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RAYSHAPE

www.rayshape3d.com

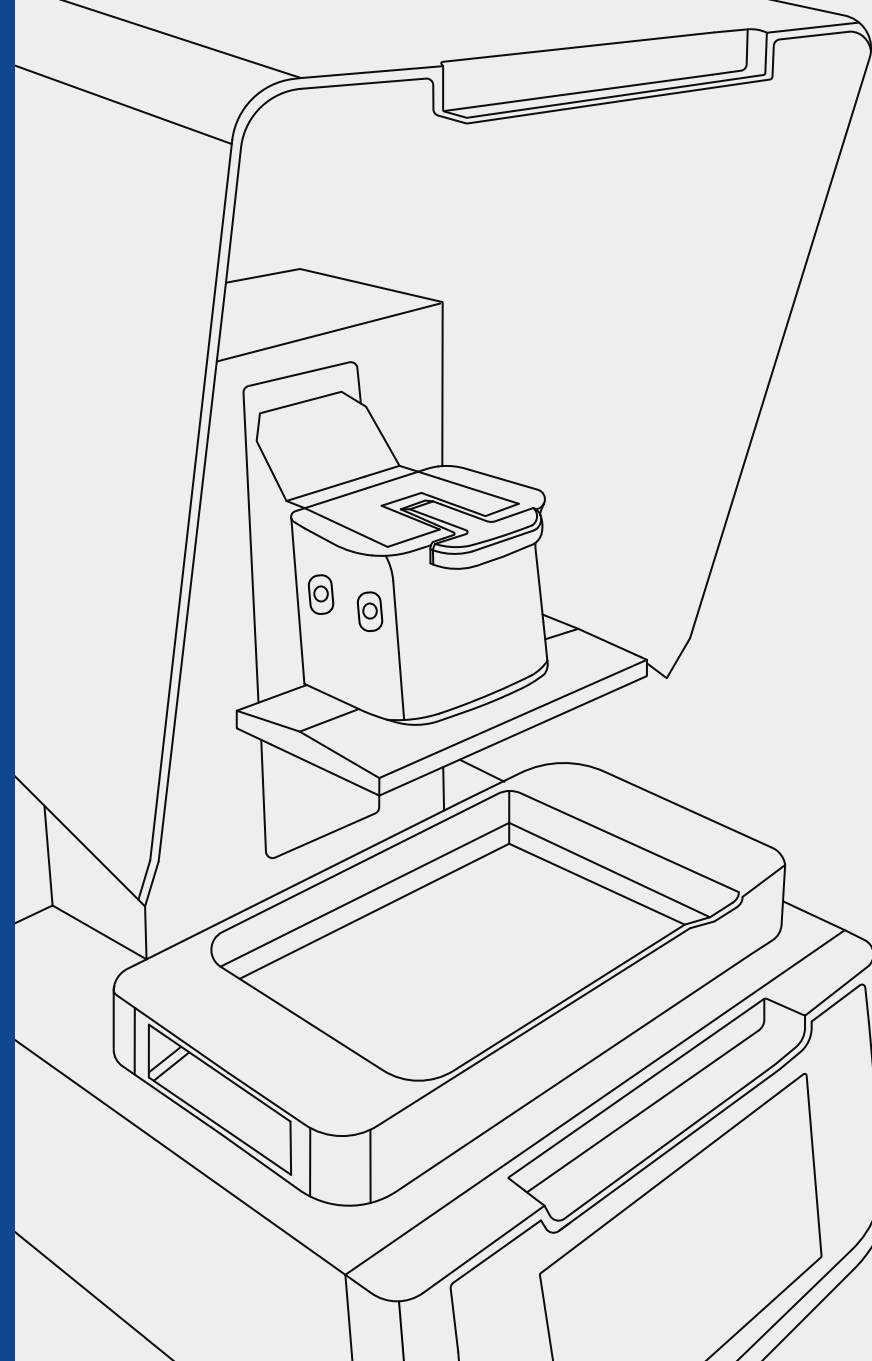


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sales.os@rayshape3d.com

Contact the sales team for more information

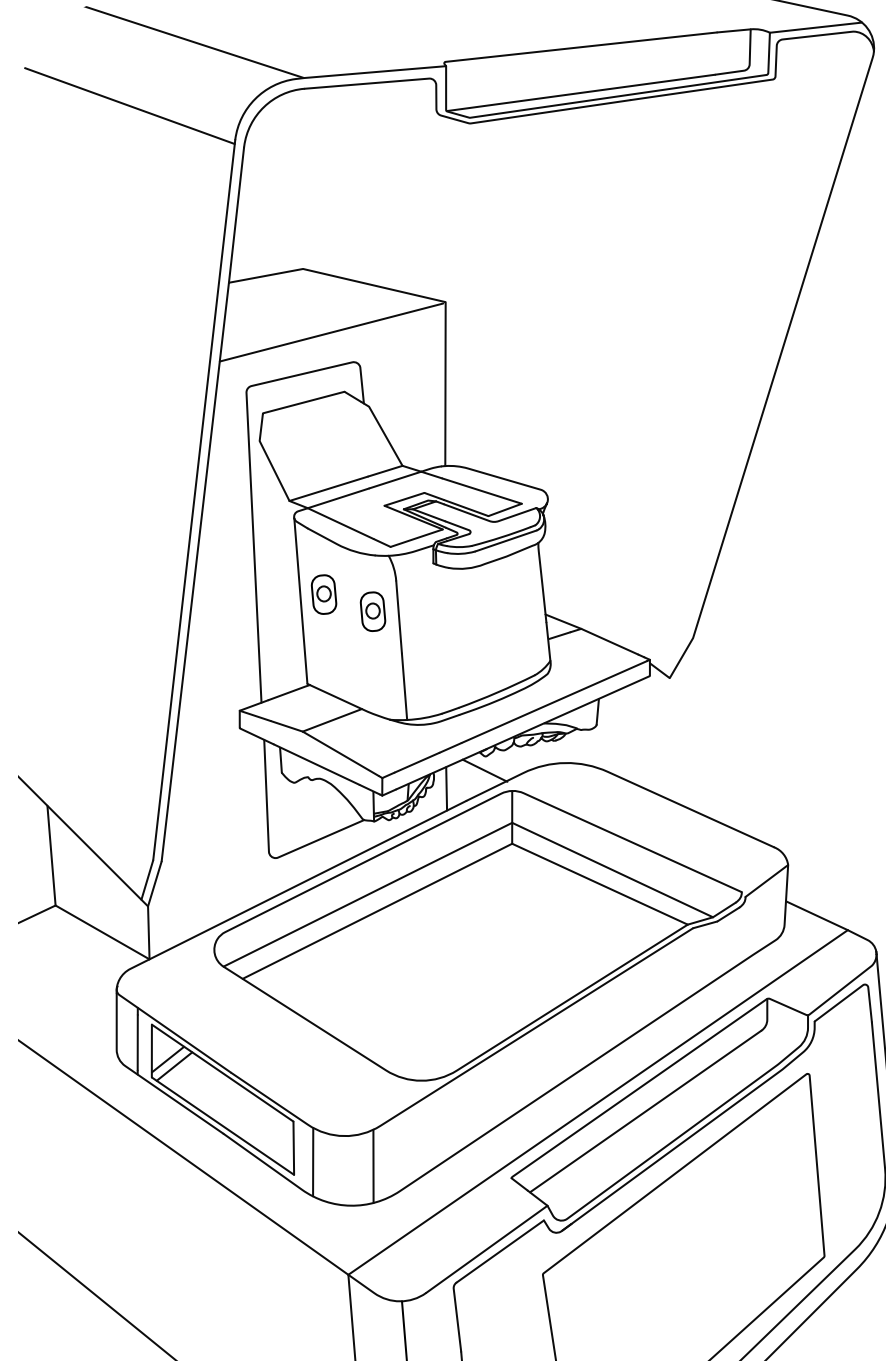


Edge mini

User Manual

V2.5

RAYSHAPE



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Instructions

This manual contains the technical information, safety guidelines, and detailed operation instructions for Edge mini LCD 3D printer. Please keep it properly.

Please read this manual carefully before using the printer. Failure to comply with the safety and operating instructions required by this manual will result in consequences that are the sole responsibility of the user.

All information contained in this manual is up to date at the time of printing, but may be subject to change without notice as products are upgraded. The images used in this manual may differ from your printer due to differences in specific models and specifications.

If you have any improvement or modification opinions on this document and the product, or if there is any error, please inform us in time. Thank you for your valuable comments on our products.

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Instructions of mark



Warning : Could result in serious personal injury or equipment damage if it was failed to comply with this requirement.



Attention : Could result in minor personal injury or equipment damage if it was failed to comply with this requirement.



Important Information : The normal operation of the device or the quality of printed models would be influenced if it was failed to comply with this requirement.



Protection requirements : Corresponding precautions should be taken as required.



Hazard indication : Description of specified hazard.

Safety Guidelines

Before operating with the printer, please read the following safety guidelines to identify the potential risks which you may experience during the usage. When using the printer, make sure to comply with the related requirement defined in the manual already and take appropriate precautions in advance.

Any operation which was failed to fulfill with the requirement defined in the safety guidelines may result in personal injury or equipment damage, and the corresponding consequences should be taken by the users.



The device shall be operated by professional staff

Operators must carefully read and understand the safety guide and operation manual, then operate the device correctly as required.



Keep away from children

