QIDI 3D Printer

i-box mono USER MANUAL

〉〉〉〉〉〉〉

Dear customer

Thank you for choosing 🅡 启迪三维 products.

Maybe you are familiar with 3D printing technology or have purchased 🅡 启迪三维 printers before, we still highly recommend that you read this manual carefully. The installation techniques and precautions in this manual can help you avoid any unnecessary damage or frustration.

Note: i-box mono has multiple color options. The machine in this manual may have a different color from your purchase, please be relax and carry on the assembly and operation according to the manual.

More information please refer to:

🅡 启迪三维 Website:http://www.qd3dprinter.com

QIDI TECHNOLOGY website provides the software and videos.

If you have any questions , please feel free to contact our after -sale service team. ^_^

Our after- sale service team email addresses are as below :

boxa@qd3dprinter.com/ boxb@qd3dprinter.com

Skype ID : qidibox

Team 🅡 启迪三维

Safety Instruction

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

Please contact us first if you have any issue after receiving the products.

Be cautions when using the scraper. Never direct the scraper towards your hand.

In case of emergency, please immediately cut off the power of QIDI TECHNOLOGY 3D printer and contact us.

QIDI TECHNOLOGY 3D printer includes moving parts that can cause injury.

It is recommended to use protection glasses when cleaning/ sanding the printed models to avoid small particles contacting eyes.

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

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

QIDI TECHNOLOGY 3D printer must not be exposed to water or rain.

QIDI TECHNOLOGY 3D printer is designed to be used within ambient temperature ranging 15°C-40°C, and humidity ranging 20%-50%. Working outside those limits may results in low quality printing.

Do not disassemble QIDI TECHNOLOGY 3D printer, please con tact us if you have any question.

CONTENTS

Technical Specification

Printing Specifications

Technique	LCD screen photocuring molding technology
Operation	4.3-inch resistive touch screen
Connectivity	USB pen drive
Light source	UV-LED(wavelength 405nm)
XY Resolution	3840*2400
Z axis Accuracy	0.00125mm
Suggested Layer Thickness	0.025-0.1mm
Suggested Print Speed	60mm/h
Rated power	200W

Physical Dimensions

Dimension	565mm(L)*365mm(W)*490MM(H)
Build volume	192mm(L)*120mm(W)*200mm(H)
Materials	405nm normal rigid UV-resin, Dental non-casting resin,Dental casting resin
Net weight	25.4kg

Packing List

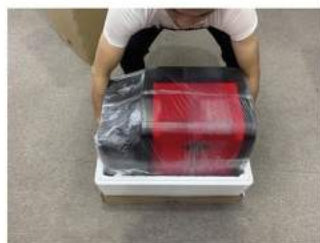|		
i-box mono 3D printer 1PC	Print Platform 1PC	**Resin vat 1PC**
	USB pen drive 1PC	User Manual 1PC
Mask	Gloves	Funnel
Scraper 1PC	Tool kit 1PC	Power cord 1PC

1. Open and remove the locks in four directions.

2. Lift the upper cover carton.

3. Take out the spare parts and upper cover foam.

4. Take out the printer.

5. Cut off the protective film .

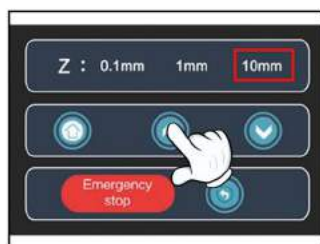6. Open the top cover and take out the foam.

7. Plug in the power cable and turn on the power switch.

8. Click on the Tool icon.

9. Click on the manual icon.

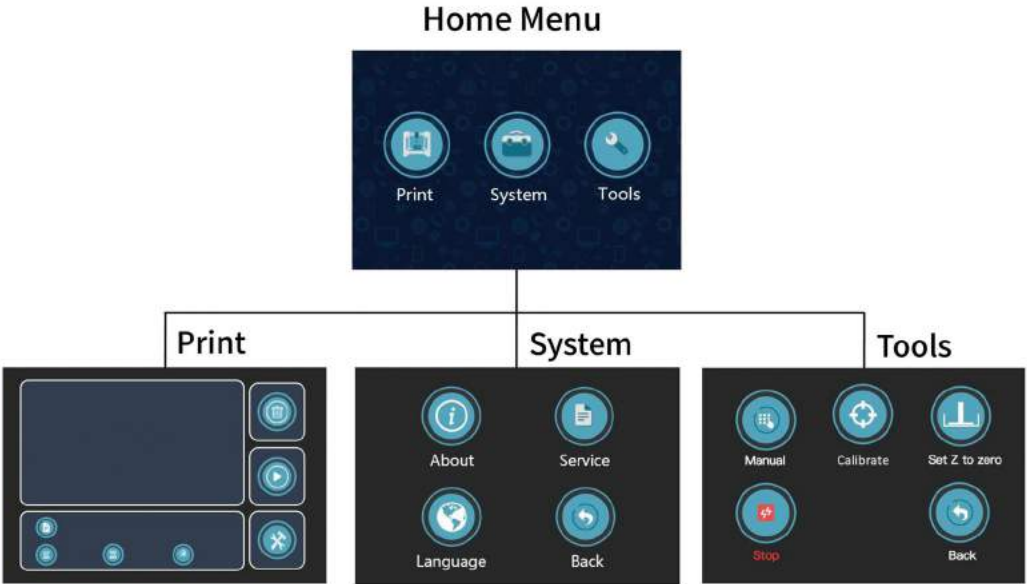10. Select the 10mm, click on the Up icon.

11. The platform is rising .

12. Take out the foam after the platform rising to a certain height.

Z axis leadscrew

Platform fixing screw
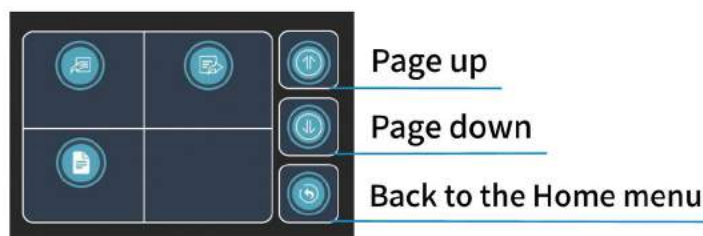
Platform bracket

Print Platform

Resin vat

Resin vat fixing screw

Touch screen

Top cover

QIDI 3D

USB Pen Drive port

i-box mono

Cooling Fan

Power Interface

Power switch

Menu Directory

Home Menu

Print   **System**   **Tools**

Print

System
About   Service
Language   Back

Tools
Manual   Calibrate   Set Z to zero
Stop   Back

Home Menu

Enter the Print menu

Print   System   Tools

Enter the Tools menu

Enter the System menu

Print 🗐

Select Model:

Page up

Page down

Back to the Home menu

Click model

Model Preview:

Delete the current file

Start to print

Back to the Print menu
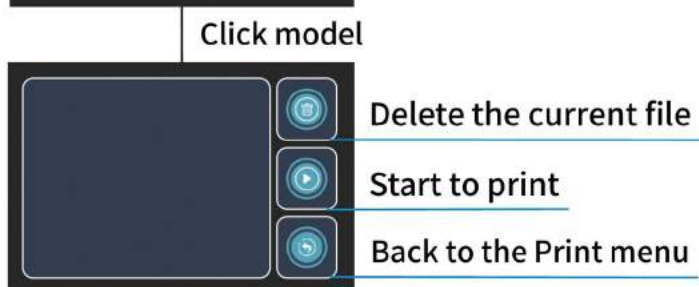
System 🧰

About ⓘ : Product ID and System version

Service 🗐 :

Friendly reminders:

If you have any problem that need to be resolved, please kindly send us picture or video by email.

