remove resin sheet by plastic scraper

- **Remove the liquid resin from resin vat**: If there is only liquid resin in the vat, pour out the resin and then follow the steps of circulation cleaning to clean the vat.
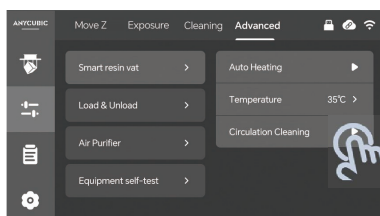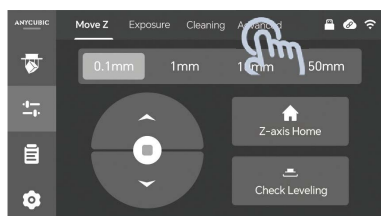
- **Release film replacement:** The statistics of print layers are shown in Home menu. Please check them and replace release film timely to avoid print failure or even the damage to printer.
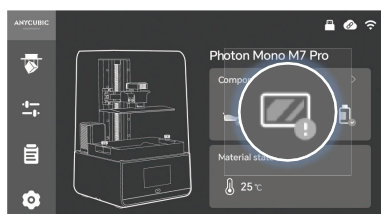
Need to replace release film
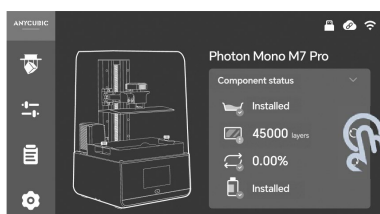
Click reset button after replacement
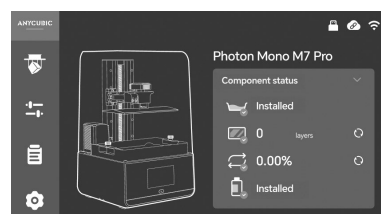
- If you do not use the resin for over 48H, store it in an airtight container away from light.
- If resin is stained on the resin vat, wipe it off timely. Never immerse the smart resin vat in water, alcohol or other cleaning solvent to avoid the damage.
- It is suggested to use non-flexible resin with a viscosity below 1000 cps.

Replace Peristaltic Pump Pipe

Please replace the peristaltic pump pipe when the circulation time reaches 100%, as shown on the Home menu.

1. Put on gloves.

2. Remove the used peristaltic pump pipe.

01
Loosen 2 screws on the back
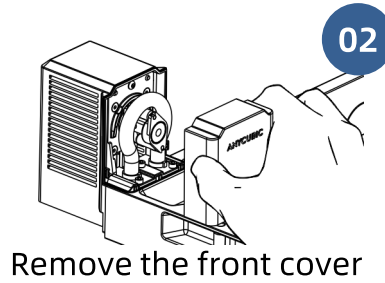
02
Remove the front cover
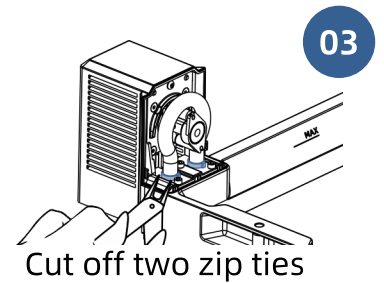
03
Cut off two zip ties
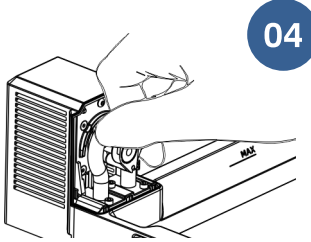
04
Remove the pump pipe
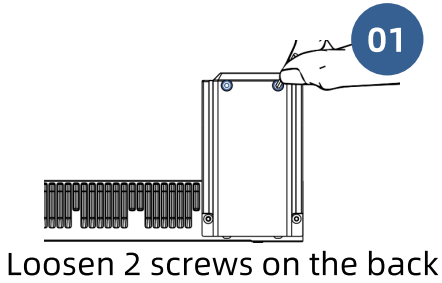
3. Install a new peristaltic pump pipe.
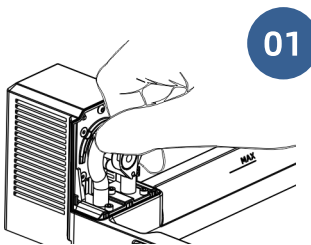
01
Insert a new pump pipe
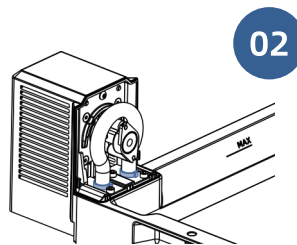
02
Secure the bottom of pipe with 2 zip ties
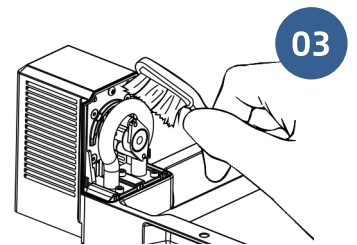
03
Grease the pipe and shaft
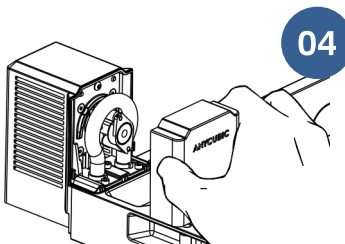
04
Put on the front cover
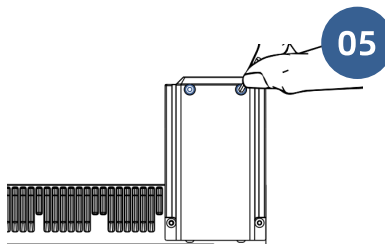
05
Tighten 2 screws on the back

