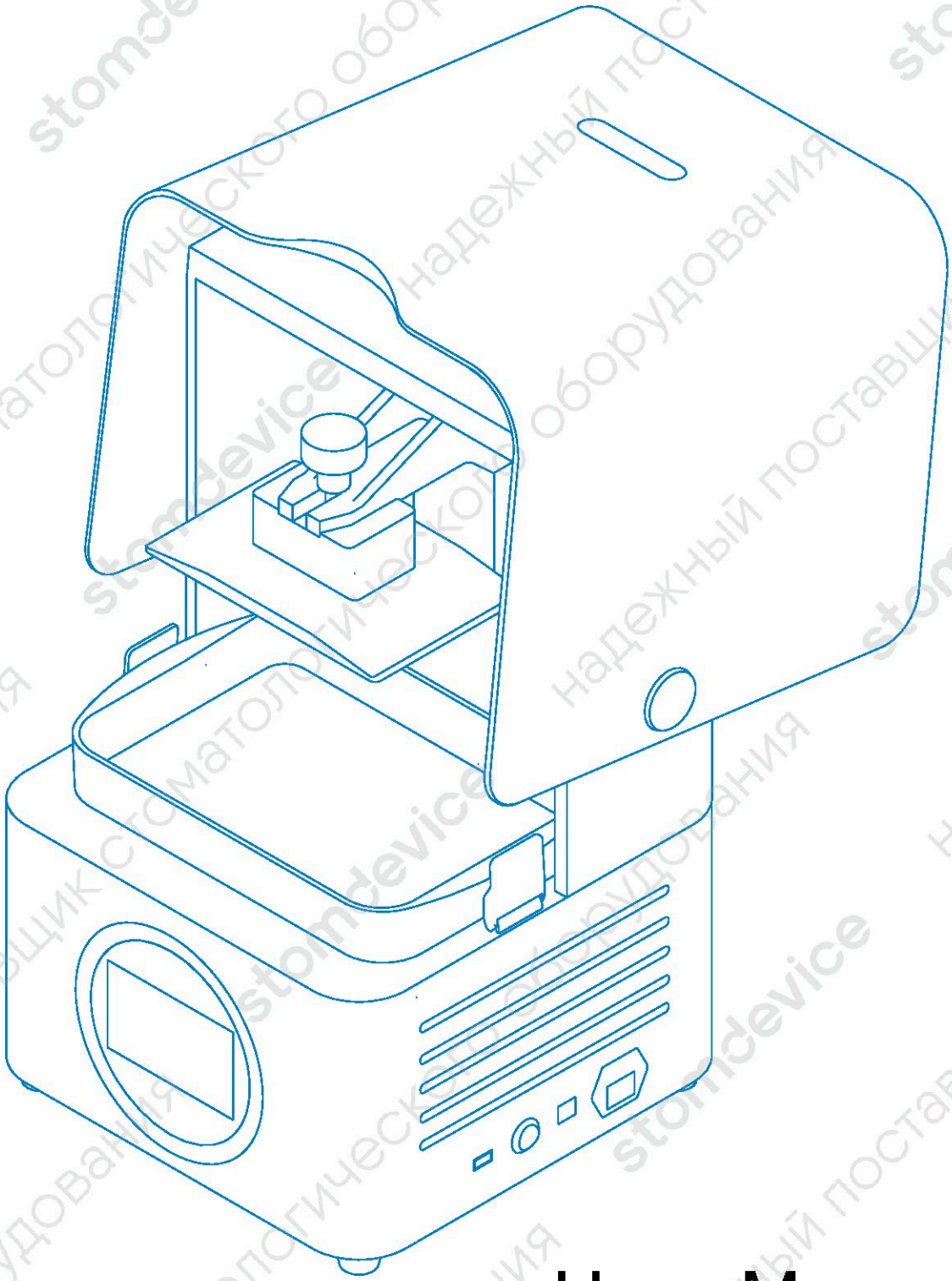
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SHINING 3D®

AccuFab-L4D



User Manual

V3.3.20

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Foreword

General

The user manual (hereinafter referred to as "the manual") introduces the functions, installation, operation and maintenance of the AccuFab-L4D printer (hereinafter referred to as "the printer").

- AccuWare is the data preparation software for AccuFab printers.
- Fab Cure is the curing unit for AccuFab printers
- FabWare is the operating software for AccuFab printers.
- Please use original consumables and spare parts. Any change to the printer without the manufacturer's permission will result in printer failure and will invalidate warranty.

Safety Instructions

Additional information

Improper actions or conditions that may damage the product or result in personal injuries, and consequently void your warranty or service contract or lose the data.

Revision History

No.	Version Revision	Content	Release Date
1	V3.3.20	Update network connection features. Update FabWare snapshots and features.	December, 2021

FCC Regulations

Please note that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Foreword

RF exposure statement

The user manual (hereinafter referred to as "the manual") introduces the functions, installation, operation and maintenance of the AccuFab-L4D printer (hereinafter referred to as "the printer").

- This equipment complies with radio frequency exposure limits set forth by the FCC for an uncontrolled environment.
- This device must not be co-located or operating in conjunction with any other antenna or transmitter.
- This equipment should be installed and operated with a minimum distance of 20 cm between the device and the user or bystanders.

About the User Manual

The Manual is related to your safety, lawful rights and responsibilities. Please read it carefully before installing and using the product.

- Shining 3D Tech Co., Ltd. (hereinafter referred to as "the Company") owns complete intellectual property rights of the Manual. No part of the Manual may be reproduced, transmitted, distributed, adapted, compiled or translated in any form or by any means without the prior written consent of the Company.

- The Manual is a guidance for installing, operating, and maintaining the product, including the device, software, or other products provided by the Company, to which the Manual is applicable. The Manual does not serve as the quality guaranty for the product. Every effort has been made in the preparation of the Manual to ensure accuracy of the contents. The company reserves the right to interpret and modify possible errors and omissions therein. Contents of the Manual are subject to changes without notice.

- Images and diagrams in the Manual are presented to provide convenience to readers. If any of them is inconsistent with the actual product, the actual product shall prevail.

- Please read the Manual carefully before using related products. Trained professionals or technicians are recommended to operate related products. The Company shall not be held responsible for any damages and/or losses caused by negligence, environmental factors, improper maintenance, improper use, and/or any other non-quality problems.

- Disputes arising from the Manual and/or related products thereof shall be governed by the laws of the People's Republic of China.