If you have any problem with the printing model, please kindly send us the STL format file of the model.

We will help you to solve the problem with the most accurate judgment.
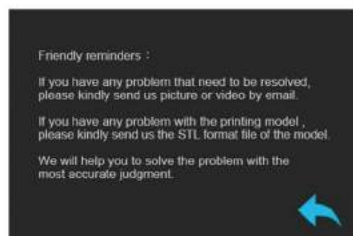
Language 🌐 : Change language(English/Chinese)

Back 🔄 : Back to System menu

Tools

Manual :

Z : 0.1mm   1mm   10mm — Move Z by 0.1mm/1mm/10mm

Back to zero — Move the Z axis downwards

Stop moving the Z axis — Emergency stop — Back to the Tools menu

Move the Z axis upwards

TP Adjust :

Please set the exposure time of the test image:

Click to set the test time — Reduce the test time

Test LED and LCD for the preset time — Next — Back to the Tools menu

Increase the test time

Set Z to zero : Reset the zero point

Stop : Emergency Stop

Back : Back to Home menu

For more details, please refer to the video in the USB pen drive:

- 1.3D Printer Start-Up Guide
- 2.ChiTuBox 3D slicer software
- 3.Test file
- 4.Platform
- 5.UV Correction

→

Leveling.mp4

1、Loosen the vat screws, remove the resin vat (**lift the resin vat slightly for preventing the FEP film and 4K LCD screen from scratch when you remove the resin vat**), check and ensure the 4K LCD screen and platform are clean and free of dust,as shown in Fig (1).
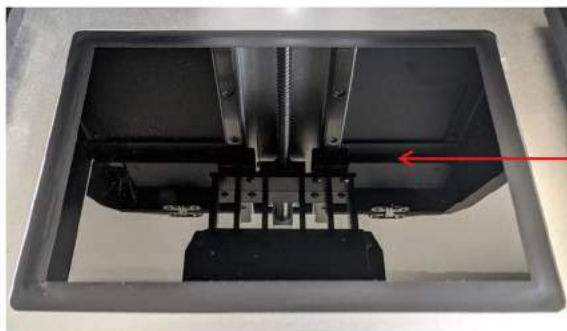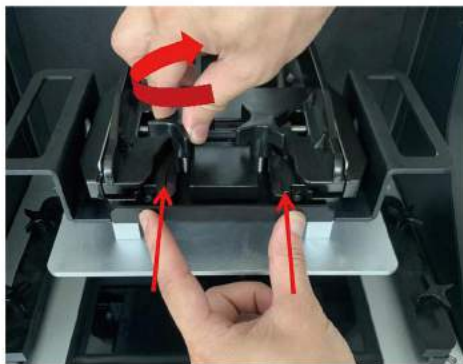
Loosen the screws
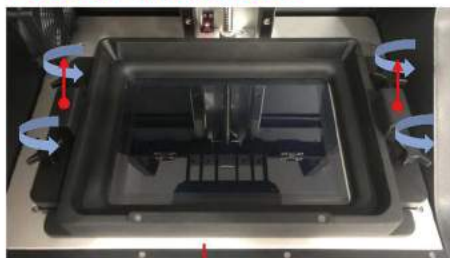
↓ Move out

Fig (1)

4K LCD Screen

2、Ensure the platform is installed in place and tighten the platform fixing screws.

3、 Loosen the leveling screw which on the platform to ensure that the platform can move up and down freely.

4. Enter "Tools"→ "Manual" , click "Set Z to zero" make the platform to home position.

5、 Place the leveling paper, after the platform stopped moving, firmly press down on the platform by one hand, while using the other hand to tighten the leveling screw with a wrench.
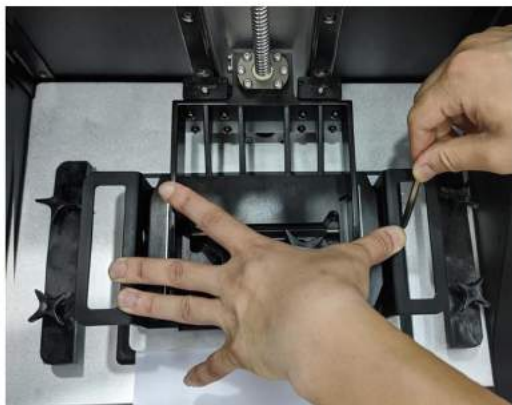
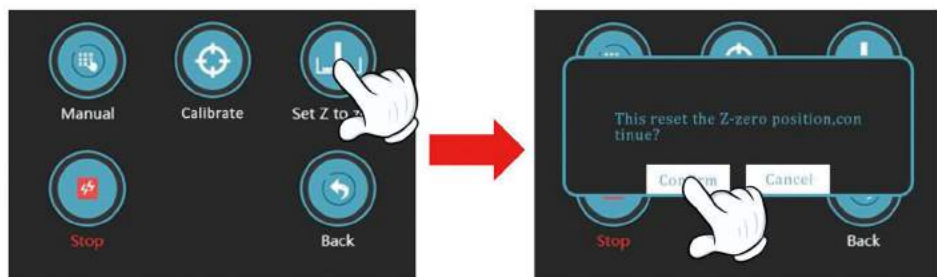6、 Return to "Tools", click "Set Z to zero" and confirmed, the printing height will be saved,as shown in Fig (2).

Fig (2)

For more details, please refer to the video in the USB pen drive:

4.Plate Leveling
5.UV Correction
6.Model post processing   →   UV correction.mp4
7.Repair video

7、 Function test of UV-LCD: gradually rise the platform about 120mm, then click "Tools 🔵 " → " Calibrate 🎯 " → "Next Next " on the screen,as shown in Fig(3),the 4K LCD screen should display a complete rectangle,as shown in Fig (4).
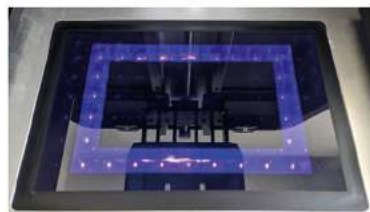
Click here to change the exposure time of testing

Please set the exposure time of the test image:

200 s

Next

Fig (3)   Fig (4)

8、 Install the resin vat

NOTICE: Slightly lift the resin vat by hand and put it in a fixed position to prevent the surface of the FEP and 4K screen from being scratched by dust or residue, as shown in Figure (5).

Resin vat fixing screws

Resin vat fixing screws
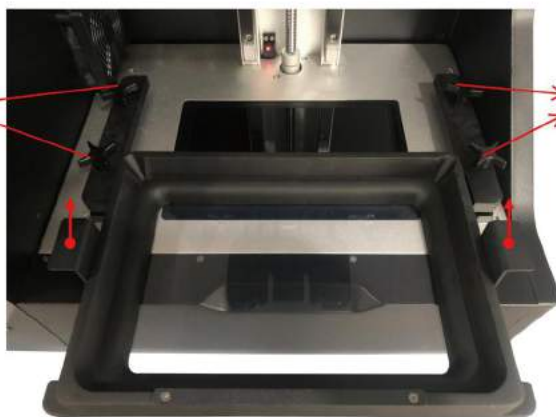
Fig (5)

Slicing software

1. Installation of the slicing software

ChiTuBox slicing software is stored on the USB pen drive, please install the software to your computer.

