SHINING 3D®

AccuFab-L4D User Manual

V3.5.20

Table of Contents

I. Overview

1 About the User Manual

This user manual (hereinafter referred to as "the Manual") introduces the functions, installation, usage and maintenance of the AccuFab L4D Printer (hereinafter referred to as "the Printer").

1.1 Symbol Convention

Symbol	Meaning
	**Note:** This symbol is used to inform you of the additional information of the product.
	**Caution:** This symbol is used to inform you of incorrect operations that may damage the device or result in data loss.
	**Warning:** This symbol is used to inform you of the potential risks that may result in serious personal injury and other safety incidents.

1.2 Legal Disclaimer

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I.I About the Pinter

2 Introduction

AccuFab L4D high-precision resin 3D printer (hereinafter referred to as "the Printer") supports high-quality digital model printing with 4K resolution and a large build volume of 192×120x180 mm.
Featuring stable and accurate printing precision, the Printer improves prototyping efficiency and shortens the new product development lifecycle with guiding software and simple operational procedures improves prototyping efficiency and shortens the new product development lifecycle. With diverse resin material options, the Printer can meet diverse demands in restorative, implant, orthodontic applications and other professional fields of dentistry.

- Higher printing precision: up to 90% optical uniformit, with adaptive light power adjustment
- Higher resolution: 3840 x 2400 high resolution for rich surface textures and fine features
- More reliable printing efficiency:
  - longer working life for optical components, up tp 10,000 hours（about 30,000 times）
  - high power full-array light source, increase optical efficiency to 200%
- Richer certificated materials: with the record of medical device certification, support a number of 3D printing applications such as working and orthodontic models

3 Parts List

After unpacking, there are the main equipment, an accessory box, two resin tanks, one power adaptor and one power cord.

3.1 Components Overview

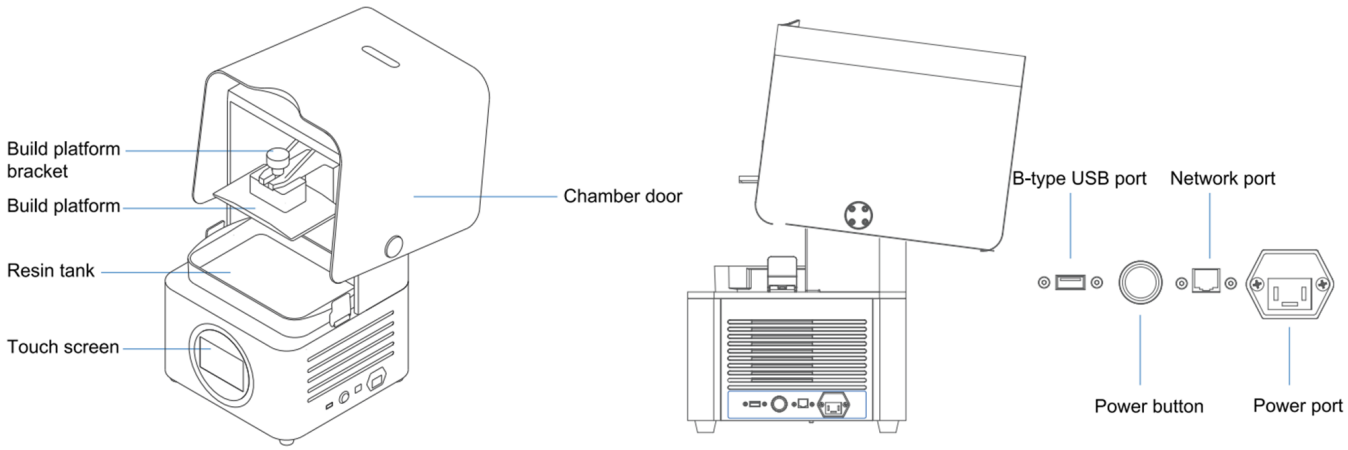


Figure 1: The Front The Back

> **Note**
>
> The equipped **FabWare** software is controlled via the touch screen.

3.2 Accessories List

Instructions for the use of some of listed accessories are shown in the table below.

Number	Accessory	Description
①	Flash Drive	Flash drive contains Installer of AccuWare, Printer profile ".sndev", Activation file(.ac), User Manual, Quick Start Guide and "Factory test reports".
②	Angular Knife, Putty Knife	Used to remove models from the platform after printing finished.
③	Brush	Used to clean extra resin on the model.
④	Scraper	Used to stir resin in the tank to avoid sediment.
⑤	Cleaning Box	Used to store parts or alcohol.
⑥	Cloth	Used to clean optical path indluding projector lens, protection glass and resin tank glass.
⑦	PET Card	Used to level the platform and remove the cured layer.

Warning

Please take care and keep safety in mind when using the scraper and putty knife which have sharpened edges.

4 Installation

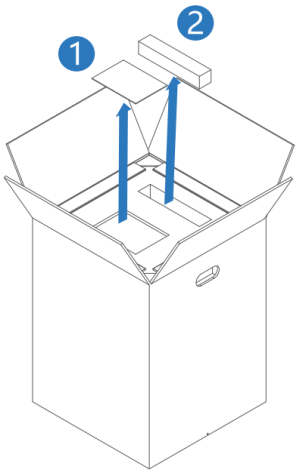
4.1 Unpacking

Please follow the steps below to complete unboxing.

> ⚠ **Caution**
>
> If the printer needs to be returned to the manufacturer, it should be shipped in it's original packaging. Therefore, do not damage or discard any packaging materials.

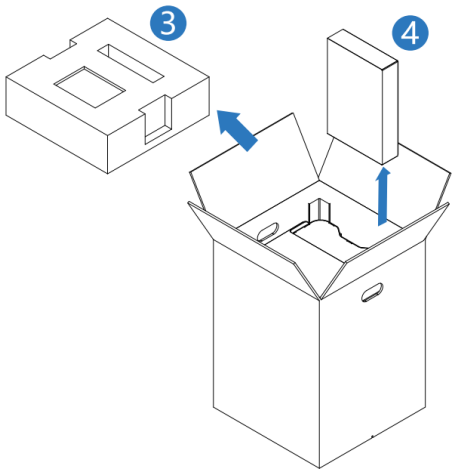
1 Unboxing >

Open the package and take out the “product certificate”, "installation guide" ① and power cable ②.



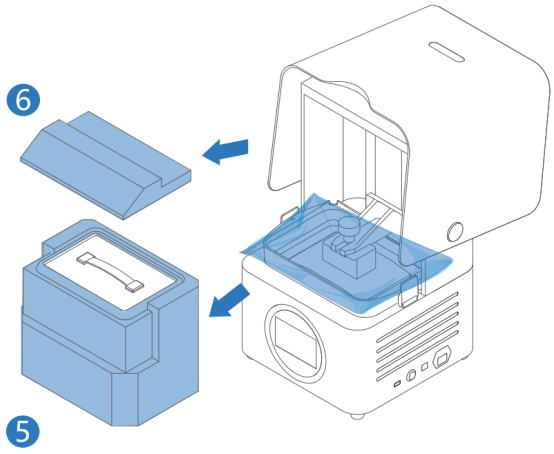
2 Take out the complimentary resin tank >

Remove foam ③, take out the spare resin tank ④ from the back of the printer.



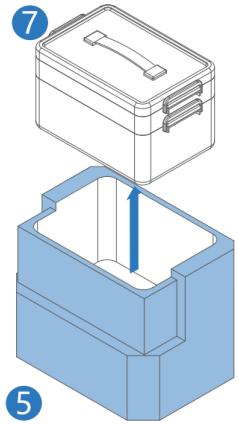
3 Take out the printer >

Remove the package, place the printer on the table,and open the printer chamber door. Remove fixing foam ⑤ & ⑥ inside the printer.



4 Take out accessories

Takeout accessory box ⑦ from fixing foam ⑤.

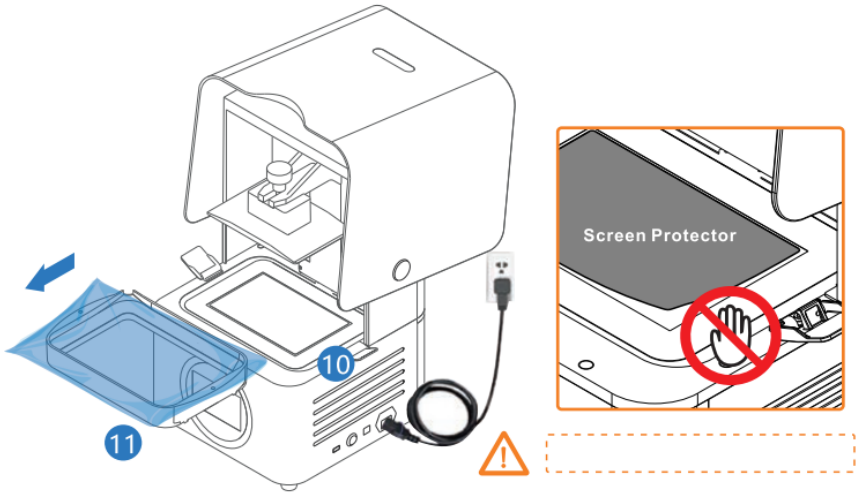


4.2 Assembling

The build platform bracket will move up automatically after booting the printer, and it is time to **install the resin tank**.

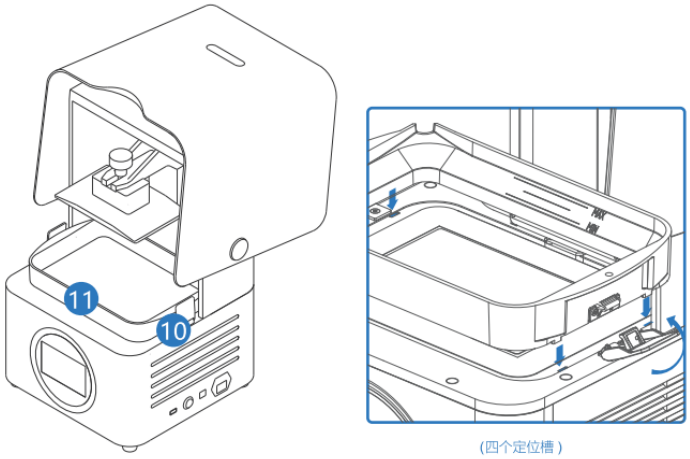
1 Remove the protect film >

Open the buckles fot resin tank and take out the resin tank ①. Remove the protect film around the resin tank.



2 Install the resin tank

Put clean resin tank into the position. Lock the buckles ⑩ for resin tank.



5 Specifications

5.1 Printer Parameters

Parameter	Description
Packing Dimensions	480 mm × 480 mm × 660 mm（X，Y，Z）
Packing Weight	25 kg
Machine Dimensions	360 mm × 360 mm × 530 mm（X，Y，Z）
Net Weight	19 kg
Operating Temperature	20℃ ~ 35℃
Operating Humidity	30% ~ 70%
Power Supply	100 V ~ 240 V；AC；50 Hz ~ 60 Hz；360 W
Data Format	STL
Interface	USB / Ethernet / Wi-Fi
Authentication	FCC / CE / ROHS

5.2 Optics Parameters

Parameter	Description
Optical Engine	black-and-white LCD screen
Resolution	3840 px × 2400 px
Pixel Size	0.05 mm
Light Source	405 nm UV-LED
Light Intensity	3 mw / cm²

5.3 Print Parameters

Parameter	Description
Print Volume	192 mm × 120 mm × 180 mm（X，Y，Z）
Layer Thickness	0.025 mm / 0.05 mm / 0.075 mm / 0.1 mm
Print Speed	10 mm/h ~ 50 mm/h
Print Accuracy	± 0.05mm

6 Environmental Requirements

Please ensure the working environment meets the requirements listed below before operating or storing the printer.

Warning

Please ensure excellent ventilation.

Environmental Requirement	Description
Voltage Range	100 V ~ 240 V / 360 W
Temperature Range	20 ℃ ~ 35 ℃
Humidity Range	30% ~ 70%
Other Requirements	• A neat, stable and level platform. • A well-ventilated area with less dust, no direct sunlight, no flames or UV energy.

Caution

- The temperature and humidity have a direct effect on the printing result.
  - To reach optimal results, it is recommended that create an environment staying 23℃ ± 2℃ and 50% ± 10% humidity.
  - The printer will periodically sense the temperature and pause the printing process when the temperature is under 15℃.
- The shaking of the working bench may damage the printer's internal parts and the tilt of the working bench leads to the uneven distribution of liquid resin, which both affect the printing result.

7 Notice for Use

This section provides safety precautions which will also appear repeatedly within this User Manual for reminding.

> **Warning**
>
> Please read and strictly comply with all matters in this section, as failure to do so may result in personal injury or damage to the printer.

7.1 Notice for Operation

- **Lifting Hazard**: Due to its size and weight, do not move or reposition the printer alone.
- **Operators**: Operators shoould be trained to operate the system and perform all the necessary tasks to build a part.
- **Touch Forbidden**: It is forbidden to touch the model, resin tank, build platform and any other components by hand. Remember to wear disposable gloves when handling the machine.
- **Sharp Tools**: AccuFab 3D printer is equipped with a set of accessories including sharp tools. Protection is required when using these tools.

> **Note**
>
> The electromagnetic occurring during printing meets CE / FCC standard and brings no harm.

> **Caution**
>
> AccuFab 3D printer shall only use the original consumables and accessories. Any change to the printer without the manufacturer's permission will invalidate the warranty.

7.2 Notice for Material

Ultraviolet Light

When curing resin or printing, the UV panel under the LCD screen projects 405 nm UV-LED light.

> **Warning**
>
> The UV Light is harmful to the eyes, so please avoid direct eye contact.

Ethanol

The ethanol of 75% concentration or above is recommended for cleaning liquid resin.

> **Warning**
>
> - **Irritation**: Please **wear disposable gloves** when dealing with the ethanol, and always wash skin thoroughly after working with ethanol.
>   - Skin Irritation: If skin contact happens, take off contaminated clothing and wash the skin area thoroughly with soap and **cold** water.
>   - Eye Irritation: If eye contact happens, flash the eye with water and seek medical care immediately.
> - **Respiratory Danger**: Smoking, eating and drinking are strictly forbidden in the working area. If oral contact happens, gargle, induce vomiting and seek medical care immediately.
> - **Fire Hazard**: Liquid ethanol is flammable, please store it with caution.
>   - Keep the container closed.
>   - Store it in somewhere ventilated and cool (50 ~ 86°F / 10.0 ~ 30.0°C).
>   - Keep it away from direct sunlight, heat, flames, or UV energy.
> - **Spill Hazard**: Always keep the container upright and reseal it after use, in case of spilling over.
>   If the ethanol spills, cover it with sand or the other nonflammable materials, or wash it with plenty of water and then sluice the diluted water to the wastewater system.
> - **Disposal**: Avoid direct contact, and deal with liquid ethanol in ventilated places collectively.

Resin

The printing material used by the Printer is photo-polymerized resin developed independently by SHINING 3D, including pure liquid resin, resin dissolved in solvants or partly cured resin (hereinafter referred to as "the Resin").

The Resin performs stable and safe in the test. **However, the direct contact with the Resin may still cause eye damage or skin irritation, and other adverse irritation reactions**.

