

# USER MANUAL



APPLICABLE TO  
SLASH 2

UNIZ DESKTOP PRINTER



# DISCLAIMER



Please read and understand the contents of this installation and user manual.

Failure to read the manual may lead to personal injury, inferior results or damage to the SLASH 2 printers. Always make sure that anyone who uses the 3D printer knows and understands the contents of the manual to make the most out of the SLASH 2 printer.

The conditions or methods used for assembling, handling, storage, use or disposal of the device are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, injuries, damage, or expense arising out of or in any way connected with the assembly, handling, storage, use or disposal of the product. The information in this document was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness.

## **Intended use**

SLASH Series 3D printers are designed and built for liquid crystal display (LCD) based on Stereo lithography Appearance (SLA) modeling for various high quality photopolymer resins within a commercial/business environment. The combination of precision and speed makes the SLASH 2 3D printers the perfect machines for concept models, functional prototypes and also the production of small series.

UNIZ does not warrant that the operation of the Hardware Product will be uninterrupted or error-free. UNIZ is not responsible for damage arising from failure to follow instructions relating to the Hardware Product's use.

UNIZ's warranty does not apply: a) to damage caused by use with non-UNIZ products including third-party resins; b) to damage caused by accident, abuse, misuse, flood, fire, earthquake, or other external causes; c) to damage caused by operating the Hardware Product outside the permitted or intended uses described by UNIZ; d) to damage caused by service (including upgrades and expansions) performed by anyone who is not a representative of UNIZ; e) to a Hardware Product or part that has been modified to alter functionality or capability without the written permission of UNIZ; f) to consumable parts, unless damage has occurred due to a defect in materials or workmanship; g) to cosmetic damage, including but not limited to scratches, dents; or h) if any UNIZ serial number has been removed or defaced. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE OR COUNTRY TO COUNTRY. UNIZ's RESPONSIBILITY FOR HARDWARE DEFECTS IS LIMITED TO REPAIR OR REPLACEMENT SERVICE AS DETERMINED BY UNIZ IN ITS SOLE DISCRETION.





# TABLE OF CONTENTS

|  |           |
|--|-----------|
| <b>A SLASH 2 3D PRINTER .....</b>          | <b>1</b>  |
| MEET THE PRINTER.....                      | 1         |
| PACKING LIST .....                         | 5         |
| SPECIFICATIONS .....                       | 6         |
| <b>B GET STARTED .....</b>                 | <b>7</b>  |
| UNBOXING .....                             | 7         |
| SOFTWARE PREPARATION.....                  | 8         |
| <b>C PRINTER ACTIVATE AND UPGRADE.....</b> | <b>9</b>  |
| PRINTER NETWORK SETUP .....                | 9         |
| ACTIVATE THE PRINTER .....                 | 12        |
| UPDATE THE FIRMWARE .....                  | 13        |
| <b>D UNIZ SOFTWARE.....</b>                | <b>15</b> |
| INTRODUCTION TO UNIZ DESKTOP.....          | 15        |
| PREPARE PRINT FILE .....                   | 23        |
| PRINTER CONTROL .....                      | 39        |
| ADDITIONAL TOOLS.....                      | 47        |
| <b>E MAINTENANCE .....</b>                 | <b>51</b> |
| PRINTER PLACEMENT AND LEVELING .....       | 51        |
| BUILD PLATFORM AND RESIN TANK .....        | 52        |
| CHANGE LCD PROTECTIVE FILM.....            | 59        |
| Z-AXIS COMPENSATION.....                   | 61        |
| RESIN LEVEL CONTROL SYSTEM .....           | 62        |
| CHANGE BOTTOM FILTER .....                 | 68        |
| RELEASE PRESSURE IN COOLING SYSTEM .....   | 69        |
| <b>F HELP AND SUPPORT .....</b>            | <b>72</b> |
| <b>G CERTIFICATE .....</b>                 | <b>78</b> |

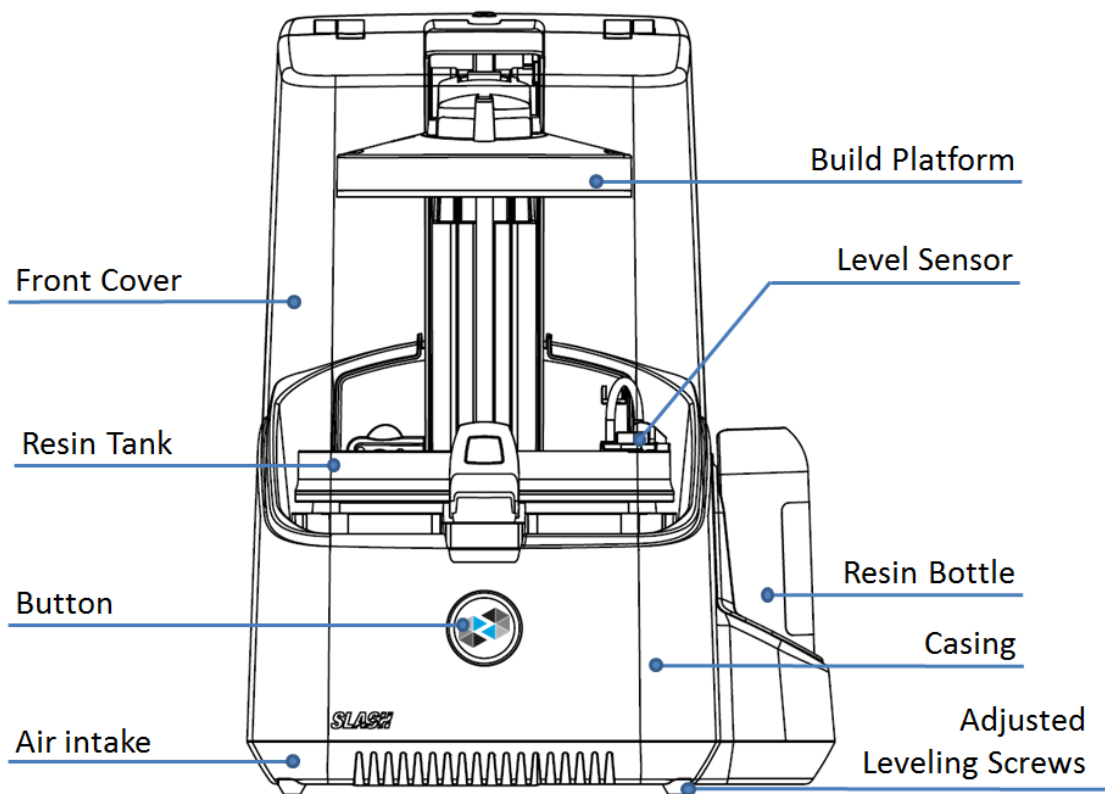


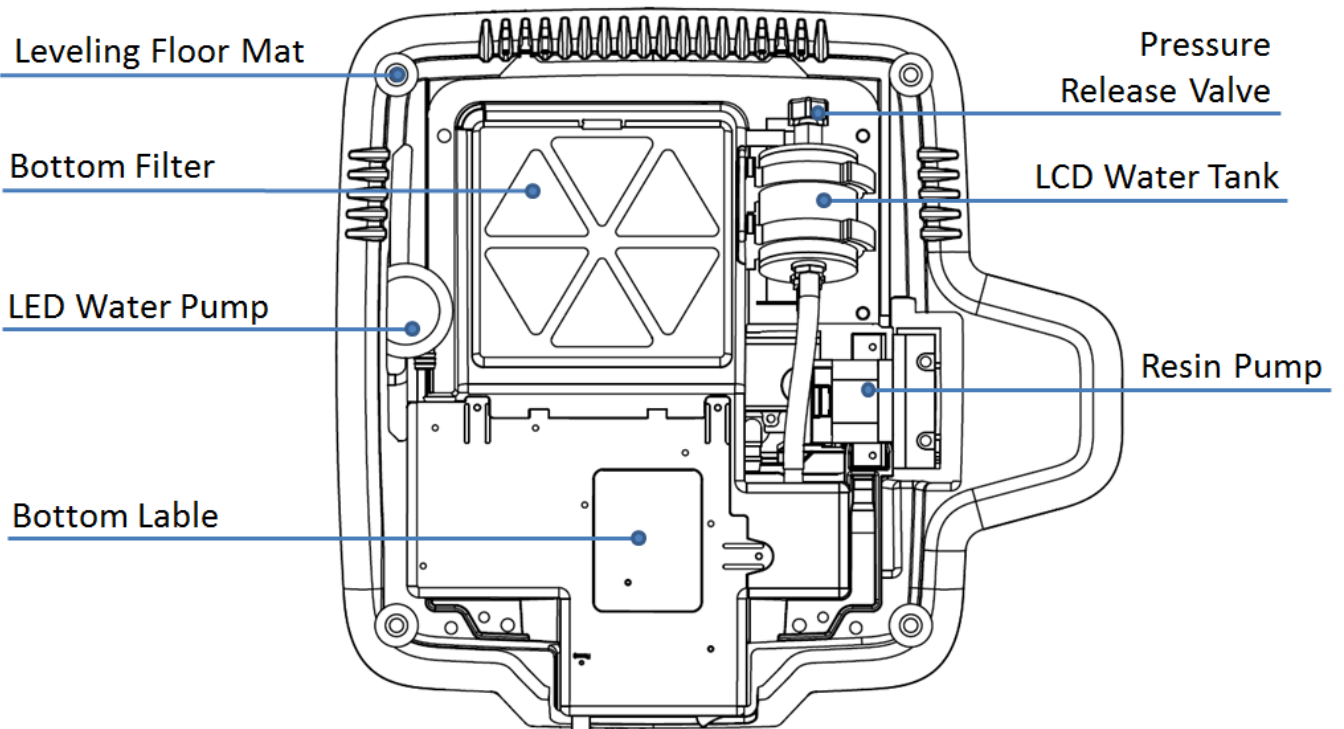
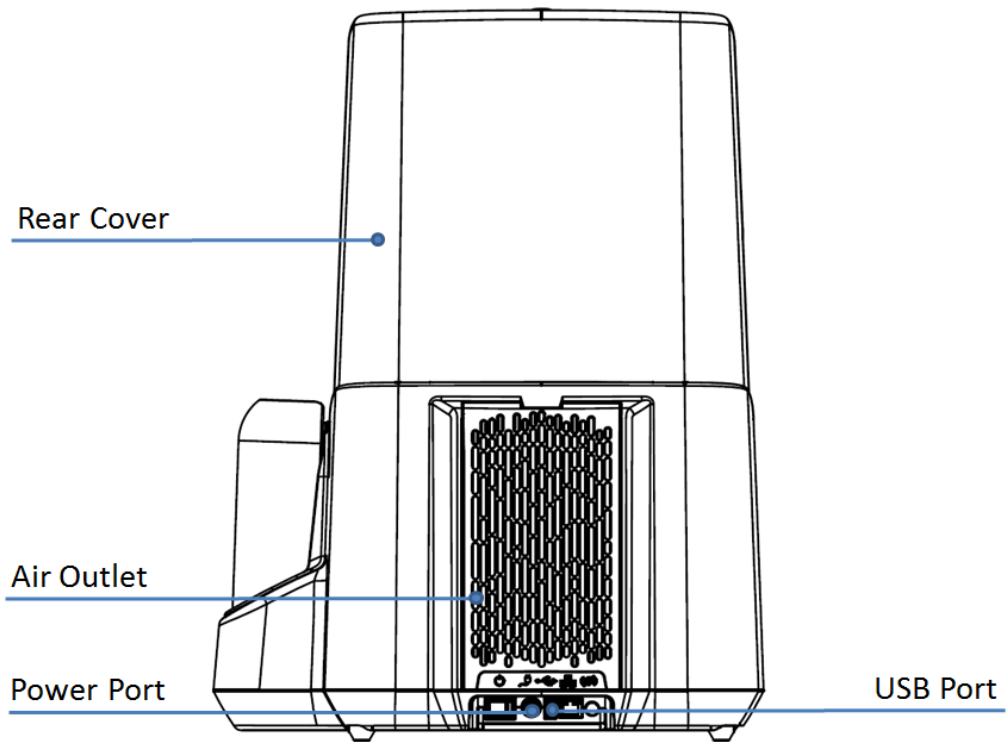
# A SLASH 2 3D PRINTER

This user manual is designed to help you start your **SLASH 2** printer experience. Learn everything about using your 3d printer by following the instructions in this user manual and experience how easy it is to produce great quality prints.

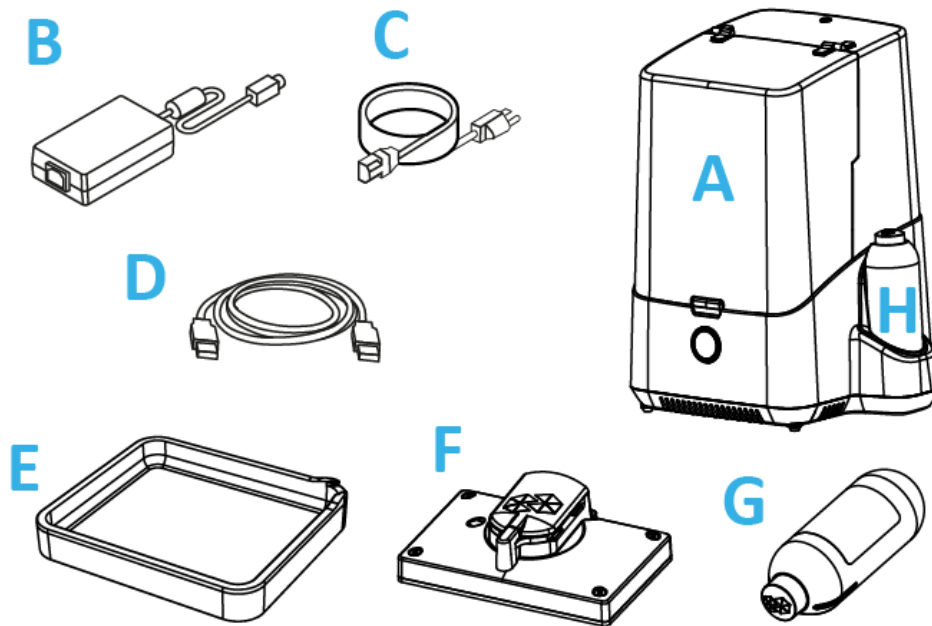
You might be familiar with other types of 3D printers. Regardless, it is still essential that you read this manual carefully in order to make the most out of your 3d printer.

## MEET THE PRINTER





## SLASH 2 3D PRINTING SYSTEM



- A** SLASH 2 3D printer
- B** Power Adapter
- C** Power Cable
- D** USB Cable
- E** Resin Tank
- F** Build Platform
- G** Resin Bottle
- H** Clean Bottle

---

## FRONT BUTTON COLOR GUIDE



**Blinking red**

Printer busy(Starting up/Paused/Z axis moving).



**Green**

Printer is ready for a command.



**Progressing blue**

Data transferring in progress.



**Blinking green**

Data transferred. Wait for a touch confirmation.



**Progressing green**

Printing in progress.

## PACKING LIST

| NO. | DESCRIPTION         | QTY |
|-----|---------------------|-----|
| 1   | SLASH 2 3D Printer  | 1   |
| 2   | Power Brick         | 1   |
| 3   | Power Cable         | 1   |
| 4   | USB cable           | 1   |
| 5   | Bottom Filter       | 4   |
| 6   | Scrapping Card      | 5   |
| 7   | Sand Paper          | 1   |
| 8   | Protective Film     | 5   |
| 9   | Shovel              | 1   |
| 10  | Resin Bottle        | 1   |
| 11  | Clean Bottle        | 1   |
| 12  | Open Spanner-17mm   | 1   |
| 13  | Hexagon Wrench M3   | 1   |
| 14  | Injector            | 1   |
| 15  | Cross Screwdriver   | 1   |
| 16  | Warranty Card       | 1   |
| 17  | MSDS                | 1   |
| 18  | Quick Guide         | 1   |
| 19  | User Manual         | 1   |
| 20  | Detail Packing List | 1   |
| 21  | Sample Piece        | 1   |

For more questions please email: [support@uniz.com](mailto:support@uniz.com)

## SPECIFICATIONS

| <i>SLASH 2</i>          |                                   |   |
|-------------------------|-----------------------------------|---|
| <b>PRINTING</b>         | Printing Technology               | LCD Stereo lithography  |
|                         | Build Volume                      | 192 × 120 × 200mm<br>7.5" × 4.7" × 7.9"   |
|                         | XY Resolution                     | 49.8µm  |
|                         | Maximum Accuracy*                 | ±10µm   |
|                         | Layer Thickness<br>(Z resolution) | 10, 25, 50, 75, 100, 150, 200, 300µm<br>Profile customizable  |
|                         | Separation Mechanism              | Polymer film natural peel<br>Up to 100x more durable than PDMS  |
|                         | Support                           | Uniz smart support technology   |
|                         | Printing Speed                    | Up to 200 mm/hr.  |
|                         | Resin Level Control               | Automatic level control   |
| <b>HARDWARE</b>         | Dimension/Weight                  | 350 × 400 × 530 mm [W×H×D]<br>14" × 16" × 21", 15KG/33LB  |
|                         | Operating Temperature             | Suggested 18–28° C (64–82° F)   |
|                         | Power Requirement                 | 100-240V 6A 50/60Hz   |
|                         | Optical System                    | 1.7mw/cm <sup>2</sup> blue LED array<br>Liquid cooling system   |
|                         | Mechanical                        | Cast Aluminum & CNC, Injection Molding  |
|                         | Connectivity                      | USB, Wi-Fi, Ethernet  |
| <b>DESKTOP SOFTWARE</b> | System Requirement                | Windows 7 and up (64-bit only), Mac OS X 10.7 and up (64-bit only), 16GB RAM, OpenGL 2.1, Discrete Graphics |
|                         | Advanced Features                 | Multi-printer management,<br>Built-in advanced model repair,<br>Ultra large file support (1GB+)             |
|                         | Compatible Format                 | STL, OBJ, AMF, 3MF, UNIZ  |
| <b>MOBILE APPS</b>      | Compatible Systems                | iPhone, iPad, Android Phone and Tablet  |

\* Maximum accuracy only achievable at integer multiples of smallest pixel sizes.



## B GET STARTED

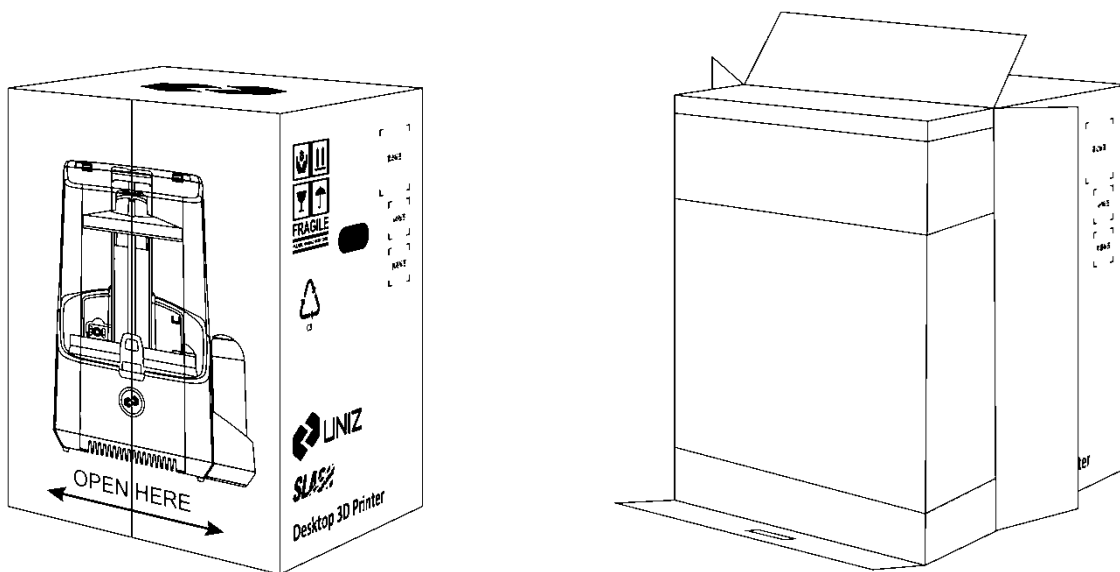
Now your SLASH 2 printer has arrived you're ready to unpack it and set it up! Carefully unpack your printer and set it up according to the following instructions.

### UNBOXING

The SLASH 2 comes in reusable, durable packaging that has been specially designed to protect your printer in transport. To properly unpack your printer, please follow the steps described below.

#### START UNBOXING

Start unpacking by correctly orienting the cardboard box, and then slide the foam packaging out of the box by pulling the cardboard handle beneath the printer while holding the box.



You can scan the QR code to get the SN number of your printer.

To activate the printer, please connect to the printer's wifi first:

**SSID: Uniz3D\*\*\*\*\***

**Password:\*\*\*\*\***

Once connected, use web browser to open:

**<http://192.168.12.1>**

S/N: 123456789012345678901234567890



## OPEN IT UP

On the foam packaging, you will find the Quick Start Guide and accessories.

## REMOVE THE FOAM PACKAGING

On the top foam part, you will find all accessories of your SLASH 2. Take these out and put them aside. Open up the package by removing the foam wrap at the middle. Now you may take out the printer and place it on your desk. Make sure you hold it by the aluminum casing while carrying it.

## REMOVING PROTECTION WRAP

Remove the protection wrap around the machine and your SLASH 2 is ready to use!

## SOFTWARE PREPARATION

Open web browser, open <https://www.uniz.com/software>.

Choose the software according to your corresponding system and download.

## INSTALLATION

### Windows

UNIZ Desktop supports Windows 7 and above. Please use the following steps:

1. Double click the installation program.
2. Check the user agreement, and then follow the prompts to finish the installation.

### Mac

UNIZ Desktop supports Mac OS X 10.7 and above. Please use the following steps:

1. Double click the installation program.
2. Agree to the user agreement.
3. Drag UNIZ to your Applications folder.

**Note:** Once your computer is connected to the Internet, UNIZ Desktop will detect new versions automatically and prompt whether you wish to update.


# C PRINTER ACTIVATE AND UPGRADE

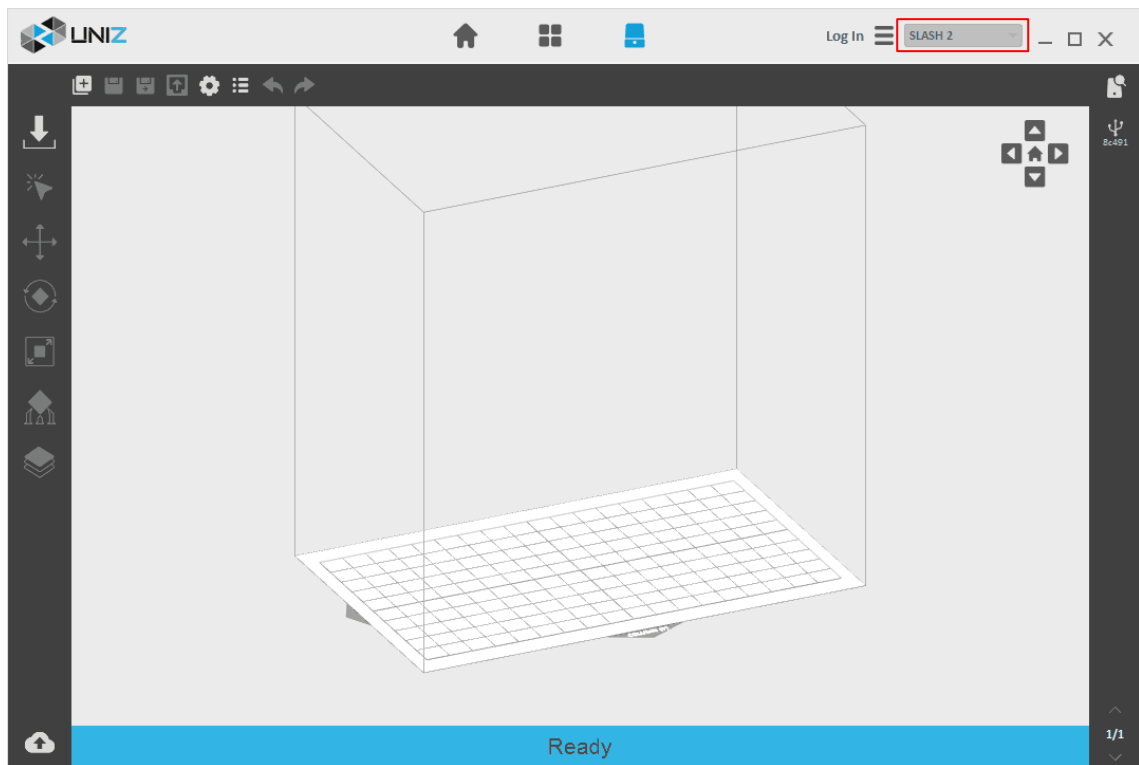
In order to start printing, a few extra steps are necessary. Please follow the instruction to activate your printer and keep its software and firmware up-to-date.