- If you have any ambiguity or suggestion about the contents of the Manual, please contact us by the contact information provided in the Manuals.

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1 Safety

1.1 Material Contact

The printing material of AccuFab printer is photo-polymerized resin material independently developed by SHINING 3D. The resin is stable, safe, and no substances harmful to the human body found in the test, but direct contact with skin may cause adverse irritating reactions. Operators should follow the Material Safety Data Sheet (MSDS) instructions. And operators should wear nitrile disposable gloves when in contact with material.

- Skin contact: Take off contaminated clothing and wash the skin area thoroughly with soap and water.
- Eye contact: Flash the eye with water for at least 15mins.And seek medical attention.
- Ingestion: Induce vomiting and seek medical attention.

Note: Do not touch the liquid material by hand. Please refer to the latest Material Safety Data Sheet (MSDS) or call local authorities for the material handling hazard and treatment.

Warning:No smoking, eating, or drinking in the workplace. Keep the material properly and keep away from the children.

1.2 Ultraviolet Light

- During the printer and Fab-cure operation, Ultraviolet light with a wavelength of 405 nm will be emitted, which is may bring damage to your eyes. Please avoid direct contact.
- A safety interlock is enabled to avoid printing when the cover is open.

1.3 Ethanol

- Ethanol is a flammable and explosive chemical. Please store in a cool and ventilated environment and keep the bottle cap of the container closed. Keep away from children.
- Ethanol is recommended to clean printed part (Alcohol concentration of 75% or above)
- Wear disposable gloves when clean part surface with ethanol. Avoid direct contact.

1.4 Sharp Tools

AccuFab 3D printer equipped with a set of accessories including sharp tools such as flat-headed tweezers, cleaning shovels, and utility knives. Personal safety protection is required when using these tools.

1.5 Electromagnetic Interference

Electromagnetic, produced by AccuFab printer and Fab Cure during operation, has passed CE/FCC standard test and is complied with Class A digital device limits, which will not cause harm to the human body.

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2 Operation Environment

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2.1 Site Requirements

AccuFab 3D Printer	
Power Supply	100-240V/360W
Temperature	20°C-35°C
Humidity	30%-70%
Environment	Dust free, Ultraviolet light avoided, Ventilated
Frequency Range	2400–2483.5MHz
Maximum Output Power	18dBm

Note: Ignoring the requirement of the environment may lead to print failure or part accuracy issue

Fab Cure Post-Curing Unit	
Power Supply	100-240V
Temperature	20°C-30°C
Humidity	40%-60%
Environment	Dust free, Ventilated

2.2 Material Storage

Resin Materials	
Temperature	10°C-30°C
Storage Conditions	In a cool and ventilated room and avoid direct sunlight.

Note: The bottle shall be kept closed at all times to avoid contact with fire sources.

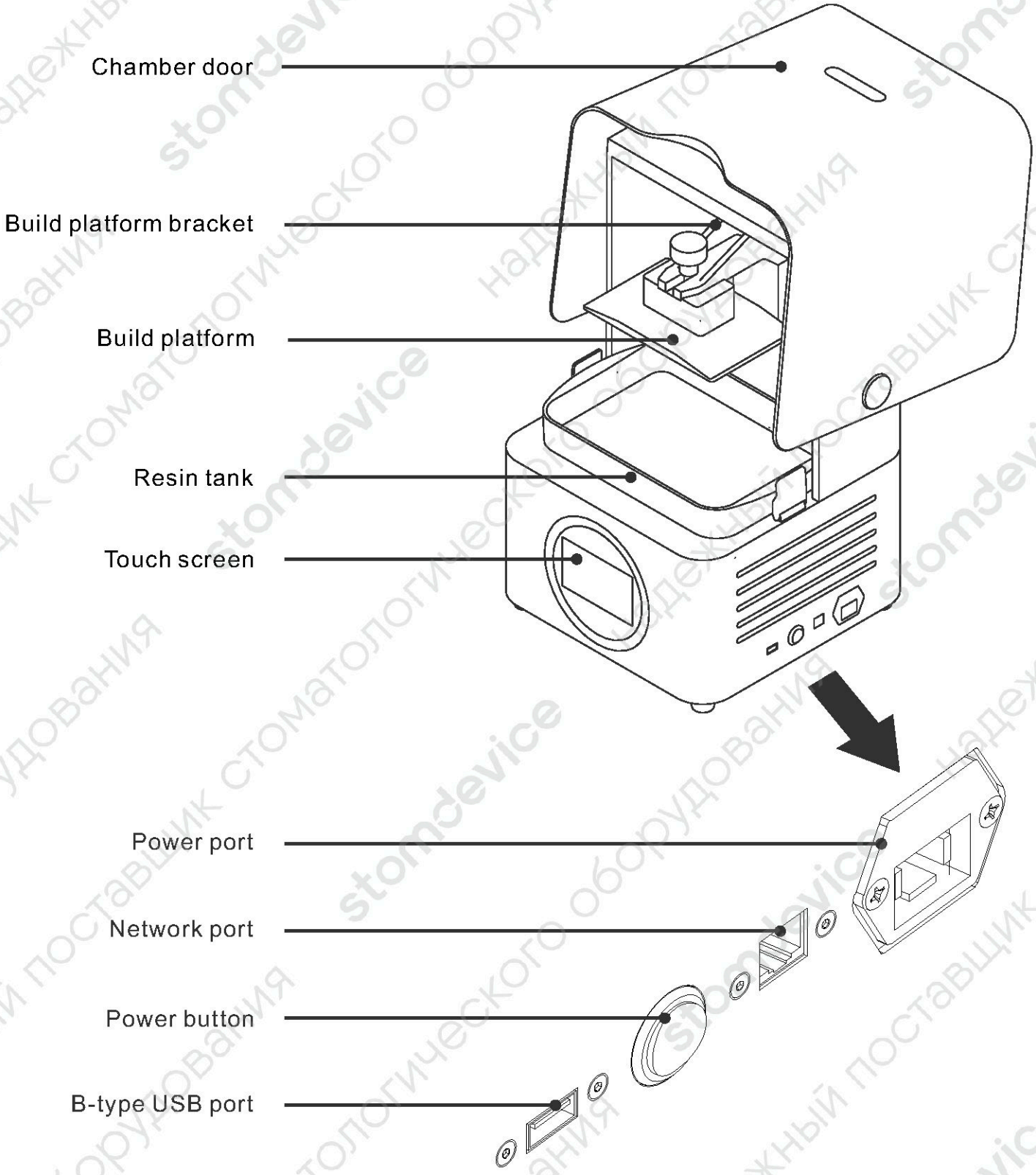
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3 Product Overview