In this case, please ask authorized reseller for Material Safety Data Sheet (MSDS) before working with the Resin. When working with the Resin, please wear wear rubber oil resistant gloves, protective clothing, eye protection equipments and protective masks while following the instructions in MSDS strictly.

Caution

- **Sendiment treatment**: The Resin is classified as mixtures and tends to form small amounts of sediment after standing for a period of time.
  Please follow the instruction in this manual to add resin and shake the storage container before use to reduce sediment.
- **Splash Hazard**: When adding liquid resin, please keep the liquid level not higher than the MAX line in the resin tank; otherwise, the liquid resin may splash out of the tank during printing.
- **Printing Effect**: Please add liquid resin in time to keep the liquid level above the MIN line in the resin tank to ensure that the model prints well.

Warning

- **Irritation**: Please **wear disposable gloves** when dealing with the Resin, and always wash skin thoroughly after working with the Resin. - Skin Irritation: If skin contact happens, take off contaminated clothing and wash the skin area thoroughly with soap and COLD water. - Eye Irritation: If eye contact happens, flash the eye with water and seek medical care immediately.
- **Respiratory Danger**: Smoking, eating and drinking are strictly forbidden in the working area. If oral contact happens, gargle, induce vomiting and seek medical care immediately.
- **Fire Hazard**: The Resin is flammable, please store it with caution. - Store it in somewhere ventilated and cool (50 ~ 86°F / 10.0 ~ 30.0°C). - Store it separately from incompatible substances and avoid mixing. - Keep it away from direct sunlight, heat, flames, or UV energy. - It is not suggested that the Resin be stored in oxygen-free environment, where the material could be forzen.
- **Spill Hazard**: Resin may spill over the resin tank walls if the container tilts, so please always keep the resin tank upright and place it on the stable platform. Besides, resin tanks are consumable materials and should be replaced immediately when reaching the end of its working life, in case of printing failure, the spillover of the Resin, or other potential problems.
  - If a little amount of resin spills on the printer exterior, for maintaining printing effect, clean the LCD screen and the resin tank film as soon as possible.
  - More extensive resin spills that reach the inside of the printer may contaminate or erode critical components. For this case, cancel the operation and shut down the machine, keep the chamber hood closed to prevent ambient light from curing the resin, then photograph the spill and contact SHINING 3D supporter for further assistance.
- **Disposal**: The Resin is classified as hazardous waste and does harm to aquatic life, so please dispose it discreetly and follow the instructions in MSDS.

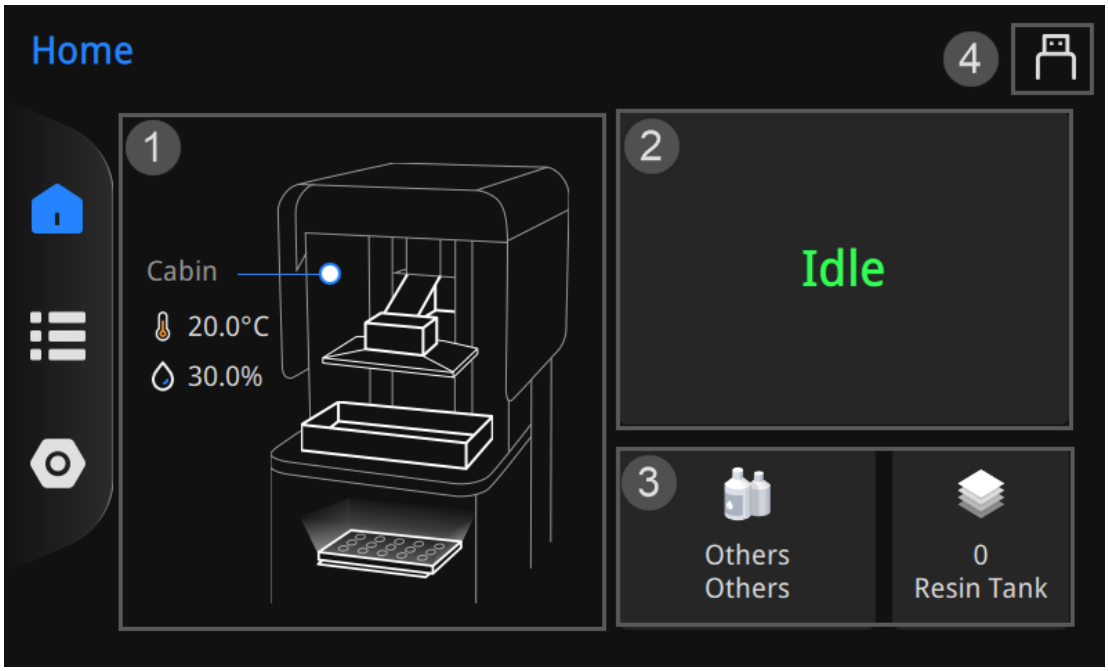
II. Software

II.I Interface

8 Home

On the **Home** interface, check the current status of the printer and the related information of the resin tank.

> **Note**
>
> - When the activation prompt appears, please enter **Settings** > **About** > **Activate License**, follow the instructions to activate the printer for full permissions.
> - When you are prompted that the remaining days are insufficient, please go to **AccuWare** > **Settings** > **Printer Act and Auth** interface to process online activation, or contact Shining 3D technical supporters to process activation with the activation file.



Switch columns to view the introduction to each field.

① Cabin inspection

: Displays the **Air Temperature** and **Humidity** inside the build chamber.

> **Caution**
>
> Please ensure that the value displayed meets the environmental requirements.

② Printer status

Idle: Printing has not started or is completed. Tap the field to enter **Queue** interface to select the file for printing.

Printing: Tap the field to enter **Print Detail** interface to check the printing information and control the printing process.

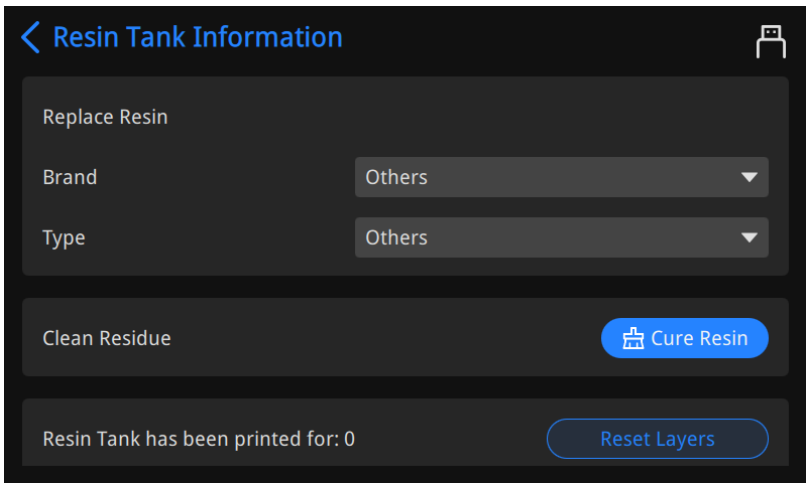
> **Caution**
>
> Interrupting the printing process will lead to the slices' misalignment.

③ Resin tank information

: Displays the brand and type of the material in the resin tank, as well as the number of layers having been printed by the printer.

Tap the field to enter the **Resin Tank Information** interface to set the resin tank.

- **Replace Resin**: Tap the checkbox to select the brand and type of the alternative resin.
- **Clean Residue**: When cleaning the resin tank, tap **Cure Resin**, the UV panel projects LED light to cure the residue at the bottom of the tank.
- **Resin Tank has been printed for**: Displays the cumulative number of printed layers.
  Tap **Reset Layers** to reset.



Caution

- Please use the photosensitive resin independently developed by Shining 3D or other authenticated resin materials.
- Please select the brand and type of resin actually added to the tank, or the printing may fail; If the resin type is not listed out, select **Others** instead.

④ **Status bar**

: The printer has been connected to a wireless network, and operations such as select queue files and network update are available then.

: The printer has been connected to a lan network, and operations such as select queue files and network update are available then.

: USB flash drive has been inserted, and operations such as select USB files, activate license, export logs and flash drive update are available then.

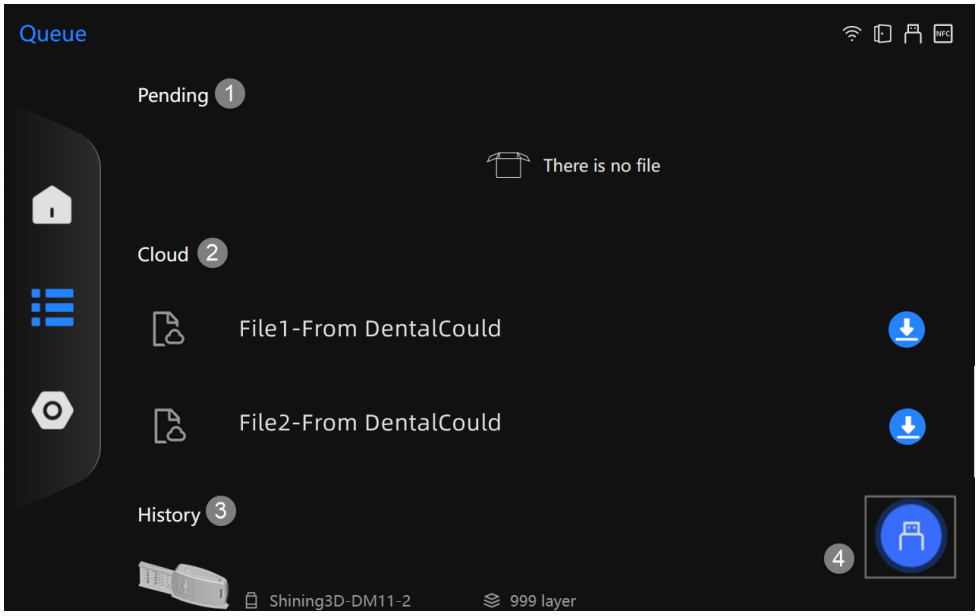
: the chamber door has not been closed yet.

Warning

Keep the chamber door closed during the printing process. It is recommended that tap **Settings** > **Software Settings** and enable **Activate Cover Sensor When Printing** to ensure print quality and reduce safety risks.

9 Queue

On the **Queue** interface, browse and select the print file.



Switch columns to view the introduction to each field.

① Pending Queue

Displays the files to be printed and the information of designated consumables.

Tap one file bar to check its detailed printing information:

- **Delete**: delete the file from the queue.
- **Print**: print the file.

② History Queue

Displays the files having been printed and the information of designated consumables.

Tap one file bar to check its detailed printing information:

- **Delete**: delete the file from the queue.
- **Print**: print the file.

> ⚠ **Note**
>
> When running out of the memory (6 GB in total), the system will delete files from the bottom of the history queue.
>
> In this case, please review uploaded print jobs on the queue page periodically, and you may need to delete files from the queue to ensure there is sufficient space left for further use, or tap **Settings** > **About** > **Restore** > **Clean up Local Files** to delete files listed in the queue by one click.

③ Cloud Queue

Displays the files which are sent from the DentalCloud and the information of designated consumables.

- : Download files sent from theDentalCloud. The downloaded files will enter **Pending** queue, for more see select files from **Cloud** queue.
- : Cancel downloading tasks.
  - Tap the download button to download the file again;
  - Tap button again to delete the file completely.

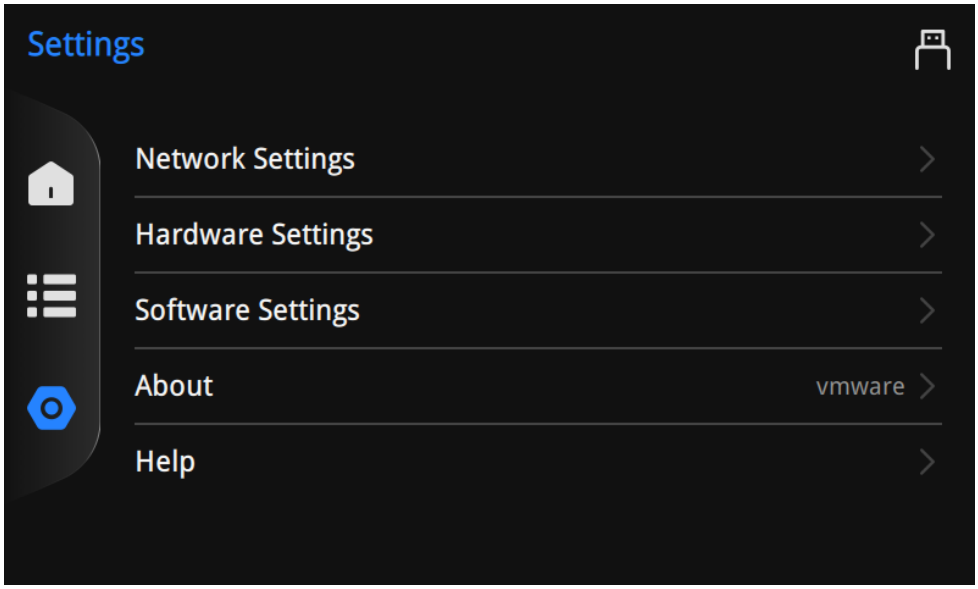
④ USB queue

After inserting the flash drive with SLP file, icon appears in the corner of the **Queue** interface.

Tap to enter the **Flash Drive** interface and select a file to import it to the **Pending** queue.

10 Settings

On the **Settings** interface, check or update current settings.



> **Note**
>
> The **Hardware Settings** and **Software Settings** are not available during printing. Debug the device before printing.

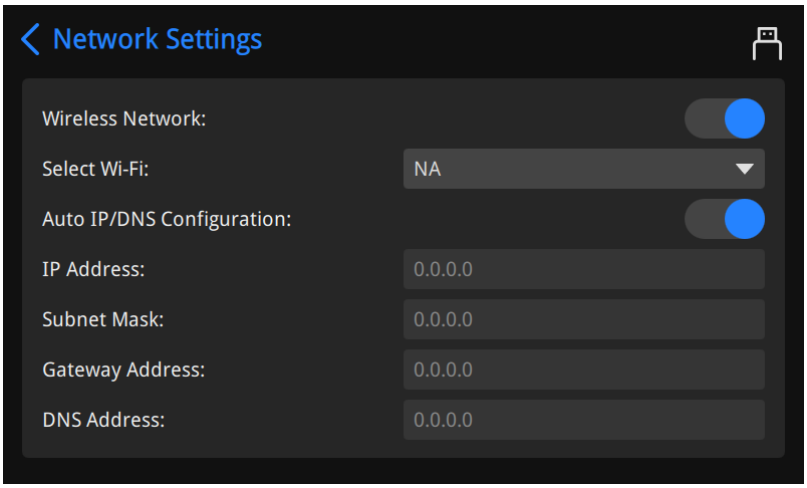
Switch columns to view the introduction of various functions.

Network settings

- **Wireless Network**:

  Check **Wireless Network** option, select a network and enter the key to connect.