To ensure reliable software installation,it is recommended to turn off or exit anti-virus software,such as 360 Anti-Virus,before installing the slicing software on Windows systems.File path: "Software and Configuration Files" → "Windows" .Double-click the application (the specific version of the software is based the file on USB pen drive), and then install it as shown below:
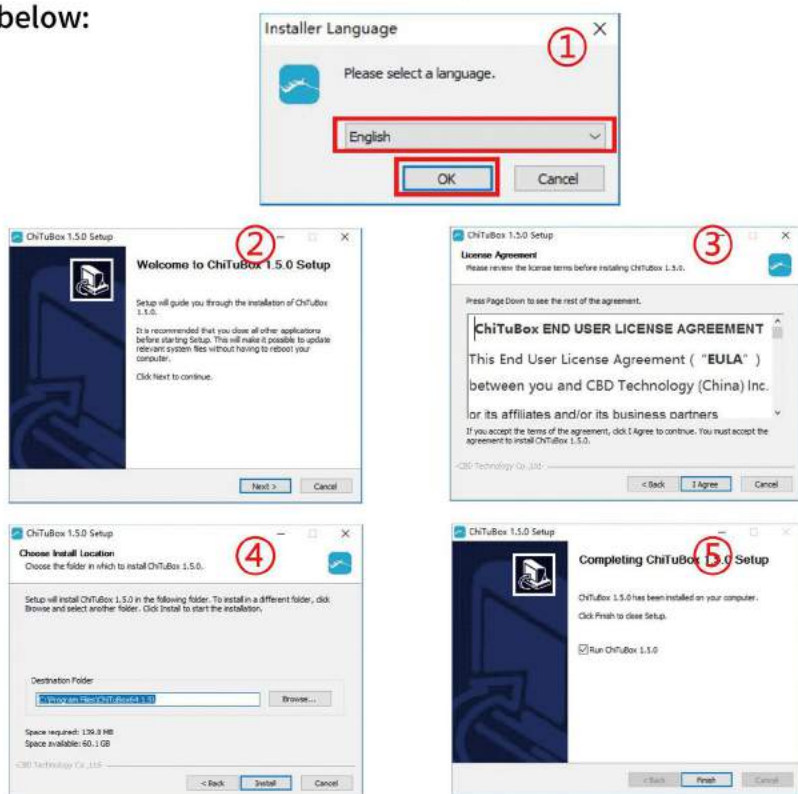
Install the slicing software on the Mac system. The path to the software file is: "Software and Configuration Files"→"Mac"
Directly double-click the file with the suffix dmg.
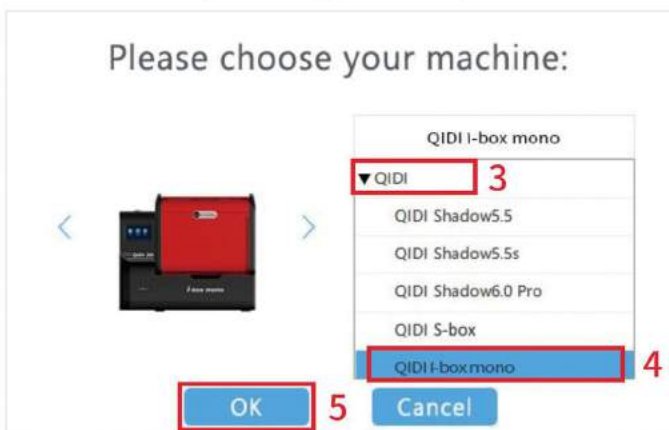
13

2. Add new print

2.1 Click the "Settings" button to open the parameter configuration window.
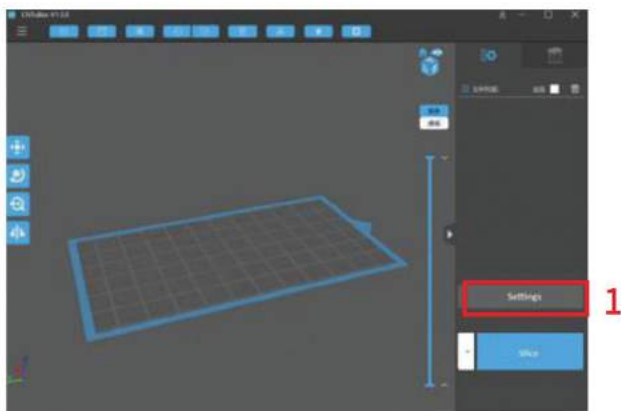
2.2 Click "add new printer" button to open the printer selection window.

2.3 Select the printer type in the printer list, then click "OK".

3. Simple slicing procedure for beginners

For more details, please refer to the video of first print operational instructions in the USB pen drive:
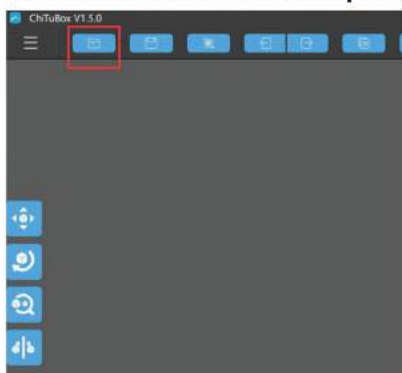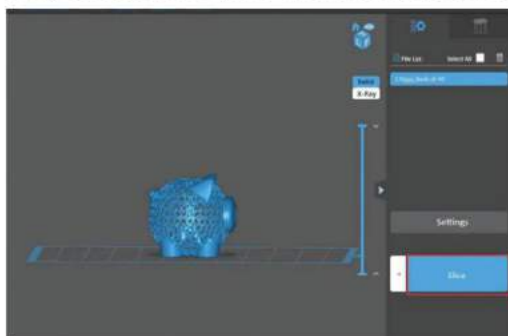
6.Model post processing
7.Repair video
8.First print operation video

First print.mp4

3.1 Please click here to open your model (**model supported in STL, OBJ**) .

3.2 Click on the "Slice", then save the successfully sliced file (in the format ctb) to the USB pen drive and insert the USB pen drive into the printer.

4. Print Model

In order to avoid the first print failure,please check below before printing:(1) Z axis is working fine (2) platform is well leveled and fit with 4K LCD screen; (3) 4K LCD screen can display

Insert the USB drive into USB port,then wear the masks and gloves,slowly pour the resin into the vat until it reaches 1/3 volum of the vat.**(please note that the resin does not directly contact the skin)**,as shown in Fig(6) ①②③,select the "Piggy_Bank.ctb" model or your sliced model,then start to print.During printing,please close the top cover,keep away from direct sunlight and keep printer sitting　flat without shaking.
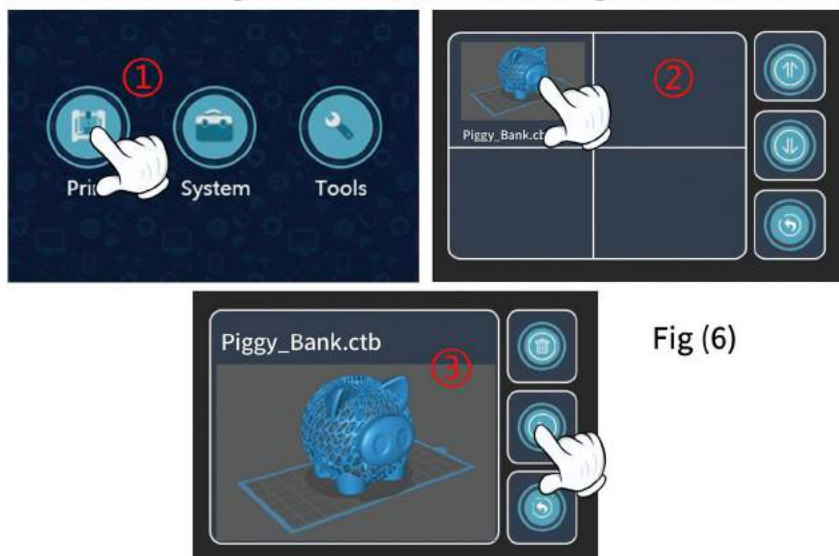