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3.1 AccuFab L4D



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3.2 Accessories



Spare Resin tank



Power Cable



Quality Certification



Quick Start Guide



Cleaning box



USB flash drive



USB cable



Network cable



Disposable Gloves



Scraper



Angular Knife



Putty knife



Brush



Resin tank cleaner



Cloth



PET Card



Wrench



Bolt

Note: Detailed information please refer to Quick Start Guide

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4 Printer Setup

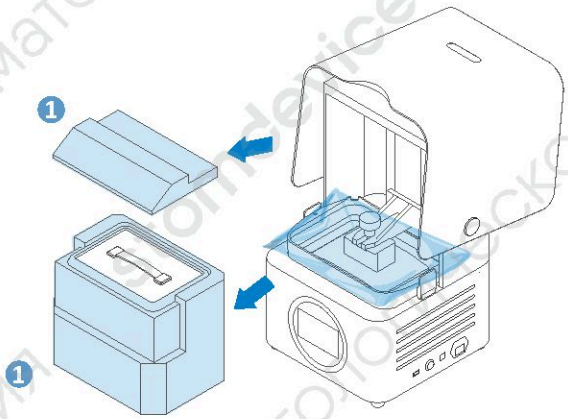
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Precaution: Do not plug in the printer before the unpacking process is complete. Or the initialization action may cause stuck of the filling materials inside printer

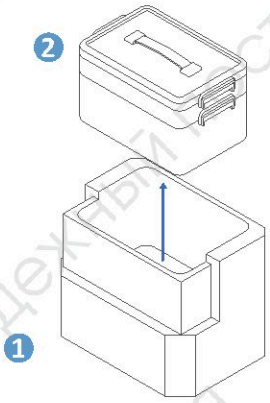
4.1 Unpacking

1 Take out the printer from the package.

2 Remove the package and place the printer on the table. Remove the fixing foam ❶.



3 Take out accessory box ❷ from fixing foam ❶.

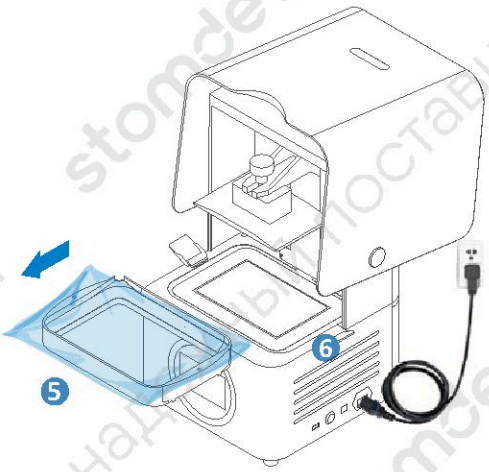


4 Connect the power supply ❸ and press the power button ❹ on right side of the printer. During printer initialization. Platform will go to the top position.



Remove resin tank ❺ .

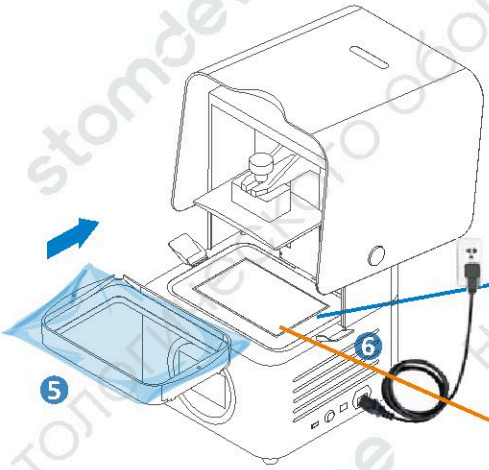
Remove the foam for fixing.

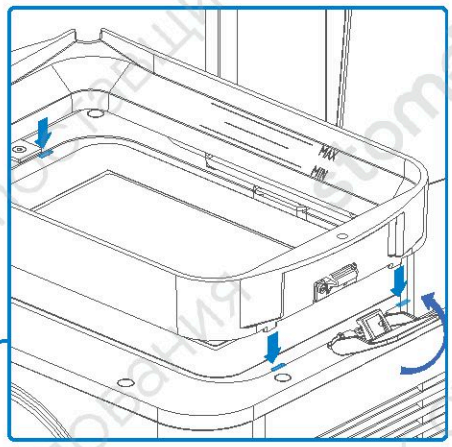


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4.2 Install the Printer

Put clean resin tank ❺ into the position.
Lock the buckles ❻ for platform.



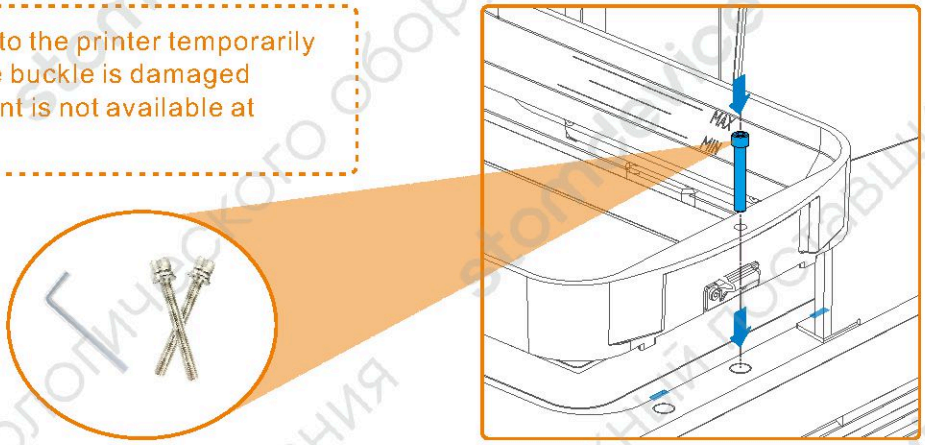


(There are four positioning slot)

DO NOT remove the screen protector.



Bolt the resin tank to the printer temporarily for operating, if the buckle is damaged and the replacement is not available at the moment.



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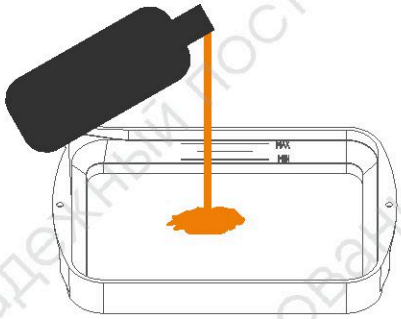
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4.3 Add Material

The resin material is a mixture, and it is likely to form a small amount of sediment after placing for long time. Please shake the bottle well before adding to the resin tank.