Please keep the device, resin material and other accessories out of the reach of children.



Disassembly or modification is strictly prohibited

It is strictly prohibited to disassemble or modify the device without authorization. Do not use accessories which are not designated officially.



Risk of electric shock



The specification of power must meet the operating requirements of the device.



A grounded electrical outlet should be applied.



Replaced with a new one before usage if it was found that the power cable was aging or damaged.



Risk of UV exposure

The device is designed based on the principle of UV light curing and there is UV light available inside the device during operation, the risk of UV exposure shall be avoided accordingly.



If any operation or maintenance work should be proceeded while the device is working, the anti-UV goggles shall be worn accordingly.



When the device is working, please keep protective cover/ door closed normally.

03



Risk of mechanical extrusion

The printing platform will move up and down while the printer is working, there is a risk of mechanical extrusion which was generated by the improper operation.



Please keep the protective cover/door closed normally when the printer is in service.



It is strictly forbidden to put hands or other parts of the body into the printing area during the printing.



Risk of sharp edge cutting

After printing, a shovel blade is used to separate printed models from the printing platform. There is a risk of getting injured by the sharp edge cutting of the shovel blade.



Cut-resistant gloves should be worn during the operation of separating printed parts from the platform.



The blade of the shovel should not be orientated to your body during usage.



Risk of flammability of cleaning solvent

The printed parts should be cleaned with a cleaning solvent, such as IPA or 95% alcohol.



Please keep good ventilatlon and keep away from heat and fire sources when storing or using cleaning solvent.



Wear protective gloves



Please wear disposable medical gloves when operating the devices to avoid direct contact with the resin material.



Please wear cut-resistant gloves when separating the printed models from printing platform with a shovel.



Wear goggles



If any operation or maintenance work is needed to proceed while the printer is working, anti-UV goggles should be worn accordingly.



Goggles should be worn to avoid the injury caused by the splashing fragment which was generated by the operation of separating printed parts from the printing platform.



Good ventilation



Areas for printer installation and post-processing should be well ventilated.