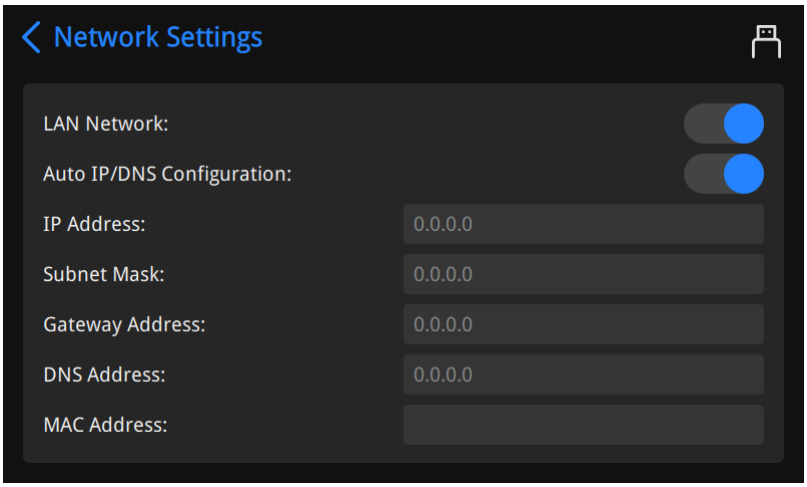
  The icon will appear on the status bar since the network connection being done.



- **Lan Network**:

  After inserting network cable, check **Lan Network** option to connect.

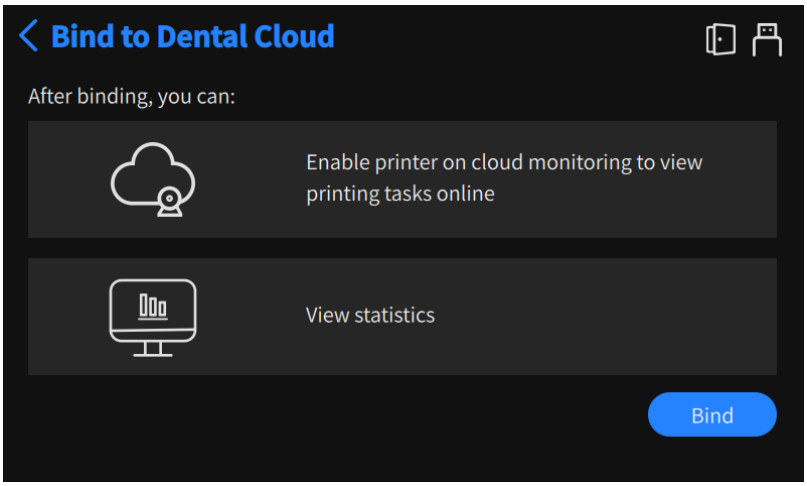
  The icon will appear on the status bar since the network connection being done.



> **Note**
>
> **Auto IP / DNS Configuration** function is enabled by default, and the automatical filling of IP / DNS information suggests the network connection is successful.

- **Bind to DentalCloud**:

  Bind the printer to your DentalCloud account, and monitor the queue status, printing status and temperature&humidity in real time on the DentalCloud. For more see Bind to Dentalcloud.

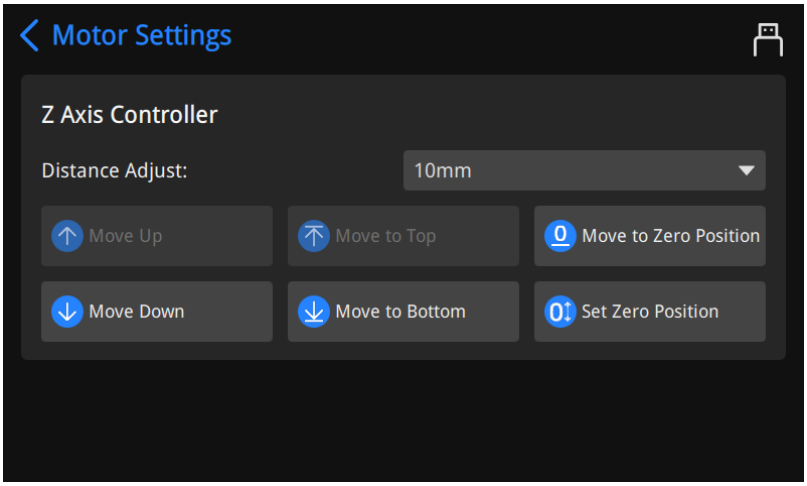


Hardware Settings

- **Motor Settings**

> **Caution**
>
> Before setting the motor, it is necessary to clean the print platform and remove the resin tank to avoid collision.

Adjust the position of build platform or reset the zero position through **Z Axis Controller**.

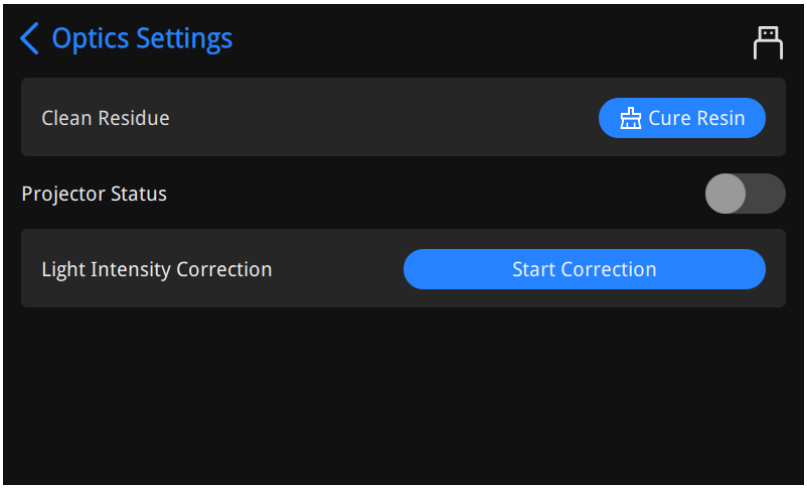


> **Note**
>
> The position of the build platform equals to the position of the Z axis; The position of the resin tank equals to the position of the X axis.

- **Optics Settings**:
  - **Clean Residue**:

    Tap **Cure Resin**, the printer projects LED light to cure the resin in the tank.
  - **Light Intensity Correction**:

The intensity of LED light will be weaken over time. Tap **Start Correction**, the system will correct the intensity and increase it to set value automatically.



> **Danger**
>
> Do not change any settings of the projector unless you are manufacturer's technical staff.

Software Settings

- **Language**:

  Tap the checkbox to select a language.

> **Note**
>
> If you have inserted the USB flash drive, it also allowed to tap **Import Language** to import the language package.

- **Activate Cover Sensor When Printing**

  Enable **Activate Cover Sensor When Printing** helps to ensure print quality and reduce security risks.

- **Push Updates**:

  Enable **Push Updates** option, and the software will display a prompt for update when there is a new version of the system or material packages available for download.

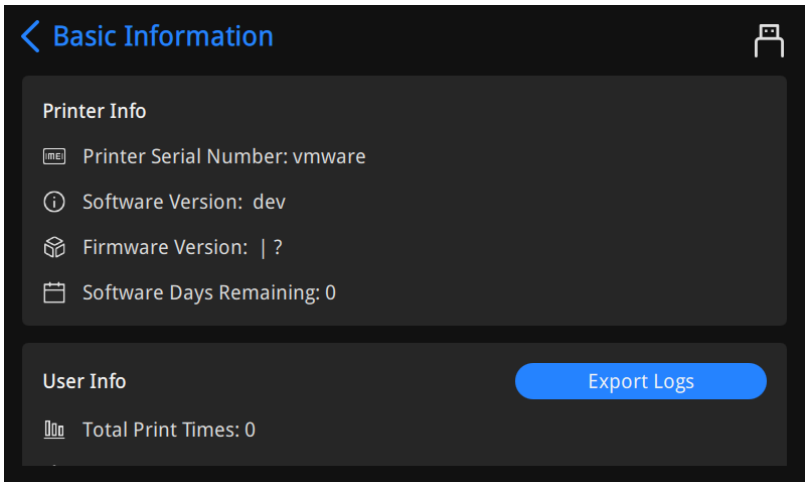
- **Skip Print Guide**:

  Enable **Skip Print Guide** option， the printer will directly enter the **Home** interface after boot-up.

About

- **Basic Information**:

  Displays the serial number, the version number, and the work log.

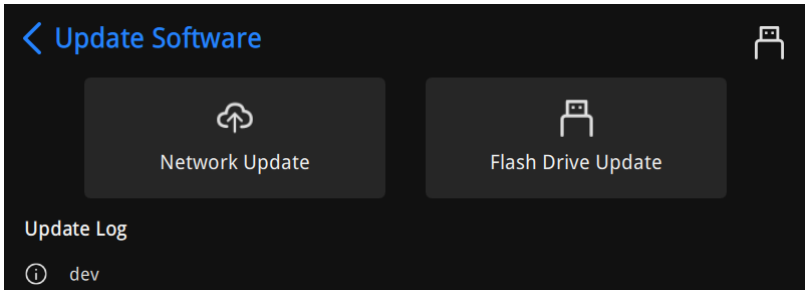


> **Note**
>
> After inserting the flash drive, tap **Export Logs** to export the work log to the flash drive inserted.
>
> The log records the volume of materials used in each completed printing task and the temperature & humidity of the last 20 printing tasks for traceability.

- **Update Software**:

  When a new version is available, tap **Update Software** to choose **Network Update** or **Flash Drive Update**.

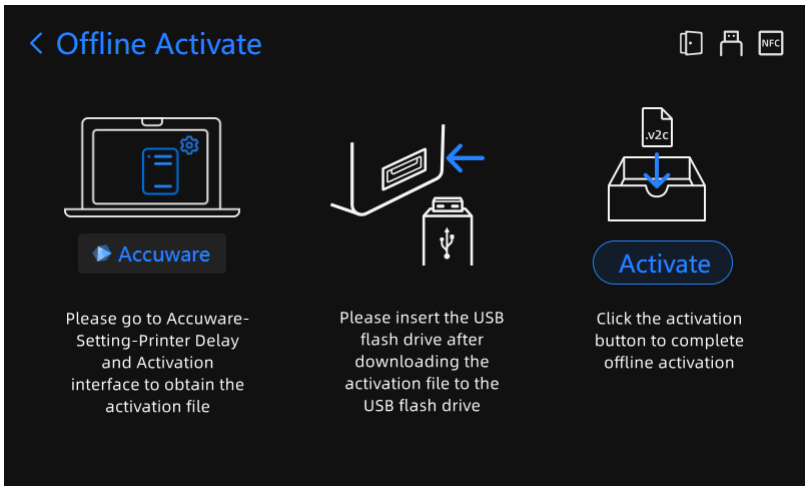
  When there is an update to environment library files, you need to update it via network or flash drive.



> **Note**
>
> Please connect to the Internet before updating environment library files.

- **Activate License**:

  If the software has not been activated yet, it is suggested that tap **Activate License** and follow the instructions below to complete offline activation.



> **Note**
>
> When you are prompted that the remaining days are insufficient, please contact Shining 3D technical supporters to process activation with the activation file.

- **Recovery**:

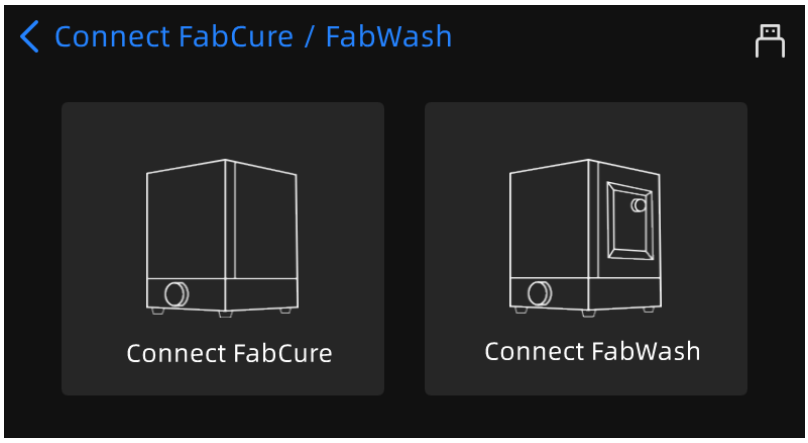
  : Burn all the data;

  : Clear files on the **Queue** interface;

  : Restore default settings.

- **Connect FabCure / FabWash**:

  After connecting to wireless network, tap **Connect FabCure / FabWash** and enter the hot-spot code of FabCure / FabWash to share their network signal.



> **Note**
>
> A printer can assist the networking of multiple curing boxes / cleaning machines.

- **User Guide**:

  Tap to enter the User Guide.

  > **Note**
  >
  > If this is the first boot-up, the software will walk you through the User Guide automatically.

- **User Manual**:

  Scan the QR code and view the User Manual on web.

II.II User Guide

11 Activation Guide

The User Guide includes the **activation guide**, the **installation guide**, and the **sample print guide**.

Note

- If this is the first boot-up, the software will walk you through the User Guide automatically.
- If you need to re-enter the User Guide later, go to **Settings** > **Help** > **User Guide**; tap **Skip Sample Printing** / **Skip All** to exit the User Guide and return to the **Settings** interface.

Caution

- Check whether the build platform moves normally, whether the light processing system works normally, and whether the sample is printed normally during the guidance process. If there is any problem, contact Shining 3D technical supporters for help.
- Damage to the device, data loss and any other accidents caused by procedures not specified in this Manual are not covered by the warranty.

Please follow the instructions to activate the license:

1 Select the language >

The printer comes pre-installed with 10 languages for choice: **Chinese, English, Traditional Chinese, Japanese, Korean, Russian, French, Italian, Spain, German**.

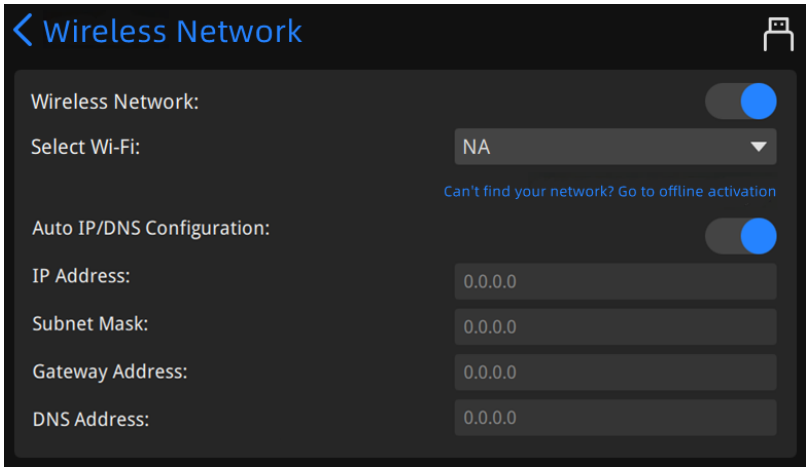
Note

To change the language later, go to **Settings** > **Software Settings**, tap the language selection box and select the target language; or insert the flash drive and tap **Import language** to import more language packs.

2 Connect to the network >

Wireless Network

Check **Wireless Network** option, select a network and enter the key to connect.