Fig (6)

When you click pause button during printing,platform will raise,please check and touch the platform quickly,see if the model stick on the platform.If the model stick on the platform,continue to print,if the model dose not stick on the platform,please contact after-sales,we will help you to level the platform,as shown in Fig(7).
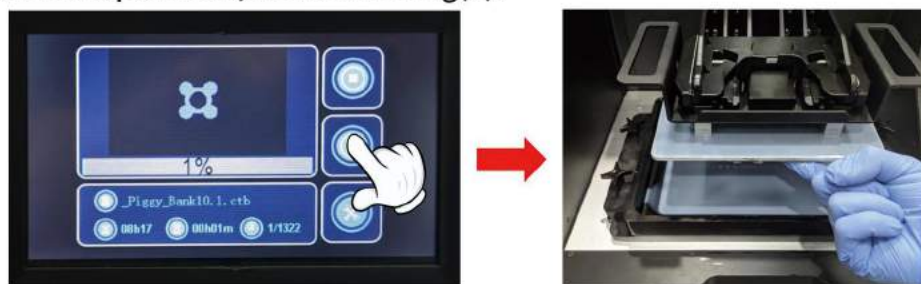

Fig (7)

If you think the resin is insufficient to finish an ongoing print, as shown in Fig (8), you can slowly pour the resin into the vat.


Fig (8)

5. Deal with Residual Resin after Printing Done

For more details, please refer to the video in the USB pen drive:

6.Model post processing
7.Repair video
8.First print operation video

deal with
residual resin
after printing
done.mp4

5.1 After printing done, please loosen the fixing screws to remove the platform, align the part 1 with the slot 2 on the resin vat to fix the platform.
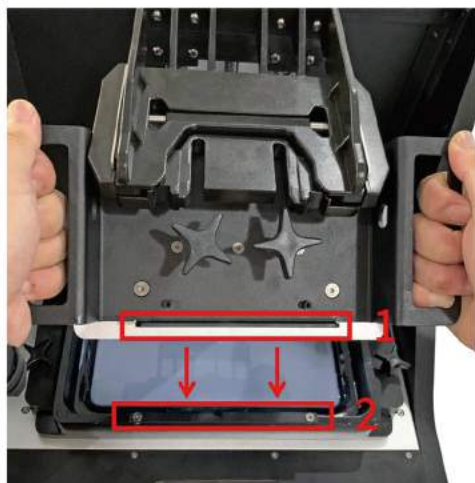
5.2 It is fixed now as shown in the figure. After the residual resin on the platform no longer drips, remove the platform to clean and shovel down the model.

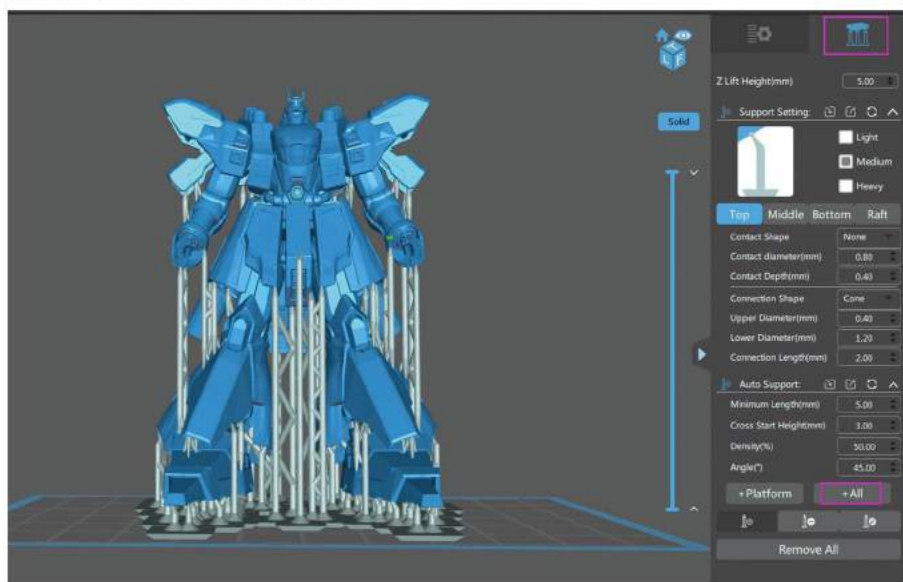Please note! The piggy_Bank model as above does not need to add the support.
Please use the following 2 typical cases to determine whether your model needs the support.
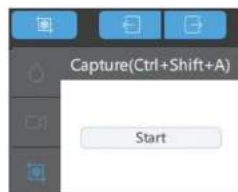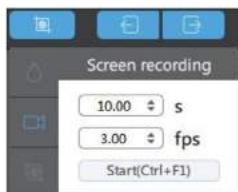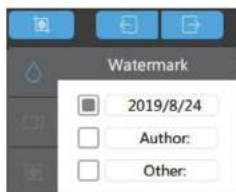
(1)Need to add platform support
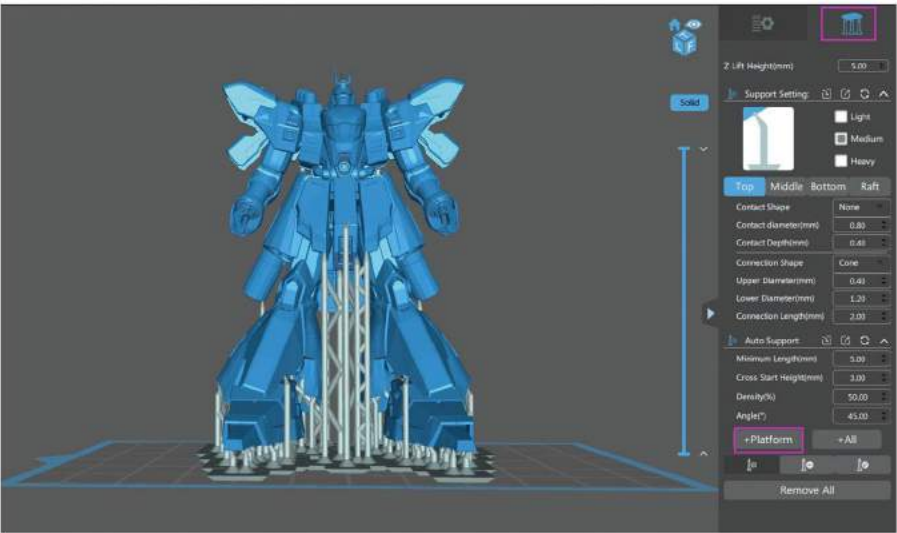
(2)Need to add all support

6. Introduction of Menu

6.1 **Open file：** load into one or multiple files.