Installation requirement

In order to obtain the best printing quality, stability and safety, before the installation and use of the Edge mini 3D printer, please be sure to understand the best service environment of the device, and the requirements are described as follows:

Electrical requirements

Rated voltage: 200-240 VAC 50/60 Hz ; 100-120 VAC 50/60 Hz (Varies by country/region).

Rated power: 120 W.

Operating ambient temperature, humidity, ventilation, and light

The best operating ambient temperature of Edge mini 3D printer is 25±5 °C, the humidity is below 80%, the environment shall be well ventilated (non-confined space), and the device installation location shall avoid direct sunlight.



The temperature and humidity requirements of resins should also be considered for printing.

No dust pollution

Edge mini 3D printer contains precision optical components inside the machine body, so the user should ensure that there is no dust pollution in the service environment, otherwise it will affect the normal operation of the optical devices.

Level and stable platform, away from fire, heat and vibration sources

A level and stable platform is required for Edge mini, away from fire, heat and vibration sources.

Keep the cover closed during printing

During the printing process, please try not to open the cover for a long time, so as to avoid the drastic change of the resin temperature due to the fluctuation of the temperature inside the printer case, which affects the stability of the light-curing chemical reaction, causing printing failure or poor printing quality.

Use official materials

All official RAYSHAPE materials have been extensively tested and optimized for superior performance, and we can not guarantee that you can get the same or similar printing performance when using non-designated materials.

Ensure the speed and stability of wireless network

If your device is connected to the router via a wireless network, we recommend that you place the wireless router and your Edge mini 3D printer as close as possible to ensure high signal strength and data transmission speed. The router should not be blocked by walls.



Connect your printer to the local network with an Ethernet cable to ensure the best data transmission speed and network connection stability. Make sure to connect your slicing computer and printer to the same router to enable data network transmission function.

Product Information

Technical Specification

Main Parameters	
Build Volume	130 × 80 × 100 mm / 60 × 60 × 100 mm
Pixel Size	35 μm
Layer Thickness	0.05 ~ 0.20 mm
Printing Speed	Up to 85 mm/h @0.10 mm (Depending on the resin type and slicing settings)
Materials	
Available Materials	ShapeMaterials Dental Series \ Third-party certified resin
Hardware	
LCD Screen	6.23" 4K monochrome screen
Light Source	405 nm LED
Resolution	3840 × 2400 pixels
Heating Module	Automatic heating build platform
Touch Screen	7" color touchscreen
Connectivity	USB2.0, Wireless network, Ethernet
Input Voltage	100-120 VAC, 50/60 Hz、 200-240 VAC, 50/60 Hz
Rated Power	120 W
Resin Vat Installation	Magnetic fixation

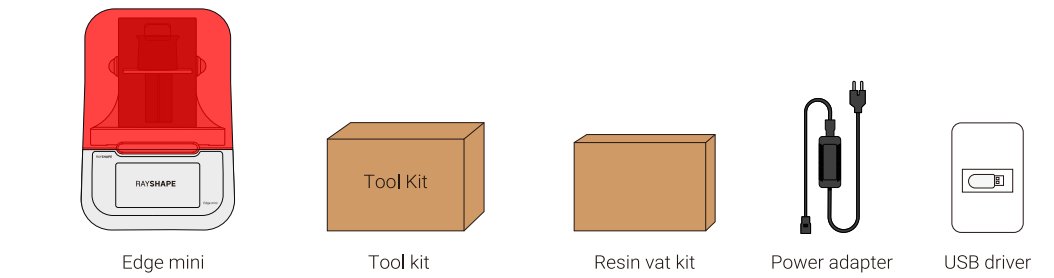
Product Information

Technical Specification

Software	
Language	Chinese, English, русский
Slicing Software	ShapeWare 2.0
Operating System	Windows 10/11、 macOS 11.2 (Big Sur) and above
File Format (Input)	.stl
File Format (Output)	.rs, .shape
Advanced Functions	One-click printing、 Automatic grouping and layout、 Scan to model、 One-click hollowing and filling、 Printability analysis, etc.
Size & Weight	
Device Dimensions	300 × 280 × 427 mm
Device Net Weight	12 kg
Minimum Space Requirement	380 × 280 × 572 mm
Packaging Size	385 × 385 × 620 mm
Packaging Weight	17 kg

Product Information

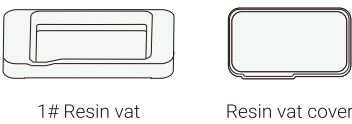
Contents



Tool kits



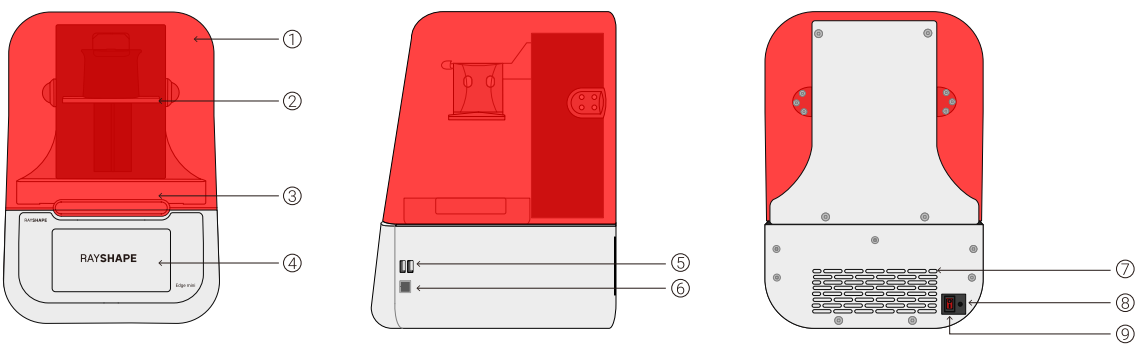
Resin vat kit



 Pictures above are a demo for tools and accessories packed with the printer.
The actual type or quantity of these items may be adjusted without notification.