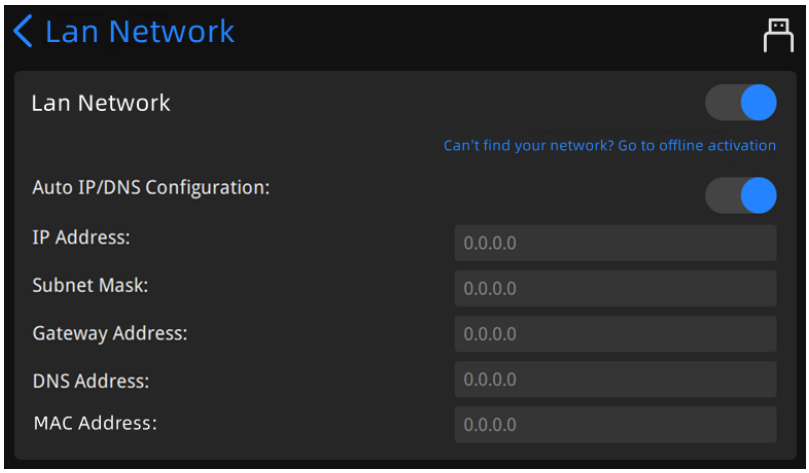


> **Note**
>
> - The icon will appear on the status bar since the network connection being done.
> - In the demo mode, you have only 10 printing chances, and when the remaining printing times are 0, please activate the license in time.

- If the connection is successful, tap the **Demo Mode** button, **Confirm** and enter the demo mode to guide you through the printer installation and sample print; or tap the **Next** button to proceed with online activation.
- If the connection fails, you can still **Enter Demo Mode** or **Retry**, or tap the text button "Can't find your network? Go to offline activation" to activate the license via offline activation.

Lan Network

After inserting the Ethernet cable into the network port, check **Lan Network** option to connect.



> **Note**
>
> - The icon will be added to the status bar since the network connection being done.
> - The demo mode has only 10 printing chances, and when the remaining printing times are 0, please activate the license in time.

- If the connection is successful, tap the **Demo Mode** button, **Confirm** and enter the demo mode to guide you through the printer installation and sample print; or tap the **Next** button to proceed with online activation.
- If the connection fails, you can still **Enter Demo Mode** or **Retry**, or tap the text button "Can't find your network? Go to offline activation" to activate the license via offline activation.

Note

- **Auto IP / DNS Configuration** function is enabled by default, and the automatical filling of IP / DNS information suggests the network connection is successful.
- Later you can go to**Settings** > **Network Ssettings** to set the network.

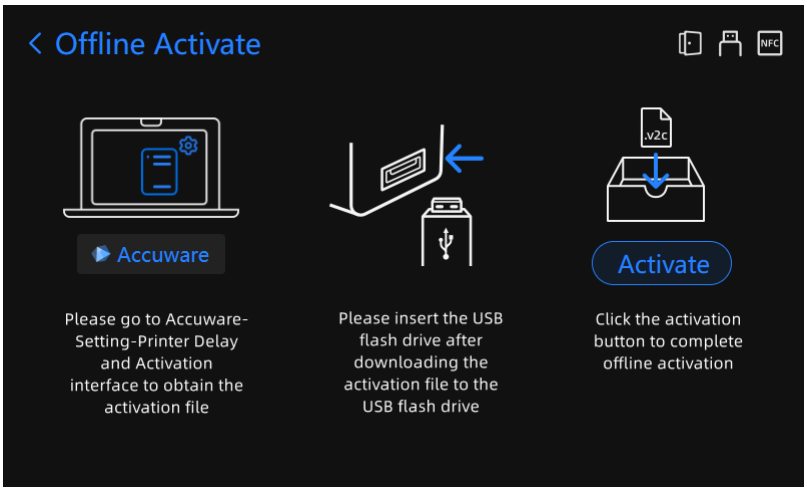
3 Activate the license

- **Online Activation**:

  Scan the QR code on the interface or enter the given website address manually, and follow the instructions to complete online activation.

- **Offline Activation**:

  On the **Wireless Network** or **Lan Network**, tap the text button "Can't find your network? Go to offline activation", and follow the instructions as shown below to complete offline activation.



After activating the license, please follow the instructions to install the printer.

12 Installation Guide

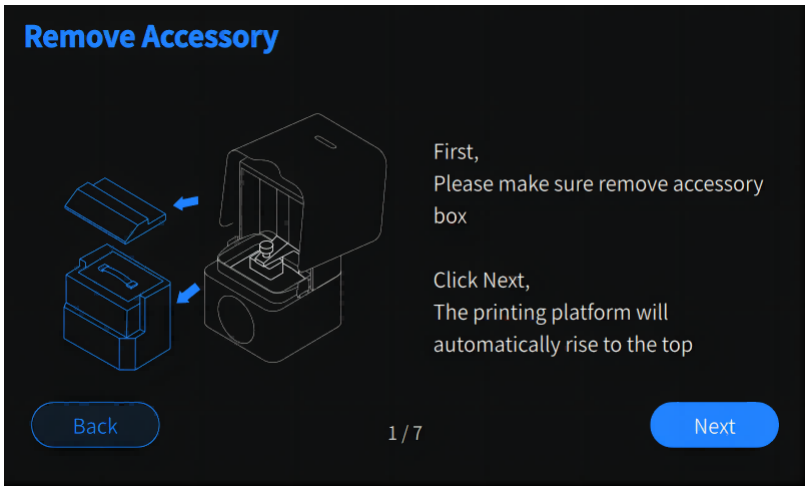
Please follow the instructions to complete the following operations step by step: **Remove Accessory > Remove Protective Film > Install Resin Tank > Install Platform**.

Danger

Please read and understand all relevant safety instructions and envrionmental requirements thoroughly before installing the printer, and ensure that there are no dust-generating devices, direct or intense sunlight when working with the printer, and the working platform is clean and level.

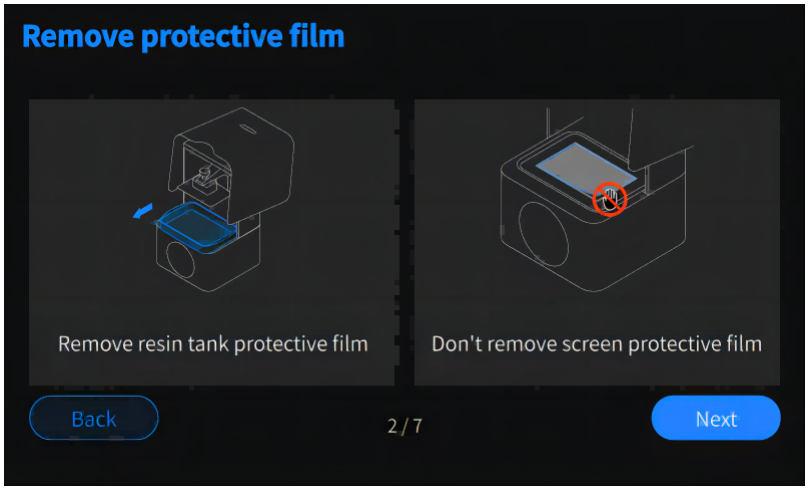
1 Remove accessory >

Please follow the instructions to remove the accessory packaging box, and the printing platform will automatically rise to the top.



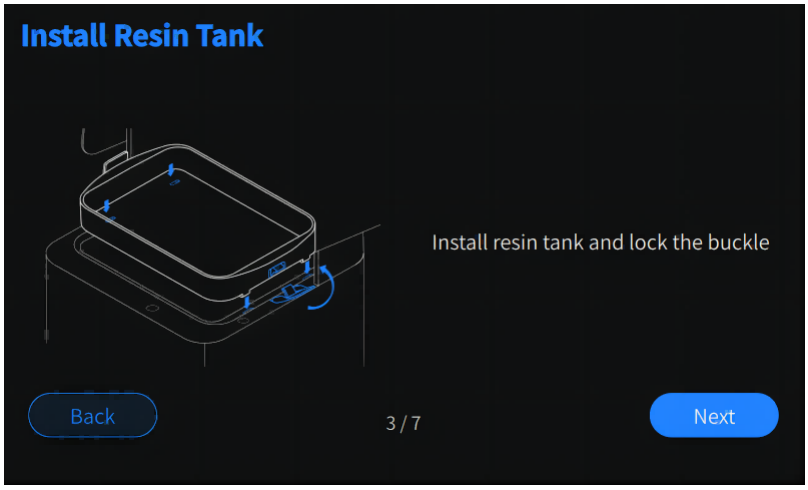
2 Remove protective film >

Please follow the instructions to remove protective film.



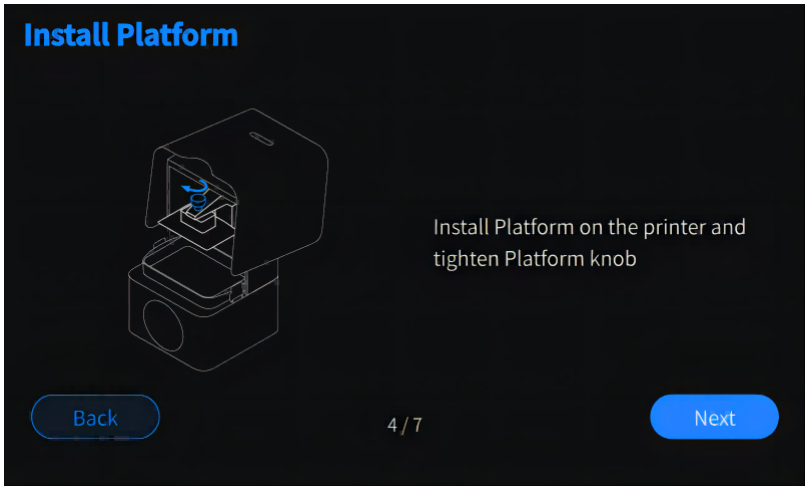
3 Install resin tank >

Please follow the instructions to install the resin tank.



4 Install platform

Please follow the instructions to install the build platform, and press the handle down.

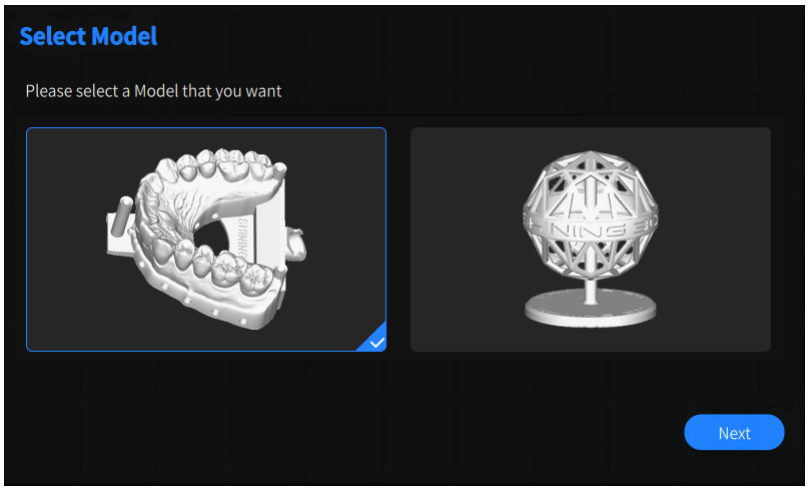


After installation，please follow the instructions to print sample models.

13 Sample Print Guide

Please follow the instructions to complete the following operations step by step: **Select Model > Add Resin > Select Resin > Cabin Inspection > Detail > Print Detail**.

1 Select Model >



2 Add Resin >

Danger

Please read and understand all relevant notice for material thoroughly before adding the resin.

Shake the resin bottle for about 2 minutes, and then pour the fully shaken liquid resin into the material box.

Note

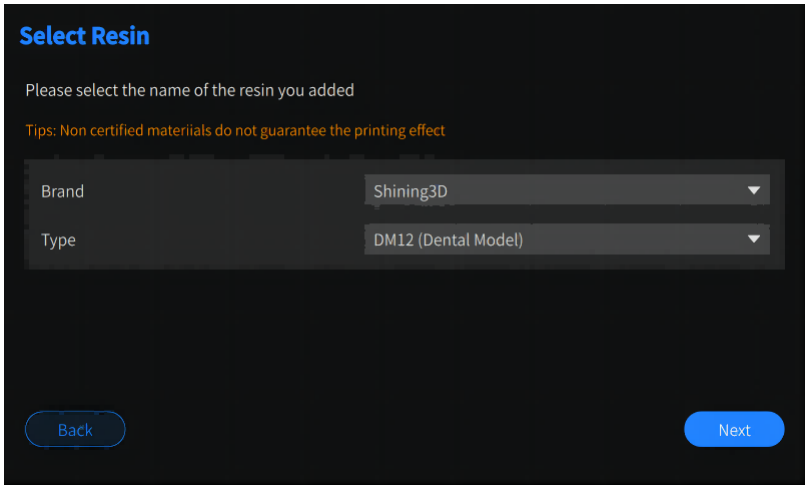
Users can add resin during printing without interrupting the printing process.

Caution

Keep the level of liquid resin between the MAX and the MIN lines so as to prevent the liquid resin from splattering during printing and ensure the printing effect.

3 Select Resin >

Tap to select the brand and type of the resin to be added.



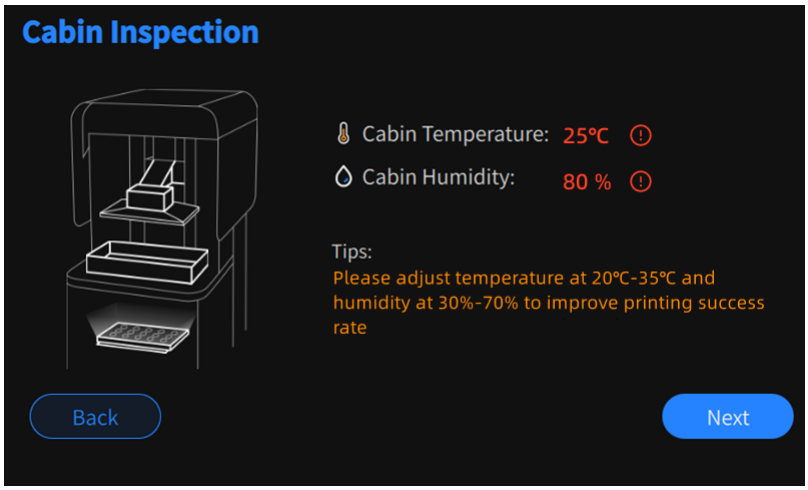
Caution

- The printing effect can not be guaranteed if the used printing material is not included in the list.
- Select the brand and type of resin actually added to the tank, or the printing may fail; If the resin type is not listed out, select **Others**.

4 Cabin Inspection >

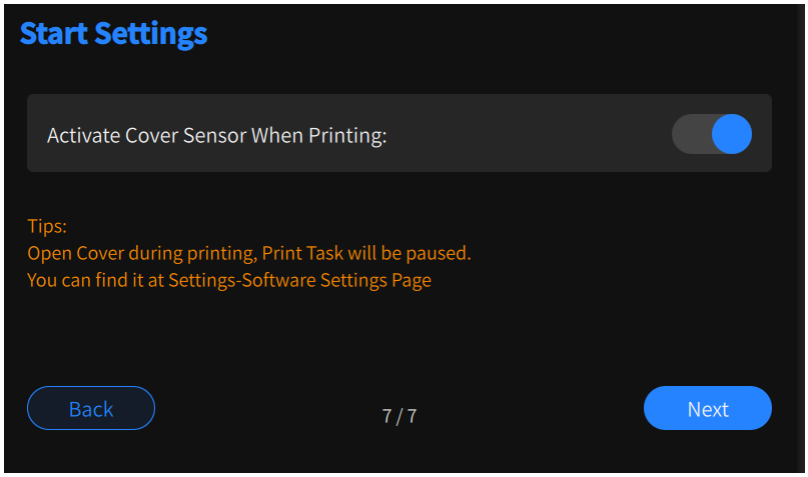
Please ensure the humidity and the temperature meets environmental requirements.