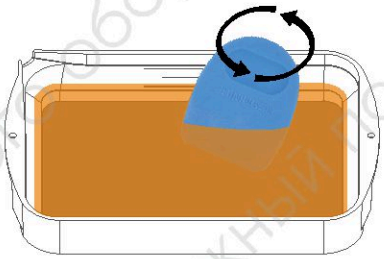
Shake The Bottle



Use scraper to stir resin in the tank to avoid sediment.



Wear gloves



Note:
- You can also add resin during printing without pausing.
- Resin level should be at between the minimum and maximum.
- Please keep the cover closed during printing to ensure the print quality

Printer is ready to print!

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5 FabWare

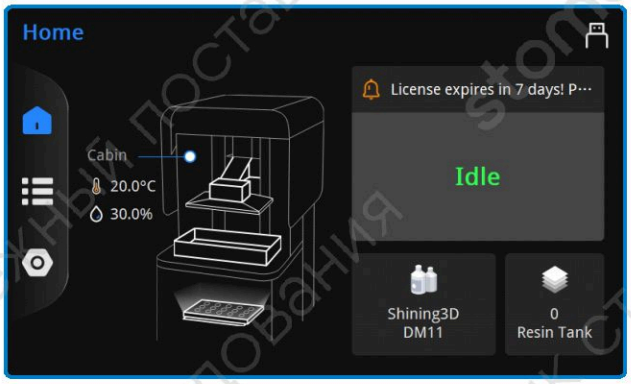
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FabWare is the operating software for the printer, which controls the printer operation and some manual settings can be done by user.

Home

The home page shows the printer status . Idle, printing or printer finished.

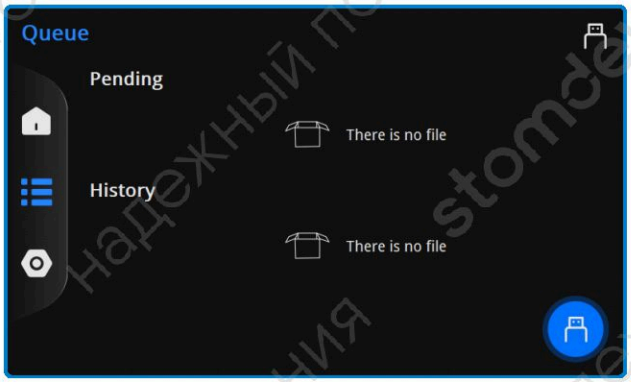
Also the build environment info is displayedfor reference. On the bottom right side we can see the resin tank setting of material and layers printed by this resin tank.



Queue

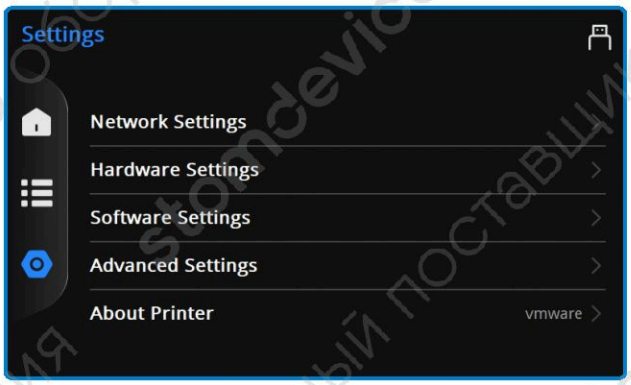
Queue page shows the pending files to be printed and also the history files.

And customer can import the file by the flash drive button if flash drive that stores the sliced file is inserted.



Settings

The settings page are all the software and hardware settings of the printers. Customer can setup the language or network, manual control of axis etc.



Note:
- If you see that the printer is not activated. Please insert the flash drive in the accessory box and activate. The activation steps are explained in **<Quick start guide>**

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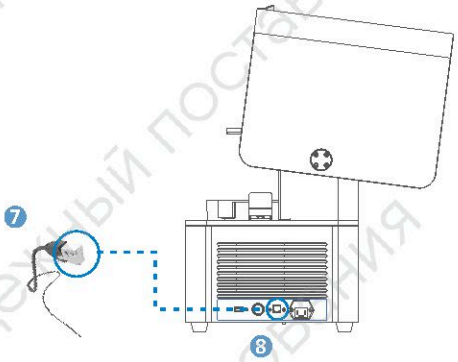
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5.1 Connecting to Network

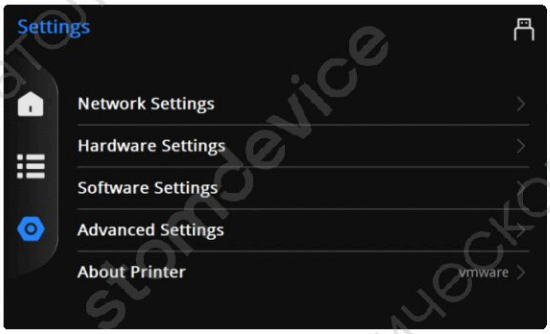
If you want to send the print file after slicing through network. Then you need to connect the printer to the network first, to LAN network or wireless network.

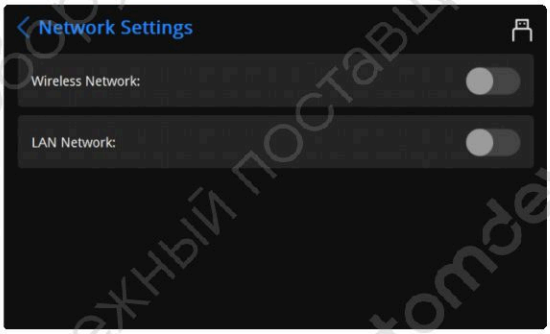
5.1.1 LAN Network

1 Connect the Ethernet cable ⑦ to the network port ⑧ .



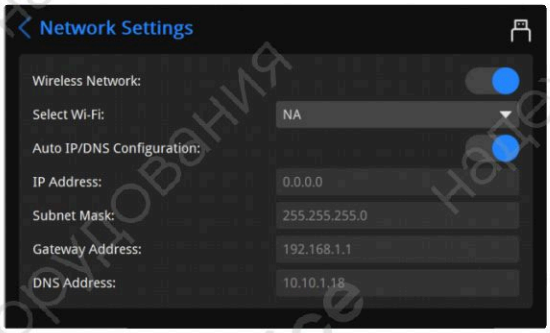
2 Go to the FabWare. Go to settings and then choose Network Settings.