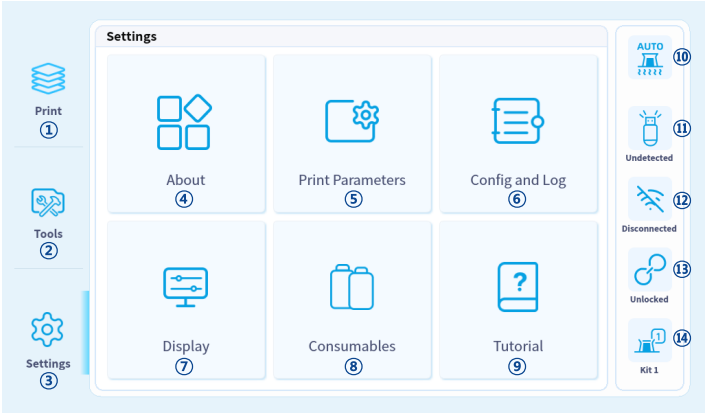
Product Information

Printer Components



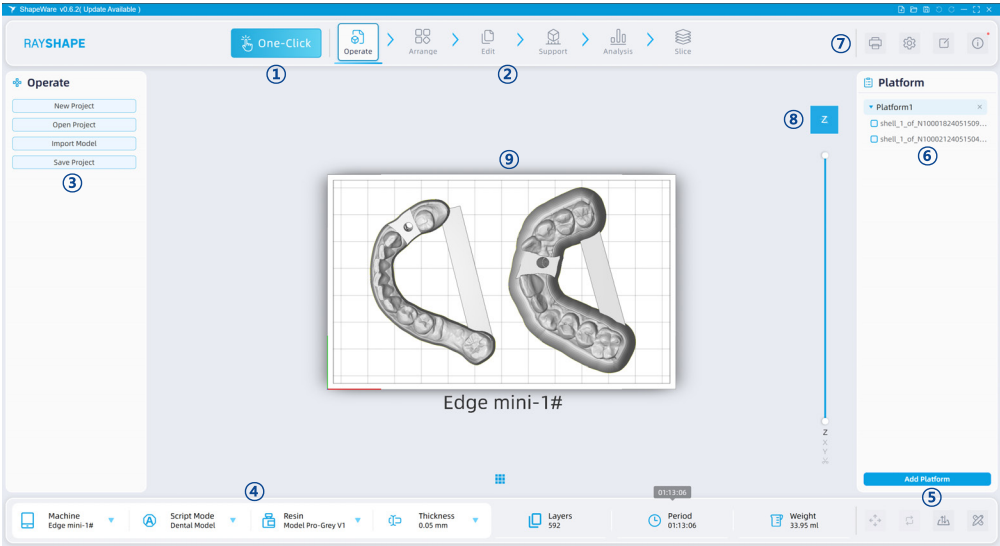
No.	Description	Function
①	Cover	Block UV light of specified wavelength and ensure suitable temperature and humidity in the chamber
②	Printing platform	Adhere printed parts and heat the resin in the resin vat
③	Resin vat	Contain resin
④	Touch screen	Access for printer control software operation
⑤	USB port	Import/export print jobs and device information files
⑥	Ethernet interface	Connect the printer to a wired LAN
⑦	Heat emission hole	Dissipate the heat generated during operation
⑧	Power interface	Connect the printer to a power source
⑨	Power switch	Turn on/off the printer

Printer Display Menu



No.	Description	Function
①	Print	Navigate to print job menu, including unprinted and historical print jobs
②	Tools	Navigate to tools menu, including printer calibration and maintenance modules
③	Settings	Navigate to setting menu (as shown in above picture)
④	About	Display printer hardware and software information
⑤	Print Parameters	Configure printer operation parameters
⑥	Config and Log	Export and import printer log files
⑦	Display	Display settings, including language and unit options
⑧	Consumables	Consumables usage log
⑨	Tutorial	Tutorial for printer operation
⑩	Pre-heating setting	Display the current printing platform heating status. Click to jump to the pre-heating menu, where you can select pre-heating mode
⑪	USB driver indication	Indicate whether there is a USB drive connected. Click to jump to the Config and Log file management menu
⑫	Network status / configuration	Display current network connection status and navigate to network configuration menu
⑬	Mag-securing status / switch	Display current resin vat securing status, navigate to mag-securing menu
⑭	Platform type indication / switch	Display the type of current installed platform. Click to select the correct platform type

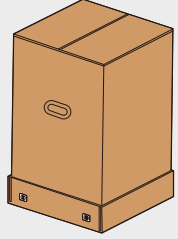
Pre-processing Software Overview - ShapeWare 2.0



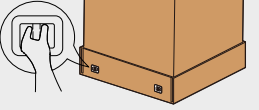
No.	Description	Function
①	One-click processing	One-click processing of specified indication data, integrating the normal operation steps
②	Process selection area	Process print data step-by-step according to the workflow, or select specific steps for targeted operations
③	Current process functions area	Choose and configure specific process functions
④	Printing setting display area	Display/adjust current printing settings and information
⑤	Quick operation area	Include frequently-used functions, such as move, rotate, etc.
⑥	Parts list area	Display 3D parts list grouped with platform, including data diagnostic information
⑦	Software information/setting area	Include system settings, license management, etc.
⑧	Navigation area	Quickly select/adjust the view angle of platform, and perform cutting operation
⑨	3D parts operation area	Display single/multi-platform and 3D parts, and perform operations with mouse