If the temperature or the humidy inside the cabin does not meet requirements, the next step cannot be performed, as shown in the figure below.



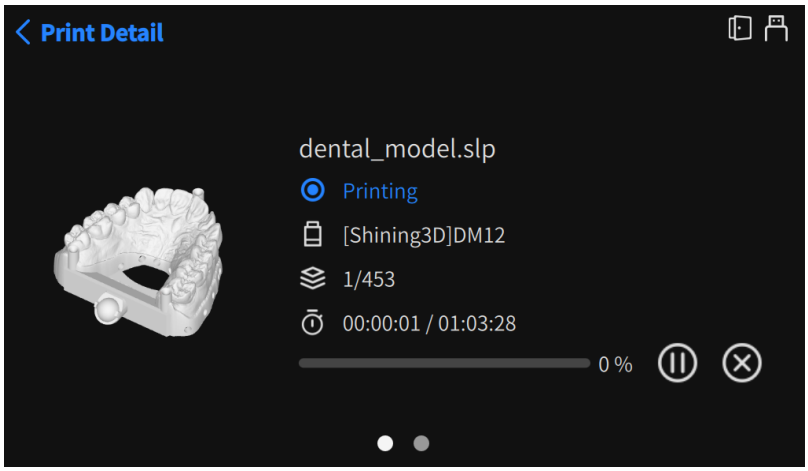
5 Detail >

Check the brand and type of the used resin and the number of slices of the sample model.



After confirming the information, tap the **Print** button to start printing the sample model.

6 Print Detail



Slide to switch between the left and right interface.

Left interface

Displays the name of the SLP file (the slice file of the sample model), the name of the used resin, the printing status, the estimated end time and other information related to the current printing job.

: Pause printing.

: Resume printing.

: Aborts the current print job and return to the **Home** interface.

> **Caution**
>
> Please use the pause button with caution, as interrupting the printing task will lead to errors in the connection of slices and affect the printing effect.

Right interface

Displays the printing status, the thickness of slices, the serial number and other information related to the current printing job.

After the sample model is printed, the printer will sound 5 beeps, and the touch screen will dispaly **Printing Completed**.

Now you can tap **Return** to return to the **Home** interface; meanwhile, the build platform will rise to the top pf the printing chamber and the printed model will be suspended.

II.III About DentalCloud

14 Bind to DentalCloud

Binding the printer to your DentalCloud account for unlimited cloud storage and real-time monitoring and managing printers.

Note

The printer can only be bounded to 1 organization.

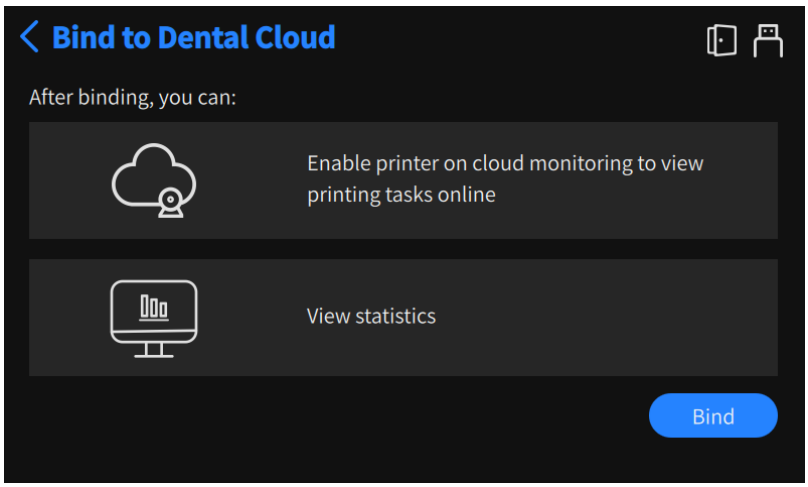
Caution

- **System Version**: The system version should not below 3.5.20.10, or updating the system is necessary for binding the printer to the DentalCloud account; for checking the current version, please go to **Settings > Aboout > Basic Information**.
- **Administer Authority**: Only administer's accounts have the authority of adding printer to the DentalCloud.
- **Net Requirement**: Binding the DentalCloud account and all the other functions on cloud necessitates the connection of the Internet.

Please follow the instructions below to bind the printer to your DentalCloud account:

Step 1 >

Tap **Settings > Network Settings > Bind to DentalCloud**, then tap **Bind**.

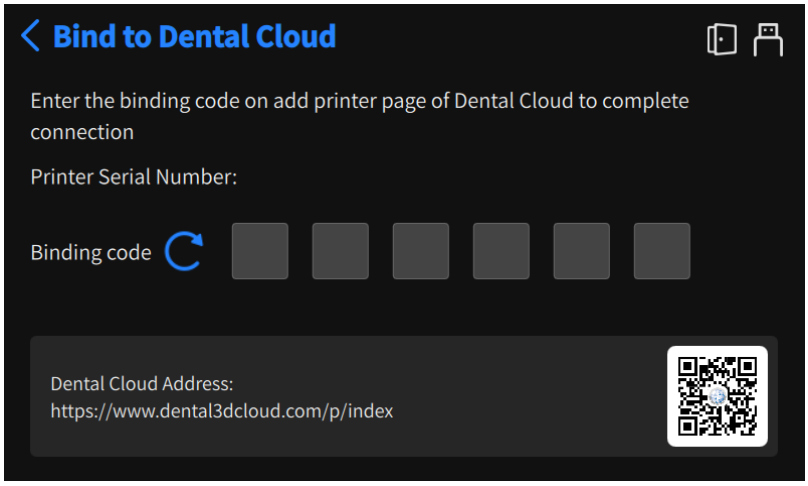


Caution

The printer should be connected to the Internet before being binded to the DentalCloud, and environment library files should be updated as well.

Step 2 >

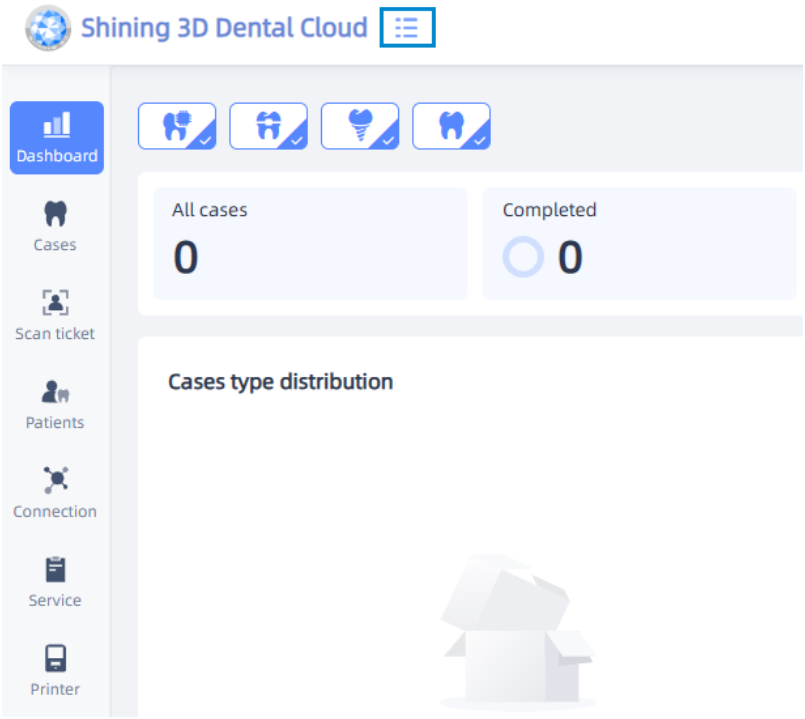
Tap for loading the binding code.



Step 3 >

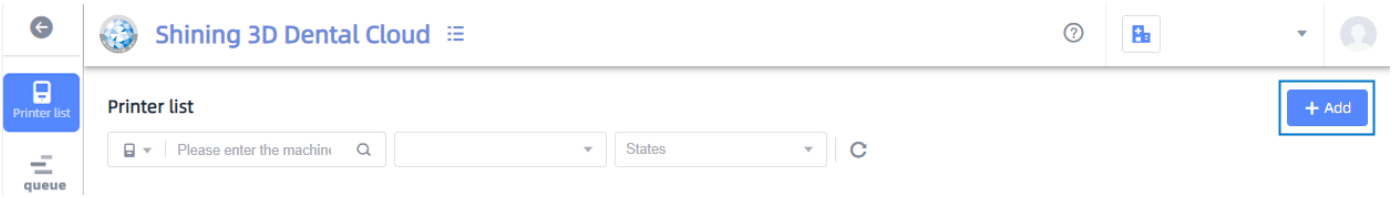
Open the DentalCloud website through the QR code or the link on the interface.

Login with administrator account to the DentalCloud, then click to expand the left-side menu bar and select **printer**.



Step 4 >

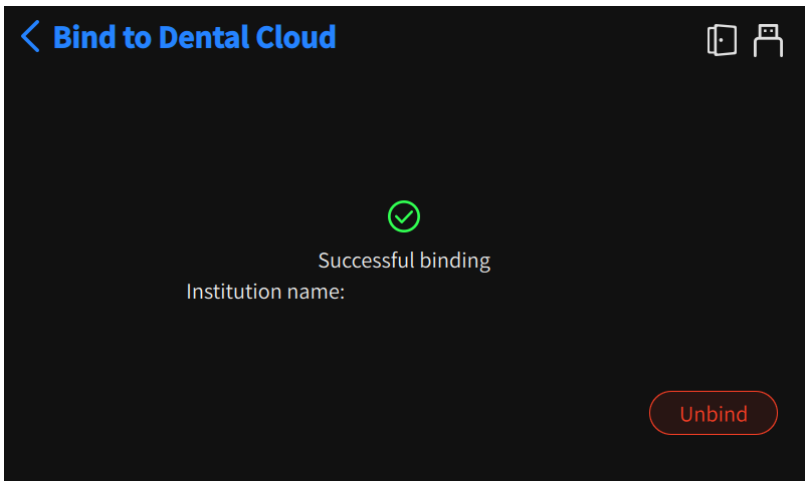
Click **+ Add** and enter the binding code.



Step 5

Click **Connect**, the data to printer will be loaded and added to the head of the **Printer List**.

Meanwhile, the touch screen displays **Binding Successfully** message and the DentalCloud icon appears on the status bar.



Note

- DentalCloud icon:
  -  : The connection works.
  - : The signal is missing, please check the network connection to the printer.
- To unbind, tap **Unbind** button on the touch screen and **Confirm**, or login with administrator account on the DentalCloud and then process unbinding steps on the DentalCloud. After unbinding, the data to the printer will not be displayed on the DentalCloud anymore; to find back the missing data, just rebind the printer to the original organization.

15 DentalCloud Operation

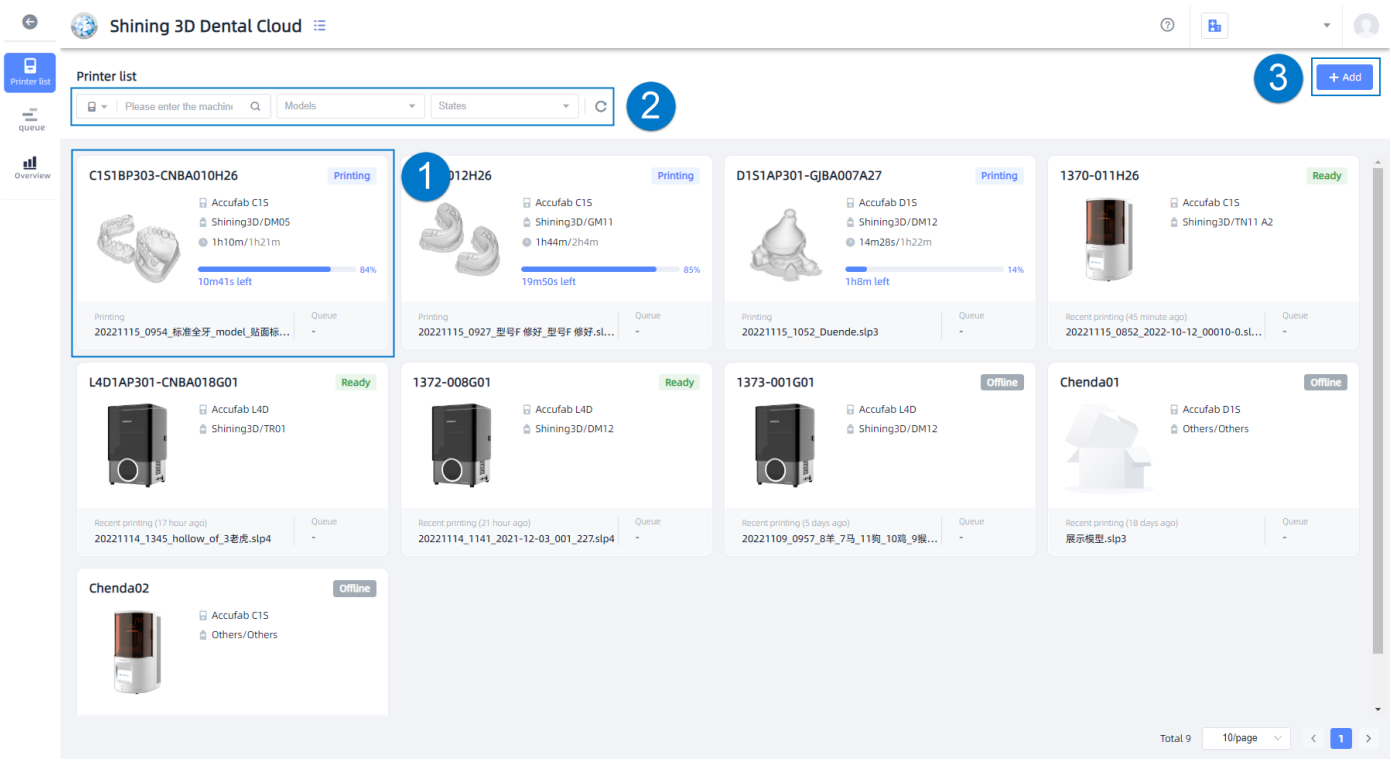
After binding the printer to your DentalCloud account, you can monitor the printer and the status of print jobs in real time as well as managing printers.

> **Note**
>
> The DentalCloud tracks data from printers and supports real-time data updating.

15.1 DentalCloud Page

Printer list

All the printer data belonging to the curent organization is arranged in the order of the most recent printing completion time and the printer, as shown in the figure below.



① **Printer cards**:

- Click to get detailed information to the machine (including temperature&humidity, the version of software&hardware, resin tank usage, printing data overvie, etc.); for more, please expand the **Note** section below.

Note

There are 5 different statuses to printers reflected by various printer cards, as shown below.