3 Enable LAN Network





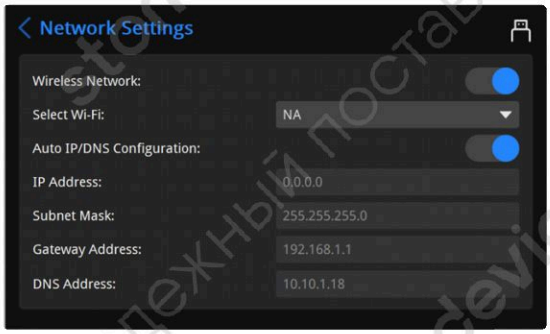
4 LAN network settings, you can choose auto way or manual way:

- Auto Way: Enable Auto IP/DNS Configuration (enabled by default).
- Manual Way: Disable Auto IP/DNS Configuration and configure manually.

5.1.2 Wireless Network

1 Under Network Settings, enable the Wireless Network.

2 Select available network in the dropdown list.



Note: Choose the same network AccuWare connected. Or it's not possible to send sliced file.

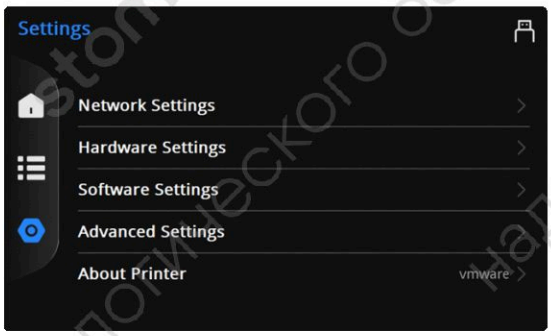
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5.2 FabWare Update

There are two ways of updating FabWare. Online and Offline.

5.2.1 Online Update

1 Open About Printer.



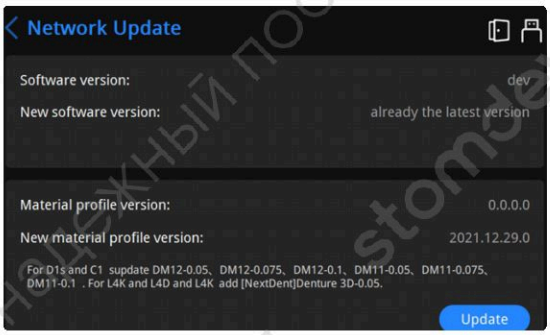
2 Update Software.



3 Select Network Update.



4 Click Update to update the software or material profile.



5 Reboot

- When new FabWare versions is available, a prompted window will indicate user to update. You can choose update directly.
- When material match error found with sliced file, you can try to update the material profile. Which must be updated online.

5.2.2 Offline Update

Insert the flash drive with the downloaded software to apply the offline update.

1 Open Update Software.

2 Select Flash Drive Update.

3 Choose the downloaded software

4 Click Next to update FabWare.

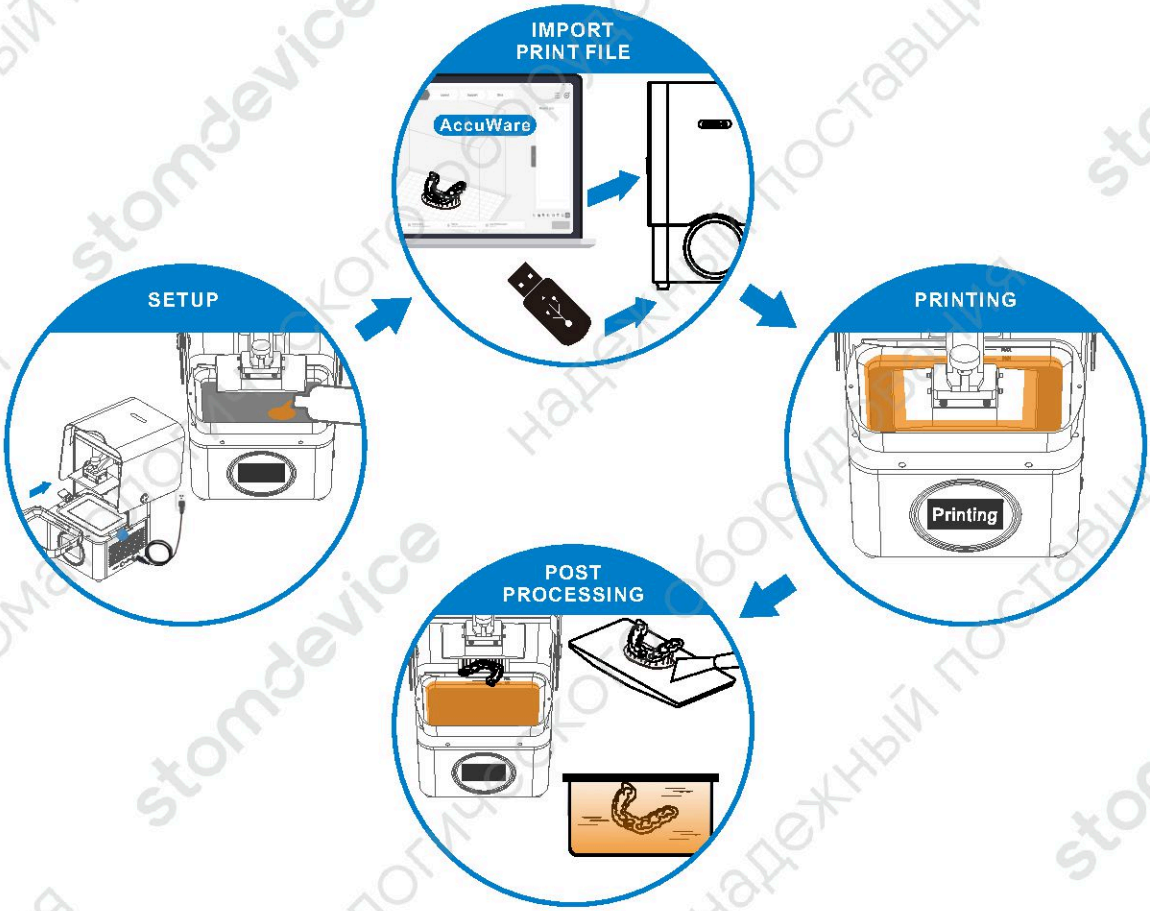
5 Reboot printer.