## PRINTER NETWORK SETUP


The printer must be connected to the Internet before activation and updating the firmware.

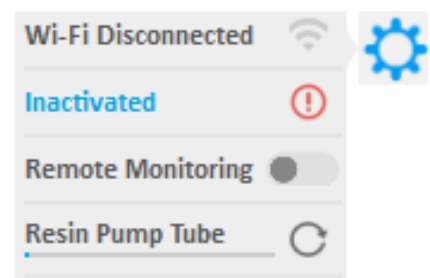
### Method1: Set on the UNIZ Desktop





1. Plug into a power supply and switch on the printer.
2. Connect the printer and PC via USB and start the software.
3. Select the Control interface in the software.
4. Select the SLASH 2 type in the printer list and click  .



5. View network status.

Press the 'Printer Settings' button  to open the submenu. The first item is the Network which shows the connection status.

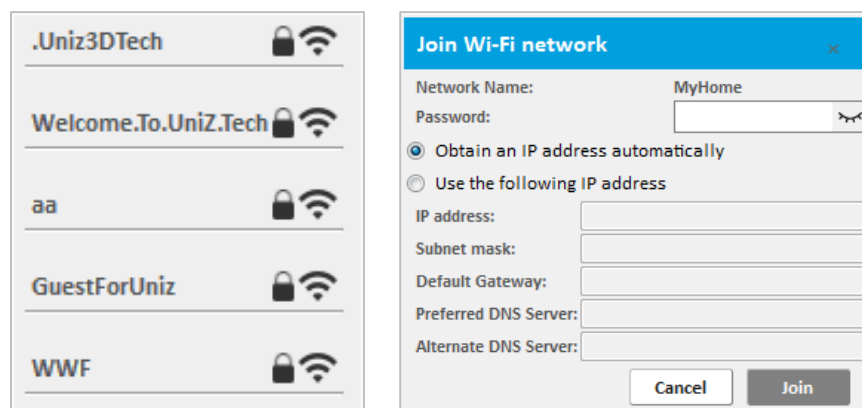


- Disconnected icon  means the printer is not connected to any wireless network.
- Wi-Fi icon  with Wi-Fi name shows the printer is connected to this wireless network.
- Ethernet Disconnected  shows the printer is not connected to Ethernet.
- Ethernet Connected  shows the printer is connected to Ethernet.

## 6. Set up the network

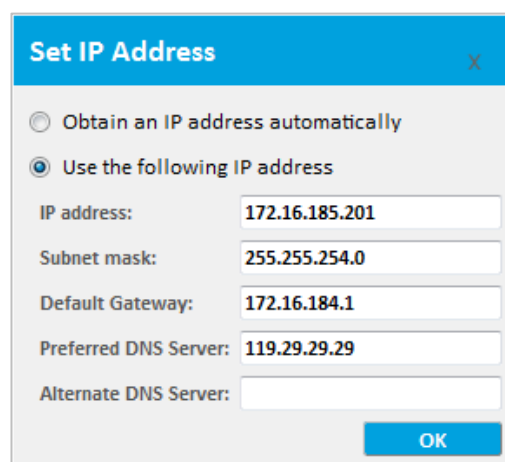
This function only supports setting via USB connection.

- Click the first item. The Wi-Fi list will pop up in the left if it is Wi-Fi connection;
- Click the Wi-Fi name on Wi-Fi list configure the IP address settings.



In the box you may enter password and obtain IP address automatically or set fixed IP address manually.

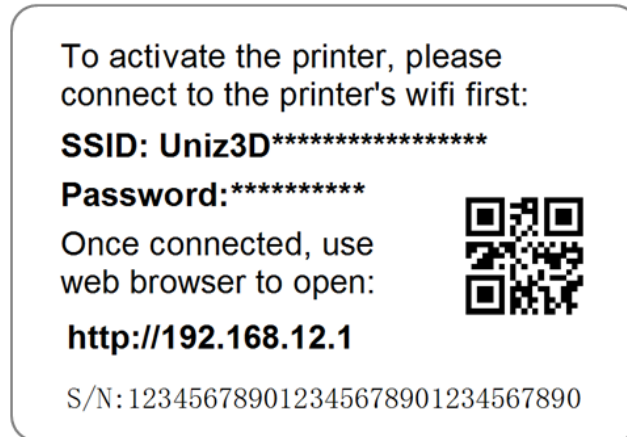
- Click the first item. The IP address settings should pop up if you are connected via Ethernet.



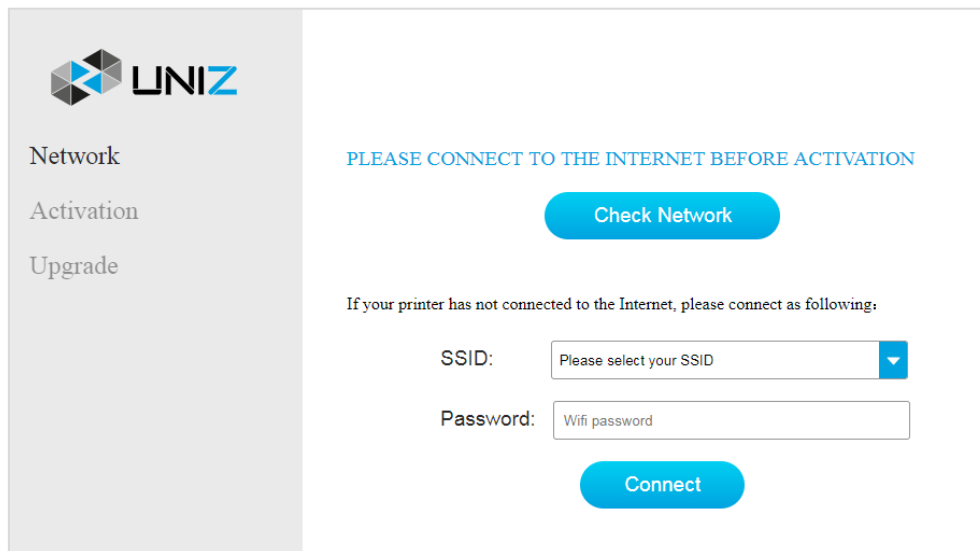
In the box you may obtain IP address automatically or set fixed IP address manually.

## Method2: Using web page Settings

1. Plug into a power supply and switch on the printer. Connect to the printer's Wi-Fi hot spot.
  - a. Find the SSID and Password on the S/N label.
  - b. Access the Wi-Fi Setting of your PC or mobile device, and connect to UNIZ3D##:##:##:##:## as shown in the label.



2. Check and set the Network
  - a. Find IP address on the side label.
  - b. Open the browser on PC or mobile device and enter the IP address; open the printer page and select the 'Network' option.



- c. Click Check Network to check if the printer is connected to your network.
    - d. If the printer is not connected to the Internet, please choose your home Wi-Fi hot spot, type in the password and click the Connect button.
    - e. After the printer is connected to your home Wi-Fi hot spot and Internet, disconnect your PC or mobile device from the printer Wi-Fi and reconnect to home or office network.

**Tips:** After setting up the connection, please make sure that PC or mobile device and printer are connected to the same LAN to ensure that PC or mobile phone may control the printer through the network.

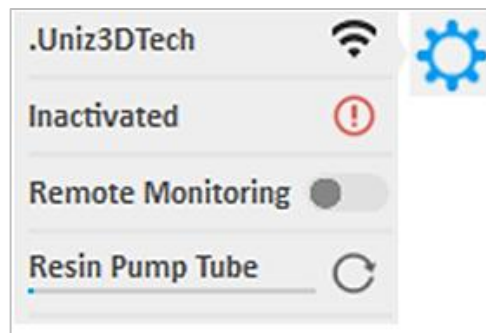
## ACTIVATE THE PRINTER

Before activation, make sure that the printer is powered on, connected to the network and login your account. If you already registered an UNIZ account via [www.uniz.com](http://www.uniz.com) website, you may use it to login UNIZ Desktop directly. If you do not have an account, please use <https://www.uniz.com/customer/account/create/> to register one.

**Note:** You can also use the printer to print normally without activation.

### Method1: Activate from the UNIZ Desktop

1. Start the UNIZ Desktop and select the printer in the list to open the printer control interface.
2. Click the 'Printer Settings' button to open the submenu. The second option shows the activation status.



- 'Inactivated' means activation is unsuccessful.
- 'Activated' means the printer is successfully activated.

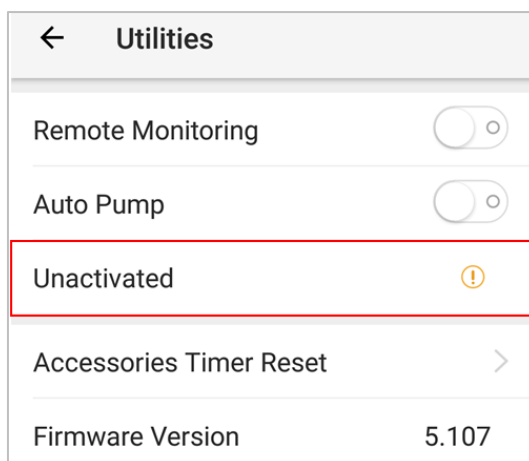
3. Click the item to execute the activation function.

If the printer is inactivated, clicking this item will activate the printer and the system will bind the printer to the currently logged-in user.

If the printer is activated, clicking this item will reactivate the printer and the system will bind the printer to the logged-in account.

### Method2: Activate from the UNIZ App

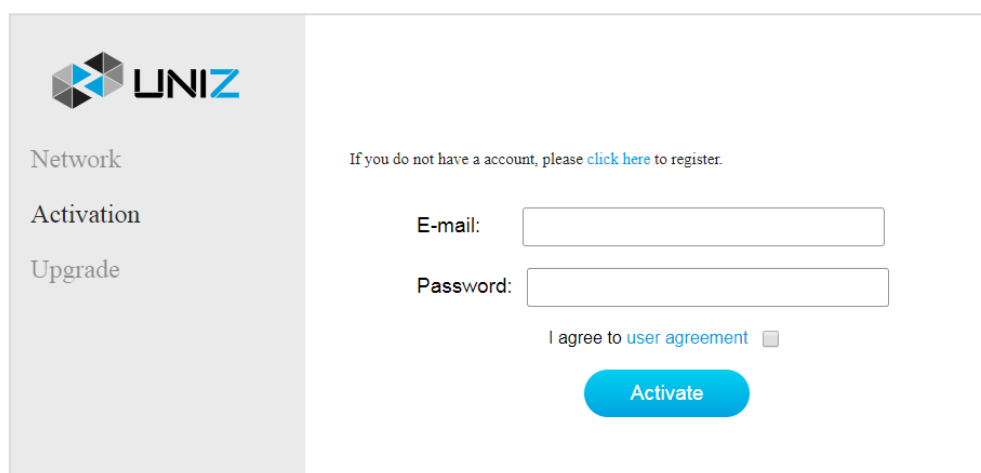
1. Click the 'Printer' button in the main menu of App, find the printer that needs to be activated in the list of printers, and open the printer control panel.
2. Click the 'Utilities' button on the control interface to enter the setting interface. The third item is the activation function, showing the activation status ('Unactivated' or 'Activated').



3. Click 'Unactivated'/'Activated' to activate/reactivate the printer with the current login account.

### Method3: Activate from the webpage

1. Connect the PC or mobile device to the printer's Wi-Fi and open the printer page in the browser.
2. Select the Activation tab in the printer page and input UNIZ account and password, then click the Activate to complete the activation.




3. When activation is complete, disconnect the device from the hot spot connected to the printer and reconnect to the home or work network.

## UPDATE THE FIRMWARE

Before upgrading the firmware, make sure that the printer is powered on and is connected to the internet.

### Method1: Upgrade from the UNIZ Desktop

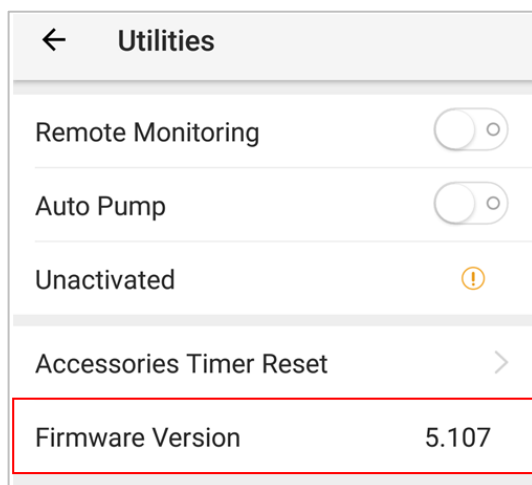
1. Launch the software and select the printer to open the printer control interfaced.
2. An icon  will show next to the firmware version when there is a new version available. Click the icon to start upgrading. Restart the printer when the upgrade is finished.

## Method2: Upgrade from the UNIZ APP

1. Check the firmware version of the current printer. Click 'Printer' in the main menu of App, find the printer that needs to be updated in the list of printers, open the printer control panel, click the 'Utilities' button, and you may see the current firmware version in the window.

2. Updating the firmware.

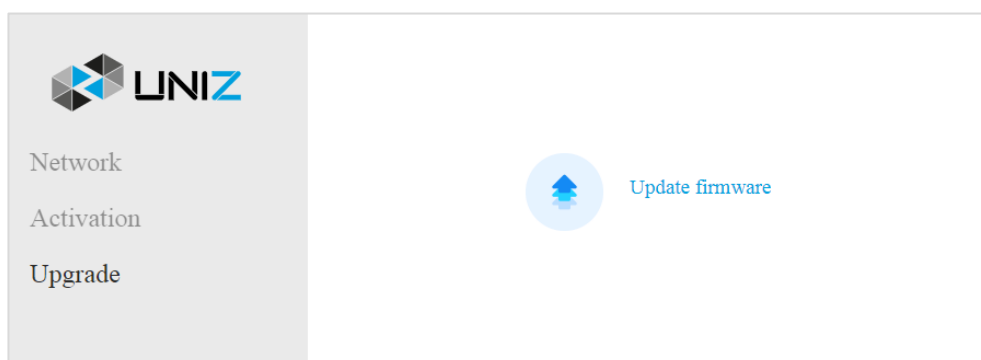
An icon 'New' will show next to the firmware version when there is new version firmware available. Click the icon to start upgrading. Restart the printer when the upgrade is finished.



## Method3: Upgrade from the webpage

1. Connect the PC or mobile device to the printer Wi-Fi and open the printer page in the browser.

2. Select the Upgrade tab in the printer page and click Upgrade firmware to start the printer firmware updated. Restart the printer after nearly 10 seconds when the upgrade is complete.





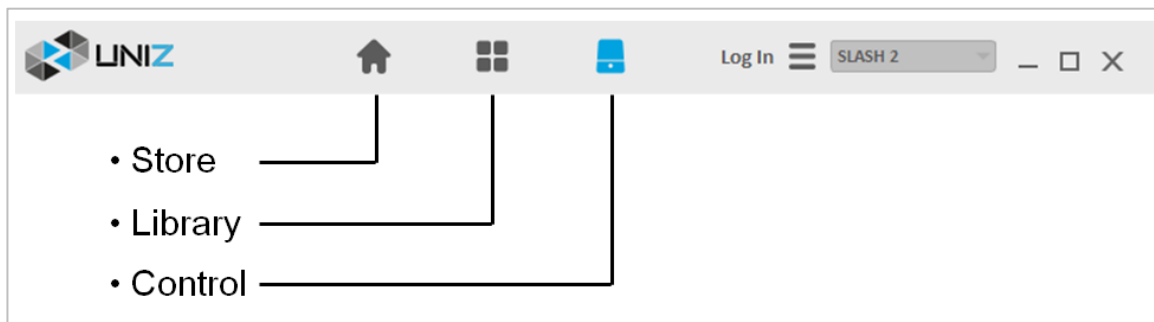
# D UNIZ SOFTWARE

The SLASH 2 printer comes with our special desktop software. The following section guides you through the basic and advanced features of the software.

|                            |              |  |
|----------------------------|--------------|--|
| *.stl/*.obj<br>*.amf/*.3mf | Model file   | Model files are customized by users and can be imported to UNIZ software.  |
| *.uniz                     | Project file | Project files store information such as model orientation, support, slicing section, slice parameters together with the model that has been imported to UNIZ software. |
| *.zstl                     | Print file   | Print files have been processed by UNIZ software and can be directly loaded by the printer.  |

## INTRODUCTION TO UNIZ DESKTOP

UNIZ Desktop integrates 3D model management, model pre-processing, and printer control functionalities. It has three main modules: Model Store, Model Library, and Printer Control.



## UNIZ Account



An UNIZ account is mandatory for Add to Favorite, Add to Cart, View Purchased Models, and Uploading to Cloud and other user related functions. If you already register an UNIZ account via [www.uniz.com](http://www.uniz.com) website, you may use it to login UNIZ Desktop directly. If you do not have an account, please use <https://www.uniz.com/customer/account/create/> to register one.

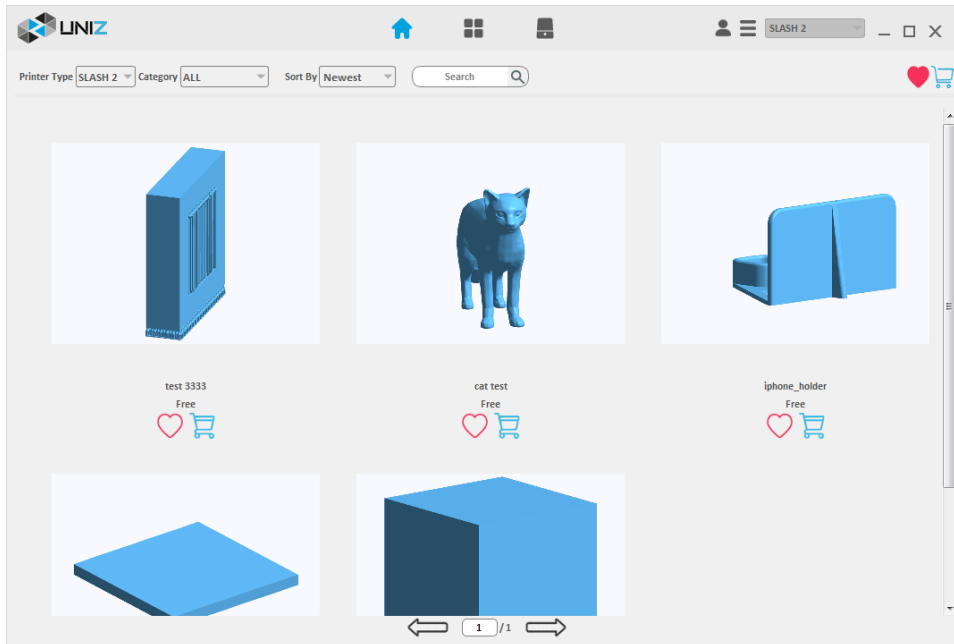
UNIZ Desktop may be used without logging in. However, the Add to Favorite, Add to Cart, View Purchased Models, and Uploading to Cloud functions will be disabled.

## Online Model Store

The Online Model Store provides browsing, comment, add to favorite, and purchase functionalities, you may send any purchased model to printer with a single click.

The central area of Store page displays online printed files by tiles. Above the area there are toolbars: Printer Type, Category and Sort by on the left, and Add to Favorite and Shopping Cart on the right. Below there are arrow buttons for paging forward and backward.

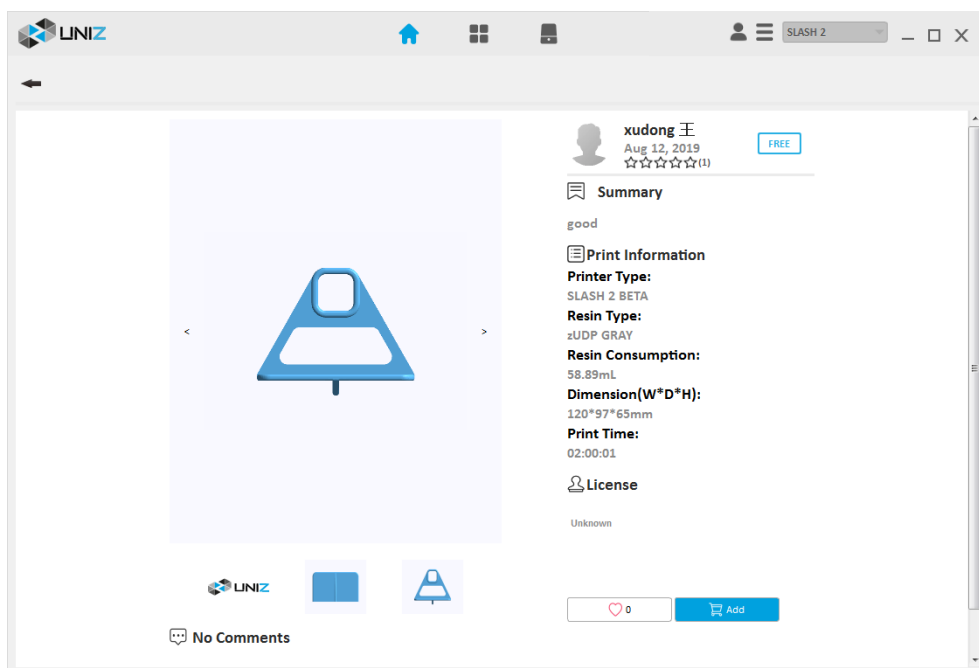
The file profiles consist of pictures, names and prices. Below each file there are icons  for Add to Favorite and  for Shopping Cart. Clicking on the model picture or name will turn to the page for model details.




## Details Page



The model picture is displayed on the left while Print Information (Print time, Dimension, Resin Consumption), Summary, Price and buttons for Add to Favorite and Shopping Cart are on the right. Below there is comment area where users can browse the submitted historical comments or add a new one.

Clicking the  button on the top left will return to the Store page.





## Add to Favorite


Click the  button at the top right corner to enter the collection management interface which displays all the favorite printed files of the current account. Users can view the details of the printed files, cancel the collection or add them to the Shopping Cart.

In the overview or detail page, each printed file has a button for Add to Favorite function. If the  button is displayed, it means that the printed file is not in favorite. Clicking the button will add it in the favorite. If the button  is displayed, it means the printed file has been collected. Clicking the button will cancel the collection.


## Shopping Cart

Click the  button at the top right corner to enter the Shopping Cart management interface which displays the printed file in the current account shopping cart. Users can view the details of the printed file and perform functions such as removing it from the shopping cart or purchasing the printed file.

In the overview or detail page, each printed file has button for Shopping Cart function. If the  button is displayed, it means that the printed file has not been added to the shopping cart.

Clicking the button will add it in. If the  button is displayed, it means that the printed file has been added to the shopping cart. Clicking the button will remove the corresponding printed file from the shopping cart.

## Purchase

In the Shopping Cart management interface, tick the printed files for purchasing and click the  button in the top right corner to complete the payment. The printed file will be found in the Purchased Model after successful payment.

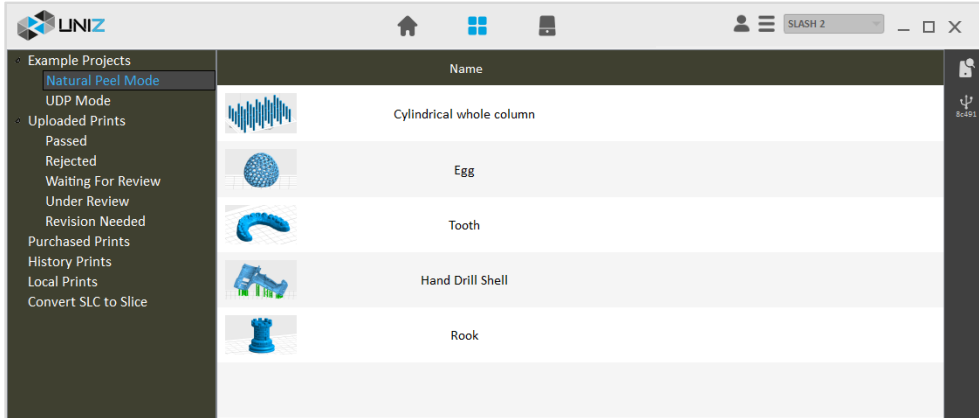
## Library

There are six sections in Library interface: Example Projects, Uploaded Prints, Purchased Prints, History Prints, Local Prints and Convert SLC to Slice. Clicking the options on the left will open the corresponding interface.

### Example Projects

Example Projects are files that UNIZ has set up suitable parameters for printing and they have been verified by real printing. Users can test printer status by printing them after receiving printers. Example Prints consist of NP mode and UDP mode. Double-click the file names on the right to switch into the Control interface and load the file. Users can complete printing by following the printing procedures.