Operation Instructions

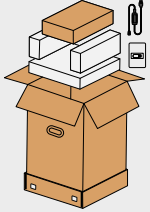
Unboxing



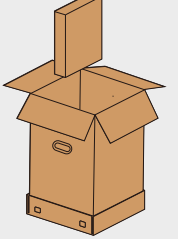
① Packaging inspection



② Pinch and pull to remove the clip



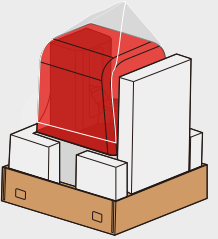
③ Open the outer box and take out the accessory box and the upper foam



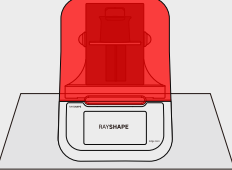
④ Remove the resin vat kit



⑤ Lift the outer box off

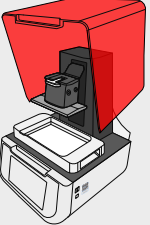


⑥ Remove the plastic bag



Desktop size: $\geq 500 \text{ mm} \times 500 \text{ mm}$
Table load capacity: $\geq 30 \text{ kg}$

⑦ Take out and place the printer properly



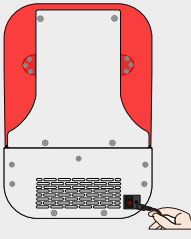
⑧ Check the appearance of the printer



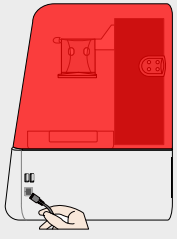
⑨ Scan QR for user guide

Operation Instructions

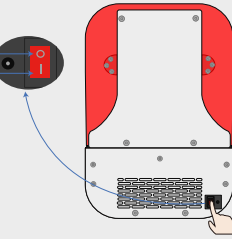
Setting Up



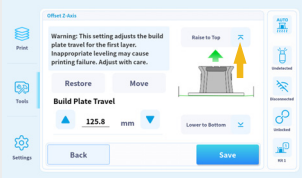
① Plug in the power cord



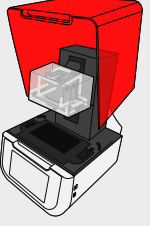
② Plug in the Ethernet cable



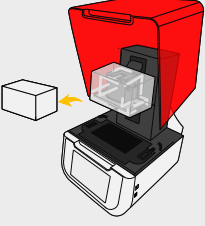
③ Powering on



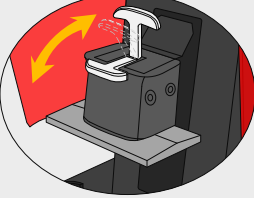
④ Click on "Tools - Offset Z-axis - Raise to Top"



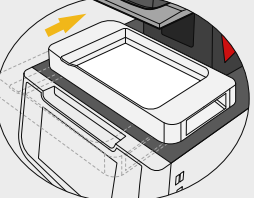
⑤ The printing platform lifts



⑥ Remove the protective foam



⑦ Perform and validate printing platform installation and removal operation

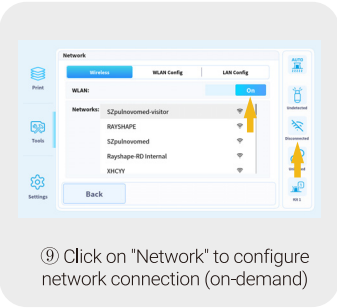
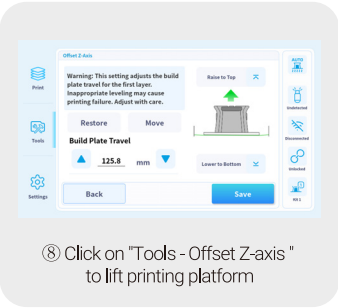
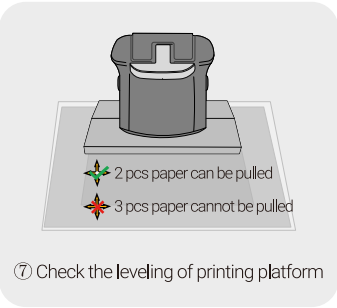
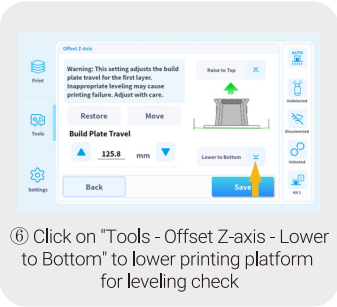
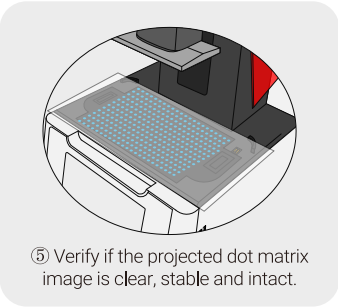
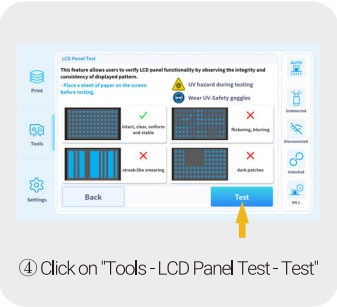
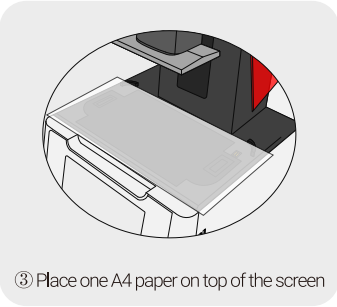
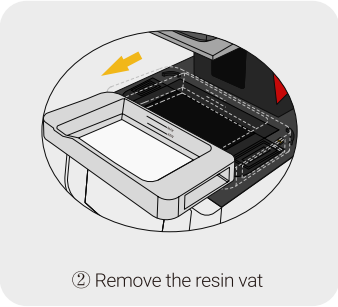