Error

Completed

Printing

Ready

Offline

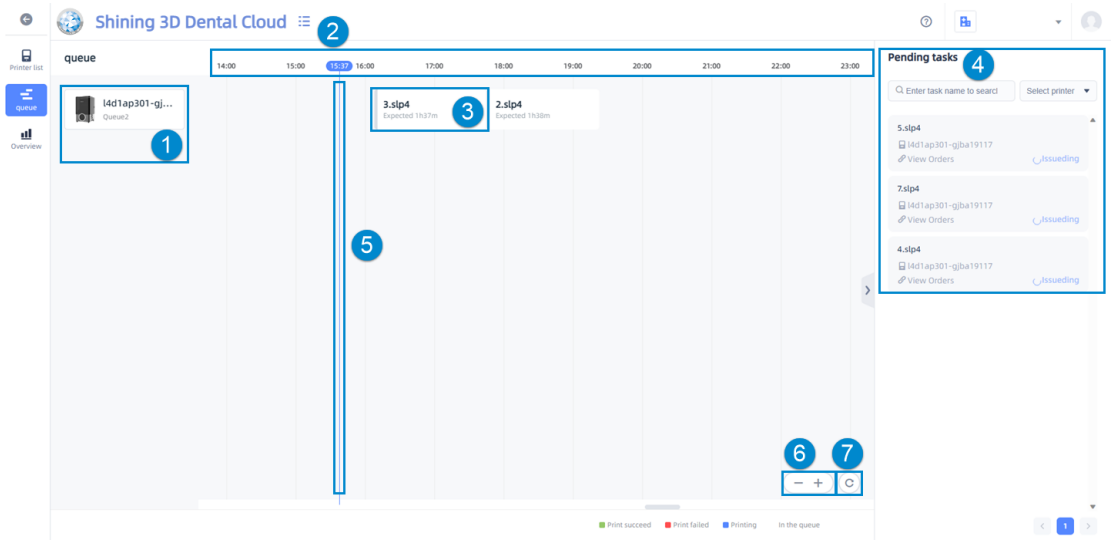
- Click **Queue** on the bottom-left corner of the card to enter the **Queue** page while tracking the location of current machine.

② **List Admin Widget**: Use filtering conditions such as machine name, serial number, type and status to manage the **Printer list**.

③ **+ Add Button**: Enter the binding code to add printer to the list.

Queue

The **Queue** page records the tasks to all printers bounded to the current organization one week time before and after (14 days) clearly in the form of task cards, as shown in the figure below.



① **Vertical axis**: A list of all printers bounded to the current organization.

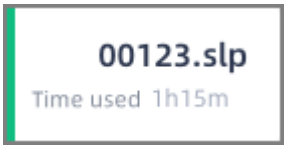
② **Horizontal axis**: Time axis.

③ **Task card**: Click on the card to check detailed information about the corresponding printing task (including the number of printing layers, layer thickness, total duration, etc.); for more, please expand the "Note" section below.

Note

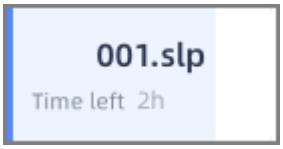
There are 5 different statuses to printing tasks reflected by various task cards, as shown below.

Print succeed

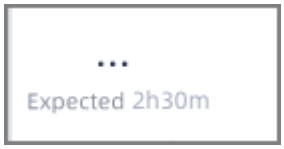


Print failed

Printing



In the queue



Note

- Task cards other than "in the queue" ones show their actual working time, while "in the queue" task cards array equidistantly and indicate estimated time through their length.
- Printing tasks can not be canceled, and tasks in the queue can be cancelled or deleted manually.
- Tasks in the queue correspond to that in the **Pending** queue of the printer: By dragging and adjusting the order of tasks in the **Queue** page, the **Pending** queue of the printer will also be changed; if a pending task is cancelled due to limited insufficient storage space or other reasons. the corresponding task card will also desappear, and the task can be reissued in the **Pending tasks** list.

④ **Pending tasks**: All the printable files that have not yet been issued by the current organization display the name of the task and the designated printer.

- Support fuzzy search task name or search based on the filtering condition of pinter.
- Click each task bar to go to the details page of the corresponding order.
- Click **issued** button to issue print tasks to the printer's **Cloud** queue.

> **Note**
>
> If the task is not issued successfully, please check the reason for failure in the **Pending tasks**.

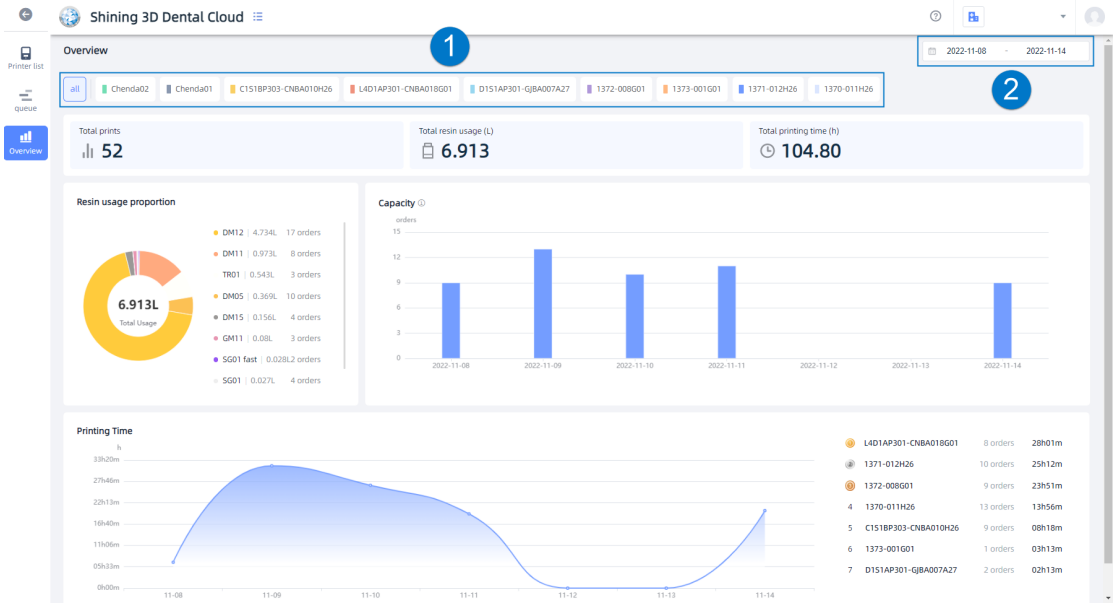
> **Note**
>
> Here are methods facilitating seeking target tasks on the time line:
>
> - **Zoom in / out the timeline**: Use ⑥ **Zoom Widget**.
> - **Move forward or Backward in time**: Press and drag the left mouse button, or drag the horizontal scroll bar.
> - **Return to the current time**: Use ⑦ **Refresh Widget** for locating to ⑤ **Current Time**.

Overview

The **Overview** page displays various graphs relating to selected machine(s) within chosen day(s) for making the data self-explanatory.

① **Printer buttons**: Select **all** for viewing the data overview to previous organization in default; select one printer for viewing the printing record to one machine; select multiple printers for comparing the data between them.

② **Calendar**: Select **The day**， **In 7 days**, **In 30 days**, or choose start and end date manually by using the calendar, the duration shall be no longer than 7 days.



15.2 Monitoring Printers

15.2.1 Check States

Enter the **Printer List** page for checking printers' status.

Click the printer card to get the real-time temperature and humidity, hardware and software information, printing history and overview data of machine.

15.2.2 Check Ongoing Printing Tasks

Check Ongoing Printing Within the Printer List

Find printer card(s) with **printing** tag， click the card to get detailed message such as **the progress bar to previous task**.

Check Ongoing Printing Within the Queue

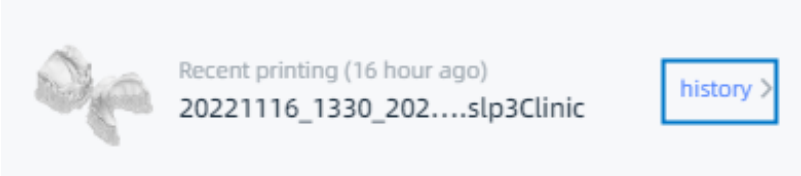
Click for returning to the current time.

Find the current task card(s), which being marked in blue and being divided by a vertical blue line. Click the card to get detailed message such as **printing time predication**.

15.2.3 Check History Printing Tasks

Check History Printing Tasks Within the Printer List

Click target card and then click **history** for entering the printing history page and viewing **the information of all the history printing tasks to this machine**.



Check History Printing Tasks Within the Queue

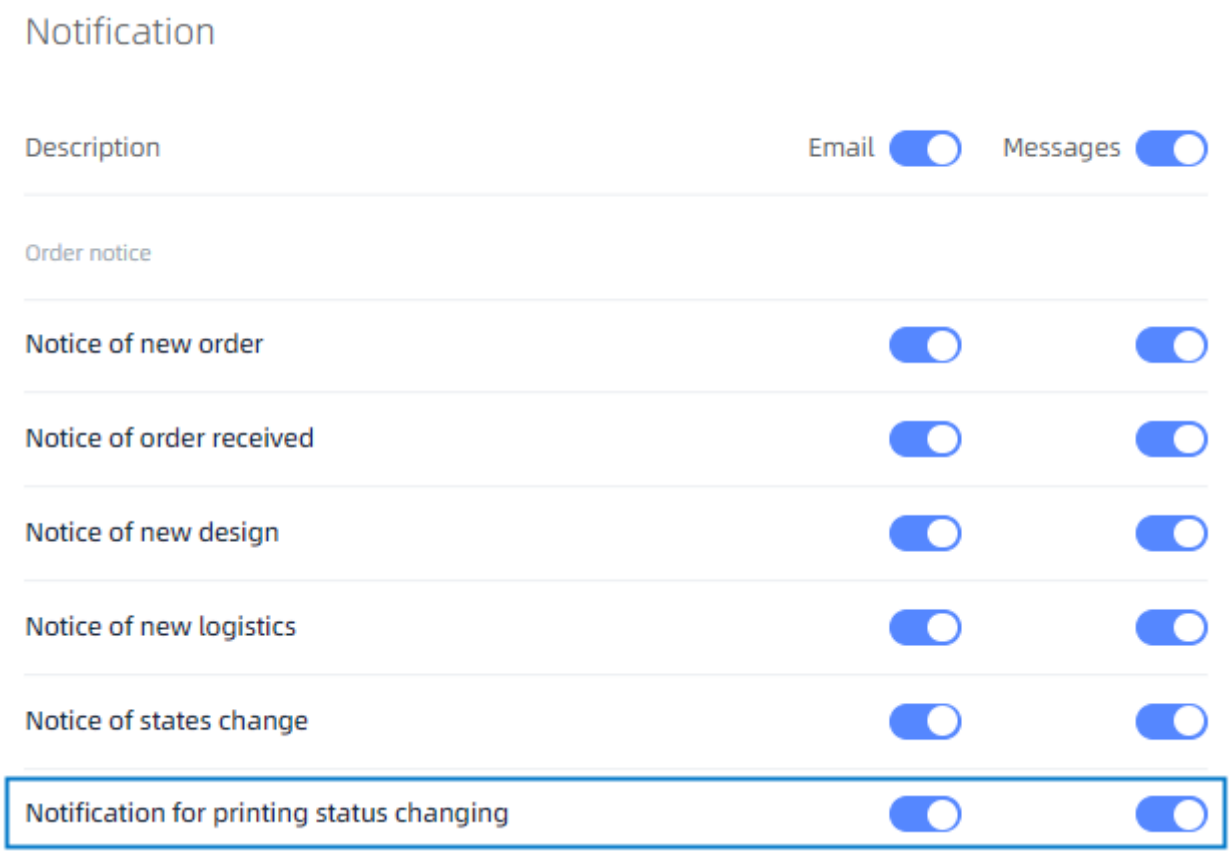
Press and drag the left mouse button, or drag the horizontal scroll bar to the right to find the target card.

Click the card to view **the information to the target task**.

15.2.4 Enable Printing Status Notification

Unfold the account management list in the right upper corner select **Notification**.

Enable the function and set receiving methods by clicking **Notification for printing status changing** sliders. The system will send the error massage to the people uploading the printing task as set.

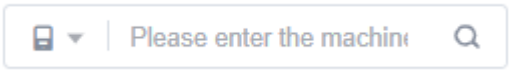


> **Note**
>
> The system will send the error message to the administer instead if can't find the certain people uploading the printing task.

15.3 Charge Printers

Enter the printer list for charging printers.

15.3.1 Search Printers



Input keywords, then click to filter printer(s) with this keywords in its name or serial number.

15.3.2 Filter by Models

Click the **Models** search box and select a model to filter printer(s) of the same model.

15.3.3 Filter by States

Click the **Status** search box and select a states to filter printer(s) of the same states.

15.3.4 Update Data

Click for resetting screen condition(s) and loading the latest data of printer(s).

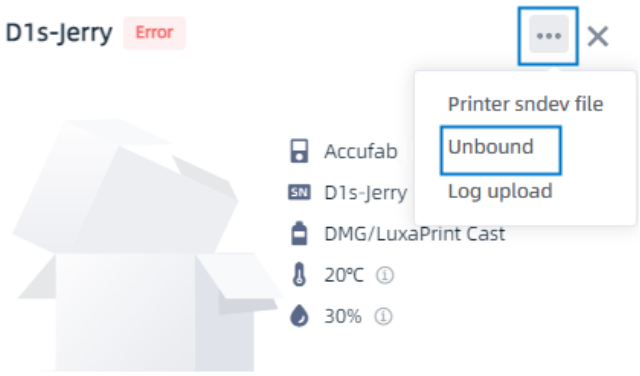
15.3.5 Bind

Specific operation steps are provided in the Binding DentalCloud Account section.

15.3.6 Unbind

> ⚠ **Caution**
>
> The **Unbind** function on DentalCloud is only available to the administrator account.

To unbind, click the card of the target printer and click ··· button on the detail information page, than select **Unbind** and confirm. The software built in printers also support the unbind function.



> ⚠ **Caution**
>
> After unbinding, the data to printer will not be displayed on DentalCloud anymore. To find back the missing data, rebind the printer to the original organization.

III. Printing Process

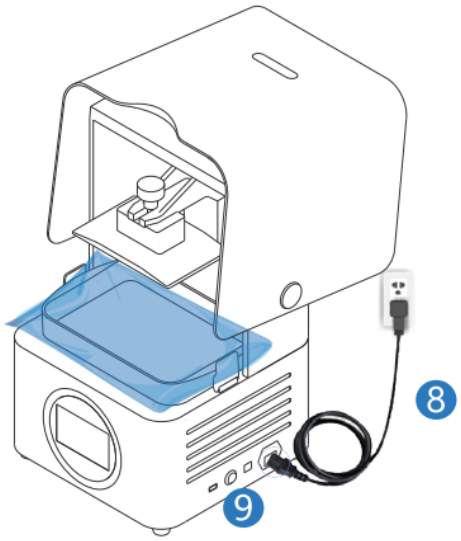
16 Power On & Off

Please boot up the printer before printing.

> **Danger**
>
> At the very first, please check the environment before starting the device.