6.2 **Save file：** Save the current file

6.3 **Screen capture/recording:** Watermark, recording and Capture

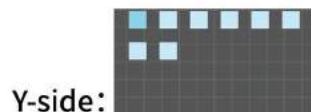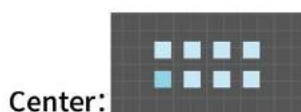(1) **Watermark :** Add watermarking information to the picture (date, author, etc.)

(2) **Screen recording :** You can set time (/ s), frame rate (/ fps)
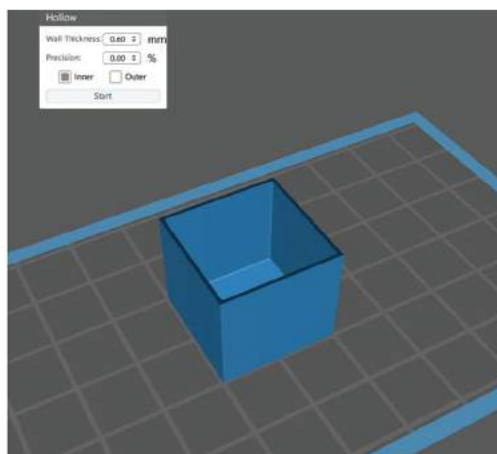
(3) **Capture :** Click the "Start" button

6.4 Undo & Redo

6.5 Clone the current model

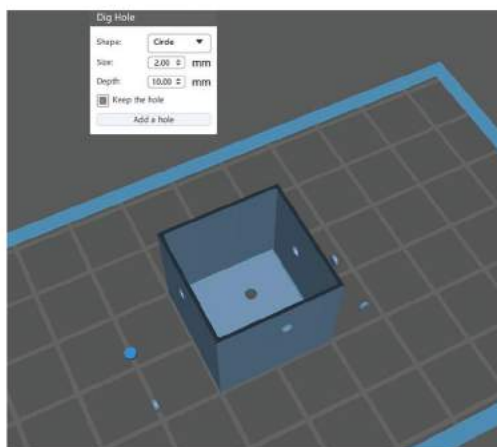**6.6** Auto Layout

Center: X-side: Y-side:

6.7 **Hollow** : Inter or outer hollow, can set wall thickness and

precision

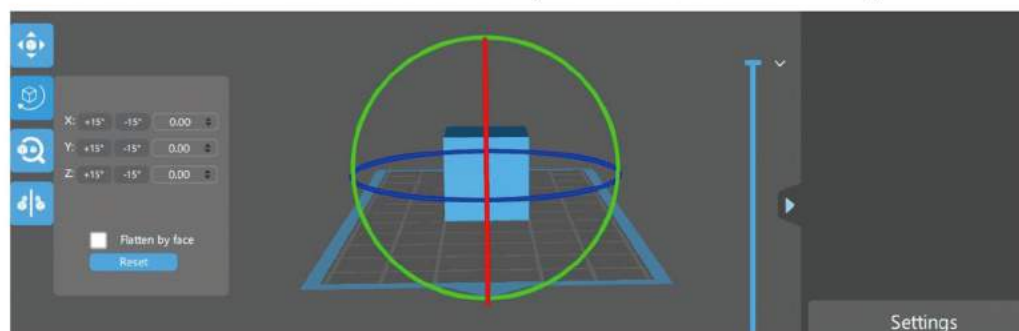**6.8** **Dig Hole:** Shape and size can be seted, keep the hole, add a

hole.

7. Model Edition

7.1 Move

(1) Move X,Y and Z axes respectively: Scroll the mouse or enter data directly.

(2) The model can be placed directly on the platform, centered or reset.

7.2 Rotate：Turn and rotate model (shortcut: double click)

For some models,for better print quality,make sure that the cross section is gradually increasing,rather than mutating,and the model can be placed at 30° as shown below.In addition,depending on the printed material and the actual model,the optimal placement may vary.
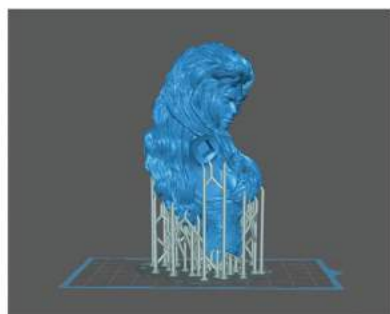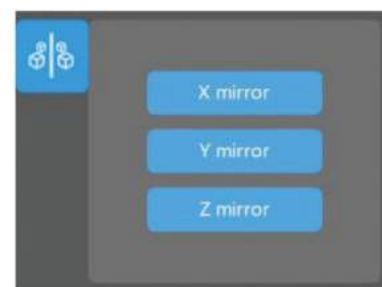
0°
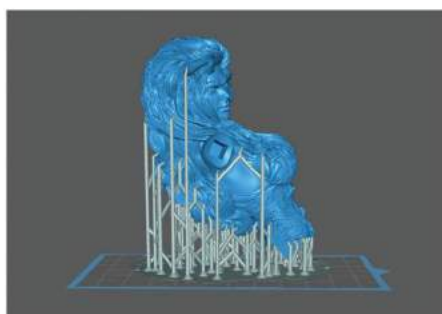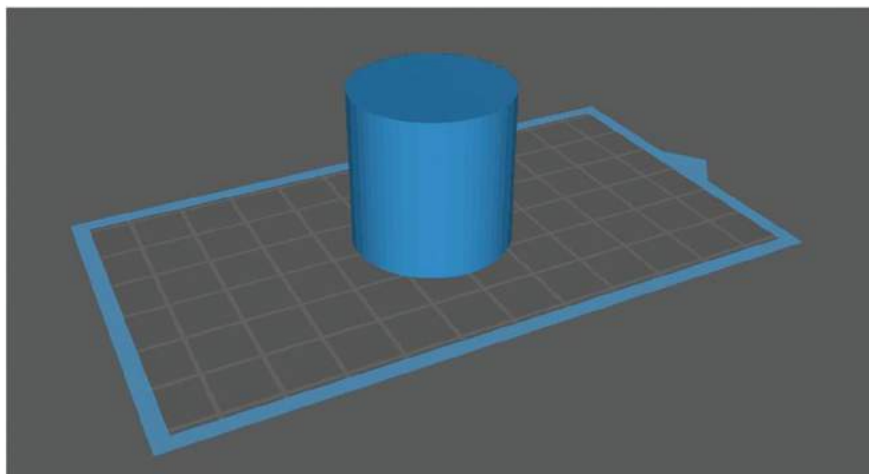

30°

7.3 Zoom: Zoom on X, Y and Z axes respectively

7.4 Mirror

(1) X Mirror : Mirror the current model with the X axis as the axis of symmetry

(2) Y Mirror : Mirror the current model with the Y axis as the axis of symmetry

(3) Z mirror : Mirror the current model with the Z axis as the axis of symmetry

8. Mouse operation (operate in the middle page)

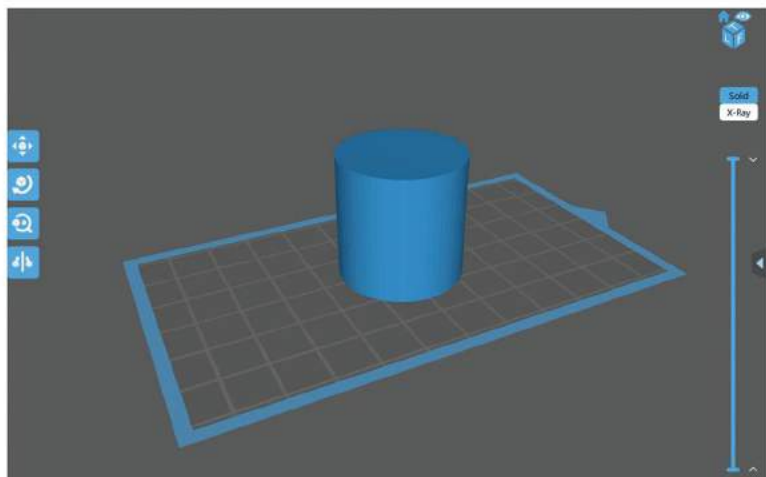**8.1 Left click:** Click to select the model, platform, or blank space

8.2 Left click and hold on

(1) Left click model can move the model on the platform.