## Natural Peel Mode



**Note:** SLASH 2 does not support UDP-Mode.

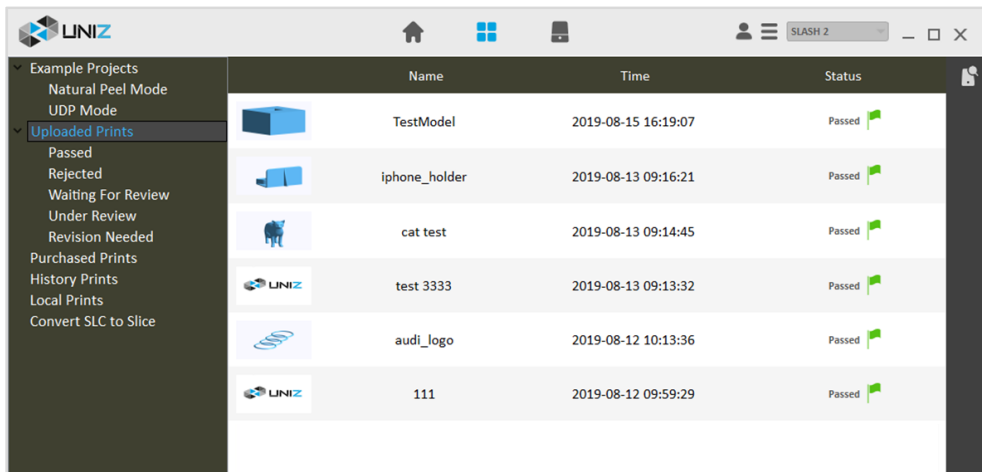
## Uploaded Prints

Users can view and manage all uploaded print files under current login account here. The function button of uploading files is at the left bottom of the Control interface.




Clicking this menu will open the interface which displays all uploaded model in reverse chronological order including Name, Time and Status.

There are five kinds of status: Passed, Rejected, Waiting For Review, Under Review, and Revision Needed. Clicking any of the submenus under Uploaded Models will filter out the models in the corresponding status.

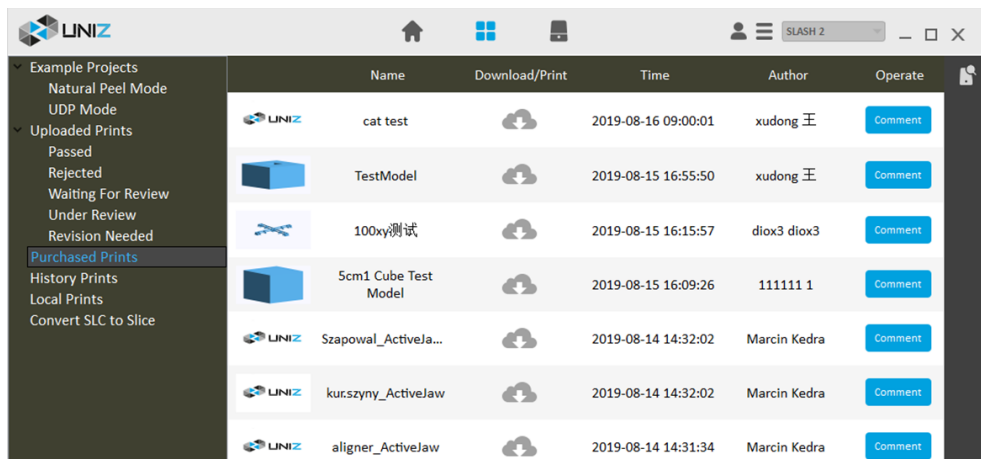
Right-clicking on the model name or time will pop up menu for viewing, editing or deleting.




## Purchased Prints

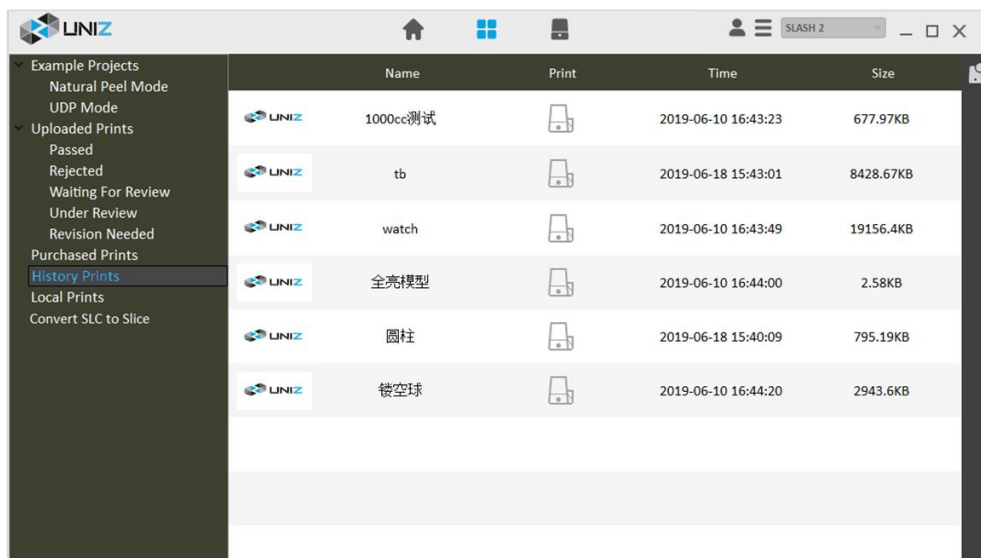
To view the purchased prints, users need to log in. All the prints purchased by the account will be displayed in the list on the right. The  icon means the print has not been downloaded, and clicking it will start downloading; the  bar means that the print is under downloading; the  icon means that the print has been downloaded, and clicking it would print the file directly. Users can leave comments for their purchased print files.

**Note:** It is necessary to select the printer before the printing.




## History Prints

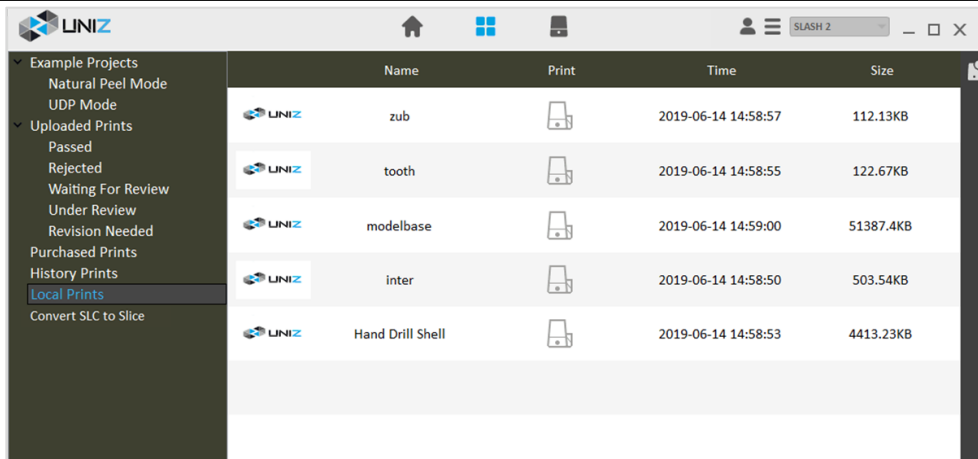
Users can check all the current computer-generated printed files in this menu without logging in the account. Historical printing file supports one-click printing function. Select the printer in the right toolbar and click the  button for printing.



## Local Prints

Users can view the printed files from other sources stored on the machine and utilize the one-click printing function. Select the target printer in the right toolbar and click the  button for printing.

Right click 'Local Slices' and click 'Select Folder' to modify the storage path of the printed file.



## Convert SLC to Slice

Users can convert SLC (stereo lithography contour) file to Uniz print file.

### Layer Thickness Requirements

Most resins have a variety of layer thickness as follows:

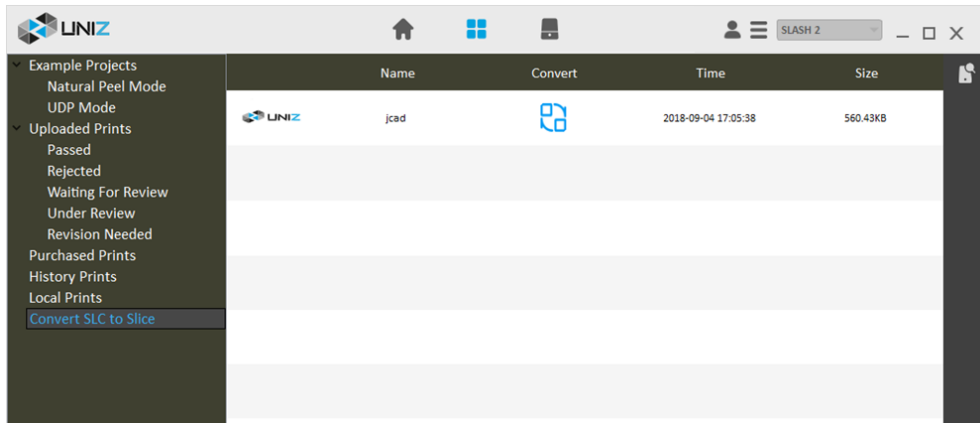
| Resin Type         | Layer Thickness ( mm )                          |
|--------------------|---|
| zABS AMBER         | 0.010/0.025/0.050/0.075/0.100/0.150/0.200/0.300 |
| zABS GRAY          | 0.010/0.025/0.050/0.075/0.100/0.150/0.200/0.300 |
| zABS GREEN         | 0.010/0.025/0.050/0.075/0.100/0.150/0.200/0.300 |
| zABS IVORY         | 0.010/0.025/0.050/0.075/0.100/0.150/0.200/0.300 |
| zABS WHITE         | 0.010/0.025/0.050/0.075/0.100/0.150/0.200/0.300 |
| zDENTAL MODEL SAND | 0.025/0.050/0.100                               |
| zENG AMBER         | 0.025/0.050/0.075/0.100/0.150/0.200/0.300       |
| zFPU INTRINSIC     | 0.025/0.050/0.075/0.100/0.150/0.200             |
| zHIPS YELLOW       | 0.025/0.050/0.100                               |
| zOrtho GRAY        | 0.010/0.025/0.050/0.075/0.100/0.150/0.200/0.300 |
| zPMMA CLEAR        | 0.025/0.050/0.075/0.100                         |
| zSG AMBER          | 0.025/0.050/0.100                               |
| zUDP GRAY          | 0.010/0.025/0.050/0.075/0.100/0.150/0.200/0.300 |
| zUDP ORANGE        | 0.010/0.025/0.050/0.075/0.100/0.150/0.200/0.300 |
| zWAX AMBER         | 0.025/0.050/0.075/0.100/0.150                   |
| zWAX PURPEL        | 0.025/0.050/0.100                               |


Layer thickness should meet the above requirements, otherwise the height of the printed model will be inconsistent with the actual.

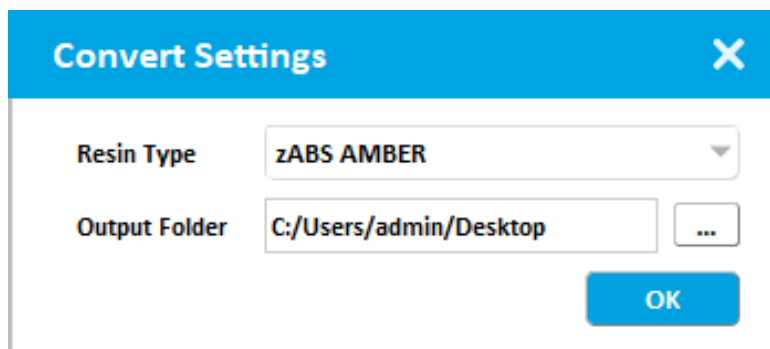
### Select SLC save path

Right-click 'SLC Conversion Slice'. Click 'Select Folder' in the pop-up menu. Select the path of SLC in the pop-up dialog box to save the file.

Click 'SLC conversion slice'. The list on the right shows all SLC files under the current storage path.

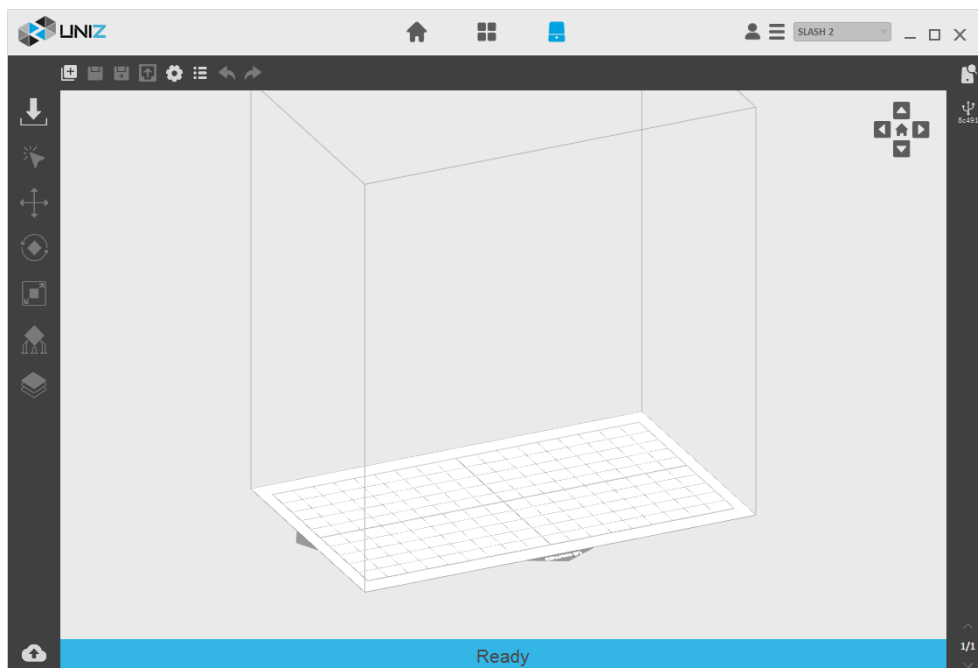


Click  button on the file needed to be converted to pop up the conversion settings dialog box. Select resin type and save path of UNIZ slice file. Then click 'OK' to start converting.

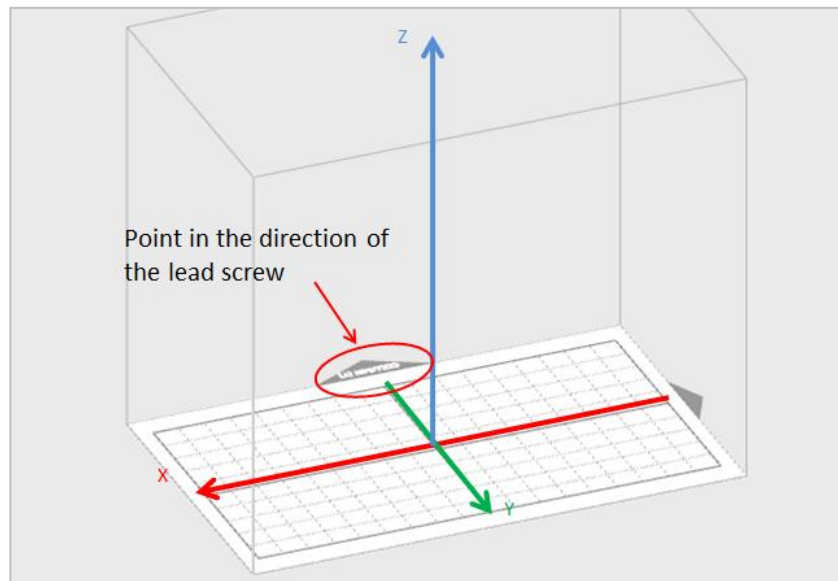


## Printer Control Interface









Open UNIZ Desktop and click Control button to switch to the 3D model viewer and printer control interface.






## 3D Model Viewer



## Main Tools

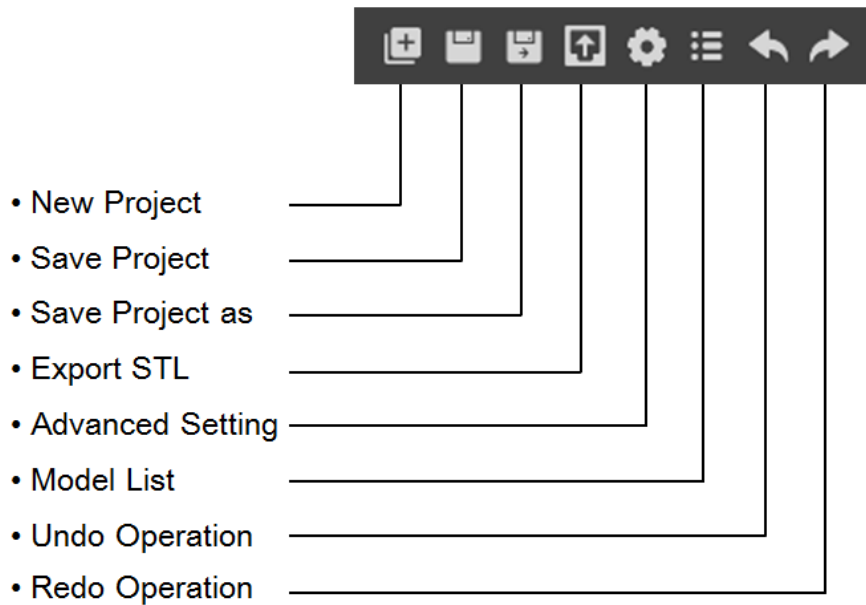
-  • Load 3D Model
-  • One Click Print
-  • Move Selected Model
-  • Rotate Selected Model
-  • Scale Selected Model
-  • Generate Supports
-  • Slice
-  • Upload Slice

## Printer Control

-  • Search
-  • Printer connected via USB
-  • Printer connected via Net

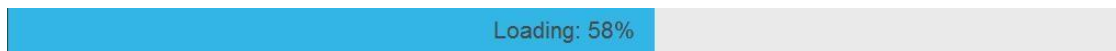


## Additional Tools



## Status Bar

The status bar appears along the lower edge of the window and shows software progress, such as loading, generating supports, and slicing progresses.



## PREPARE PRINT FILE

Once the printer hardware is set up, make sure the power is plugged in and the printer is turned on as well as connected to your computer via USB cable or Wi-Fi.

### Load 3D Model

To load one or more 3D models, you may either drag-and-drop onto the 3D viewer, click Load File Button from the Main Tools, or double click on the file directly (If UNIZ Desktop is set as default software to open such file format). Supported file formats: STL, OBJ, AMF, 3MF and UNIZ.

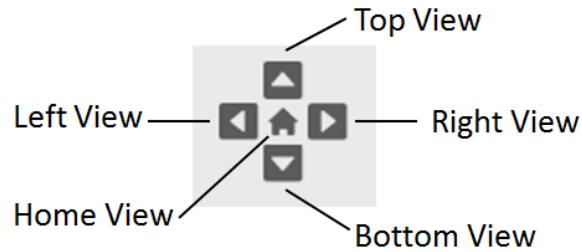
**Tips:** UNIZ file does not support multiple loadings in parallel.

### Select Object(s)

Clicking left mouse button on an object to activate it for further operations. Click and drag the pointer across objects to select multiple objects. The activated objects will turn blue once selected.


## Change View

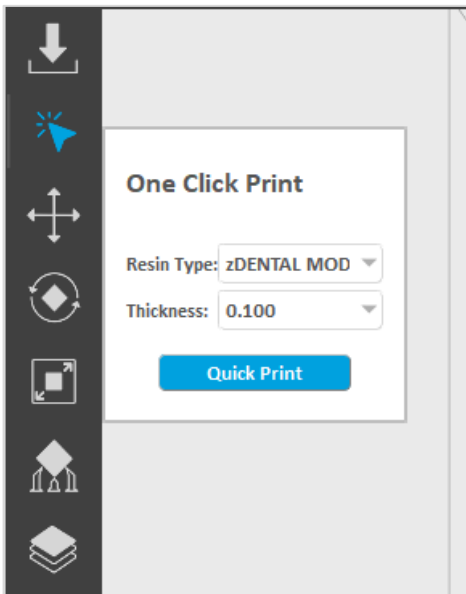
Viewing your model from preferred angle will benefit model positioning. To rotate the view, right click and drag around the activated object. To pan, hold the shift key and click-drag with right mouse or holding scroll wheel and move mouse around. To zoom in or out, use the scroll wheel.



## One CLICK PRINT

One-Click Print offers an option for automatically orienting, supporting, laying out, generating support, slicing your models, searching and sending to printers with UNIZ's wireless connectivity feature.

Click the button  in the left toolbar to pop up the 'One-click Print' box.



- Select resin in 'Resin Type' to obtain default resin parameters;
- Select layer thickness in 'Thickness' to obtain default slice parameters;
- Click 'Quick Print', UNIZ will execute sequentially:
  - (1) Orienting;
  - (2) Laying out (multiple models);
  - (3) Generating supports;
  - (4) Slicing;
  - (5) Searching printers;
- Select printers to start printing.

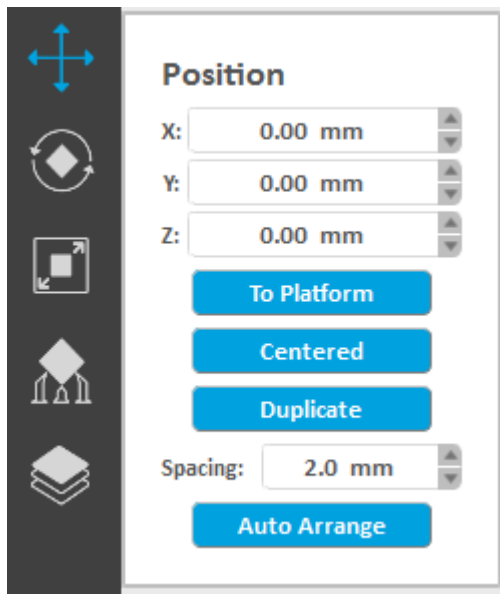
### Notes:

1. A different orientation will be applied to models if click 'One Quick Print' for another time.
2. Users don't need to select printers if there is only one printer connected to UNIZ software.

## Change Position

Pressing 'Position' Button will open following sub menu.

Once the Position tab is open, hold the left mouse button on the object and move the mouse to move the object freely in the X-Y plane. If the 'Shift' key is held down, the object will be moved up and down along the Z-axis instead.



- The activated object can also be moved by inputting X/Y/Z values in the field, press 'Enter' to apply changes.
- Click 'To Platform' to bring the active part in contact with platform.
- Click 'Centered' to center active part on platform.
- Click 'Duplicate' to duplicate the active part.
- Click 'Auto Arrange' to rearrange the model according to the spacing and move it to the center of the build platform. Multiple clicks on the 'Auto Arrange' button will result in different placement strategies for the model.

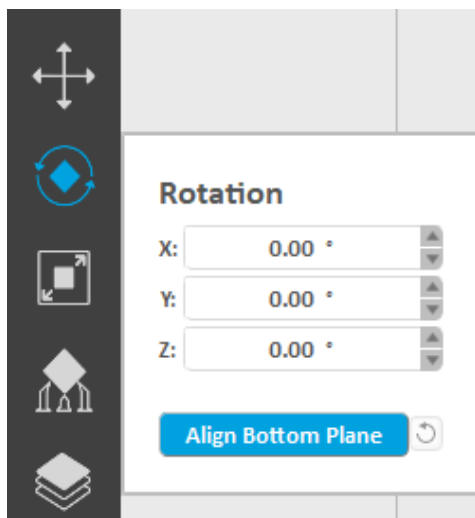
**Tips:** Make sure the models are distributed evenly on Build Platform. Un-balanced forces on the Build Platform may result in inferior precision or cracking of the printed parts. Once supports are attached to a model, its Z-position may not be modified.


## Change Orientation

Press 'Rotation' Button on the main tools will open following sub menu.

Once the Rotation tab is open, hold the left mouse button on the object and move the mouse to freely rotate the object.

Rotate any model more precisely in one of the three main axes by dragging one of the circular rings on the manipulator.



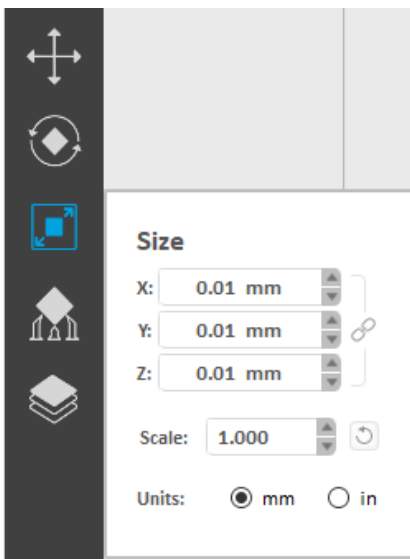
- The activated object can also be rotated by inputting X/Y/Z values in the field. Press 'Enter' to apply changes. UNIZ's orientation tools are relative not absolute, so the X, Y, and Z rotation angles reset to 0 degrees after applying a rotation
- Click 'Align Bottom Plane' to align the selected plane to the bottom of build platform.
- Click reset button  to restore the activated object to the original status.