⑧ Install the resin vat and validate the mag-securing

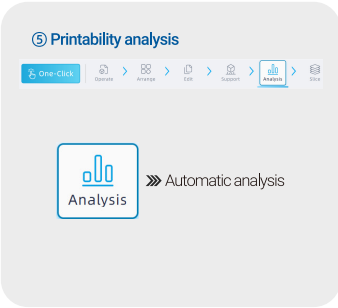
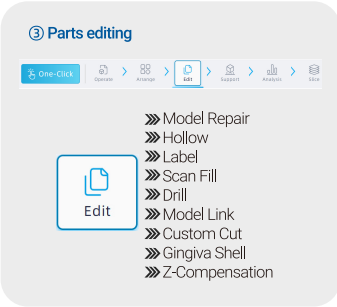
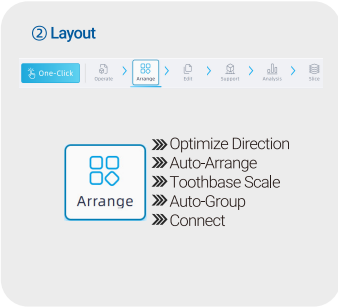
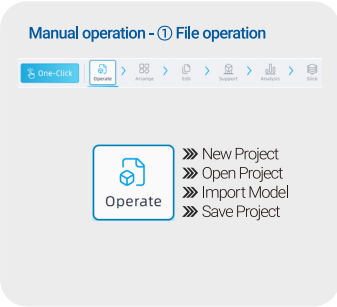
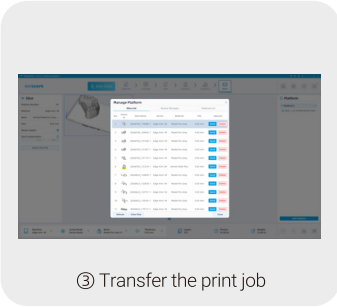
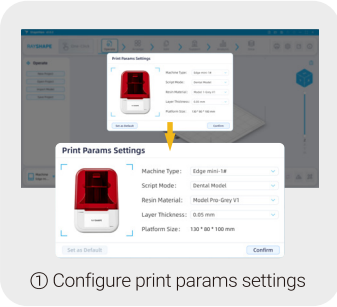


⑨ Verify printing platform type

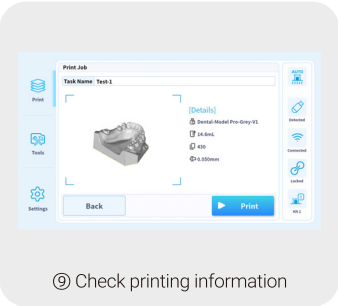
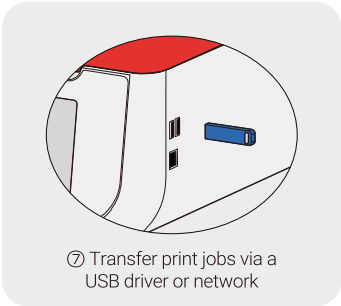
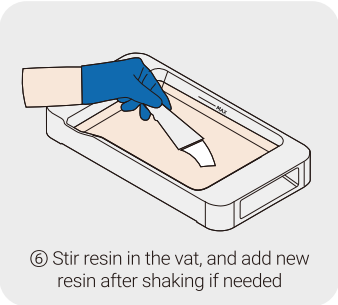
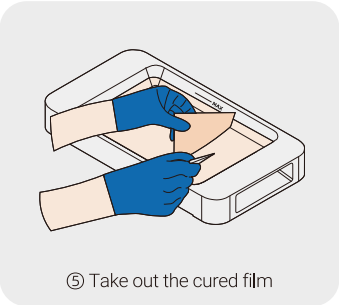
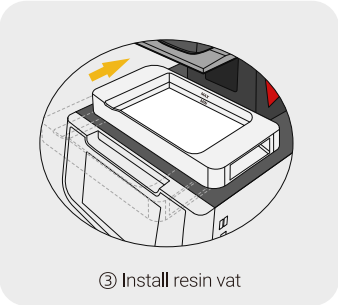
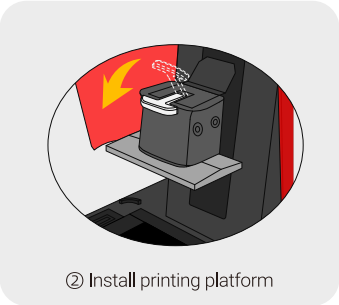
Printer Initialization