(2) Left click on the platform or blank space can move the platform

8.3 Right click and hold on: Rotate the platform

8.4 Scroll the mouse wheel : Zoom view

9. Views

9.1 Move：

(1) Hold down left button of mouse and drag

(2) Holds down the mouse wheel and drag

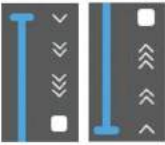## 9.2 Rotate: Hold down right button of mouse and drag

9.3 Scale: Scrolling mouse wheel

9.4 **Home:** Make platform right front view face user

9.5 **Switching orthographic and perspective**

9.6 **Top/front/left view**

9.7 **Solid and X-ray perspective**

9.8 **Model bar:** Real-time cross-sectional view of the model; up and down have one, two, three times the speed of the slice play and pause buttons.

9.9 **Expand/Hide:** Expand and hide the content on the right
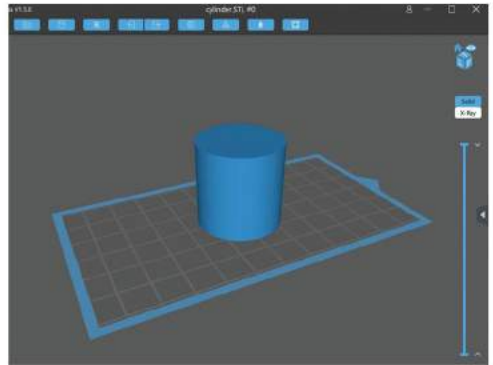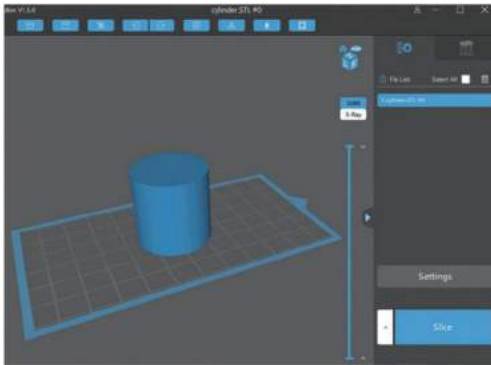
10. Common settings

Please check our machine according to the information in the slice settings.

10.1 File List: All the models on the platform are listed in the file list, and can be edited or deleted by choosing all/single models.

10.2 Machine

\<Name\> : Printer name, you can enter the name directly for modification;

\<Resolution\>: The resolution of projector or LCD screen, which directly affects the dimensional accuracy of printing;

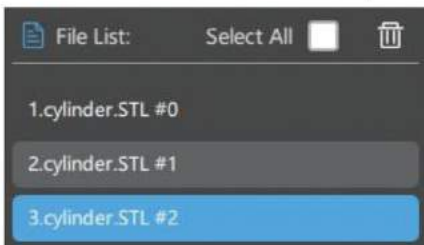**\<Lock Ratio\>** : Normally, the size ratio of the XY platform is equal to the resolution ratio, that is, the locking ratio. In some cases, such as DLP projector due to accuracy or machine design reasons, the size of XY platform is not necessarily the same as the resolution ratio, it can input the actual projection size.

\<Size\> : Maximum print size of machine.
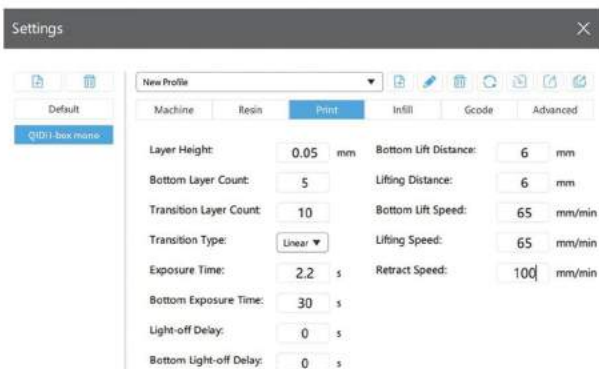
10.3 Resin

\<Resin Type\> : Different resin types have different parameters, and some resin parameters recommended by enterprises have been integrated.

\<Resin Density\> : Resin density, used to calculate weight.

\<Resin Cost\> : Resin price, used to calculate costs.

10.4 Print

<Layer Thickness> : Thickness of each layer, such as 0.5mm.

<Bottom Layer Count> : The number of solidified layers should be strengthened at the bottom, in order to make the model stick to the platform better.

<Exposure Time> : Exposure Time of normal Layer

<Bottom exposure time> : The exposure time of the bottom layers is longer than that of the normal layers, so that the resin can be cured thoroughly and the model can adhere to the platform as far as possible.

<Light-off Delay> :

Final light-off time = maximum value (total time of Z-axis up and down movement, light-off delay time). For example,total Z-axis up down movement cycle is 6 seconds, If "light-off delay" is set to 10 seconds,final light-off time is 10 seconds. If "light-off delay" is set to 1 second, final light-off time is 6 seconds.

<Bottom Light-off Delay> : Light-off delay time of the bottom layers.

<Bottom Lift Distance> : When printing the bottom layers, the lifting distance of the forming platform.
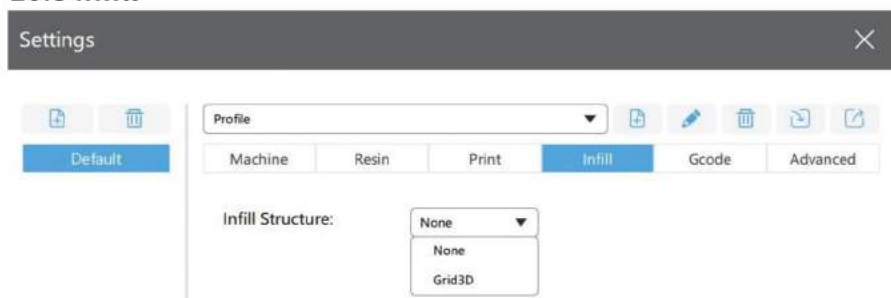
<Lifting Distance> : When printing the normal layers, the lifting distance of the 16forming platform.

<Bottom Lift Speed> : When printing the bottom layers, the lifting speed of the forming platform.