**Tips:** Large Flat surfaces or Long Straight lines with supports may be printed at an oblique angle of at least  $10^\circ$  to the Build Platform for higher success rate. The forces during peeling may distort the extremely thin layer of a flat surface or a line mounted on the support structures if printed horizontally. If a planar surface or thin line is oriented at an oblique angle, there is only little overhang for each new layer. Furthermore, thin-walled parts occupy significant less area in a slice when printed at an oblique angle.

## Change Size

Press 'Size' Button on the main tools will open following sub menu.

Once the Size tab is open, the activated object can be scaled freely by holding the left mouse button on the object and moving the mouse.



- The activated object can also be scaled by inputting X/Y/Z values in the field. Press 'Enter' to apply changes. The object will scale uniformly in Uniform Scaling mode. In Non-uniform Scaling mode the object will scale independently for each axis without affecting the other axes.
- If you prefer to scale to a fixed ratio put a value into the scale box.
- Click reset button  to restore the activated object to the original size.
- Units: Toggle between millimeters and inches.

**Tips:** Changing an object's size will break previously generated supports and you will need to redo these.

## Generate Supports

To meet requirements of models in different sizes and structural patterns, the software provides multiple support parameter options. Adjusting support parameters may lead to better printing results or printing failure which depends on the user's printing knowledge.

There are two ways for generating supports: Automatic Generation and Manual Edit

Click 'Supports' button on left to open the settings dialogue box:

### Supports

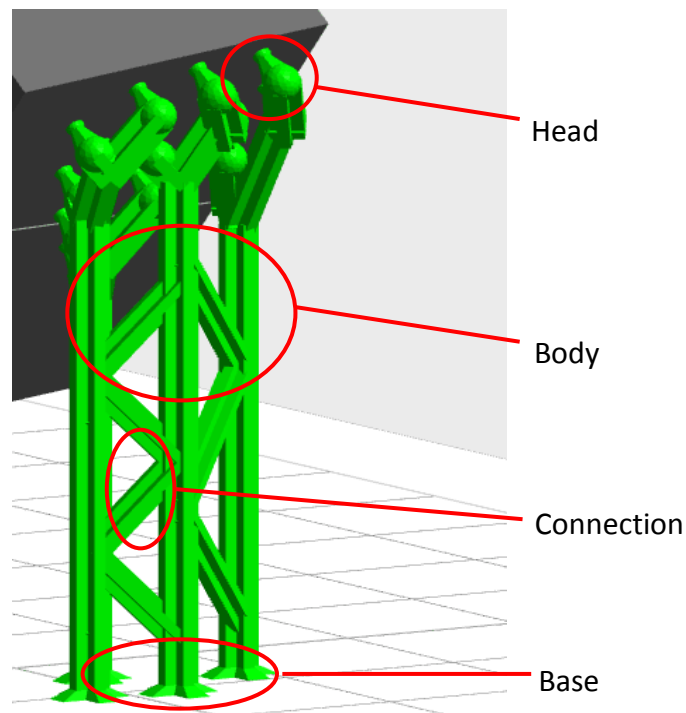
|                    |                                     |
|--------------------|-------------------------------------|
| Spacing:           | 5.00 mm                             |
| Diameter:          | 2.00 mm                             |
| Head Type:         | 100%                                |
| Head Length:       | 2.00 mm                             |
| Touchpoint Size:   | 1.00 mm                             |
| Base Type:         | Point                               |
| Base Thickness:    | 0.50 mm                             |
| Internal Supports: | <input checked="" type="checkbox"/> |
| Connection:        | <input checked="" type="checkbox"/> |
| Support Angle:     | 60 °                                |
| Tilt Angle:        | 0 °                                 |

^

Lift Down

Generate Edit

## Supports Structure



Support consists of four main parts: Base, Body, Connections and Head. The wide flat base ensures it sticks to the platform. The connections are used to reinforce multiple long supports. The support head is perpendicular to the model surface, preventing the support from sticking to the model and facilitating the removal of the support.

## Support Parameters

### Spacing

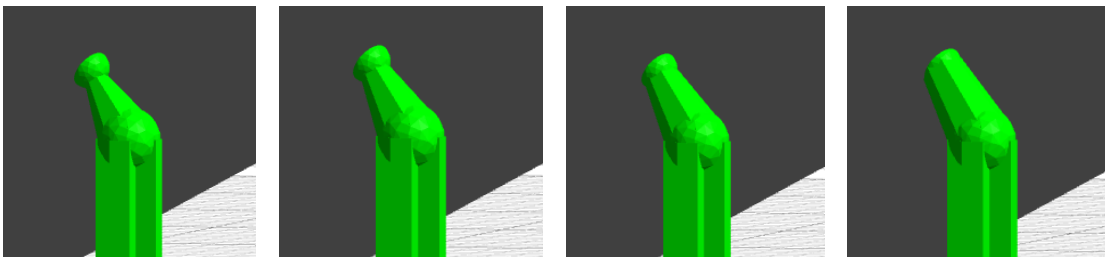
Spacing sets the horizontal distance between supports automatically to control the support s density.

### Diameter

Diameter setting controls the thickness of support.

### Head Type

The shape of the contact position between the support head and the model is a ball. The thickness of the connection between the support head and the ball differs with the setting of Head Type.



### Head Length

The model size, the hollow part volume and the support thickness determine that head length should be set differently to avoid the support and model sticking.

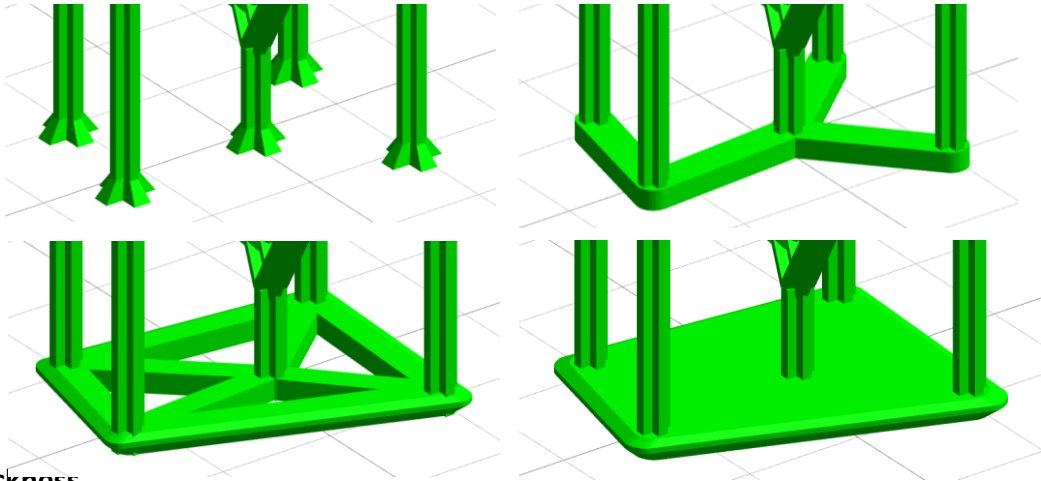
### Touch point Size

The touch point size between the support and the model needs to be weighed when setting up.

- Small touch points are easier to remove, but printing may fail due to the overweight of the model.
- Big touch points increase the reliability of the supports but may overlap the details of the model surface and cause problems with removal, or may result in the loss of the model surface quality.

### Base Type

The software offers four base types: Point, Line, Triangulation and Plane.



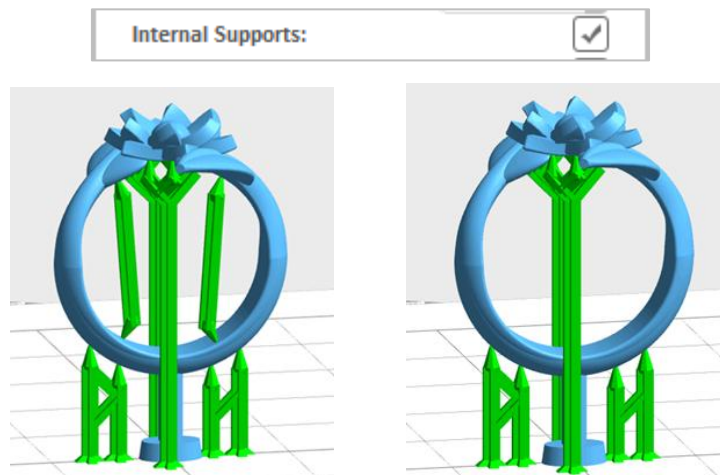
### Base Thickness

Base thickness is set at here.

Base Thickness

### Internal Supports

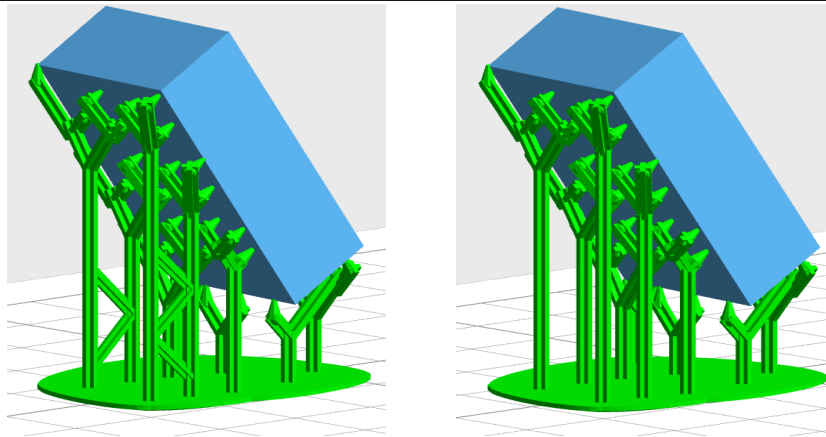
Tick the Internal Support box and support will be created in the overhung part of the model to ensure it can be successfully printed when using automatic support generation. The lack of internal support can cause printing failure of the dangling part. The left picture below is with internal supports and the right one is without. This option is ticked by default.



### Connection

Long supports are unstable in structure. Ticking the Connection box will add connections between long supports which reinforce their stabilities. The left picture below is with connections and the right one is without. This option is ticked by default.

Connection



### Support Angle

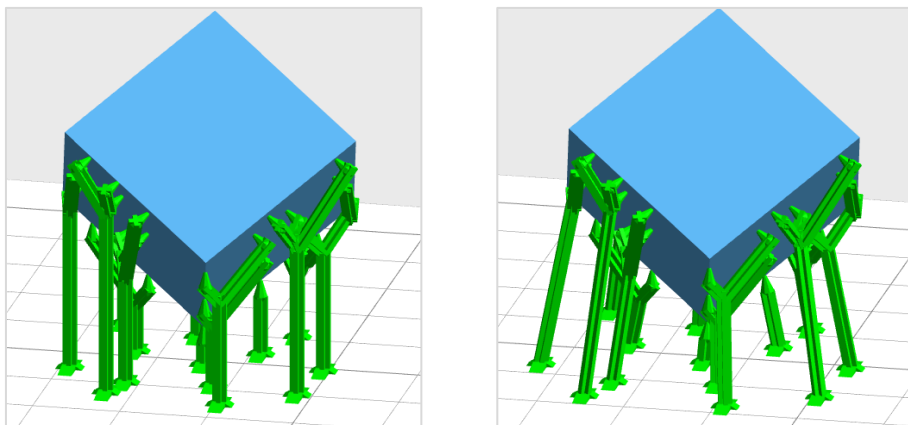
Supports will be generated where the angle of the model part surface and the horizontal direction is smaller than the Support Angle, otherwise they will not be generated. Bigger Support Angle will create supports for wider scope of model part. Set this value to prevent generating supports at steep places and to eliminate unnecessary supports. Users can manually set the angle ranging from 45° to 75°, and the default angle is 60°.

Support Angle:

### Tilt Angle

To ensure discontinuous exposure in part area under UDP mode, supports need to be tilted. Users can manually set the tilt angle ranging from 0° to 20°, and the default angle is 0°. The left picture below is with vertical supports and the right one is with tilted supports.

Tilt Angle



### Automatic Generation

Select the model needs to add supports and adjust the parameters

#### Lift and Down

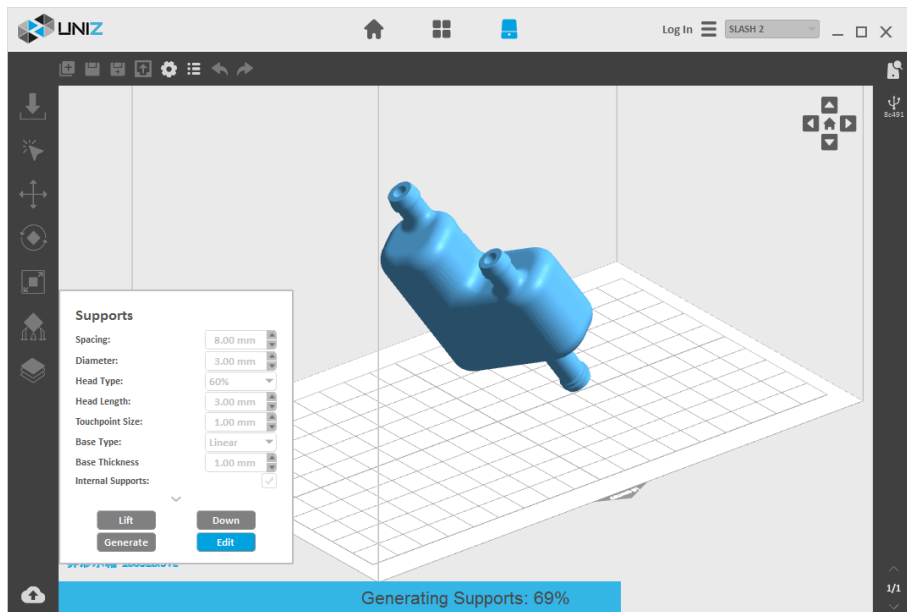
Clicking the Lift button will raise the selected model up 5mm from the platform.

Clicking the Down button will put the selected model down onto the platform.



## Generate

Clicking the Generate button will start the automatic supports generation for the selected model by the software. The existing supports will be eliminated before the new supports generation.



## Manual Edit

All supports could be edited after switching to the Manual Edit mode no matter if they are selected or not. Only four parameters including Diameter, Head Type, Head Length and Touch point Size are adjustable in Manual Edit, and the other parameters will be the set values.

## Enter/Exit Manual Edit

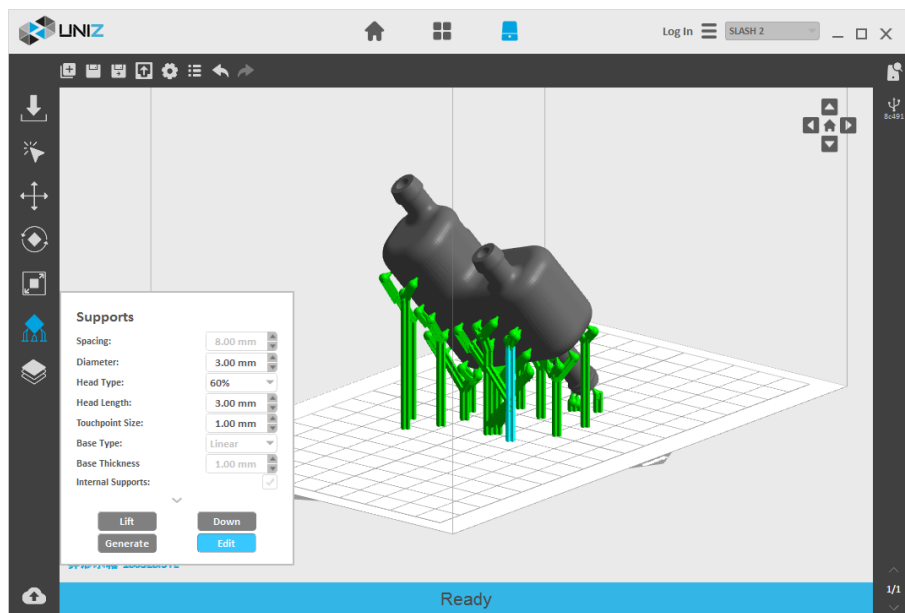
Click 'Edit' will enter the Manual Edit mode where the model is gray and the supports are green. The supports bases will displayed as points even the Base Type is not Point for easily modifying their positions.

Click 'Edit' again will exit the Manual Edit and enter the Automatic Generation.

## Add Support

Trace the mouse cursor over the model, when your cursor appears as a green line, click on the surface of the model will add a support. If the cursor appears as a red line, it means there is no need to add a support.

## Modify Support Position



This function is applicable only when a single support is selected.

Left click on the support Head and drag it to the target position to release, and the position of the support head will be modified.

Left click on the support Base and drag it to the target position to release, and the position of the support base will be modified.

Dragging the base of the internal support onto the platform will change the internal support to non-internal support.

Dragging the base of the non-internal support onto the model will change the non-internal support to internal support.

Hold down the Shift key and drag the heads of simple supports in contact with the platform the supports will move as a whole.

If the model turns red during dragging, it means supports are invalid at this position.

### Modify Support Attribute

Select one or more supports and then modify the four parameters including Diameter, Head Type, Head Length and Touch point Size. The corresponding attributes of the model will be updated simultaneously.

### Delete Support

Once a support is selected simply click 'DELETE' to remove it.

**Tips:** The 'Lift', 'Down', 'Generate' buttons are only enabled when a model is being selected and activated.

## Notes:

### Overhung Structure

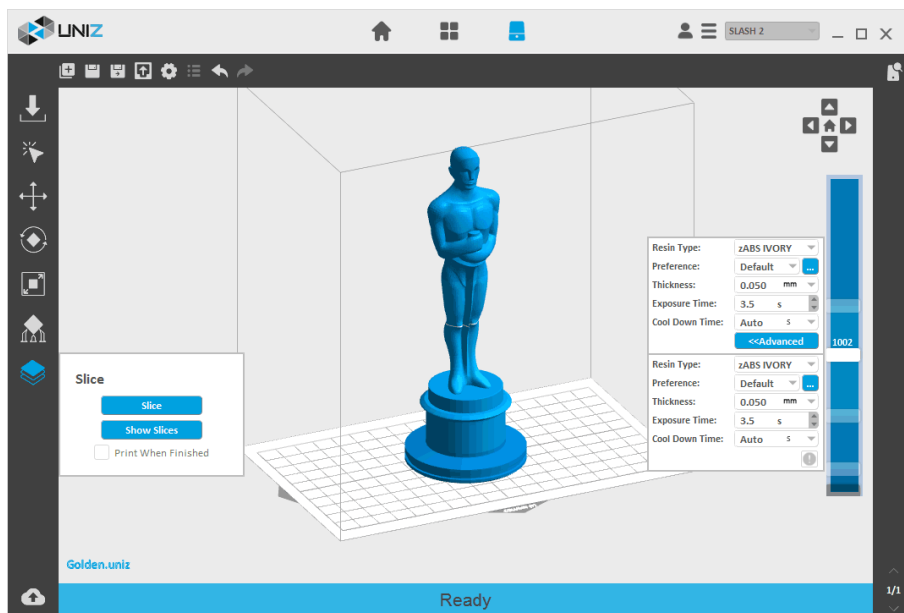
Model is printed layer by layer. If a point or a line or a plane is isolated and overhung in one layer, it will fall into the Resin Tank after cured. Users need to find all islands and overhung areas and add supports there.

### Solid Model

When printing the large and solid model, please use thick supports and high support density by even distribution to provide enough support. Another possible way to reduce the quality of the model is to hollow it when slicing.

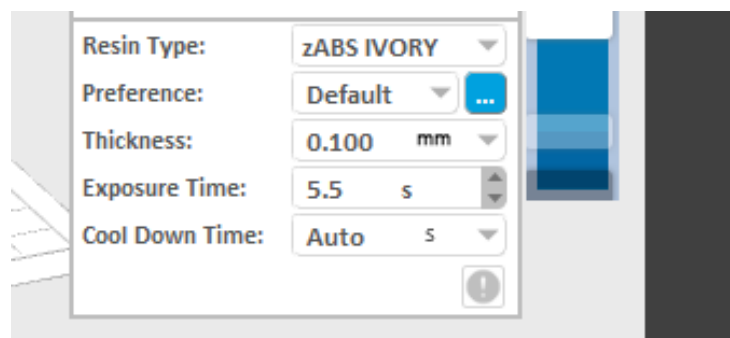
## Slice

Press 'Slice' button on the main tool bar and it will open two sub menus, one on the left and one on the right. The left menu is to start Slice and Show Slices, and the right drag bar and menu is for customization of slice profile.




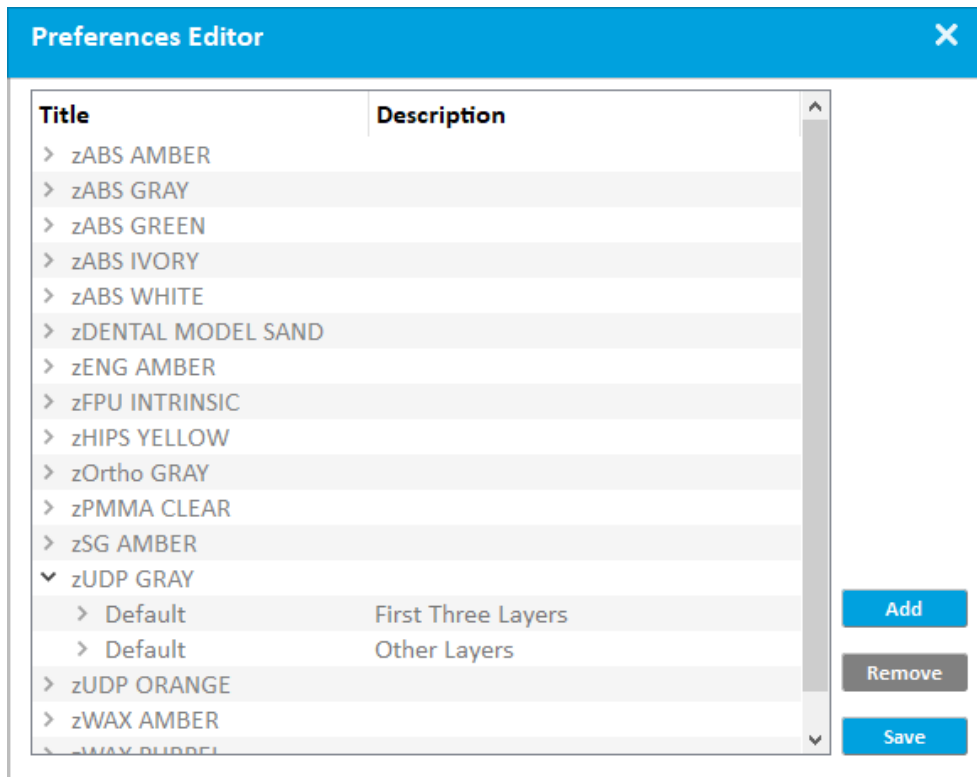
## Slice Parameters

This is to customize the slice parameters of each segment of a model.



- **Resin Type** provides different default values for different resin type.

- **Preference:** Multiple preferences may be set up for every resin type, printing parameters including Thickness, Exposure Time, Cool Down Time, Shrink, LED Power, Motor Speed, Rise Height, Infill, UDP, are all customizable and stored in the preference. Click 'Edit'  to open Preference setting.



### Add Preference

In 'Preference Editor', to create a new preference by clicking 'Add'. Preference values are determined values that represent its current slice parameters setting.

Preference names are editable. Note: Preference names should not coincide, and should not have special characters such as &,:;'?#%~/

### Delete Preference

Select the Preference you wish to delete on the Preference dialog, and then click 'Delete' to remove. Only self-defined Preference is removable.

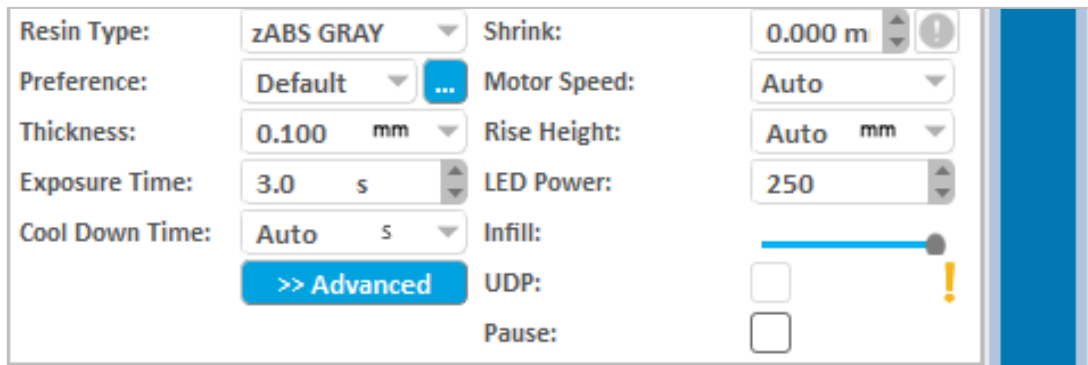
- **Thickness** is the layer thickness, which is related to Z resolution.
- **Exposure Time** is the exposure time of a layer in this segment, and it may vary due to a different layer thickness setting or different resin types.