16.1 Power on

1. Connect the power cable ⑧ to the printer.
2. Press the power button ⑨ on the right side to awake the Fabware.
3. The printer will sound 1 beep when it is successfully powered on, and the touch screen will display the SHINING 3D startup screen.



> **Note**
>
> - **For the first startup**, the software will walk you through the User Guide and can not be skipped.
> - **For the subsequent startup**, the software will enter **Home** interface after being powered up.

16.2 Power off

On the touch screen, tap the **Shutdown** button on the **About** interface to turn off the operating system.

> **Caution**
>
> To avoid wearing on the printer, it is recommended not press the power button on the back of the printer frequently.

17 Add Resin

Please select and add appropriate printing material for the model to be printed.

> ⚠ **Caution**
>
> Damage to the device, data loss and any other accidents caused by procedures not specified in this Manual are not covered by the warranty.

17.1 Resin Type

Shining 3D provides various high-quality resin materials featuring different highlights to apply high-precision resin 3D printers to multiple scenarios.

DM05 Implant Model Material

DM05 is used for printing implant models and removable models. Its high toughness and high pressure resistance and unbreakableness contributes to its excellent fault-tolerant performance, which provides a better experience for removal and insertion.

DM12 Dental Model Material

DM12 is the ideal choice for printing separated models for crown and bridge application. It optimizes model precision through its lower elasticity modulus. The hardness and mechanical properties of the cured resin allows DM 12 to resist abrasion during seating and finishing for crown and bridge cases, ensuring a perfect fit every time. The yellow color offers maximum detection of margin lines and adjacent contours, and cleanup is easy thanks to the low viscosity of the resin.

DM15 Aesthetic Model Material

With good molding stability, DM15 can accurately restore oral digital models with high color fidelity and good aesthetics results. It has good retention and less dimensional change over a long time. It is the ideal material for crowning shipping models.

GM11 Gingiva Mask Material

Gingiva Mask GM11 is an excellent choice for replicating gingiva contours for digital implant cases. Its flexibility can assist in planning the emergence profile for digital implant restorations.

SG01 Transparent Guide Material

SG01 is a clear and bio-compatible resin mainly used to print guide templates for implant, gingival cutting, orthodontic bracket bonding, bone grinding, etc. The printed model has transparent and clear colors, and high stability without warpage and deformation. Besides, its biocompatibility allows for short-term contact with the human body.

DC12 Dental Cast Material

DC12 is a printable wax-like photo-polymer specially developed for metal casting, suitable for dental casting applications such as crowns, bridges, and partial dentures. The printed model has delicate surface and is not easy to deform.

OD01 Orthodontic Model Material

OD01 is an ideal printing material for bite fixators and orthodontic braces. It has high heat resistance and super hardness and can resist wear and deformation during long-term use while maintaining precision.

OD02 Orthodontic Model Material

OD02 is used to print orthodontic models that can withstand vacuum adsorption. The printed model has a high degree of detail reproduction, super surface hardness, and super edge stability. It has a small deformation at high temperatures, making the molding accuracy of invisible braces higher.

TR01 Custom Tray Material

TR01 is a bio-compatible material with a high elastic modulus which makes it an outstanding choice for printing custom trays. The high elastic modulus allows the printed tray to resist flexion under high pressure, leading to more accurate impressions. Its bio-compatibility makes it safe for short-term use in the mouth.

17.2 Operational Procedure

1 Clean residue >

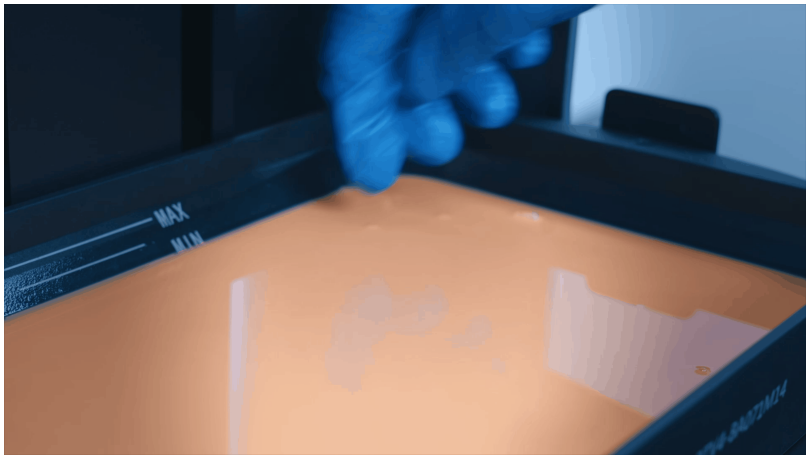
Please check if there is any residual solid resin inside the tank; if there is, please follow the steps below to cure the resin at the bottom of the tank to avoid the residual resin affecting the printing effect and prevent damage to the components.

① Place the resin tank cleaner in the corner.

② Go to **Settings > Hardware Settings > Optics Settings** or **Home > Resin Tank Information**, tap **Cure Resin** and set curing time.

③ After curing is finished, loosen the buckle and gently remove the resin tank.

④ Wear disposable gloves and remove the cured resin layer from the bottom with the resin tank cleaner, as shown in the right figure.



Note

If there are still some residue floating, use an 80 to 100 mesh filter to filter the residues.

Caution

The bottom of the resin tank is made of a single layer of FEB film which is easy to be broken. Therefore, when removing the solid resin layer, be careful not to poke the bottom of the tank.

2 Add resin >

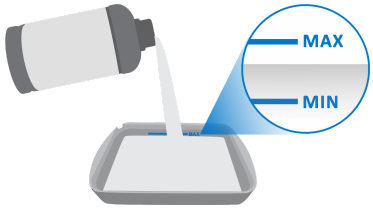
Please follow the instructions below to add resin materials.

Danger

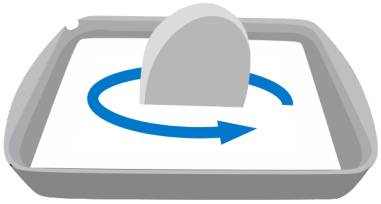
Please read and understand all relevant notice for material thoroughly before adding the resin.

① Shake the resin bottle for about 2 minutes, and then pour the fully shaken liquid resin into the resin tank.

> **Caution**
>
> Keep the level of liquid resin between the MAX and the MIN lines so that to prevent the liquid resin from splattering during printing and to ensure the printing effect.



② Use the scraper to stir the liquid resin constantly until there is no sediment.



> **Note**
>
> During the printing process, it may be necessary to add resin material to ensure successful printing. Without interrupting the printing program, simply open the chamber door and slowly pour the resin into the resin tank when the build platform is moving upward and **the light source is turned off**.

3 Set the resin tank

Before printing, set the resin tank first.

Go to **Home> Resin Tank Information**, tap to select the brand and type of the resin in the tank.

> **Caution**
>
> The printing effect is not guaranteed when the used printing material does not appear in the list.
>
> Select the brand and type of resin actually added to the tank, or the printing may fail; if the resin type is not listed out, select **Others**.

If there is need to **change the resin**, please clean the resin tank, then add the alternative resin following the procedure mentioned above.

18 Select and Print Files

Here are three ways to send a print job the printer:

- Transmit print files through AccuWare
- Issue print files on the DentalCloud
- Import print files through the flash disk

> ⚠ **Caution**
>
> Before selecting the file to print, please make sure that the printing material has been stirred well, the residue at the bottom of the resin tank has been cleaned, and the optical components have been cleaned.

Select Pending file

① Open the AccuWare under the same LAN, transmit the slice file (.slp) on your computer to the **Pending** queue of the printer.

② Once the file transmission is completed, tap the target file on the **Queue** interface to enter the **Detail** interface to check the brand and type of the resin material and the number of sliced layers of the model.

③ After confirming all the settings, close the chamber door and click **Print** to start printing.

Select Cloud file

① Log in to the DentalCloud and go to **Printer >** **Queue**, select the target file in the **Pending tasks** list on the right side, and click the **issued** button to issue the file to the **Cloud** queue of the printer.

② Once the file transmission is completed, the files will be downloaded in order and enter the **Pending** queue of the printer automatically; it is also allowed to tap the download button of the target file to change the order.

> **Note**
>
> When running out of the memory (6 GB in total), the transmitted files will not be downloaded automatically, and it is required to tap the download button of the target file in the **Cloud** queue manually if needed, and the system will delete earlier print jobs listed in the **Pending** queue.

③ Tap the target file to enter the **Detail** interface to check the brand and type of the resin material and the number of sliced layers of the model.

④ After confirming all the settings, close the chamber door and click **Print** to start printing.

Select USB file

① Plug the flash drive that contains the slicing file into the printer, and **Queue** interface will show the icon.

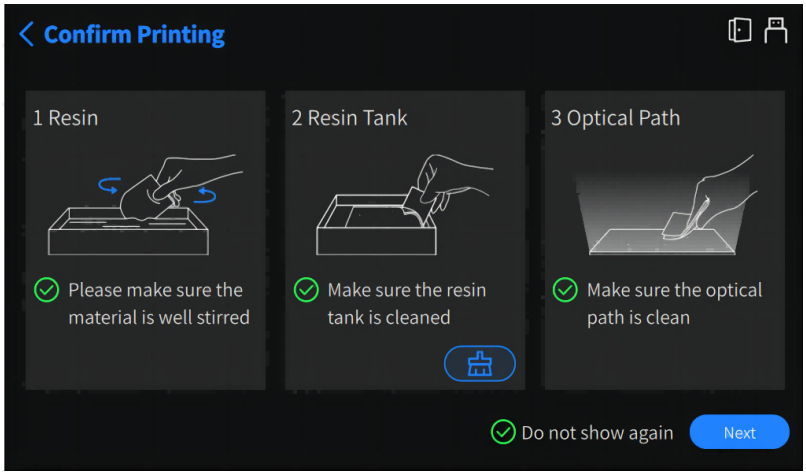
② Tap to enter the **Flash Drive** interface, and tap the target file to enter the **Detail** interface and simultaneously import the file to the **Pending** queue.

> **Note**
>
> The printer can only recognize USB data in FAT32 format.

③ Tap the target file to enter the **Detail** interface to check the brand and type of the resin material and the number of sliced layers of the model.

④ After confirming all the settings, close the chamber door and click **Print** to start printing.

Finally, click **Print**, the software will pop up a window as below to remind you to check relevant settings before printing.



Caution

Tap to modify the brand and type of resin if the prompt of **inconsistent material types** occurs.

Check Print Details

During the printing process, go to **Home > Print Detail** interface, and you can slide left and right to view the printing information and control the printing status.

Left interface

Displays the name of the SLP file (the slice file of the sample model), the name of the used resin, the printing status, the estimated end time and other information related to the current printing job.

: Pause printing.

: Resume printing.

: Aborts the current print job and return to the **Home** interface.

> **Caution**
>
> Please use the pause button with caution, as interrupting the printing task will lead to errors in the connection of slices and affect the printing effect.

Right interface

Displays the printing status, the thickness of slices, the serial number and other information related to the current printing job.

After the sample model is printed, the printer will sound 5 beeps, and the touch screen will dispaly **Printing Completed**.

Now you can tap **Return** to return to the **Home** interface; meanwhile, the build platform will rise to the top pf the printing chamber and the printed model will be suspended.

> **Note**
>
> - To ensure the printing quality, please keep the chamber door closed during the printing process or when the process just finishes.
> - It is recommended that tap **Settings > Software Settings** and enable **Activate Cover Sensor When Printing** to ensure print quality and reduce safety risks.

IV. Post-process

19 Remove the Model

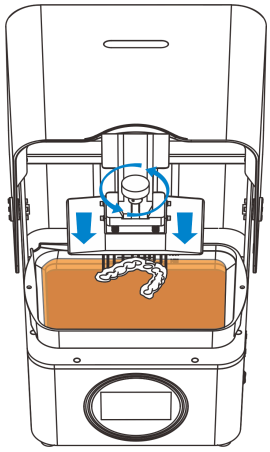
Please follow the instructions below to remove the printed model.

1 Stand model >

After the printing process is finished, leave it on the build platform for about five minutes to let the clinging liquid residue flow down.

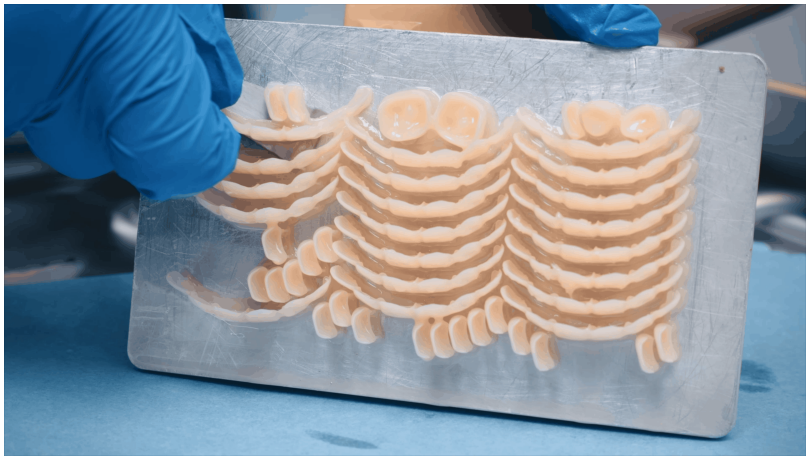
2 Remove the build platform >

Loosen the screw on the top of the build platfor, and then hold the platform horizontally, slide it away from the rail and place it on the side of the printer.



3 Remove the model

Use the angular knife to peel the printed model off the build platform.



Danger

Be careful to keep the crescent ends flating on the surface of build platform to avoid damaging the model or scratching the metal surface of the build platform.

20 Clean the Model

Please follow the instructions below to clean the printed model.

Danger

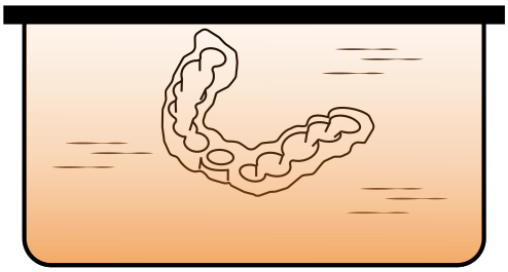
Please read and understand all relevant notice for material thoroughly before using the ethanol.

1 Soak the model >

① Pour a solution of ethanol with a concentration of 95% or higher food-grade corn ethanol into the cleaning box.

② Gently submerge the model into the ethanol liquid, slightly shake it for 30 seconds to remove any liquid resin residue on the surface of the model.

③ Cover the box and let the model soak for 2-3 minutes to remove any remaining liquid resin on the surface.



Caution

The resin will be softened when being soaked in ethanol, so please observe carefully during this process and shorten the time when necessary.

2 Dry the model

Take the model outside of the cleaning box and use an air gun to blow dry the liquid on the surface.

Note

It is recommended use an ultrasonic cleaning machine for deeper cleaning.

21 Cure the Model

It is recommended that perform secondary curing on the printed model twice after cleaning, to make it more stable and easier to store. The post-cured model is also safer as it does not irritate the skin. Besides, its various properties such as smoothness and hardness are superior to those of the model before the secondary curing.

For more specific principle, please expand the "Note" section below.

Note

During the operation of the Curing Box (Fabware), the specific wave of UV light will cure the photosensitive resin in order to cure the printed resin models twice.