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6.1 Workflow



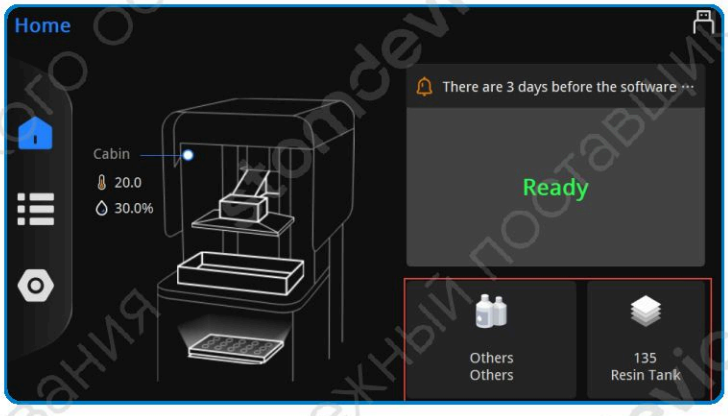


AccuWare

Detailed information please refer to AccuWare User Manual.

6.2 Resin Tank Setting

The FabWare displays the current material setting for the resin tank and the layers have been printed with the current resin tank. You can click on the setting to change the setting.



You can choose the brand and material for the current print or just to choose others to set for other materials.

FabWare will check the setting of the resin tank and compare it with the setting of sliced file. Please change the setting accordingly if an error of mismatch of setting detected.

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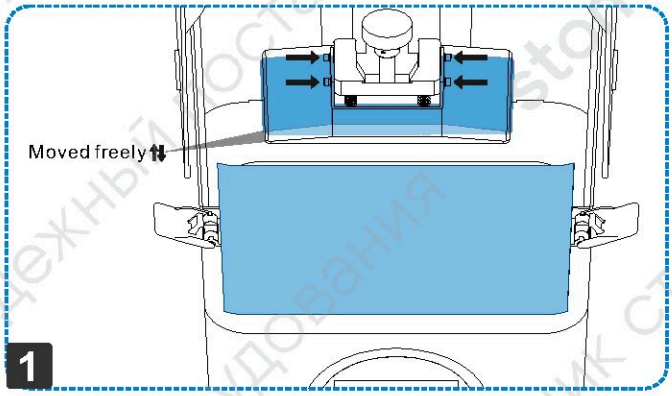
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6.3 Platform level (Optional)

Platform level is crucial to successful print.Please install the clean platform and remove the resin tank before the level process.

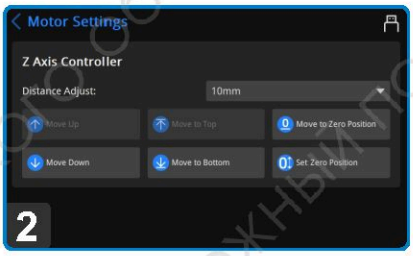
1 First, place a piece of A4 paper on the LCD screen,please make sure that the A4 paper is clean and has no excessive wrinkle.

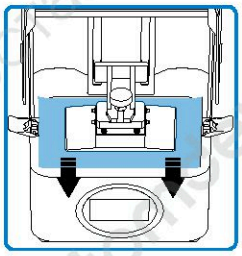
Loosen four screws on the build platform to ensure that the build platform can be moved freely.



2 In the control panel, find “Settings---Hardware Settings---Motor Settings ---move to Zero Position” and tap.

Wait for the build platform to move to the bottom and try to pull out A4 paper.



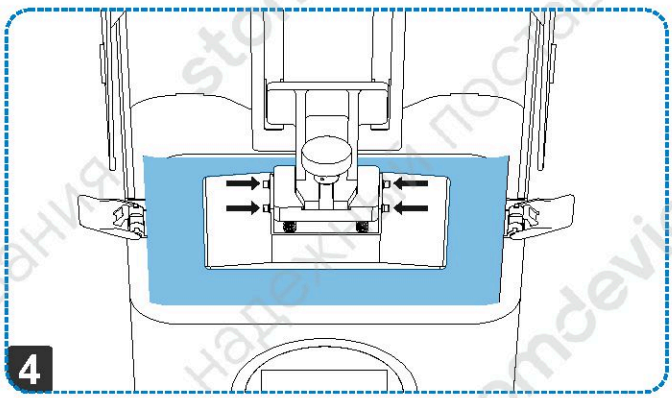


3 If A4 paper cannot be pulled out, the printing platform leveling is basically successful.

If not, move the platform down with different step distance. Until it is ready. Try small steps to avoid damage to the screen.



4 Lastly, tighten the four screws on the printing platform in a diagonal order and click OK to complete the leveling of the printing platform.



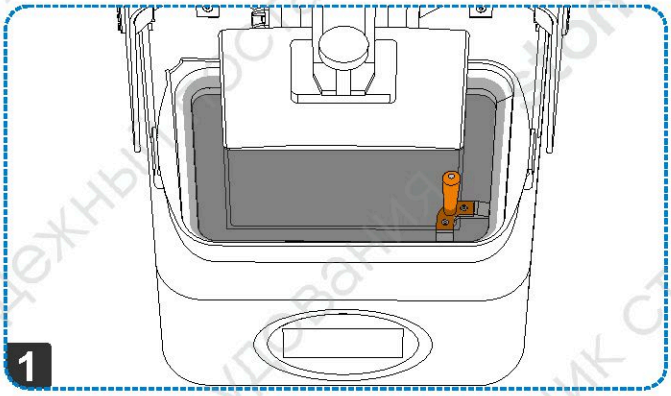
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6.4 Clean Resin Tank (Optional)

Clean Resin tank is a function that can be used after a print failure. To clean some residue the failed print left in the resin tank.

1 Place the resin tank cleaner in the corner.



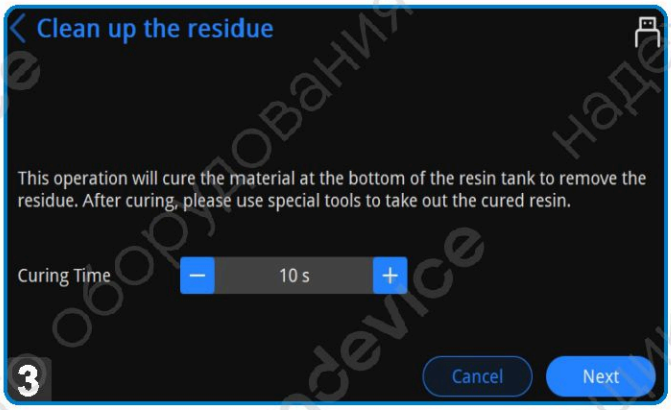
2 On the FabWare main interface, tap resin tank area to enter the Resin Tank Information.