When users modify the exposure time and execute slicing function, the system will record the new exposure time and the corresponding layer thickness and modify the suggested exposure time which will be applied during the next printing. Click the 'Restore Default' button to use the preset value by the system.

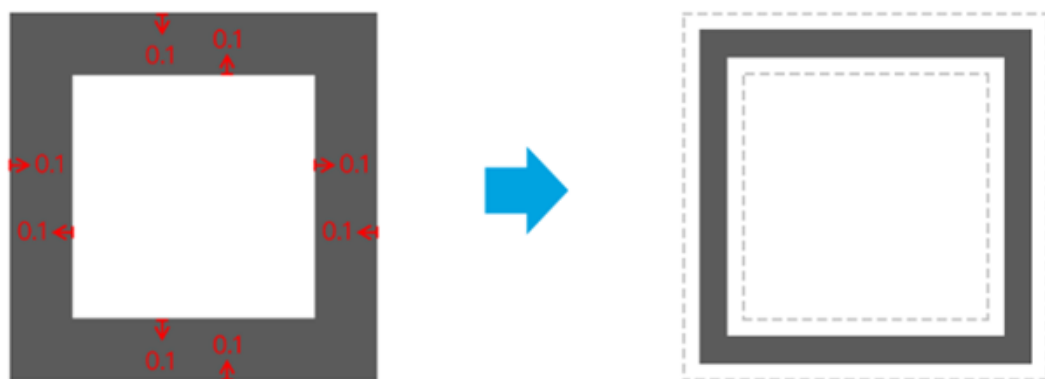
- **Cool Down Time** is the time to cool down the exposed layer to protect the polymer film from overheating. For sustained low peel force and prolonged film life, it is recommended to keep the film temperature below 50°C. Overheating will cause the film to warp, delaminate, or even break.

**Tips:** Avoid exposing the same spot or area over and over; try to orient the model's walls or pillars in oblique angle so the exposure area changes every next layer.

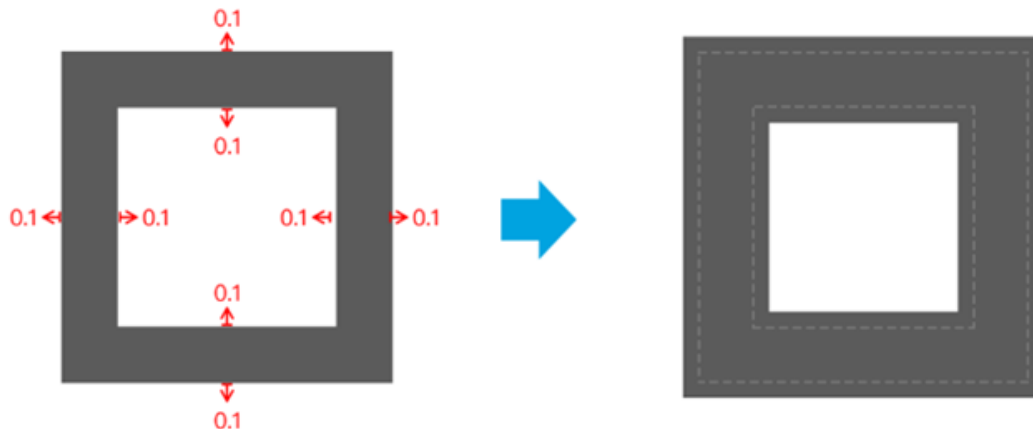
Pressing the '**Advanced**' Button will open following sub menu.



- **Shrink:** Due to light scattering and light refraction effect, profile of printed model may give rise to deviation more or less. To calibrate via 'Shrink' option on Slice Parameters Interface.
  - (1) The gray area in demo graph at below is the slicing at certain height.
  - (2) Slicing of solid model with external profile, internal profile does not exist. Here, we assume a hollow-structure model.
  - (3) The dash line in right graph is the profile of slicing before shrink.
  - (4) Slicing will be displayed on LCD panel and printed. The validation of shrink setting relies on actual position of model and resolution of LCD panel.
  - In case of 0mm, maintain original slicing, no extra handling.
  - For positive value, e.g. 0.1mm, slicing internal profile inward deviate 0.1mm, internal profile outward deviate 0.1mm.

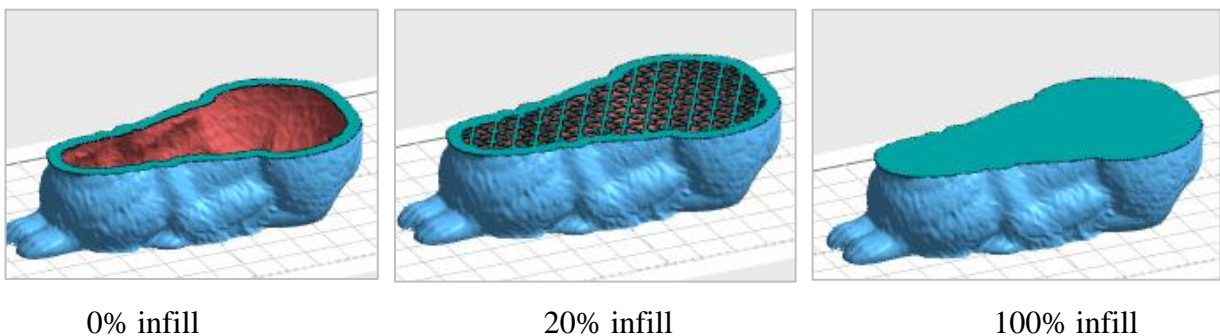


- For negative value, e.g. -0.1mm, external profile outward deviate 0.1mm, internal profile inward deviate 0.1mm.



**Tips:** Avoid exposing the same spot or area over and over; try to orient the model's walls or pillars in oblique angle so the exposure area changes every next layer.

- **Motor Speed** defines the speed of motor that controls the peel motion of the platform.
- **Rise Height** defines the travel height of the peel motion.
- **LED Power** defines the power of LED module when exposing, which determines the light intensity of exposure, with an adjustable range of 0 to 300, and the recommended range is 150 to 250.
- **Infill:** You may drag the slider horizontally to modify the infill ratio ranging from 0% to 100%.  
The model will be:



Please view Advanced Settings for the hollowing wall thickness and infill type.

- **UDP:** SLASH 2 does not support UDP-mode.
- **Pause** sets a pre-set pause at the layer of choice during printing, and the pause may be resumed after pressing the Resume button in the printing control tab.

## Customize Your Own Z Resolution

Dividing the model into multiple segments and defining different slice parameters, Z resolution customization may be used to balance print speed and surface quality.

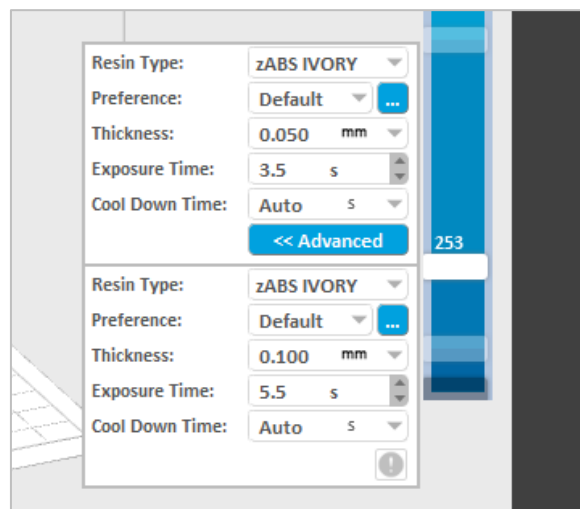
Click the block on the slider bar to start customizing print parameters. The white line shows the division layer of the two adjacent segments. The upper menu sets the segment above the division, and the lower menu sets the segment below. You may drag the slider block to change the division location or double click on blank space on the slider bar to add another division layer. Press Delete key when dragging the slider block to erase the division layer. The last division layer may not be deleted.

Click '+' Key to move the slider upward for one layer till to the top of the slider or the next layer of the up slider.

Click '-' Key to move the slider downward for one layer till to the previous layer of the down slider.

### Notes:

1. The slider at the bottom (the third layer) does not support operation by '+/-' button.
2. Click 'Page Up' Key to select the separate slider above.
3. Click 'Page Down' Key to select the separate slider above.



## Slice Tools

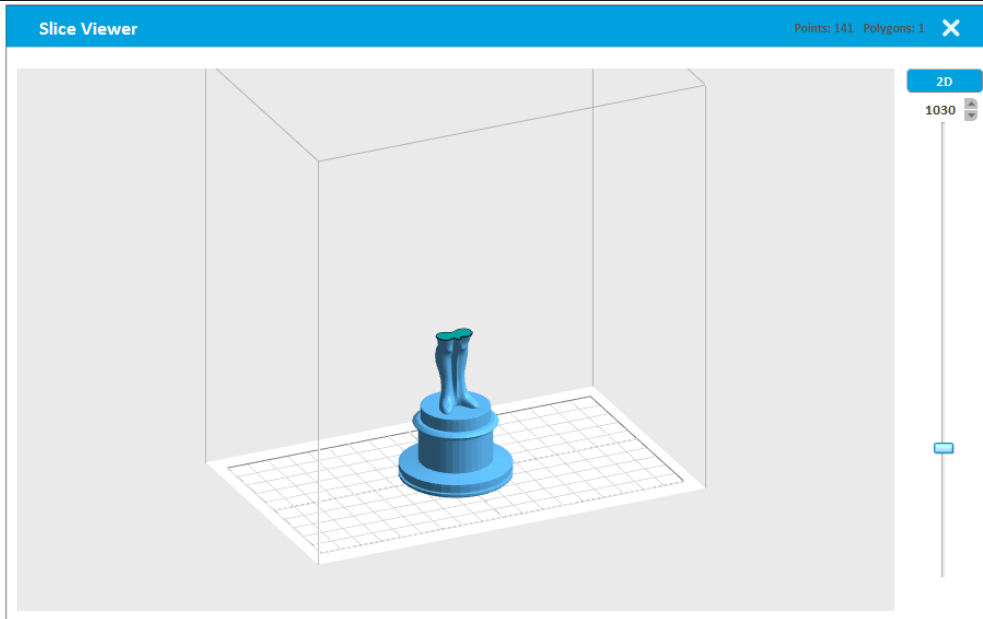
Click 'Slice' Button to slice all models on the Build Platform with the defined parameters. The estimated print information will show in the status bar.

Estimated Time 10:26:33

Volume 47.41mL

Layers 3699

Click 'Show Slices' Button to check slice of any sliced layer.



Click '2D/3D' at the top right corner to shift the windows between 2D and 3D.

Input layer number in the top right box to check the corresponding sliced layer information.

Drag the right slider vertically to view each layer.

Click the 'Up/Down arrow' to view the previous/next layer.

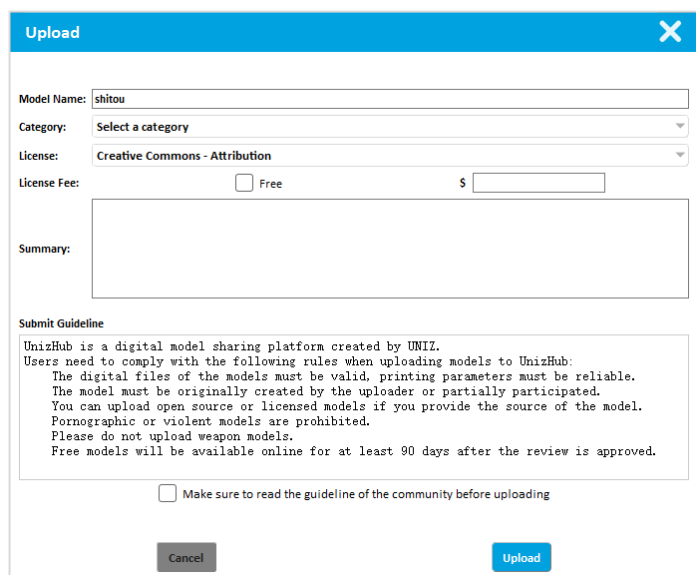
If Print When Finished is checked, the sliced data will be sent to the selected printer in the right bar automatically, you still need to touch the front button on the printer to confirm the print job to start printing.

**Tips:** 'Print When Finished' will only be enabled when a printer is connected, the corresponding Printer Control Panel is open, and the printer is in ready status.

## Upload Slice (Optional)



If you want to share your print to the UNIZ Cloud, press 'Upload' Button on the main tools to open following sub menu.

After your upload completed, you may see the review progress in Uploaded Models item in Library. We will look through your request, if pass audits your slice will be upload to UNIZ cloud.









## PRINTER CONTROL

Press the printer icon  /  to open the Printer Control Panel. The Printer Control Panel is used to control the printer for printing and regular maintenance. Click the icon again to close the Panel.

UNIZ provides printer control function based on USB and network connection. This function also supports multiple printers' control.

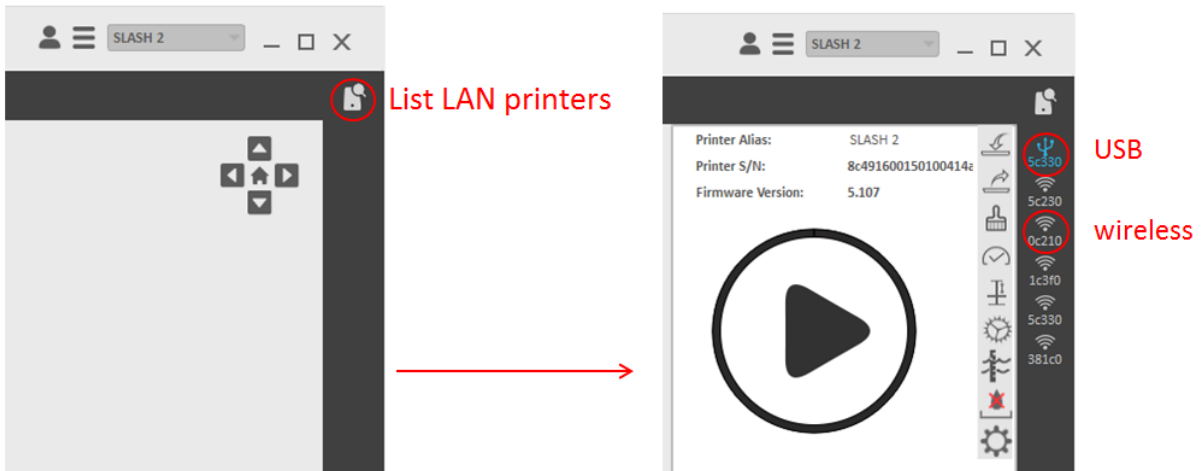
Printer connected via USB will be marked with the  icon in the right printing tool bar.

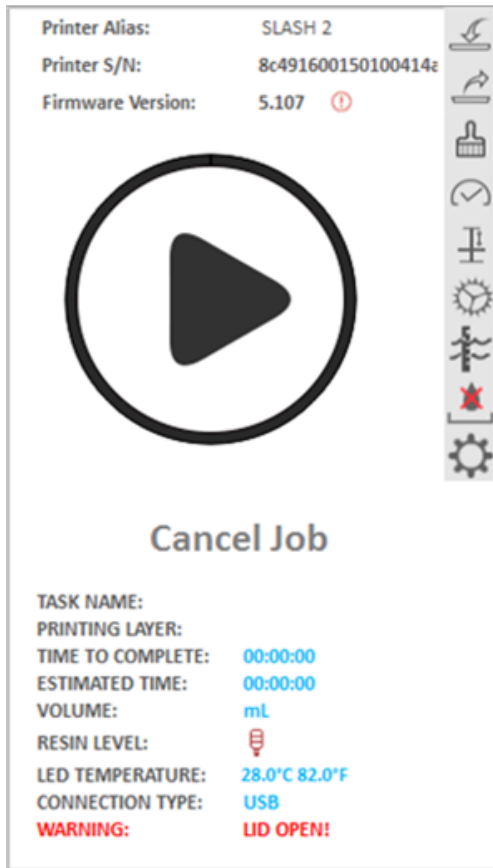
Click the  button in the tool bar to search all the printers (only selected printer type) in the same network of the computer which will be marked with the  icon.

Printer connected via both USB and network will be marked with the  icon and USB communication will be prior.

### Tips:

1. Only printers that are identical to the pre-selected printer type upon software start-up will be shown in the right toolbar.
2. More reliable connection will be preferable to use when there are many ways applicable in the printer.
3. If a printer is connected via both WIFI and USB, only USB connection will be shown.





- Fill Resin
- Redraw Resin
- Full Screen Clean
- Show Logo
- Reset Z-Axis Zero Position
- Z-Axis Compensation
- Calibration og Resin Level Sensor
- Enable/Disable Auto Pump
- Printer Settings

## Fill Resin

Click 'Fill' to start pumping resin from the bottle into the tank. Click again to stop.

## Redraw Resin

Click 'Redraw' to start redrawing resin from the tank back into the bottle. Click again to stop.

## Full Screen Clean

Click 'Clean' to expose the entire screen in order to fully cure and clean the resin at the bottom of the tank. Debris from previous jobs may damage the LCD screen in the next job. The Clean function will form an entire resin film entrapping the debris from previous jobs. Once the resin film is removed, the Resin Tank is clean and ready for the next print job.

**Tips:** It is recommended to check the bottom of Resin Tank before every print job. When there is debris either floating in the resin or sticking to the bottom of vat, it may damage the LCD.

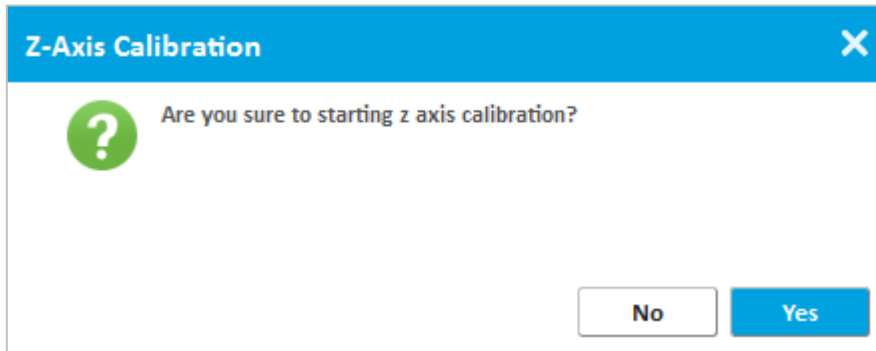
**NOTE:** DO NOT remove the Resin Tank during cleaning exposure. After exposure, however, you may lift the Resin Tank to remove the cured resin film.

## Show Logo

Show Logo is used to verify if the LCD screen is functional. Before using this function, please remove the Build Platform and Resin Tank, and then click 'Show Logo' Button to show the UNIZ logo on the LCD screen to test communication and LCD screen.

## Reset Z-Axis Zero Position

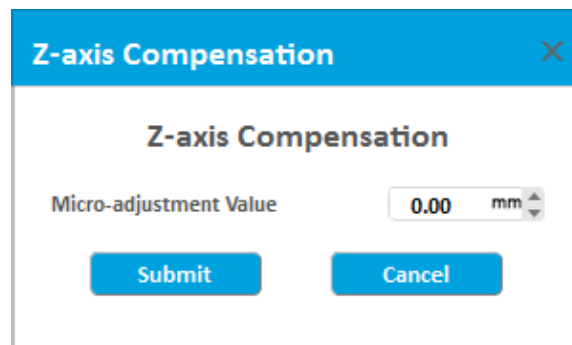
Reset Z-axis Zero Position is used to reset the zero of Z axis. Please remove the Resin Tank and wipe clean the Build Platform before using this function. On the popup box, click 'Yes' Button, then push the Build Platform down manually to touch the LCD screen, then click 'Yes' Button again, the platform will rise back to the upper position and finishes the process.



This function is used only when the model could not stick onto the platform because the Z axis does not cling to the LCD screen during the printing of the first layer.

## Z-axis Compensation

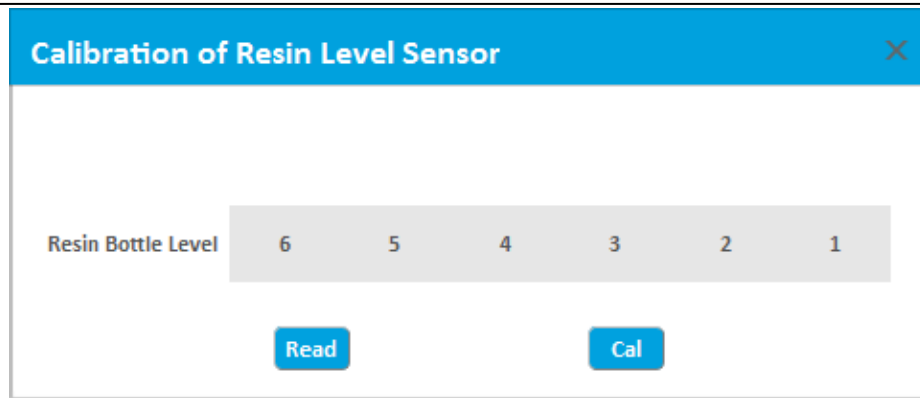
Click 'Z-axis Compensation' button, open dialog, input a value and submits to finish the compensation function. 'Z-axis Compensation' may only subtract (shorten) Z-axis height from the mechanical calibrated value.




This function is used only when the printed model is smaller than the theoretical value on the Z axis direction. The adjustment value is equal to the theoretical value minus the actual value.



## Calibration of Resin Level Sensor

Click 'Calibration of Resin Level Sensor' button, open Calibration dialog.



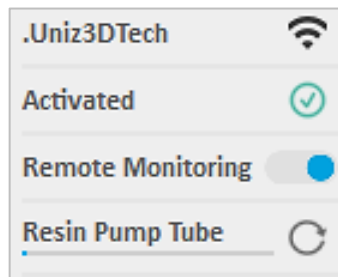
1. Install an empty Resin Tank, attach resin sensor to the tank
2. Install an Empty Resin Bottle;
3. Clicking 'Cal' button (It will turn gray  ).
4. Wait seconds until the 'Cal' button turn blue. The calibration is finished.

## Enable/Disable Auto Pump

Click 'Enable/Disable Auto Pump' Button to turn on  / off  automatic pumping. If resin level is too low in the tank and Auto Pump is on, the printer will pump resin from the bottle into the tank automatically.

## Printer Settings

Click 'Printer settings' button to popup the submenu including three functions of the Network, Activation and the Remote Control.



### 1. Network

This shows the printer connection network status and provides network settings. It supports automatically obtaining IP address and manually setting fixed IP address.

This function only supports setting via USB connection.

**Tips:** The Printer's Wi-Fi feature supports 2.4GHz band only, it **does not** support 5 GHz connections.

### 2. Activation

This shows the activation status of the printer. Click to start activating.

### 3. Remote Control





The purpose of remote monitoring is to make it convenient for users in the WAN to check the real-time status of the printer registered under their names and carry out control functions which include Take Photo, Pause Job and Cancel Job. The remote monitoring function is completely cloud based, so only printer owners have access to the remote monitoring functions and pictures. UNIZ does NOT have access to the remote monitoring functions nor the pictures. Users may manually turn on/off the remote control function.

When this function is started for the first time, the system needs to register the printer to the IoT which may take considerably long time.


#### (1) Preparations:

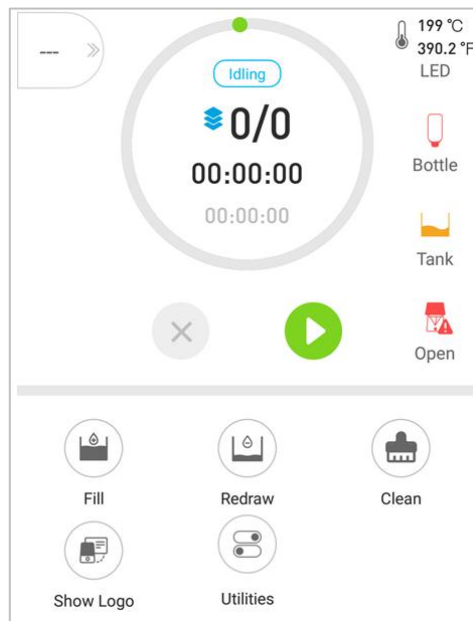
- ①. Activate your printer and link it to your UNIZ account.
- ②. Enable the remote monitoring.