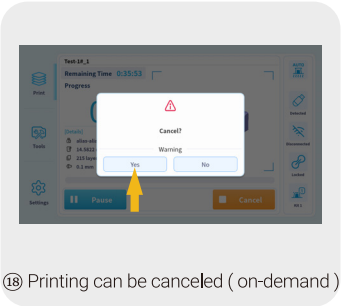
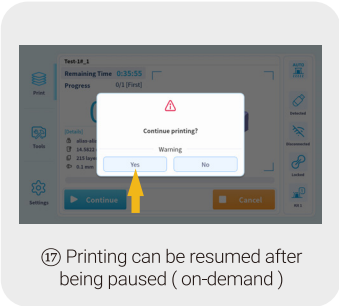
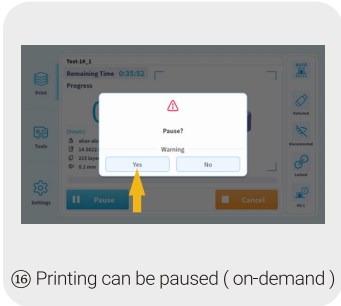
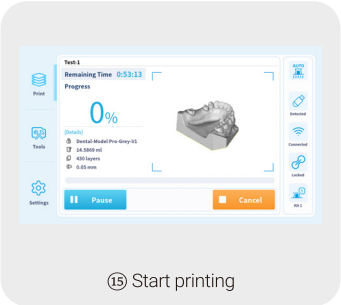
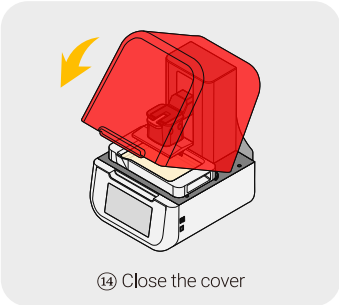
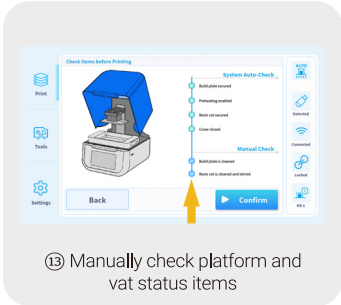
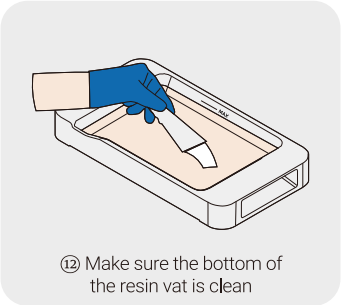
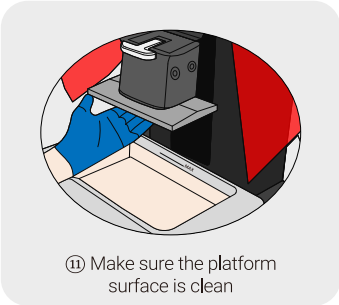
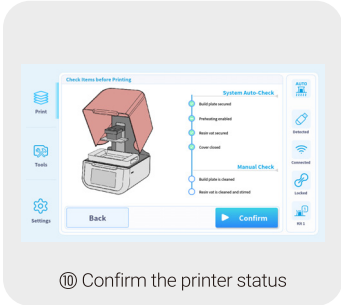
Pre-processing Software Operation (one-click printing / manual operation)



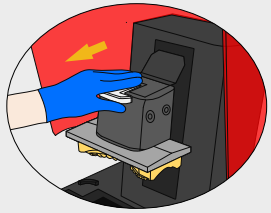
Printing Operation



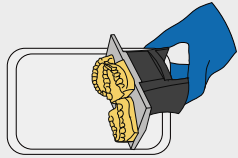
Printing Operation



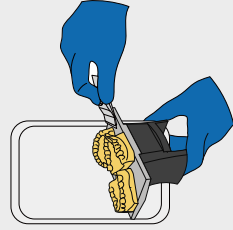
Post-processing Operation



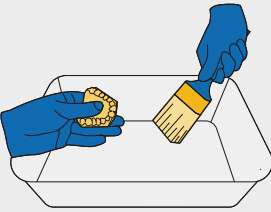
① Remove the printing platform



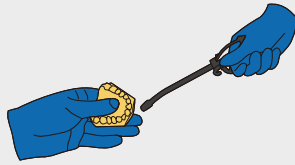
② Transfer printed parts



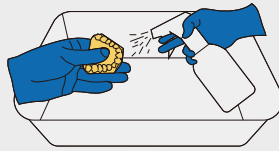
③ Remove printed parts with shovel blade



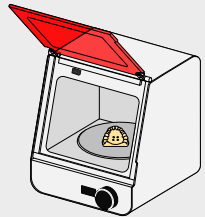
④ Use alcohol/IPA to clean parts



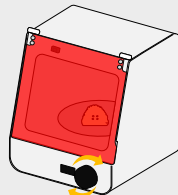
⑤ Dry parts with compressed air



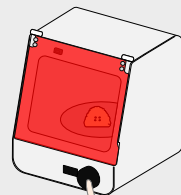
⑥ Repeat wash-and-dry until parts are clean



⑦ Place cleaned parts inside the curing station

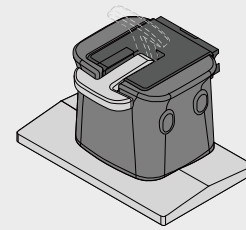


⑧ Close the cover, rotate the knob to set curing time

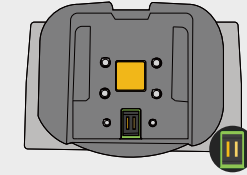


⑨ Press the knob to start curing

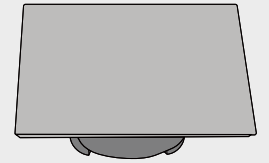
Maintenance Operation



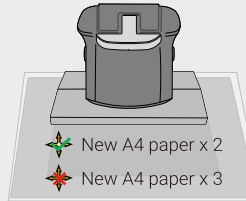
① Check the stability of printing platform installation



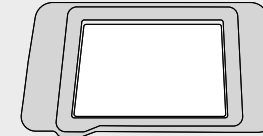
② Check the circuit interface on printing platform



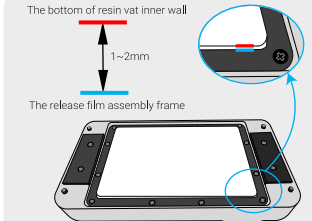
③ Check surface flatness of printing platform