Click on Cure Resin close to proceed.



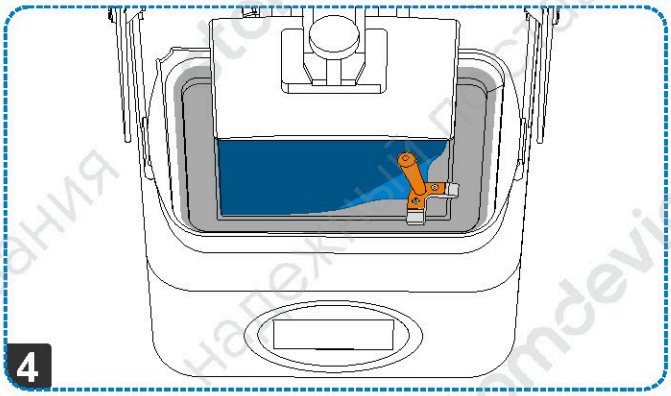
3 Select curing time and tap Next.

Change the curing time if the default time is not sufficient.



4 After curing materials, remove the cured material with resin tank cleaner.

DO NOT use sharp tools or it may damage the film and lead to material leakage.



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6.5 Choose printing file

Files can be sent to the printer with flash drive or through network.

To ensure the model printing quality, keep the chamber door closed when the Printer is printing or just finished printing. Do not touch the model, resin tank, build platform or any other Printer parts.

6.5.1 Local Printing

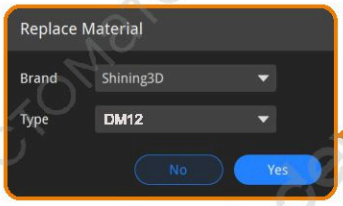
Choose the print file stored in the printer to start printing in the queue.

1 Choose to enter the printing queue. Which will show the pending jobs and history jobs.

2 Select a print job.



3 Tap Print to Confirm printing.



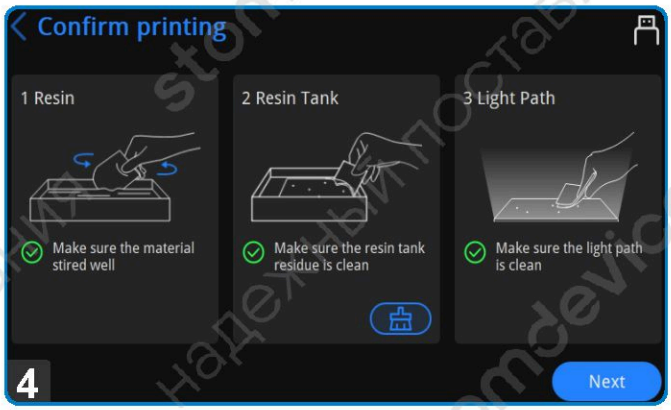


If there is a mismatch error detected, Please change the material setting by taping the button.

4 Confirm printing prompts and tap Next.

Tap to enter the Clean up the residue. Then select curing time and cure models.

See 6.3 Clean Resin Tank (Optional).



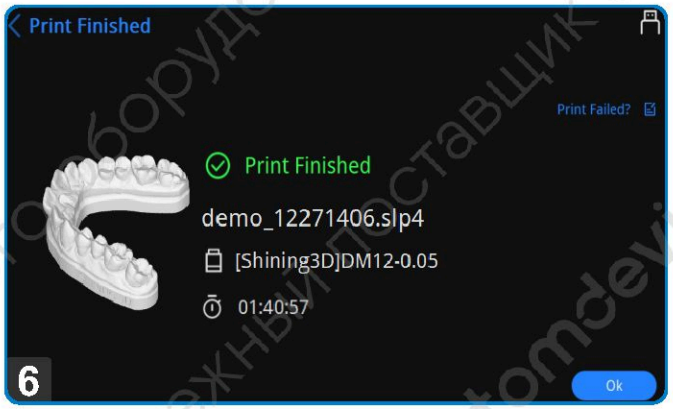
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6.5.1 Local Printing

5 Tap Next to start printing process.



6 After finishing printing,tap Ok to finish.



6.5.2 Flash Drive Printing

1 Insert the USB flash drive with sliced files into the Printer.

2 On FabWare main interface, tap to enter the printing interface.

3 Tap to enter the USB flash drive.

4 Select files to be printed.

- The Printer recognizes FAT32 format only.
- Path for the saved sliced file:
  This PC/Documents/3DDlpDocuments3/DlpGenerateOut/"Folder (with corresponding Printer serial number)"

5 Confirm printing prompts and tap Next.

6 Tap Next to start printing process.

7 After finishing printing,tap Ok to finish.

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6.6 Printing Status

In the printing page, you can check the printing progress as well as pausing and cancelling the current printing.



	Name	Description
1	Print detail	Tap to return to the previous step.
2	Print layer	Printed layers/Total layers.
3	Time	Time elapsed/Total time
4	Percentage bar	Printing progress
5	Pause	Tap to pause the printing and tap again to resume.
6	Cancel	Tap to cancel printing.

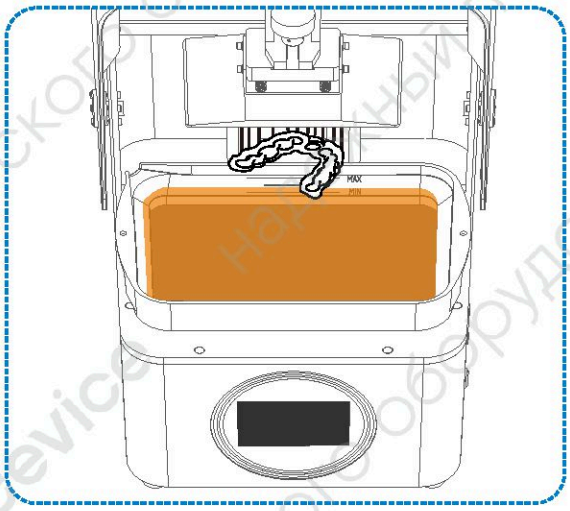
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7 Post Processing

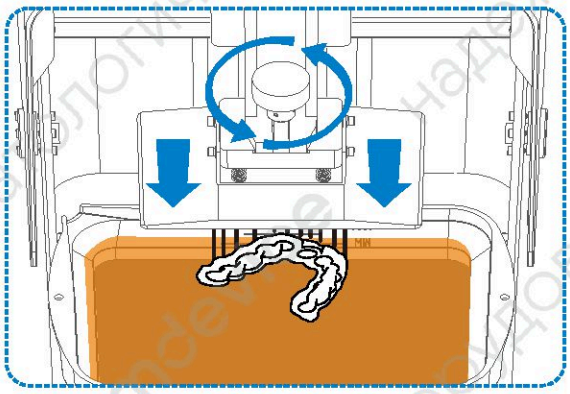
7.1 Remove Model

A few tools in the accessory box are for the cleaning of platform. Please avoid protrusion of the platform surface. As it would press the resin tank film during printing process. And may damage the film or even the screen.