#### Method 1: Enable the remote monitoring in UNIZ Desktop

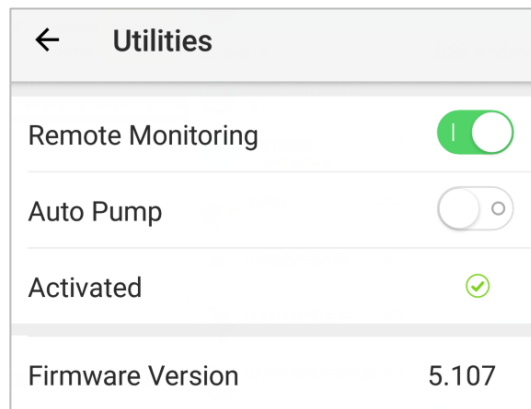
- a. Click the printer icon  /  to open the Printer Control Panel
- b. Click Printer Settings Button  to open submenus
- c. Click menu  to turn on remote monitoring.

#### Method 2: Enable the remote monitoring in UNIZ App

- a. Click the 'Printers'  **Printers** in the main menu, and select your printer in the list.
- b. Open the printer control interface and click 'Utilities'.




c. Click button  to turn on the remote monitoring.



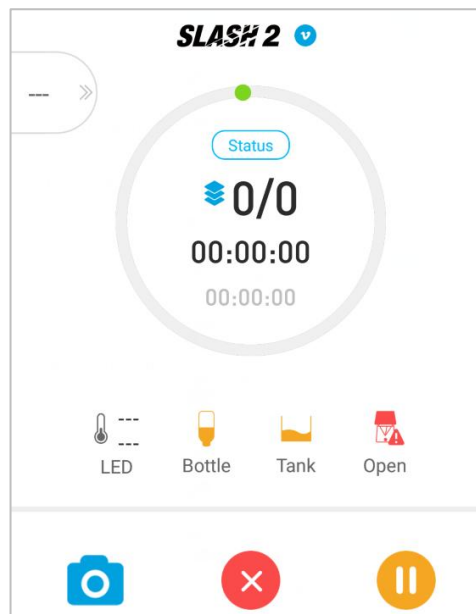
## (2) Functions Illustration

Users may check the real-time status of the printer under their names and initiate snapshot and other functions from their UNIZ App or Web dashboard (<https://www.uniz.com>).


## (3) App


a. Click 'Remote Monitoring'  **Remote Monitoring** in the bottom table bar and all the activated printers under the login account will be listed.


b. Select the printer from the list and open the printer control panel.



c. The printer status is on the upper half and the control panel is at the bottom.

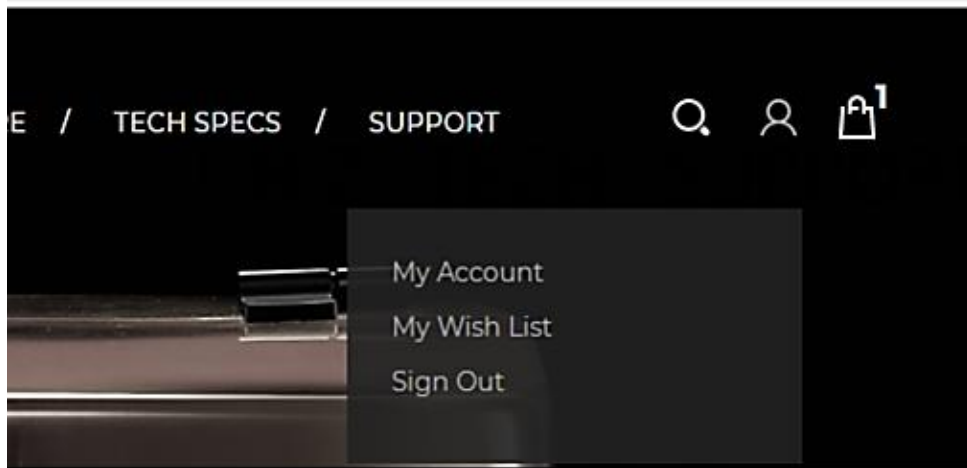
 : Get real-time photos from the printer's camera.

 : Suspend the printing task.

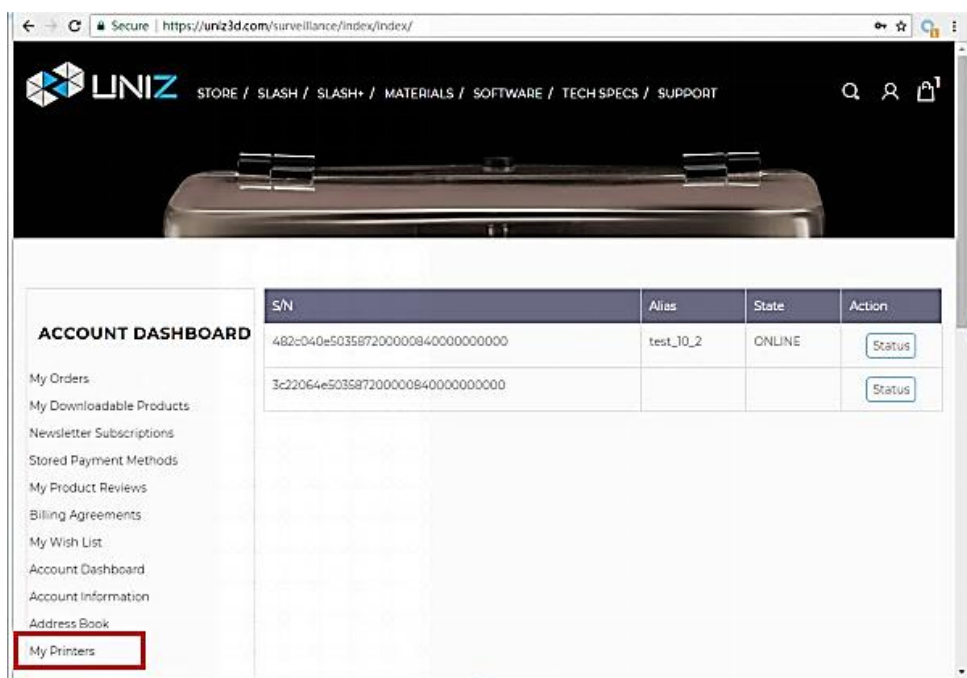
 : Cancel the printing task.

#### (4) Web

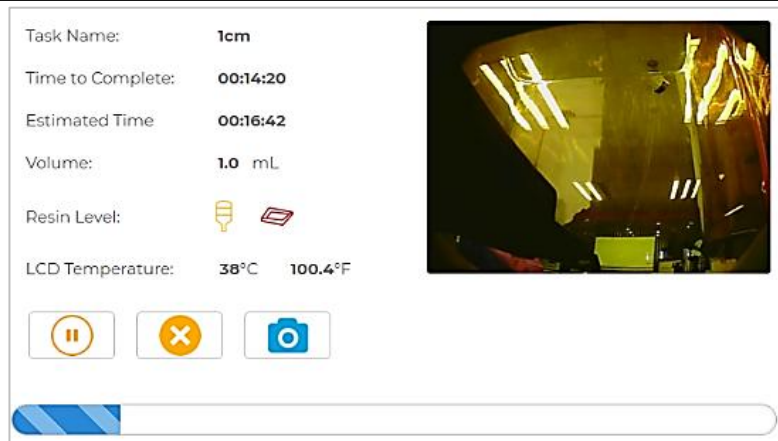
- a. Open the UNIZ website <https://www.uniz.com> with a browser.
- b. Click 'My Account' to enter the interface of account management after logging in with an UNIZ account.






- c. Click 'My Printers' menu in the Account Dashboard and all the activated printers under the login account will be listed in the right area.



- d. If the state of the printer is 'ONLINE', click 'Status' button to enter the interface of printer control.



e. The real-time status of the printer is on the upper half and the control panel together with the progress bar is at the bottom.

-  : Suspend the printing task.
-  : Cancel the printing task.
-  : Get real-time photos from the printer's camera.

#### 4. Resin Pump Tube

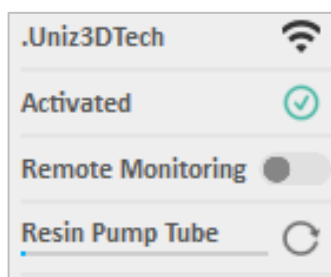
##### • Replace Timer

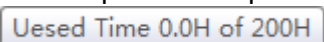
The Resin Pump Tube is considered consumable and required replacement after a certain period of usage. Prompt box 'Warning' will pop up when software detects any of the accessories have been running beyond recommended lifespan.

Recommended lifespan: 200hours

##### • Checking status of accessories running time


Open printer control interface, press the 'Printer Setting' button  to pop up menu left-side.



The running-time bar of Resin Pump Tube is laid out separately. Blue represents running time, Gray represents total lifespan. Tool tips will exhibit concrete running-time when cursor hovered over the bar, e.g. 


##### • Accessories replacing and timer reset

If you replace the Resin Pump Tube, you need to re-time it on UNIZ Desktop.

Open running-time menu on Printer Setting, click reset button , pop out 'Confirm' dialog, confirm and it will restart timer.



**Note:** Timer resetting is imperative step in accessories replacing, otherwise running time will getting inaccuracy.

**Start Job:** Click 'Start' Button , the system will send the current slice data to printer and start printing.

(1). **Send Data to Printer:** Click 'Start' Button  to send current slices to the selected printer.

(2). **Complete File Transfer:** Once you click Start, UNIZ Desktop's progress bar and the printer's front LED button will indicate the file transfer progress by lighting in blue.

(3). **Confirm Print Job:** Make sure that your printer is ready to print and then touch the printer's front button to confirm print job.

**Warning:** Before final confirmation, please make sure the Build Platform, Resin Tank are installed. Make sure the Build Platform and Resin Tank are clear of debris.


After confirmation, you may disconnect your computer from the printer.

**Pause Job:** Click 'Pause'  to suspend a printing job.

**Resume Job:** Click 'Resume'  to resume a paused printing job.

**Cancel Job:** Click 'Cancel Job' to cancel the current printing job.

**Renaming Printer:** Double click the printer name or s/n to input a new alias and press enter to finish renaming.

**Upgrade firmware:** An icon  will appear next to the firmware version when there is new version firmware available. Double click the icon to start upgrading. Restart the printer when the upgrade is finished.

**Note:** DO NOT disconnect the printer and the software or turn off the UNIZ software during the data transmission.

## ADDITIONAL TOOLS

**New Project:** The current project will be discarded, and a new project will be created.

**Save Project:** The software save everything you made to project file that contains model data, support structures and transformation data (translation, orientation, scaling) and you will be able to load your model including all modification later.

**Save Project as:** The software save current project to another project file.

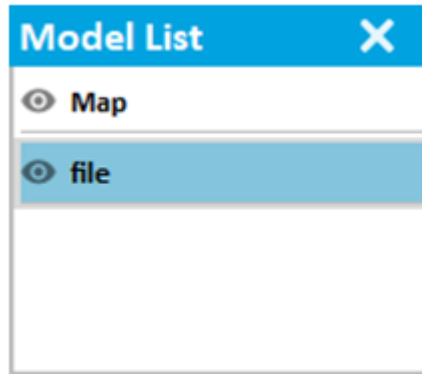
**Undo Operation:** Repeat one previous operation.

**Redo Operation:** Remake one previous operation repealed by 'Undo'.

**Export STL:** Users can export loaded models and its support to stl file.

**Model List:** This list provides functions for viewing, finding, selecting, hiding, duplicating and deleting models in 3d scene.

Press 'Model Manager List' button  to pop out model list menu.

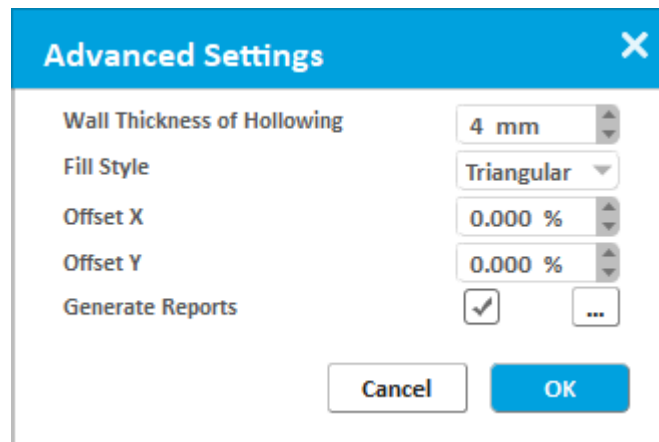


Clicking the eye-looking icon next to any model name will hide/show the model in the scene. Only the visible models will be printed.

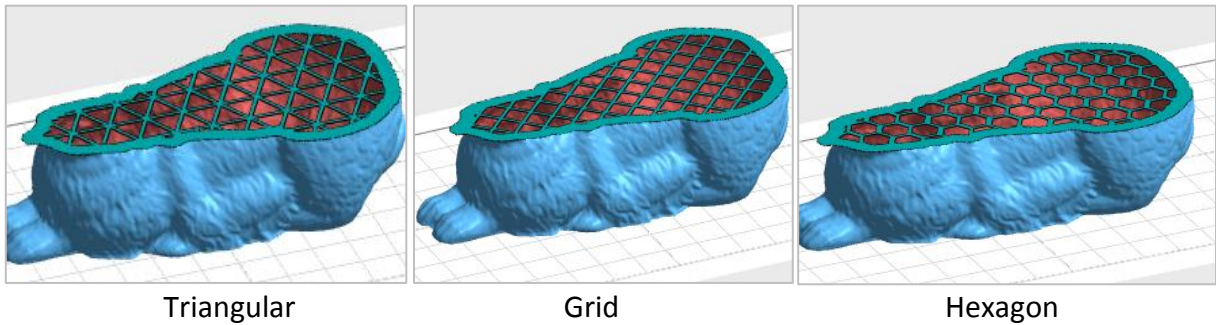
Once the model name is selected in the list, the corresponding model will be selected in the scene. Single and multiple selections are supported. Right-clicking the model names could:

- Duplicate the model in the scene.
- Delete the model from the scene.

### Advanced Settings:



- **Wall Thickness of Hollowing** sets the shell thickness of parts hollowed with the advanced settings in the slice menu.
- **Fill Style** sets the fill style of parts hollowed with the advanced settings in the slice menu.



➤ **Offset X/Y:** Adjust the model size in scale in X/Y dimensions.

When printing models, if there is a deviation between the actual and theoretical size of the model on the X or Y axis, it may be calibrated by Offset X/Offset Y on Advanced Settings.

(1) Calculation Formulas:

Value of Offset X: target length of printing object in x-axis divides actual length of printing object in x-axis

Value of Offset Y: target length of printing object in y-axis divides actual length of printing object in y-axis

If there is still deviation after printing with offset function, please adjust offset value and try again to get target object.

(2) The diagram is showing the certain slice before and after Offset. The red dotted line is the original section and the white is the section after Offset.

(3) The slice is finally displayed on the LCD screen and printed. The offset value is effective, depending on the actual position of the model and the resolution of the LCD screen.

- If Offset X or Offset Y is 1.0, nothing to be done.
- If Offset X/Offset Y value is more than 1, the slice will be magnified in X and Y axis with the center of the platform as the reference point. For example: If Offset X is 1.02 and Offset Y is 1.01, the slice will be magnified 1.02 times in the X axis and 1.01 in the Y axis.




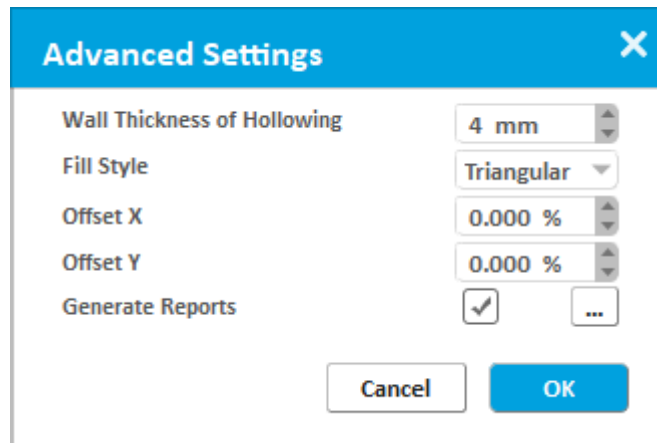
- If Offset X/Offset Y value is less than 1, the slice will be minified in X and Y axis with the center of the platform as the reference point. For example: If Offset X is 0.98 and Offset Y is 0.99, the slice will be minified to 98% of original size in the X axis and 99% in the Y axis.



➤ **Generate Reports:**

Ticking this option will generate reports after printing.

Click the  button to modify saving path of reports.



# E MAINTENANCE

In order to have a smoothly working SLASH 2 printer, it is important to maintain it correctly. In this chapter the most important maintenance tips are described. It is recommended to read them carefully in order to achieve the best results with your printer.

## PRINTER PLACEMENT AND LEVELING

1. Put the printer on a stable desktop to keep the printer steady during printing to effectively guarantee the model quality.
2. The level of the printer determines whether the automatic resin pumping system can work properly. The liquid level sensor will give feedback information of remaining resin accurately to the printer only when the liquid level is horizontal.
3. The level of printer is maintained by four level screws underneath. After placing the printer on a flat surface, the level bubble on the Build Platform can be used to judge whether the printer is leveled. If the bubble is not at the center of the circle, adjust the four screws to restore the levelness of the printer.



---

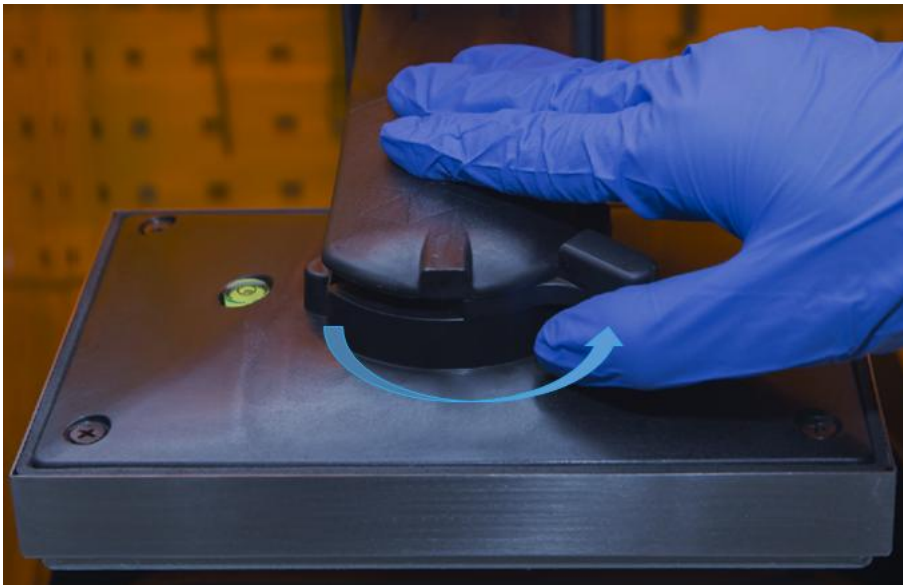
## BUILD PLATFORM AND RESIN TANK

### BUILD PLATFORM

The Build Platform is the platform where the first layer of the model burns-in to, its levelness and roughness are crucial to successful prints.

### INSTALLATION AND REMOVAL OF BUILD PLATFORM

1. Turn the platform locking arm clockwise to lock.
2. Turn the platform locking arm counter-clockwise to unlock.

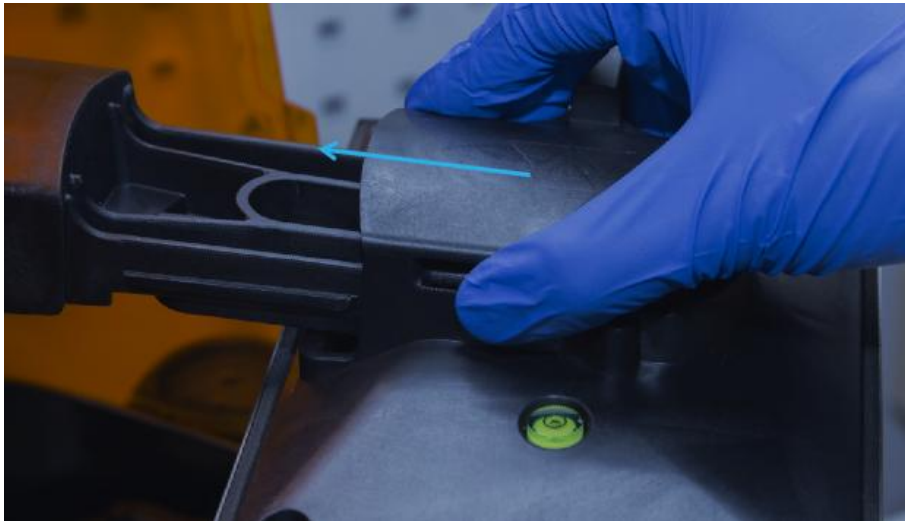


3. Remove the platform.





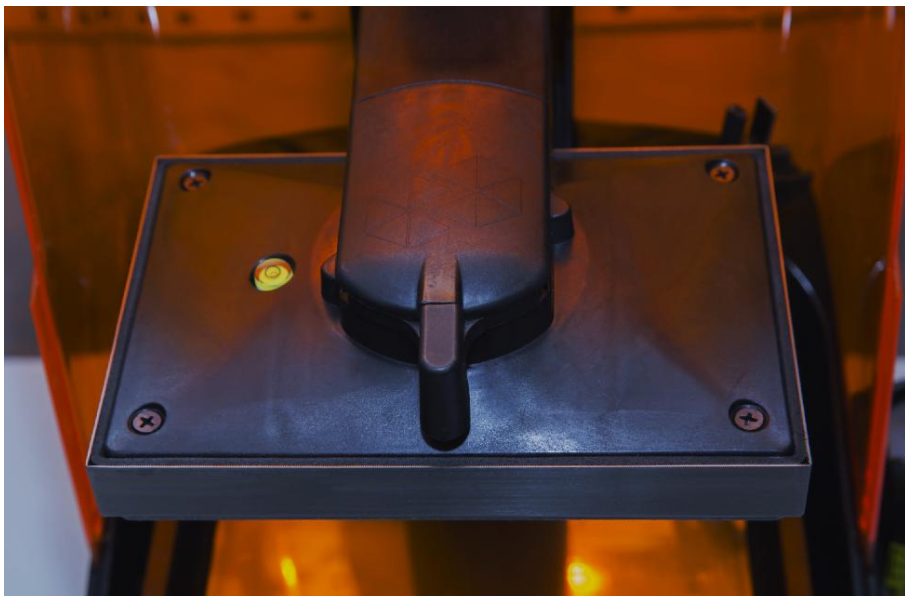
4. Put back the platform when it is in unlocked status.



5. Turn the arm clockwise to lock.



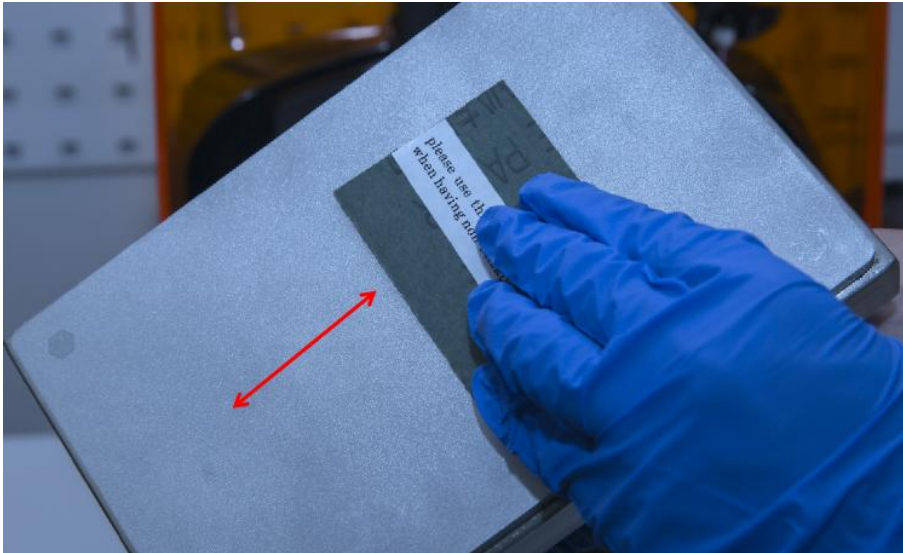
6. Installation is completed.



## SANDING BUILD PLATFORM

After the platform has been used for a long time, its surface will become smooth which leads to poor model adhesion and increases the printing failure rate. To deal with this problem, users need to sand the platform.