Please follow the instructions below to cure the printed model.

1 Place the model >

Wear disposable gloves and open the chamber door of the curing box, and place the cleaned model on the center of the acrylic turntable inside the box.

2 Cure the model

Close the chambor door and process the curing operation.

22 Remove Supports

Danger

Protection is required when using sharp tools to remove supports.

Please tear supports away by hand and then exert grinding papers or a protable grinder to polish the model and reduce the remaining marks.

Note

A polishing machine is recommended for further processing and polishing.

23 Clean the Build Platform

The ambient light can cause the liquid resin on the build platform to solidify and cause adhesion issues. Therefore, please clean the build platform immediately after each print job is completed.

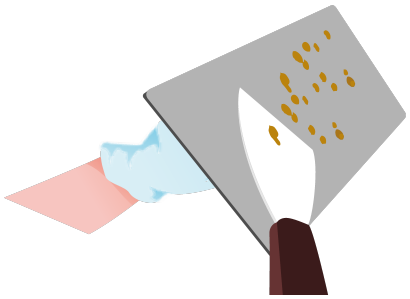
Danger

Please read and understand all relevant safety instructions thoroughly before cleaning.

Please follow the instructions below to clean the build platform.

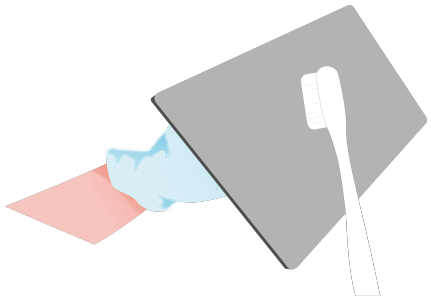
1 Remove residues >

Use the putty knife to remove residues on the platform.



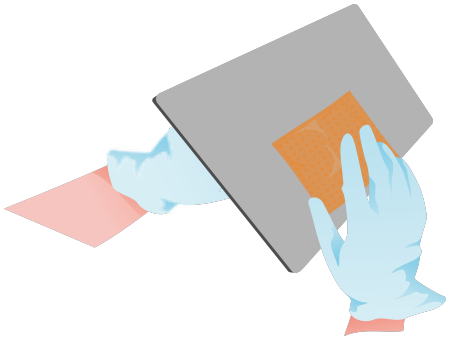
2 Brush the build platform >

Soak the brush with ethanol and clean the resin liquid on the platform.



3 Dry the build platform >

Gently wipe the metal surface of the platform with a tissue. Lay the build platform in a cool ventilated place for drying it completely before the next use.



4 Install the build platform

Hold the platform horizontally and insert it into the bracket, and then fix the top screw firmly.

V. Maintenance

24 Update the Software

During the process of continuous upgrade of the printer, the system will also undergo corresponding upgrades. Please update the hardware, software, material package and environment library files in a timely manner through Network Update or Flash Drive Update to ensure print quality.

> **Note**
>
> When a new version of the system is available, a pop-up notification window will appear on the touch screen, and please click "Confirm" to perform the corresponding update operation.

Network Update

① When the printer is **connected to the Internet**, go to **Settings > About > Software Update** to download and install the latest version of the system.

> **Note**
>
> Please contanct Shining 3D technical supporters to acquire the latest version of the system.

② After completing the update, restart FabWare, and the latest operating interface will show the newly imported material package.

Flash Drive Update

① When the printer **cannot connect to the Internet**, insert the flash drive containing the latest version of the system into the device, then go to **Settings > About > Software Update** and click **Flash Drive Update**.

② On the **Flash Drive Update** interface, select the latest package and then tap **Next** to download and install it.

③ After completing the update, restart FabWare, and the latest operating interface will show the newly imported material package.

When there is an update to the environment library files, you need to update the environment library files through **Network Update** or **Flash Drive Update**.

> **Note**
>
> Please connect the pinter to the Internet before updating the envrionment library files.

25 Set Zero Position

The occasional fall-off of the printed model means the current zero position of the build platform may be inaccurate, so please perform a zero position adjustment in time.

Danger

Be careful to avoid collision when adjusting the zero position; in case of the collision, please contact Shining 3D technical supporters immediately to deal with the damaged printer.

Caution

Damage to the device, data loss and any other accidents caused by procedures not specified in this Manual are not covered by the warranty.

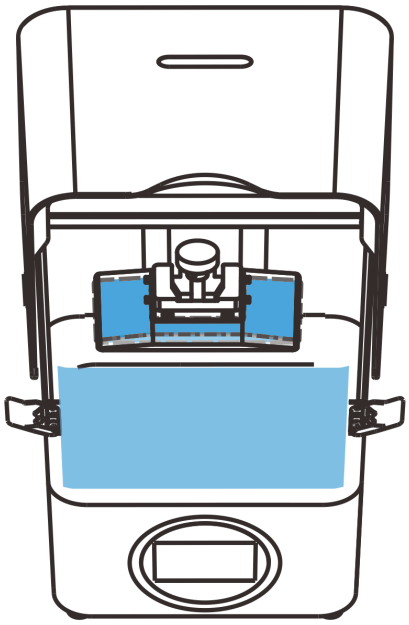
1 Preperation >

① To uninstall the resin tank, loosen the buckles on both sides and remove it. After ensuring there is no residue in the resin tank, empty the liquid resin from the resin tank into the original container and clean the resin tank.

② Insert the cleaned resin tank into the bracket, and lock the buckles.

③ Lay one piece of A4 paper on the LCD screen and cover it completely.

④ Use the wrench and slightly loosen 4 screws on the both sides of the build platform; at this time, the platform should not shake when being gently pushed.



2 Operation

① Tap **Settings > Hardware Settings > Motor Settings > Set Zero Position**.

② The build platform will slowly move down until reaching the A4 paper.

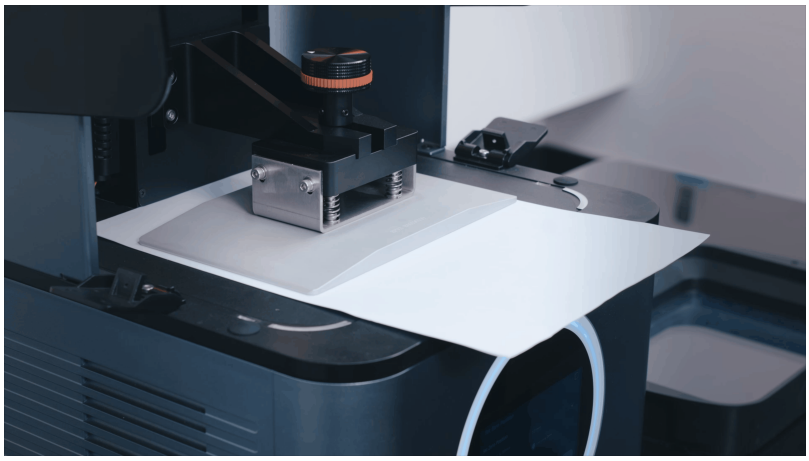
③ Tap the **Z Axis Offset** checkbox and choose **0.1mm** or **0.01mm** based on the fit between the print platform.

> ⚠ **Caution**
>
> It is not recommended to choose **1 mm** when adjusting the zero position, because the distance of the single Z-axis displacement is too large and cannot perform fine adjustments to the position of the build platform, and there is a greater risk of collision.

④ Tap **Fine-tuning Up** or **Fine-tuning Down** to adjust the position of the build platform until the screws on both sides of the platform support are right at the center of screw holes.

⑤ Slightly adjust the position of the build platform or the support to ensure the paper can not be drawn out easily, and then tighten screws on both sides.

⑥ Use a PET card to check if it can not be inserted between the platform and the paper.



⑦ Choose **0.01 mm**, and keep taping **Fine-tuning Up** while checking the gap to find a position where the A4 paper can be drawn out form the gap while PET card can't be inserted into the gap.

⑦ Tap **OK** to set the adjusted Z-axis position as the new zero position.

26 Clean the Resin Tank

Please maintain and clean the resin tank regularly to maximize its performance and to ensure consistent, high-quality prints over a tank's lifetime.

Danger

Resin may cause skin irritation or an allergic skin reaction, so please wear gloves when handling liquid resin or resin-coated surfaces and wash skin with plenty of soap and water.

1 Clean the residue >

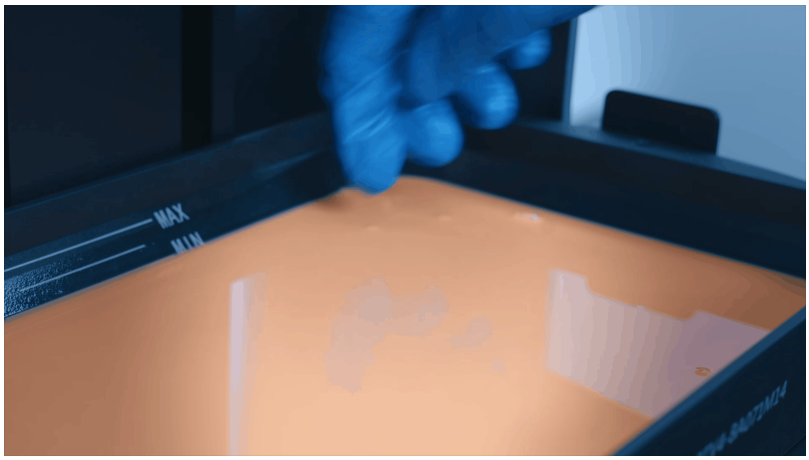
Please follow the instructions below to cure and remove residues at the bottom of the resin tank.

① Place the resin tank cleaner in the corner.

② Go to **Settings > Hardware Settings > Optics Settings** or **Home > Resin Tank Information**, tap **Cure Resin** and set curing time.

③ After curing is finished, loosen the buckle and gently remove the resin tank.

④ Wear disposable gloves and remove the cured resin layer from the bottom with the resin tank cleaner, as shown in the right figure.



Note

If there are still some residue floating, use an 80 to 100 mesh filter to filter the residues.

Caution

The bottom of the resin tank is made of a single layer of FEB film which is easy to be broken. Therefore, when removing the solid resin layer, be careful not to poke the bottom of the tank.

2 Clean the exterior surface

Please follow the instructions below to clean the exterior surface of the resin tank.

① Empty the liquid resin from the resin tank into the original container.

② Use the brush soaked by ethanol and the cloth to clean the liquid resin on the surface.

After cleaning, lay the resin tank in a cool ventilated place for drying it completely before the next use.

27 Clean Optical Components

To ensure the print quality, it is suggested that clean the LCD screen and other optical components every two weeks to prevent problems such as model detachment and rough surface.

Please follow the instructions below to clean optical components.

1 Remove the build platform >

Loosen the screw on the top of the build platform, and then hold the platform horizontally, slide it away from the rail and place it on the side of the printer.

2 Remove the resin tank >

① Loosen the buckles on both sides and gently remove the resin tank.

② Empty the liquid resin into the original container and place resin tank upside-down on a clean, flat surface.

3 Remove the back cover >

Loosen 4 screws on the back cover for taking it off.

4 Clean optical components >

- **Clean LED panels**: Use a clean wiping cloth to remove dust on the surface of the LED panels gently.
- **Clean the LCD screen**: Use the cloth dipped with a small amount of clean liquid ethanol to polish the underside and top surfaces of the LCD screen gently until it is completely transparent.

5 Restore the Printer

After cleaning, lay the optical components in a cool ventilated place for drying them completely before the next use.

28 Light Intensity Correction

The intensity of the LED light will be weaken over time.

If the weakening of light intensity starts affecting the printing result, please correct the light intensity immediately.

Tap **Settings > Hardware Settings > Optics Settings > Start Correction**, the system will correct the light intensity to meet the set value automatically.

29 Manage Consumables

If any of the following situations occur, please replace consumables in time:

- The resin tank has obvious damage or chipping.
- The silicone coating of the resin tank gradually wears out during use, affecting print quality.
- The resin tank has printed 100,000 layers in total.

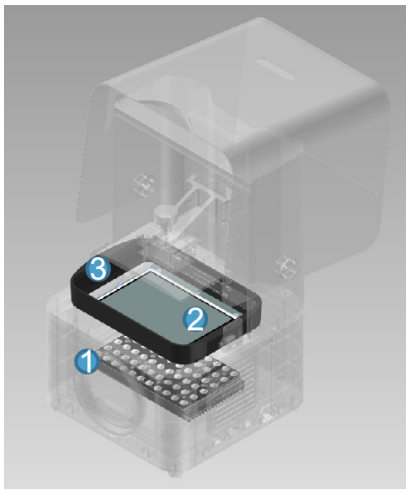
Note

For checking **the total number of printed layers**, go to **Home >** **Resin Tank Information** to determine whether each component has exceeded its working life.

① LED panel: Print **600,000** layers in total.

② LCD screen: Print **200,000** layers in total.

③ Resin tank：Print **30,000** layers in total.



30 Schedule of Maintenance

Please perform regular maintenance on the components of the printer according to the maintenance requirements and cycle in the table below to ensure print quality.

Components	Requirements	Maintenance Cycle
LCD Screen	No visible stains or breakages	Every 2 weeks
LED Panel	No visible stains or breakages	Every 2 weeks
Light intensity	Equal to the set value	Every 6 months
Resin tank	No visible stains or breakages, free of cured resin and other debris, the film is of excellent light penetrability	Before every print
Exterior surface	Stay clean	Everyday
Ethanol	Stay clean	Every 2 days
Guide rail	Stay well-oiled	Every 3 Months

Caution

Please avoid damaging the optical components such as LCD Screen and LED Panel, or the printer may fail to work.

31 Problem-solving Guide

Only one side of the build platform can be used to print the model/ the model falls off during printing/ the height of the model does not match the pre-set value.

Reason: The zero position is not accurate.

Solution: Ajust the zero position.

The model is not printed well.

Reason: There are impurities remaining at the bottom of the resin tank.

Solution: Cure the resin.

There are abnormal noises from the tilting motor when peeling off the model.

Reason: The frictional resistance is too high.

Solution: Apply lubricating oil to the screw of the tilting motor.

There are abnormal noises when the printer platform is reset after peeling off the model.

Reason: The processing parameter package does not match.

Solution: Contact Shining 3D technical supporters for appropriate parameter package.

The model is displayed in red.

Reason: The file size exceeds the build platform or the model needs repair.

Solution: Reduce the size of the model to within the platform range or repair the model.

A "Print error" prompt pops out.

Reason: The printer does not function properly when printing SLP files.

Solution: Reprint or restart the printer.

A "No device" or "No material" prompt pops up.

Reason: The device or material was not selected before the operation.

Solution: Select the device or material first before performing other operations.

A "No selected model" prompt pops up.

Reason: There is no model selected at the moment.

Solution: Select at least one SLP file before performing other operations.

A "The target device does not respond" prompt pops up.

Reason: The device or material was not selected before the operation.

Solution: Select the device or material first before performing other operations.

A "Unknown interruption" prompt pops up.

Reason: The file transfer is interrupted.

Solution: Re-transfer the file.

A "Sending failed" prompt pops up.

Reason: Fail to obtain the SLP file.

Solution: Resend the file.

32 Support Center

If you have questions about using your Shining 3D products, find common solutions in **Support Center**.

Or create a **Support Ticket** to reach our support team.

Was this page helpful?