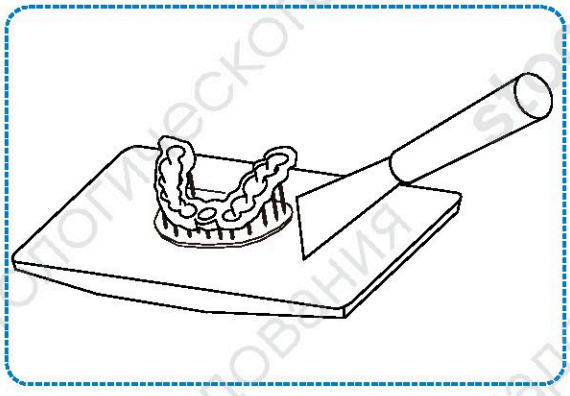
1 After the printing finishes, leave the part there for a few minutes before removing.



2 Remove the platform carefully and place it to the cleaning platform



3 Remove the part with the tool and be caution when using sharp tools.



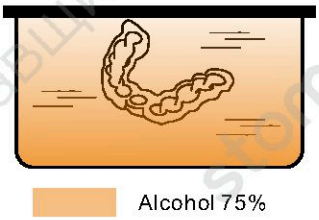
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7 Post Processing

7.2 Cleaning

7.2.1 Clean Model

Put the printed parts into the bath of alcohol (concentration of 75% or above). And clean manually for about 30 seconds. You can use cleaning machine as well.

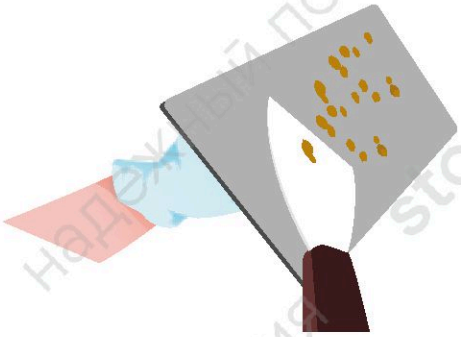


Optional: Dry the model with high-pressure air.

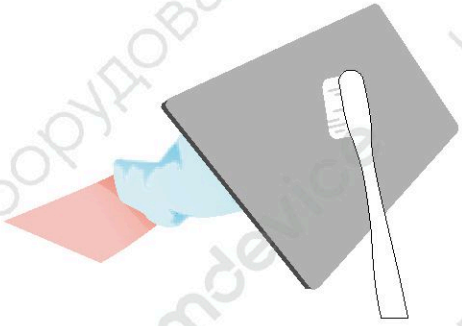
7.2.2 Clean Build Platform

A few tools in the accessory box are for the cleaning of platform. Please avoid protrusion of the platform surface. As it would press the resin tank film during printing process. And may damage the film or even the screen.

1 Use the putty knife to clean up the model residue on the build platform.



2 Use the brush with wet alcohol to clean up the residual resin on the surface of the build platform if necessary.



3 Dry the surface of the build platform with a paper towel, and dry in a ventilated place before reuse.



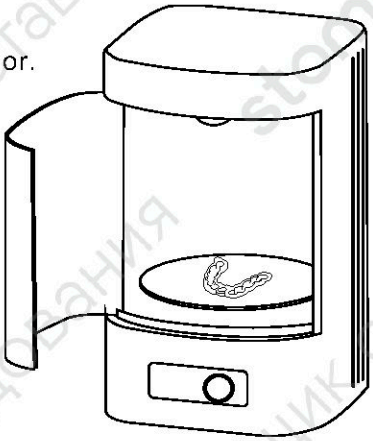
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7 Post Processing

7.3 Post Cure

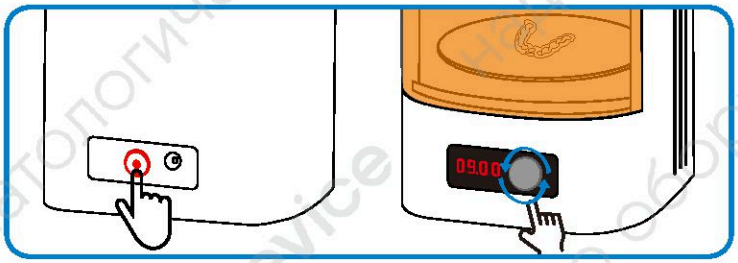
It is necessary to place the green part for a post cure process. To enhance the performance and also to cure the uncured surface of the model. Models after post cure can be handled without gloves.

1 Place the model into the curing box. And close the chamber door.



2 **Set curing time**

Rotate the knob to set the curing time and press it for 1s to start.



3 **Post cure process**

DO NOT open the chamber door during the post cure process or it will interrupt the process.

Materials	Recommended curing time
DM12	5 mins per side
OD01	5 mins per side
DC12	3 mins per side
SG01	5 mins per side
GM11	3 mins per side
TR01	3 mins per side

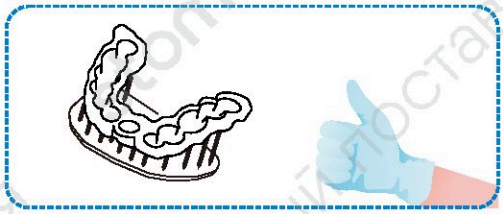


4 Take out the model when finished.

Note: Keep the plate clean for future use.
More detailed information please see Fabcure User Manual.

7.4 Remove Support

Remove support by hand or with tools.



Note:
- Be careful to prevent scratches when using sharp tools such as utility knives.
- Remove the build platform before replacing the resin tank to avoid resin dropping.
- The exposure time of different printing materials are different.

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