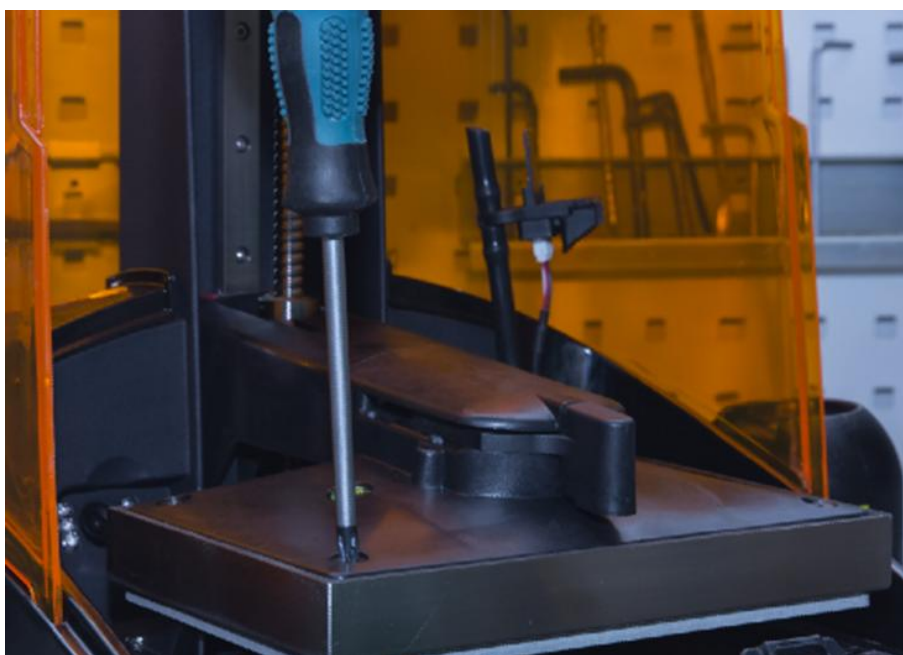
1. Clean the platform surface with alcohol.
2. Grind the surface into a grid shape with the sand sandpaper delivered with the machine.



3. Clean the platform with alcohol again to make sure there is no residue left.
4. Calibrate the Z-axis zero position.

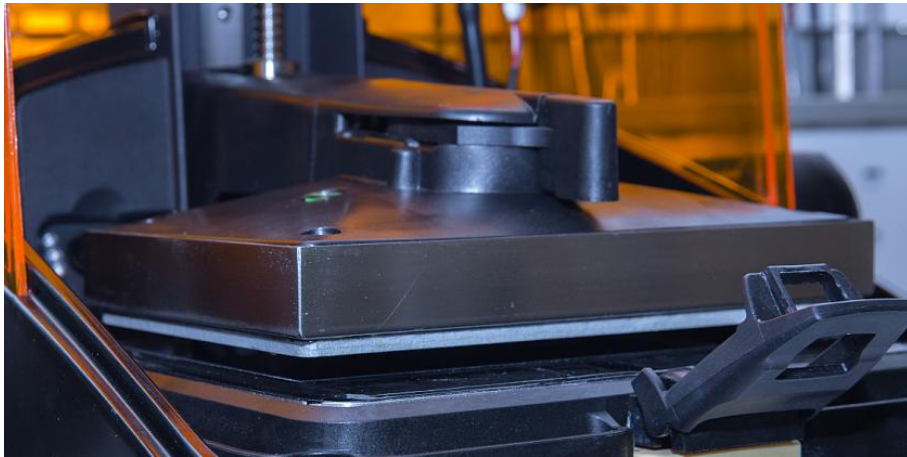
## ADJUSTMENT and CALIBRATION of Z AXIS ZERO POSITION

1. Prepare four pieces of paper and a cross screwdriver.
2. Tighten four screws with cross screwdriver by turning clockwise.

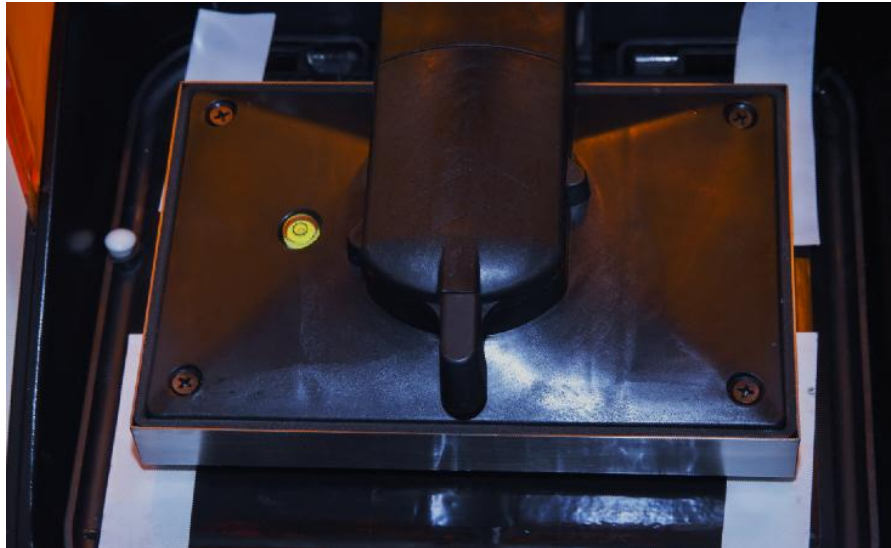





3. Push the Build Platform down until it comes into contact with the LCD.



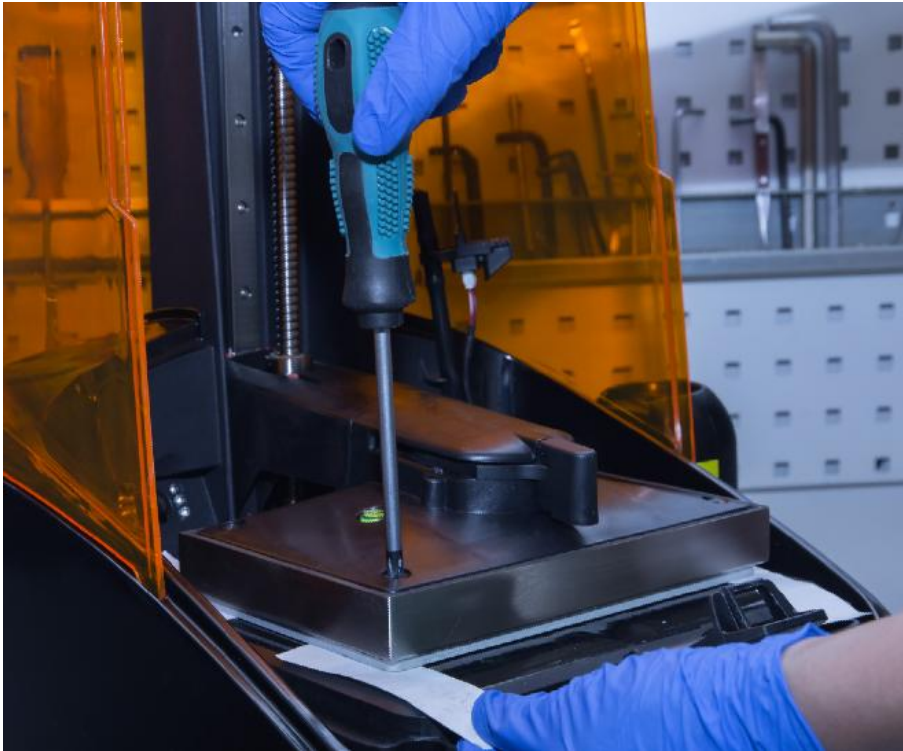
4. Place four pieces of paper under four corners of Build Platform then push down Build Platform to touch LCD screen. At this time, there is at least one pieces of paper is pressed between Build Platform and LCD screen (which means this corner is in good position).



5. Click  to open the dialog box and click **Lock** to lock the platform.



6. Select a corner where the paper is loose. Use screwdriver to loosen screw by turning anti-clockwise and pull and push paper. When the paper cannot be pulled, it means this corner touch the screen closely and in good position. Use the same method to adjust other corners and ensure all corners are pressed firmly.



7. Click **Yes** to calibrate the Z-axis zero position.

1. Press the Platform down to the LCD screen to ensure a tight contact;  
2. If the platform is adjustable, it is required to lock the platform and then manually adjust it; otherwise, It it's not adjustable, pls ignore this step;  
3. Click the "Yes" button to complete z-axis calibration.

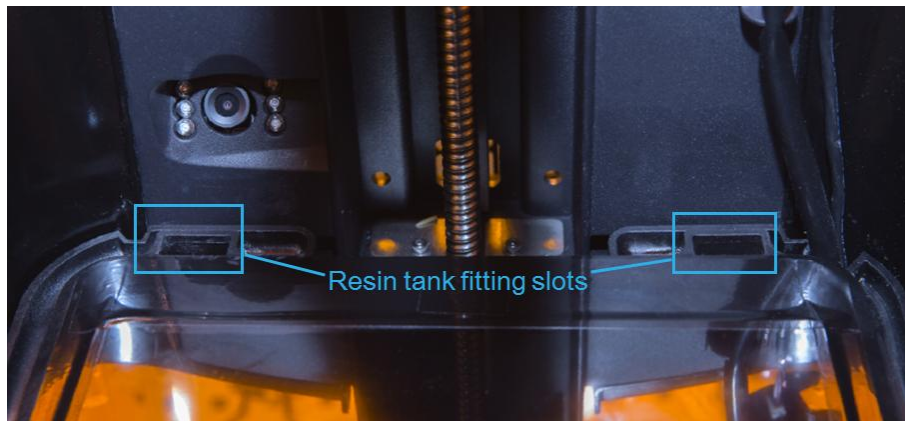
Platform:

## RESIN TANK

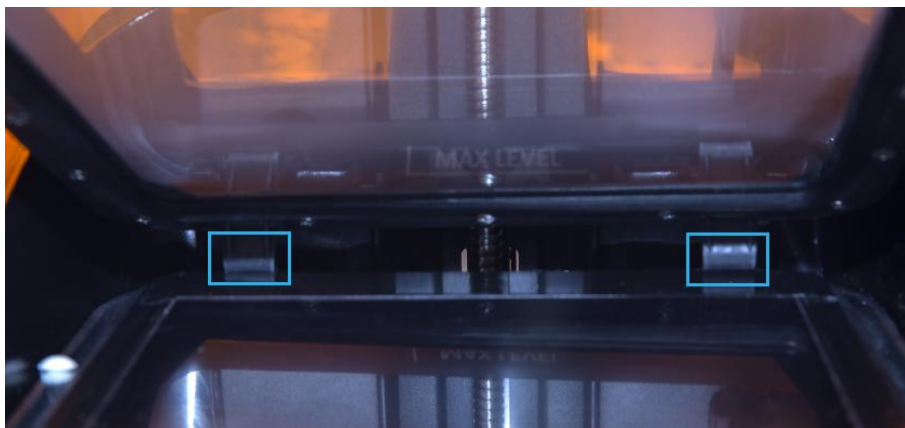
The Resin Tank is a crucial part for a successful print job, and requires constant maintenance and regular replacement.

## INSTALLATION

1. Find the two fitting slots.



2. Insert the Resin Tank to the slots by 30-40 degrees and put the tank down onto the screen.



3. Put inward the hatch to lock the Resin Tank.



4. Make sure the Resin Tank is stably locked and repeat the above steps if the tank shakes.



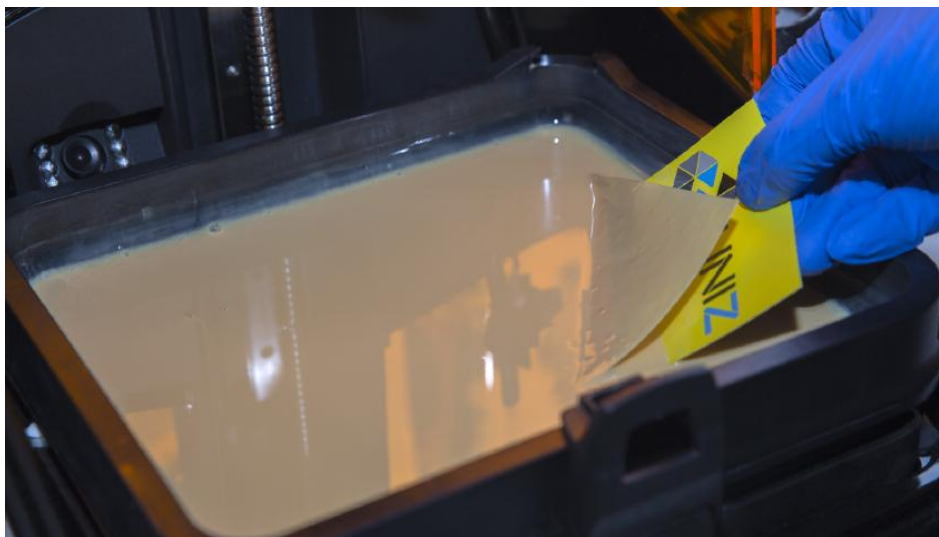
### CLEANING BUILD PLATFORM AND RESIN TANK

When printing fails, there may be residues on the platform and in the Resin Tank which needs to be cleaned in time to avoid damage to the screen.

1. Residues on the platform: use the scraper delivered with the printer to remove the residues (please dispose of solidified materials and waste resin properly).

**Notes:** After removal of model, please clean Build Platform thoroughly, any leftover bits may damage the Resin Tank or LCD.

2. Residues in the Resin Tank: When residues are small in number and big in volume, use the cards delivered with the machine to clean; when residues are big in number and small in volume, it is recommended to use the Full Screen Clean function in the software: remove the platform and click on the button. After the exposure is over, gently scrape off the whole piece of cured resin from corner.





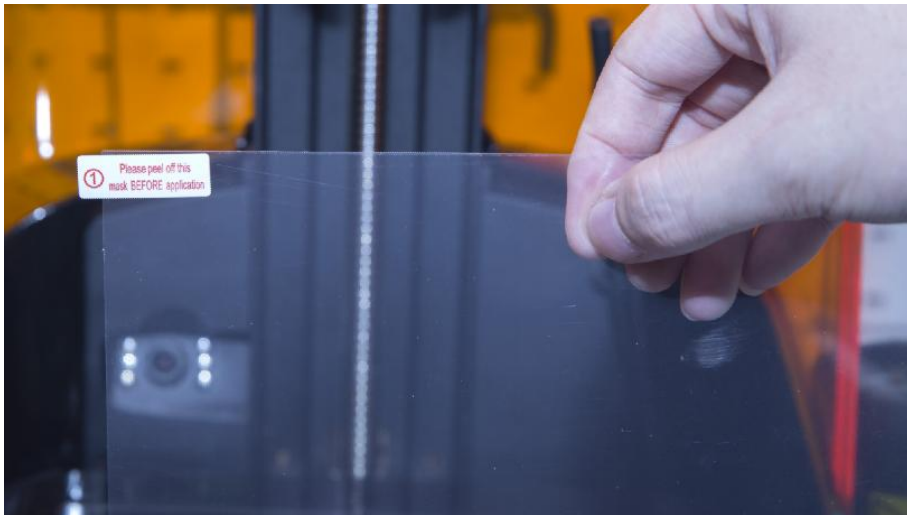
## CHANGE LCD PROTECTIVE FILM

There is a protective film on the LCD of SLASH 2. If the film is scratched or dirty with cured resin, you should change for a new one.

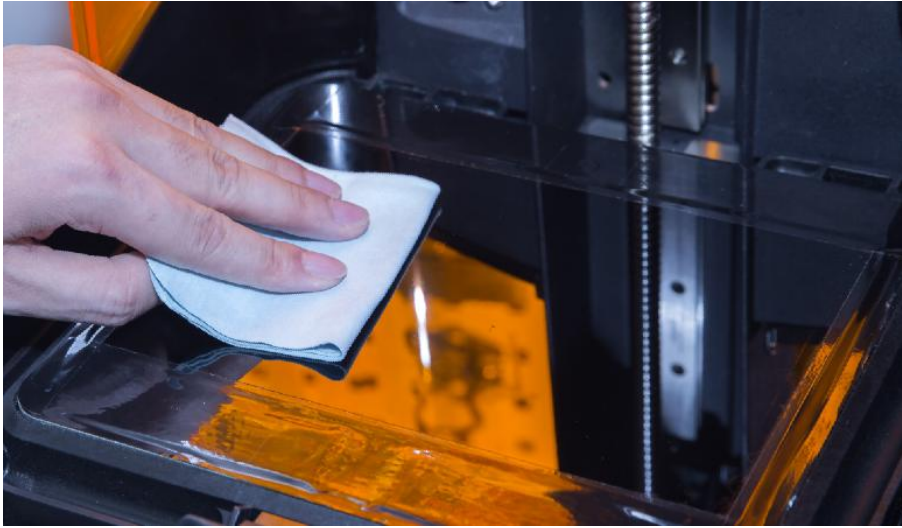
1. Peel off the old film.



2. Take out a new film.



3. Clean the surface of LCD and make sure there is no dust and residue left.



4. Peel off the cover film marked '①'.



5. Using a card and cloth to paste the film onto the surface of LCD.



6. Peel off the cover film marked '②'.



7. All done. The bubble between film and LCD will get out automatically in a period of time.



## Z-AXIS COMPENSATION

To discharge resin between Resin Tank and Build Platform, great down force is needed when the first layer is printed. But due to the limitation of printer structural strength, the reactive force of the down force can lead to the column lean backwards. So to exert enough force, the actual setting value of the platform needs to be lower than the tank film plane. This leads to the z axis actual molding size does not accord with model required size, and the z axis compensation function is designed for compensating the errors.

The printer automatically calculates the number of layers to be compensated according to the z axis fine-tuning value A (mm) set by the upper computer.

$N=A/0.1$  (round off), the calculation method of A value is to print a standard height test piece, and the theoretical size minus the actual size is the fine-tuning value A.

After the z-axis recalibration is performed, the factory set fine-tuning value  $A_0$  will be forced to reset. At this time, the standard height test piece needs to be printed again to calculate the value A. The z-axis height compensation operation before the next printing can ensure the accurate printing height.



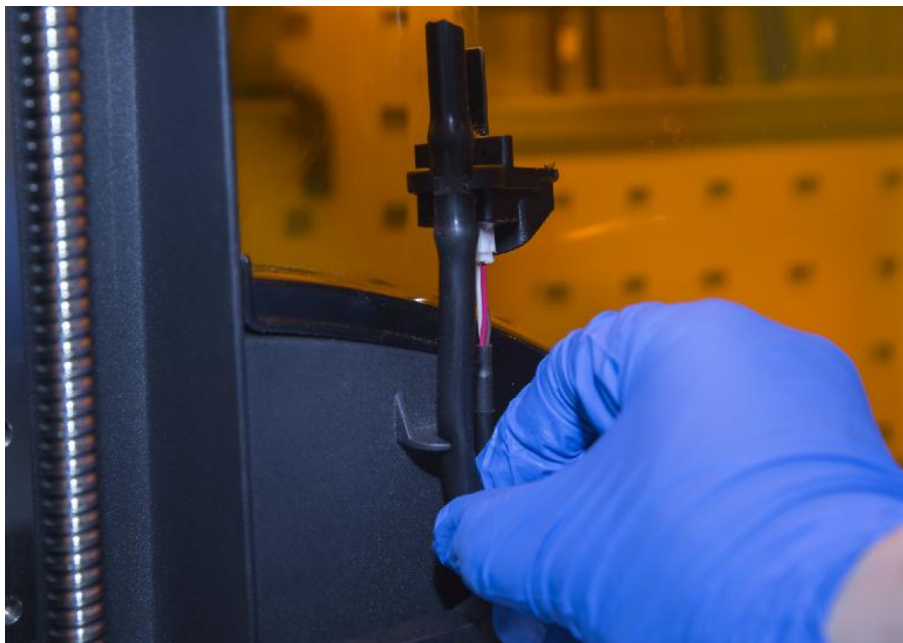
## RESIN LEVEL CONTROL SYSTEM

The Resin Level Control System is designed to maintain a constant level of resin in the Resin Tank during a print job. This is essential for printing large objects when regular refilling is mandatory. It can also pump resin back into the Resin Bottle for resin replacement and storage purposes. The system consists of three components: Resin Level Sensor, Peristaltic Pump with Pump Tube, and Bottle Holder plus Resin Bottle.

### TANK RESIN LEVEL SENSOR

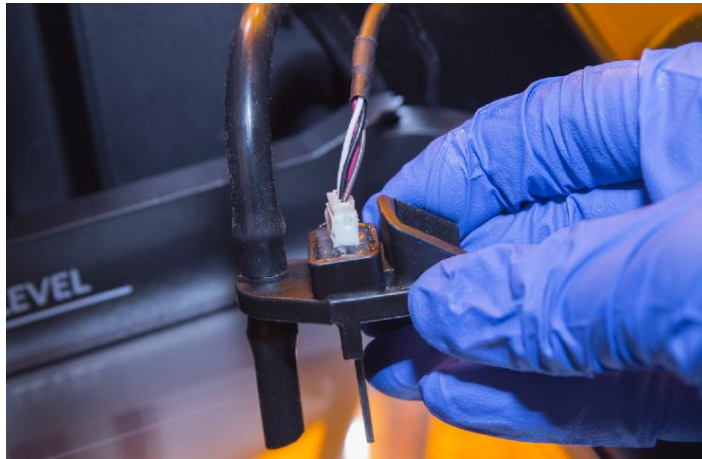
This is the sensor in the Resin Tank that controls resin level during a print job.

1. Detach the level sensor.





2. Make sure the pipe and line are connected well.



3. Plug the holder into the positioning slot on the Resin Tank as shown on the photo.



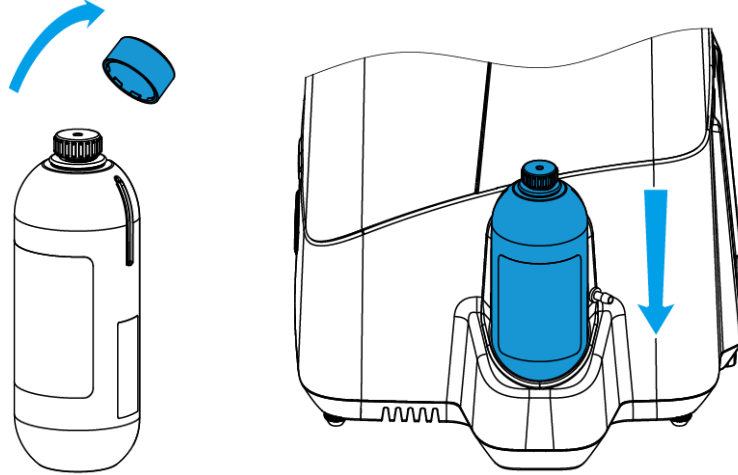
4. The installation is completed.



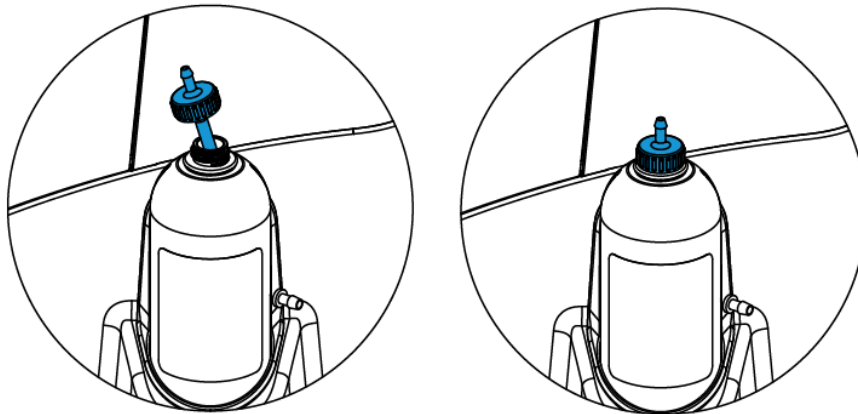
## BOTTLE HOLDER AND RESIN BOTTLE

The Resin Bottle is inserted to the right side of the printer and is connected and controlled by the Tank Resin Level Sensor. There is also a Bottle Resin Level Sensor integrated in the Bottle Holder.

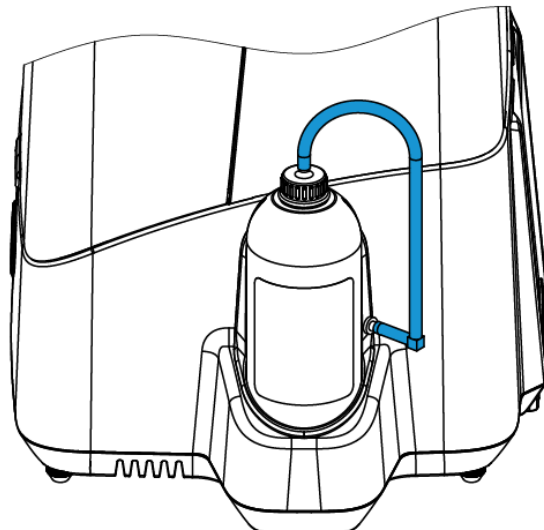
1. Take the outside cap off and then insert the bottle into holder.