<Lift Speed> : When printing the normal layers, the lifting speed of the forming platform.
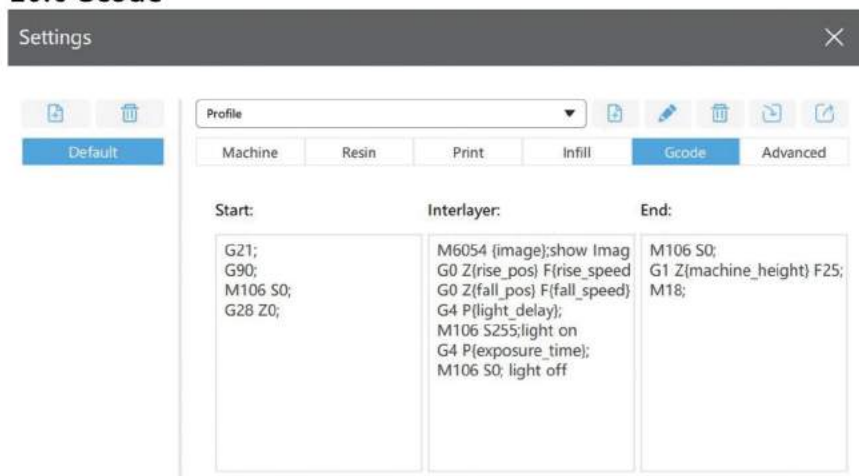
<Retract Speed> : The downward speed of the forming platform.

10.5 Infill

Settings	✕

📄 🗑️	Profile ▼ 📄 ✏️ 🗑️ 📥 📤
Default	Machine · Resin · Print · **Infill** · Gcode · Advanced

Infill Structure: | None ▼ |
| None |
| Grid3D |

<Infill Structure>: The type of infill in the model, such as the grid structure.

10.6 Gcode

Settings	✕

📄 🗑️	Profile ▼ 📄 ✏️ 🗑️ 📥 📤
Default	Machine · Resin · Print · Infill · **Gcode** · Advanced

Start:
```
G21;
G90;
M106 S0;
G28 Z0;
```

Interlayer:
```
M6054 {image};show Imag
G0 Z{rise_pos} F{rise_speed
G0 Z{fall_pos} F{fall_speed}
G4 P{light_delay};
M106 S255;light on
G4 P{exposure_time};
M106 S0; light off
```

End:
```
M106 S0;
G1 Z{machine_height} F25;
M18;
```

<Start>: Preprocessing commands executed at the beginning of printing. (Modifiable)

<Interlayer>: Commands executed on each layer during printing. (Modifiable)

{image} The name of the resulting exposure image

{raise_pos} Corresponding to the raised position, is an absolute coordinate value, value = exposure position + lift height

{raise_speed} Is the lifting speed, the lifting speed = the bottom lifting speed or the lifting speed

{fall_pos} Corresponding to the falling position, is an absolute coordinate, value = exposure position

{fall_speed} Is the falling speed, the falling speed = the bottom falling speed or the falling speed

{exposure_time} Corresponding to the underlying exposure time or exposure time, the unit is ms

<End>: Command executed at the end of printing. (Modifiable)

{machine_height} corresponds to the height of the machine size

10.7 Advanced
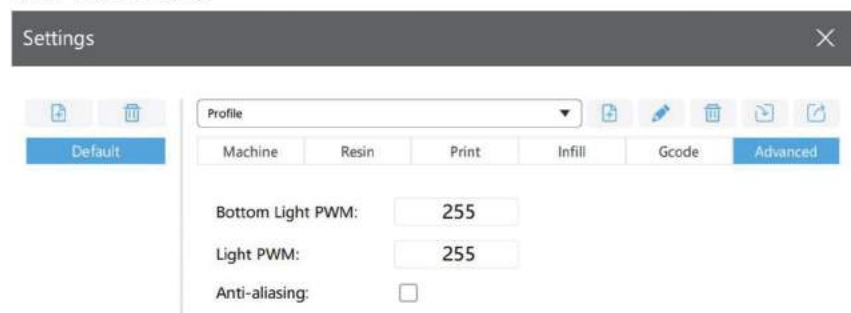
<Bottom Light PWM> : The intensity of the light source when printing the bottom layers.(some priters support this command)
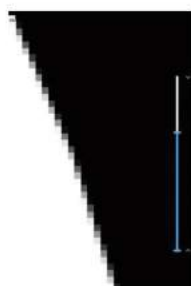
< Light PWM> : The intensity of the light source when printing the normal layers.(Some printers support this command)

<Anti-aliasing> : Turn on anti-aliasing to make the model surface smoother.

As shown below: anti-aliasing is not selected ☐ , anti-aliasing is selected ▣
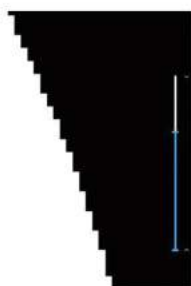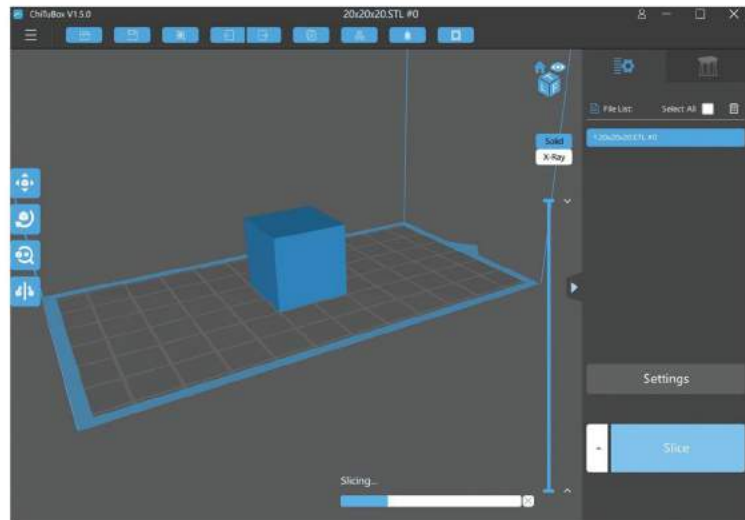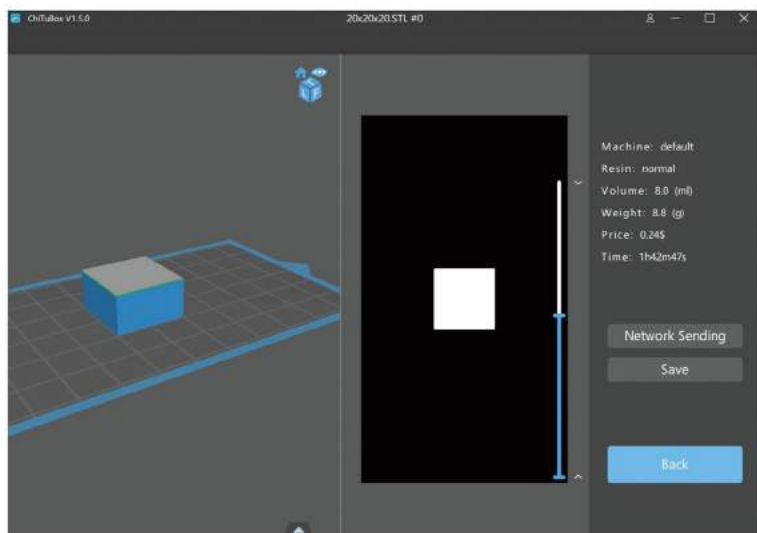

No   X4

11. Slice

Click on the "Slice" to start the model slicing process. (you can choose the corresponding parameters to slice)

12. Slice Preview

Support for slice layer and solid model preview.