06
Reset the circulation time

Please fully insert the new pump pipe to the bottom to ensure proper installation.

Firmware Upgrade

- **USB upgrade:** Visit the official website to download the firmware and save it onto a USB drive that doesn't have any other version of firmware. Then, insert the USB drive to printer to upgrade.

- **OTA upgrade:** If the network is connected, directly upgrade by OTA.
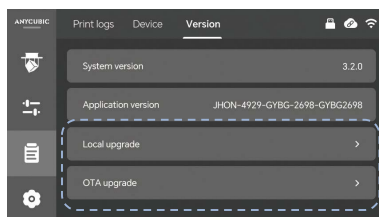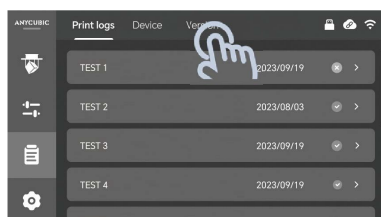
Z-axis Maintenance

If Z axis makes a noisy sound, please apply lubricant to Z lead screw.
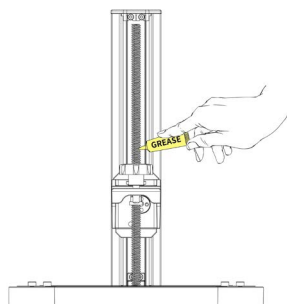
Cleaning

- **Clean the print platform:** Clean platform with alcohol and paper towel.

- **Protect LCD screen:** If there is resin being cured on the screen protector, please replace the protector immediately.

- **Clean the body of printer:** Clean the body of the printer with alcohol.

Complete the initial trouble shooting steps by referring to the following proposed solutions, or contact our technical support for additional assistance.

Print

1. Model do not stick to platform

* Bottom exposure time is insufficient. Please increase the exposure time.
* Contact area between the model and platform is small. Please add a raft.

2. Layer separation or splitting

* The machine is not stable during printing.
* The release film is not tight enough or needs a replacement.
* The printing platform or resin vat is not tightened.
* The lift speed is too fast.
* The model is hollowed without punching.

3. Layer shift

* Add supports.
* Reduce the lift speed.

4. Floccules left in resin vat or attached to models

* The exposure time is too long. Reduce the normal exposure time and bottom exposure time.

Cloud connection

1. WIFI connection is failed

* WiFi name or password is wrong. Please reset the network and reconnect.
* The WiFi network is unavailable. Join an available network. Then, reset the network and reconnect.

2. Fail to add printer in App

* Check "Server Location". Users in mainland Chinese please select "China", users in other countries and regions please select "Global".

Complete the initial trouble shooting steps by referring to the following proposed solutions, or contact our technical support for additional assistance.

Auto feeding & Unloading

1. The printer prompts that resin in the vat is not enough before printing.

- The auto-fill unit has a poor connection to the printer. Please reinstall the auto-fill unit and then click "OK".
- The auto-fill unit has been malfunctioned because resin entered in the air pipe.

2. The resin in the bottle is sufficient, but the printer prompts no resin in the bottle.

- The cap part has a poor connection to the printer. Please reinsert the cap part wire.

3. The resin liquid level reaches the needles of the auto-fill unit. However, when you click "unload", the printer immediately prompts that unloading completes.

- The thumb screws securing the resin vat are not tightened. Please stop unloading and tighten the thumb screws.

4. The green light of auto-fill unit is off and load, unload as well as auto-feed option is invalid.

- Check whether the air purifier connection is enabled. Enter into "Tools" - "Advanced" - "Air Purifier", and disable "connect to air purifier".

Thank you for purchasing Anycubic products! Under normal usage and service, the products have a warranty period of up to one year. Please visit Anycubic support center(support.anycubic.com/en) to report any issues with Anycubic products. Our professional after-sale service team would respond within 24 hours and solve the issues.