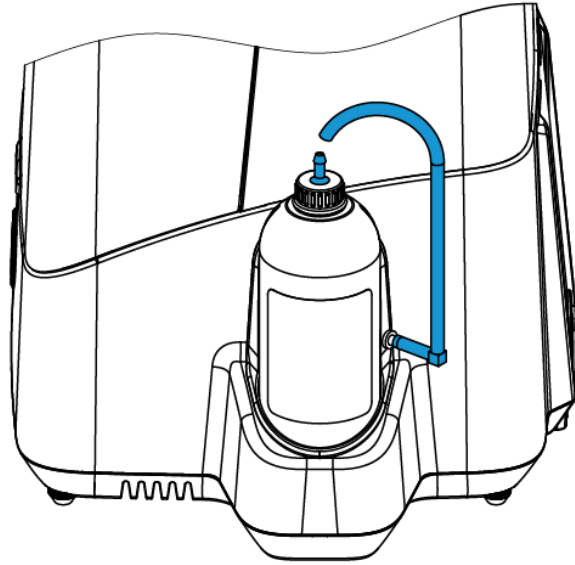
2. Take the inside cap and rubber plug off. Then insert the dicephalous cap into bottle and screw it.



3. Connect the cap and hose connection on the holder using the tube attached.



4. Now your resin feeding system is ready to use.
5. If you want to use CLEAN bottle to clean the feeding system, disconnect the cap and tube first.




6. Pour alcohol into Clean Bottle. Take Resin Bottle off and insert Clean Bottle in. Then go back to step 2 and continue.

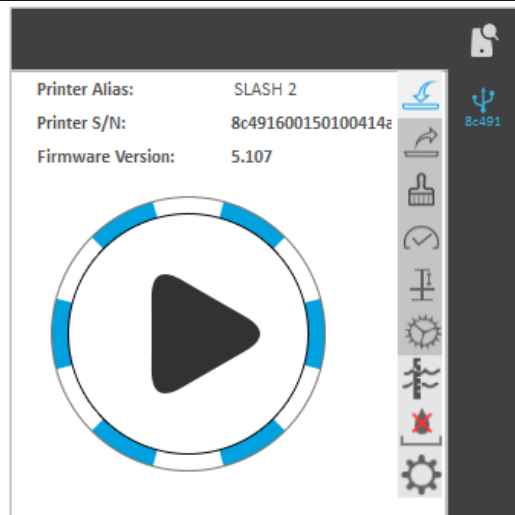



## PUMPING IN AND OUT

The Resin Level Control system may work either in or out, pumping in to serve printing needs, and pumping out for resin replacement and storage.

### Pumping in

1. Install Resin Tank, level sensor and Resin Bottle following steps above.
2. Click 'Fill'  in software control interface. It starts to pump in.




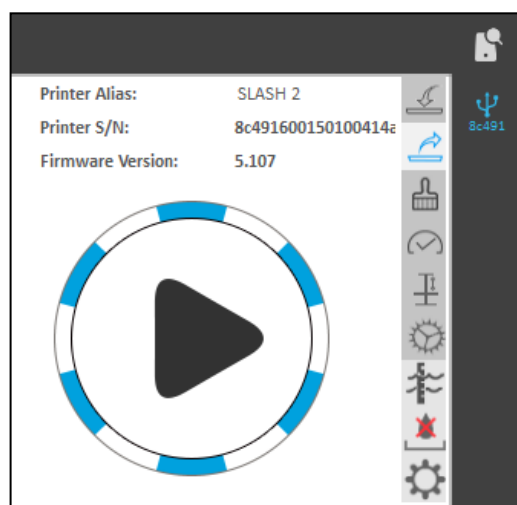
3. Click 'Fill'  again to stop pumping in.
4. The resin level should be under the MAX LEVEL mark.



### Pumping out

If resin in tank will not be used in a long time, it is suggested to pump the resin back to Resin Bottle.

1. Click 'Redraw'  in software control interface.



2. Click 'Redraw'  again to stop pumping.

**Note:** Keep the vent hole on the top of bottle open when pumping resin, otherwise the resin pumping system may burst inside the printer.

## RESIN STORAGE

1. For long-term storage, it is recommended to redraw resin back to the Resin Bottle to avoid curing.
2. For short-term storage, it is recommended to cover Resin Tank with Resin Tank cover which matches the tank to avoid resin curing by contacting light.  
Resin Tank Cover as shown in the photo and press tightly and store away from light.



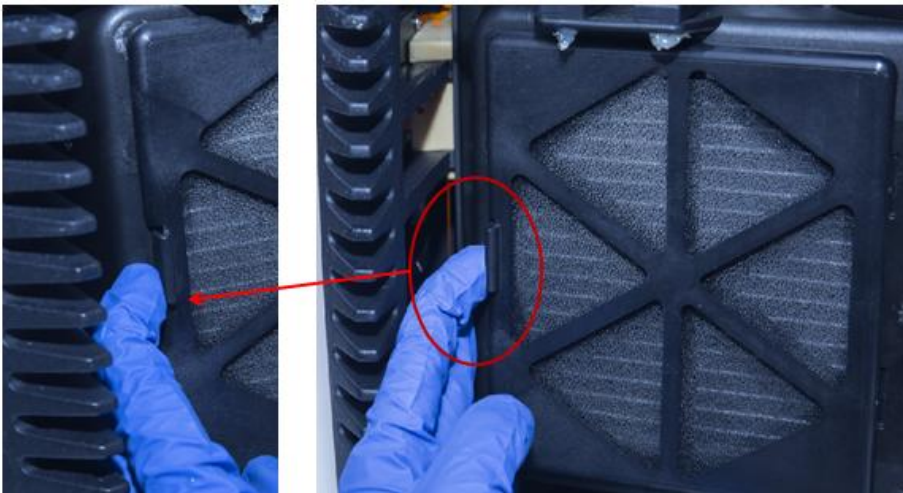


## CHANGE BOTTOM FILTER

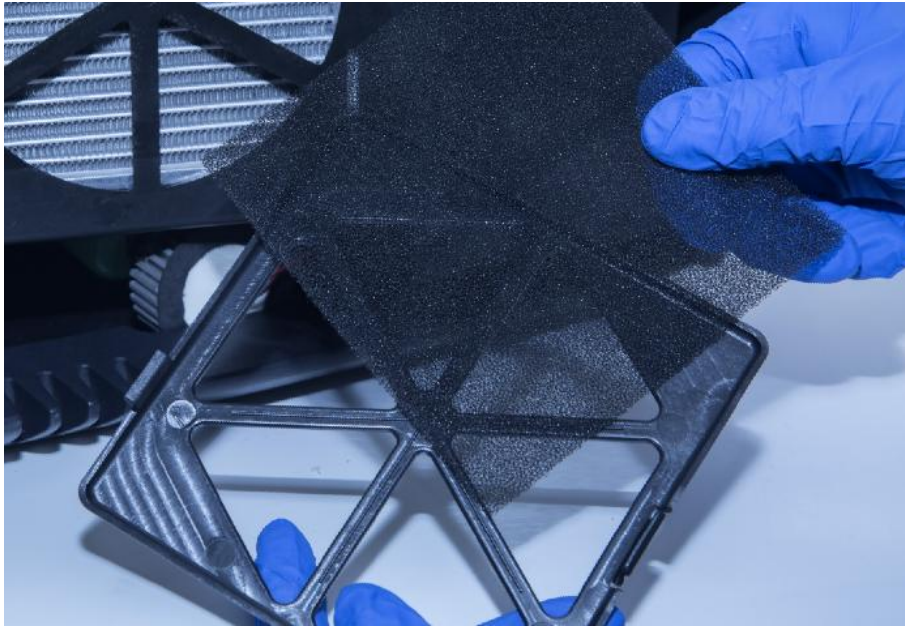
1. Put printer sideways like the picture shows. Lay protections to prevent possible damage to the printer.



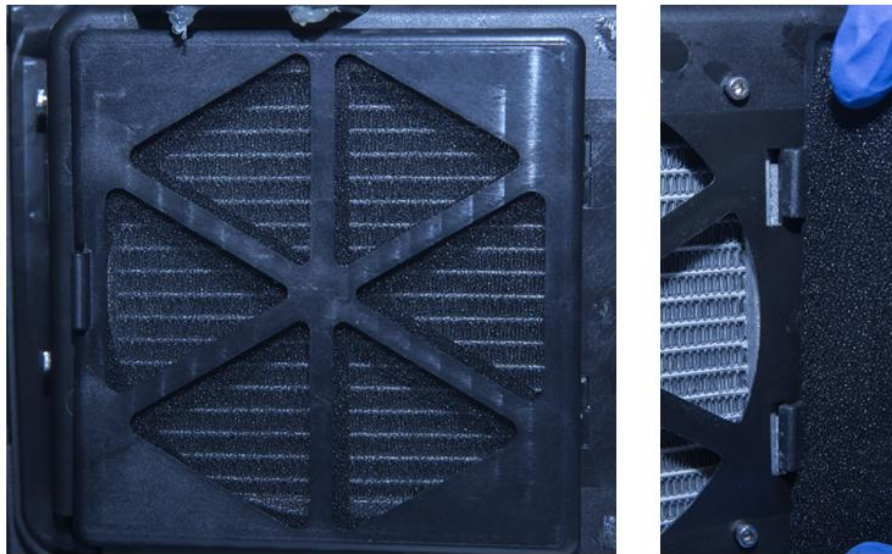
2. Take off the bottom filter holder.



3. Change for a new filter.



4. Lock the holder back.



## RELEASE PRESSURE IN COOLING SYSTEM

Notes:

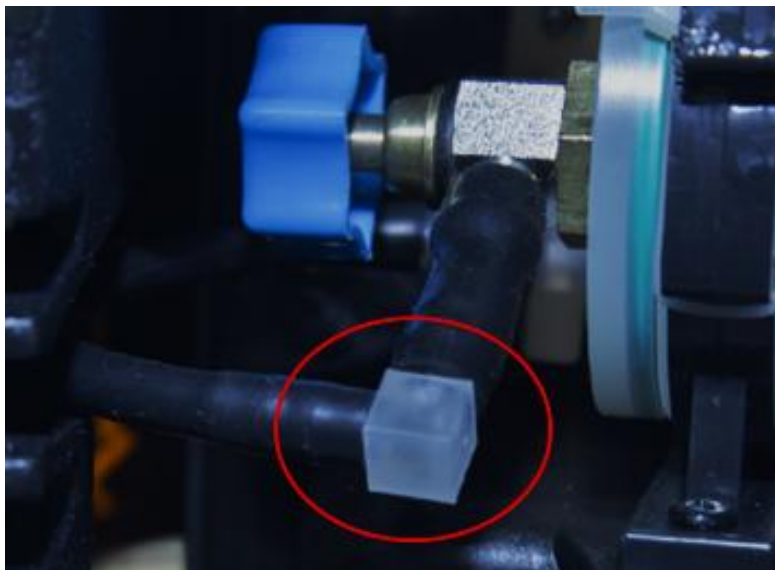
- (1) There are two separated cooling systems: one for LCD Screen and the other for LED light board. The colors of coolant are all clear transparent;
- (2) Please maintain and release pressure every month for best performance;

## Release pressure in LCD cooling system.

1. Put the printer sideways like picture shows. Lay protections to prevent possible damage to the printer.

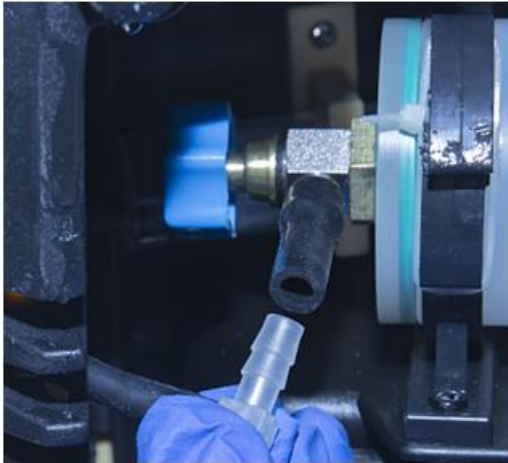


2. Find out the plastic elbow.

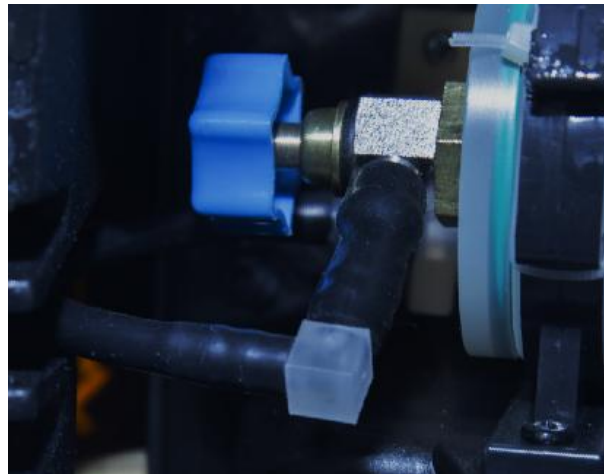




3. Take the black pipe off from the elbow and use some paper to catch coolant.

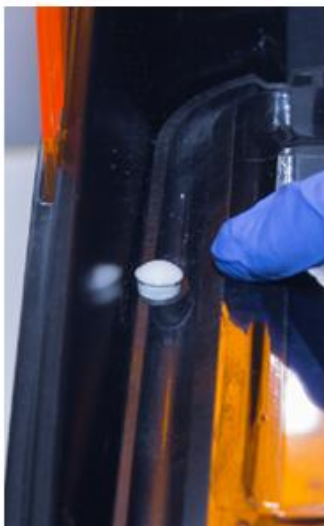


4. Connect the black pipe and elbow back when no coolant comes out.



### **Release pressure in LED cooling system.**

1. Open the front Cover and take off Resin Tank.
2. Take the white rubber stopper off and then insert it back.



# F HELP AND SUPPORT

There are a few printer specific issues that could show up while using your SLASH 2 printer. If you ever run into one of these issues, you can easily troubleshoot the issue yourself with help of the information on the following pages.

Of course, we also have local and online support teams for you available in case you need personal support.

| Problems                                     | Reason  | Solutions  |
|--|---|--|
| 1. The first layer is not sticking correctly | The calibration for platform initial point is not in correct position         | Follow z-axis calibration procedure and calibrate again.   |
|  | Build Platform surface is too smooth, printed model falls into the Resin Tank | Use provided sandpaper to roughen the surface of the Build Platform and clean up.  |
| 2. Printed model / layered fault             | The suction force between the Resin Tank film and models is too strong        | Replace with a new Resin Tank.<br><br>Or remove the Resin Tank, clean the LCD panel and the bottom of the Resin Tank film; wipe them with alcohol and then with a dry paper towel. (Note: touch ONLY the glass part of the screen, the area covered with black tape should |

|  |   |  |
|--|---|--|
|  |   | not be touched).<br>Increase cool down time.   |
|  | Insufficient adhesion between printed layers              | Increase exposure time.  |
| 3. Abnormal LCD performance under the show logo function: no displaying, flickering or different displaying on left/right side | The LCD cable is not inserted properly; damaged LCD cable | Follow the guidance to re-insert or install the LCD cable.                                 |
|  | The screen is damaged                                     | Follow the guidance to replace the LCD panel.  |
| 4. A stripe of part fail to print  | A row of lights are damaged on the LED light board        | Return to the factory for repair.  |
| 5. Stripy or grainy defects on the printed model   | Black spot or black bar appears on the screen             | LCD panel may be over heated. Let it cool or follow the guidance to replace the LCD panel. |
|  | The tension of the Resin Tank film is not strong enough   | Replace with a new Resin Tank.   |

|   |  |  |
|---|--|--|
| 6. Edge warp defects on the printed model                     | Problems with supports structures  | Follow the guidance to manually add the supports   |
|   | The model bottom is not pressed to the XY plane tightly                                      | Check the first layer slice for any error  |
| 7. There are wavy lines on the XY plane                       | Wrinkles on the Resin Tank film  | Replace with a new Resin Tank and increase the cooling time properly for the next print  |
| 8. Liquid or solid resin residue appear on the screen surface | Solid resin residue on the bottom of the Build Platform causes damage to the Resin Tank film | Replace with a new Resin Tank and clean the residual resin on the screen   |
| 9. The resin leaks from the right bottom of the printer       | Resin Bottle not inserted into the right place   | Clean up the residual resin according to the guidance and replace with a new Resin Bottle, make sure the bottle is inserted all the way in |
|   | The top vent hole of the Resin Bottle has not been pierced                                   | Pierce either top hole of the Resin Bottle with the provided awl   |

|  |  |  |
|--|--|--|
| <p>10. Excessive printed part appears. Light leaks outside the screen display area</p>   | <p>Light-blocking tape is damaged</p>                                      | <p>Replace with new tape, cut and cover any exposed area</p>   |
| <p>11. Printed model has ripples or wavy lines on the side face</p>  | <p>Shaky Z axis</p>  | <p>Adjust the tightness of the lead screw nut and the Build Platform holder according to the guide</p>     |
| <p>12. Oily liquid exuded from the seams area in front of the label at the printer bottom, and the level of the liquid in the coolant tank has significantly reduced</p> | <p>There is leak from the liquid cooling system</p>                        | <p>Replace with new LCD cooling module or return to the factory for repair.</p>                            |
| <p>13. Considerable size differences exceeding 1mm among the first several layers or between the left and the right of the printer</p>                                   | <p>The bottom of the Build Platform and the LCD panel are not parallel</p> | <p>Adjust the Build Platform parallelism according to the tutorial video</p>                               |
| <p>14. The Build Platform could not descend after it rises to the highest, with abnormal sound during the starting or finishing process of printing.</p>                 | <p>Z-axis limit switch is dysfunctional.</p>                               | <p>Check if the micro switch cable is broken; return to the factory for repair if it is well connected</p> |

|  |   |   |
|--|---|---|
| 15. Automatic pumping failed.  | The peristaltic pump nut fell off                                 | Install the nut according to the guidance   |
|  | The peristaltic pump tube fell off or blocked                     | Install or replace the tube according to the guidance   |
|  | The buckle of the peristaltic pump fell off                       | Install the tube according to the guidance  |
| 16. Abnormal display appear on the front light of the printer        | There is poor contact in the circuit board cable or program error | Reinsert the cable and restart  |
| 17. Touch problems occur with the front light of the printer         | The circuit board has broken                                      | Replace with a new circuit board according to the guidance  |
| 18. Abnormal sound may be heard from the rear cooling fan            | The fan cable has stuck or the bolt is over tightened             | Remove the rear fan filter cover and check if there is any cable interference; adjust the tightness of the bolt accordingly |
| 19. The printer cannot be restarted with a blinking red light button | 1.Loose SD card installation                                      | 1.Re-insert the SD card<br>2.Replace the circuit board  |

|  |   |   |
|--|---|---|
|  | <p>2. The coolant has leaked onto the circuit and damaged the components</p>  |   |
| <p>20. Printer activation fails</p>                | <p>Invalid printer SN</p>   | <p>Contact distributor or customer service</p>  |
| <p>21. The printer can't be connected to Wi-Fi</p> | <p>1. The client's router is 5G, and the wireless network card only supports 2.4G</p> <p>2. The DHCP timeout prevents the printer from being assigned an IP address</p> | <p>1. The customer needs to use 2.4G Wi-Fi</p> <p>2. Input the correct username and the password again in the Wi-Fi setting by software</p> |



# G CERTIFICATE

CERTIFICATE



## CERTIFICATE

Of Conformity  
With EU MD 2006/42/EC  
LVD 2014/35/EU

**Registration No.:** AT0917100049S

**Applicant :** Gold Array Technology Beijing LLC  
Room 2008, Institute of Science and Technology Building, No.9  
Zhongguancun south street, Haidian District, Beijing, China,  
100081

**Manufacturer :** Gold Array Technology Beijing LLC  
Room 2008, Institute of Science and Technology Building, No.9  
Zhongguancun south street, Haidian District, Beijing, China,  
100081

**Product Name :** 3D Printer

**Model No. :** SLASH300, SLASH100, SLASH200, SLASH400, SLASH500,  
SLASH600, SLASH700, SLASH800, SLASH900

**Trade mark :** SLASH

**Applicable Standards :** EN ISO 12100:2010  
EN 60204-1:2006+A1:2009+AC:2010

**TCF Number(s) :** R0917100049S

The certificate of conformity is based on an evaluation of a sample of the above-mentioned product. Technical report and documentation are at the applicant's disposal. This is to certify that the tested sample is in conformity with all requirements of EU Machinery Directive 2006/42/EC & Low Voltage Directive 2014/35/EU, the certificate does not imply assessment of the production and does not permit the use of Lab's logo. The applicant of the certificate is authorized to use this certificate in connection with EC declaration of conformity to the Directive.

Oct. 25, 2017  
Date



Certified by  
*Jeff Zhu*  
Jeff Zhu  
Manager



The CE Marking may only be used if all relevant and effective EU Directives are complied with



Shenzhen Anbotek Compliance Laboratory Limited  
1/F., Bldg C, Gold Power Industrial Park, Julongshan Tel: (86)755-26066544  
Grand Industrial Zone, Pingshan New District, Fax: (86)755-26014772  
Shenzhen, Guangdong, China  
[Http://www.anbotek.com](http://www.anbotek.com) Email: [service@anbotek.com](mailto:service@anbotek.com)



# CERTIFICATE



## CERTIFICATE Of Conformity EU Council Directive 2014/30/EU Electromagnetic Compatibility

Registration No.: AT0917100049E

Report No.: R0917100049E

**Applicant** : Gold Array Technology Beijing LLC  
Room 2008, Institute of Science and Technology Building,  
No.9 Zhongguancun south street, Haidian District, Beijing,  
China, 100081

**Manufacturer** : Gold Array Technology Beijing LLC  
Room 2008, Institute of Science and Technology Building,  
No.9 Zhongguancun south street, Haidian District, Beijing,  
China, 100081

**Product** : 3D Printer

**Identification** : **Model No.** : SLASH300, SLASH100, SLASH200,  
SLASH400, SLASH500, SLASH600,  
SLASH700, SLASH800, SLASH900

**Trade Mark** : SLASH


**Rating** : AC100-240V, 50/60Hz, 2A

**Test Standards** : EN 61000-6-3: 2007+A1: 2011  
EN 61000-3-2: 2014  
EN 61000-3-3: 2013  
EN 61000-6-1: 2007

The certificate of conformity is based on an evaluation of a sample of the above-mentioned product. Technical report and documentation are at the applicant's disposal. This is to certify that the tested sample is in conformity with all provisions of Annex II of Council Directive 2014/30/EU, in its latest amended version, referred to EMC Directive. The certificate does not imply assessment of the production and does not permit the use of Lab's logo. The applicant of the certificate is authorized to use this certificate in connection with EU declaration of conformity to Article 15 of the Directive.



Certified by

  
Torn Chen  
Manager

Oct. 26, 2017  
Date



The CE Marking may only be used if all relevant and effective EU Directives are complied with



**Shenzhen Anbotek Compliance Laboratory Limited**  
1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Tel: (86)755-26066544  
Nanshan District, Shenzhen, Guangdong, China Fax: (86)755-26014772  
Http://www.anbotek.com Email: service@anbotek.com



CERTIFICATE



## CERTIFICATE

Of Conformity

EC Council Directive 2011/65/EU

Restriction of the Use of Certain Hazardous Substances  
in Electrical and Electronic Equipment

Registration No.: ATSZR171024007001

Report No.: SZR171024007001

Applicant : Gold Array Technology Beijing LLC  
Room 2008, Institute of Science and Technology Building, No.9  
Zhongguancun south street, Haidian District, Beijing, China, 100081

Manufacturer : Gold Array Technology Beijing LLC

Product : 3D Printer

Identification : Model No. : SLASH300 (Main test), SLASH100, SLASH200,  
SLASH400, SLASH500, SLASH600, SLASH700,  
SLASH800, SLASH900

Trade Mark : SLASH

Test method : IEC 62321-3-1:2013 Ed.1.0, IEC 62321-5:2013 Ed.1.0,  
IEC 62321-4:2013 Ed.1.0, IEC 62321-7-1:2015 Ed.1.0,  
IEC 62321-7-2:2017 Ed.1.0, IEC 62321-6:2015 Ed.1.0

This is to certify that, the certificate is based on Anbotek's test results and other related substance information provided by applicant. The submitted sample fulfills the requirement of the Directive 2011/65/EU ( RoHS ).



Certified by

*Leo. Li*

Nov. 06, 2017  
Date



Shenzhen Anbotek Compliance Laboratory Limited

East of 4/F., Building A, Hourui No.3 Industrial Zone, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China  
Tel: (86)755-26066061 Fax: (86)755-26066021  
Http://www.anbotek.com Email: service@anbotek.com