13. Support setting

13.1 Z Lift Height (the default is 5mm), can be customized

13.2 Support setting (refresh, fold, expand)

(1) Select the size of the support, there are three choices: Light, Medium and Heavy.

(2) Top: Set the parameters of the top of the support, which can be customized by the user.
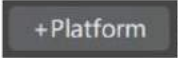
(3) Millde: Set the parameters of the middle of the support, which can be customized by the user.

(4) Bottom: Set the parameters of the bottom of the support, which can be customized by the user.

(5) Raft: Set the parameters of the raft, which can be customized by the user.
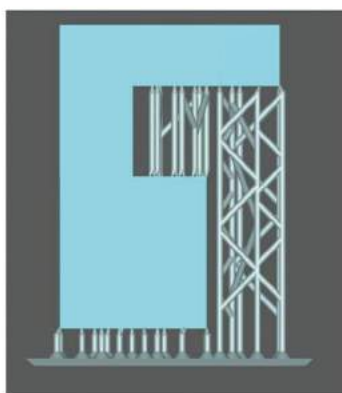
13.3 Auto support (⟳ refresh, ⌃ fold, ⌄ expand) : Set the parameters of the auto support, which can be customized by the user.

(1) `+Platform` Click this button to automatically add support to the model (no support will be generated on the model).

(2) `+All` Click this button to automatically add support to the model (support is also generated on the model).

+Platform   +All

13.4 **Add Support:** Add support in manual mode.

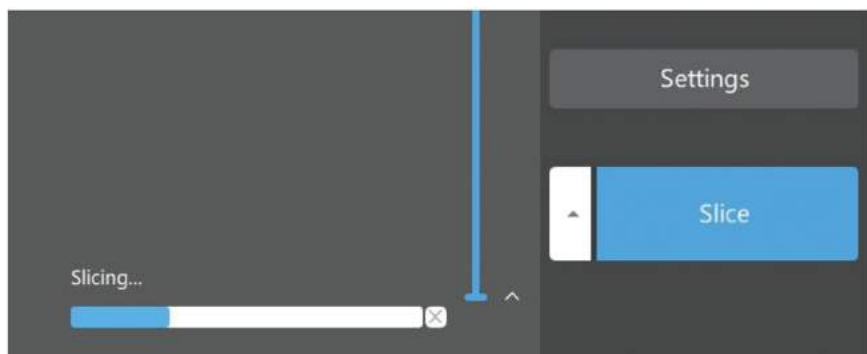13.5 **Delete support:** Delete support in manual mode.

13.6 **Edit Support:** Edit selected support.

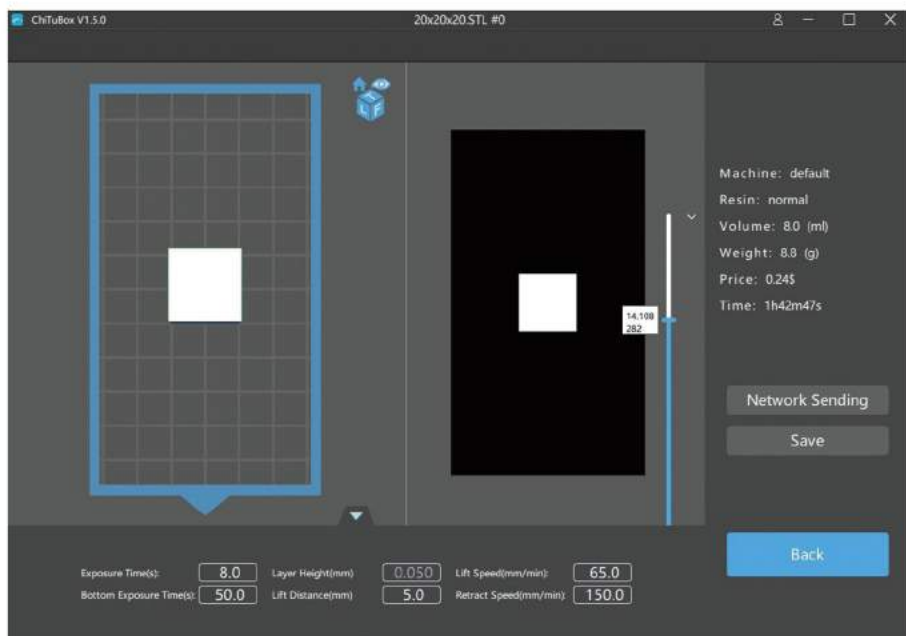13.7 **Remove all:** Remove all support.

14. Printing process

14.1 Slice: After setting all the parameters, click the slice menu.

14.2 **Preview and Export:** After the slice is finished, it will automatically enter the preview mode(drag the upper slider to preview the layer). you can save the slice file or return to re-edit.

After printing is completed, wait for the residual resin on the platform to stop dripping, loosen the platform fixing screws and remove the platform.Clean with 95% ethanol, then take the model off with a scraper, as shown in Fig(9).


Fig(9)

In case of incompleted curing or failed prints, there might be some resin residues left in the vat,as shown in Fig(10), it is recommended to filter the resin by a funnel after every print and store the resin in a sealed container. If this operation is not performed, the 4K LCD screen may be crushed and damaged when the platform is lowered during the next leveling or printing.
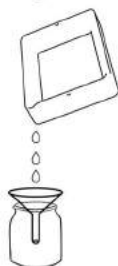
Fig(10)

For the residues left in the vat on the platform,please use tissue to carefully get rid of that.
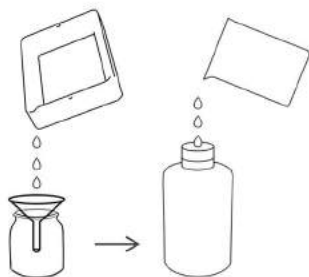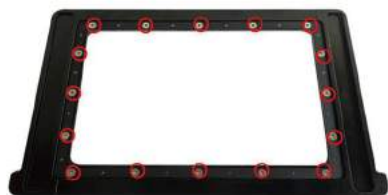
Machine Maintenance
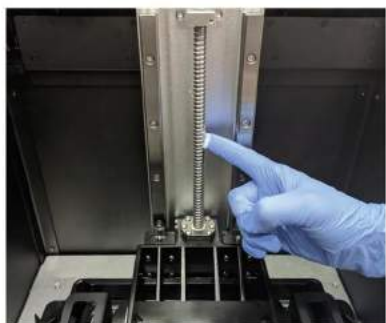
a. If Z axis make noisy sound, please apply lubricant to the Z axis lead screw.

b. Do not use sharp objects to scrape off the residues on the FEP film.

c. Do not left the resin in the vat for over 48 hours if not using it. (Please filter and store the resin properly.)

d. The FEP film may lose the tension after printing many times . Please adjust the tension by tightening the screws at the bottom of the resin vat.

e.After printing, please clean up the platform(wipe clean with paper towels or wash with alcohol), and ensure no residue left before next print(filter the residue with funnel).

f. If the outside of printer is stained with resin, use alcohol to wipe clean.

g. If you want to print other colors of resin, please clean up the resin vat firstly, make sure that there do not have residue of original resin.

Thank you for purchasing our product! During normal operating , the machine has a one- year guarantee.
If you have any questions, please feel free to contact our after- sale service team.After-sale service team email addresses:
boxa@qd3dprinter.com/ boxb@qd3dprinter.com
Skype ID :   qidibox
We will response within 12 hours and try our best to solve the problem as early as possible.