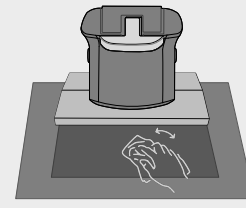
④ Check printing platform leveling



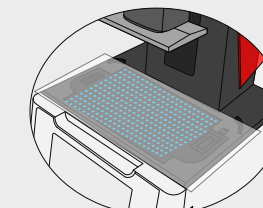
⑤ Check the resin vat surface



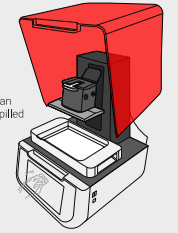
⑥ Check the bottom of resin vat



⑦ Clean the LCD panel surface



⑧ Perform LCD panel test



⑨ Clean the printer appearance

Description	Reason	Solution
The device can not start up normally.	The socket does not have normal power supply.	Check whether the socket is working normally .
	The cable is not plugged in or becomes loose.	Re-plug the cable and confirm the connection is reliable.
	The power switch is not turned on.	Turn on the power switch and confirm that the light is on.
	Electrical fault	Contact the re-seller / distributor or after-sales department.
Part falling off.	The printing platform is not leveled and zeroed in place	Check the leveling, and redo printing platform alignment if needed.
	The ambient temperature is too low	Place the printer in an air-conditioned room to ensure that the ambient temperature is 25±5°C.
	There is foreign matter in the vat	Pour out the resin in the vat, clean the resin vat with clean alcohol / IPA, and confirm the removal of the foreign matter.
	Light path pollution	Check and clean the light path, and confirm that the bottom of the resin vat and the LCD screen are clean.
	Resin and slicing package do not match	The resin is inconsistent with the resin selected during slicing. Please confirm whether it matches.
	LCD panel is damaged	Perform the LCD Panel Test and replace with a new one if needed.
The bottom of part is peeling off.	The support is not added properly	Check the structure of the support and add enough support accordingly.
	Unreasonable design of part	The structure such as cupping and large cross-section should be avoided.
The surface of the part is coarse.	Unreasonable design of part	The structure such as cupping and large cross-section should be avoided.
	Resin and slicing package do not match	The resin is inconsistent with the resin selected during slicing. Please confirm whether it matches.
	The vat is seriously damaged	Pour out the resin in the vat, check the quality of the vat, and if it is seriously damaged, contact the dealer and purchase a new vat.
	Light path pollution	Check and clean the light path, and confirm that the bottom of the resin vat and the LCD screen are clean.
The part is difficult to be shoveled from the build plate or is easily broken when being shoveled off.	Unreasonable design of part	Shell the part for printing, with a thickness of not less than 2mm.
	The shovel blade becomes blunt	Replace the shovel blade.
	Unmatched resin profile	Check the printing setting and select the resin type according to the resin package label.

Description	Reason	Solution
The support in some area of the part is broken.	The support is not added in place	Check the structure of the support and add enough support accordingly.
	The support is too thin	Increase the diameter of the support bar.
	The tank below the area is damaged	Replace the resin vat.
	The ambient temperature is too low	Place the device in an air-conditioned room to ensure that the ambient temperature is 25±5°C.
Part of the printed part is missing.	Insufficient resin in the vat	Add enough resin and print it again.
	Light path pollution	Check and clean the light path, and confirm that the bottom of the resin vat and the LCD screen are clean.
	The vat is damaged	Drain the resin out of the vat, check the resin vat and replace with a new one if it is damaged.
	The part is designed or supported unreasonably	Re-design the part and add support properly.
	There is foreign matter in the vat	Pour out the resin in the vat, clean the resin vat with clean IPA/ alcohol, and confirm the removal of the foreign matter.
	LCD panel is damaged	Perform the LCD Panel Test and replace with a new one if needed.
Abnormal interruption during printing.	Power off	Check the main power supply of the site.
	The part has a problem	Check whether there is a problem with the interrupted layer, e.g. a blank outline.
	Other abnormalities	Export printer log file and send it to after-sales service.

Technical support

If you need help during the use of Edge mini 3D printers, please contact the direct seller of the products directly.
Before you initiate a technical support request via email or telephone, we recommend that you make the following preparations in advance:

1.Device SN

The product SN can help us know more details about your device quickly. The device SN is located on the nameplate of the body.

2.Running log file of the device

Enter the menu: Settings - Config and Log - Export Config Files, export the running log file of the device, which will be saved in the root directory of the USB disk.

3.Photos and videos

Some faults are difficult to describe and judge, and in this case, providing photos or videos is the most effective way to explain the problem.

Please provide photos or videos under following circumstances:

- ① Parts are damaged or fall off;
- ② You know the cause of the failure, but do not know the name of the relevant accessories involved in the failure;
- ③ The abnormal operating state of the device is complicated or difficult to describe;
- ④ Problems in printing quality.



Scan the QR code to
view technical support information

Warranty

1. Warranty period

Edge mini 3D printers are provided with 12 months of warranty and lifetime maintenance services.

2. Preconditions

- The equipment failure is not caused by human reasons or force majeure.
- A valid proof of purchase.

3. Scope

- Appearance parts such as door panels and equipment case shall be deemed to be free of quality problems upon sign-off and are not included in the list of warranty components.
- Consumables (including LCD panels, resin vats, etc.), please unpack and inspect the goods at the signing site; upon sign-off, it shall be deemed to be free of quality problems, and the warranty request is not accepted.

4. Service

For warranty service requests which are complied with the warranty conditions, the supplier should bear the cost for spare parts, repairing and transportation as well.

5. Non-warranty circumstances

- Equipment failure caused by human reasons or force majeure;
- Failure to provide valid proof of purchase;
- The performance and reliability of the equipment is depended on many factors, and the supplier could promise that the best printing performance and reliability would be obtained if the supplier's official consumables and supporting software was used and the instructions of the equipment's user manual were complied with strictly during usage; Such warranty requests, which were caused by the application of 3rd party software and consumables, would not be accepted by the supplier definitely.

6. Warranty services

Supplier would offer maintenance service to the request which does not comply with the warranty condition or out of the warranty period, but the cost related to spare parts and transportation should be undertaken by the requester accordingly.

7. Service response

The supplier will provide online technical support to the requester within 24 hours on working days.

Warranty Card



1Year Warranty Card

This warranty card, along with the valid invoice, will be guaranteed for one year after the purchase.
For the warranty details, please refer to the product user manual.

Reseller Name : _____ Invoice No. : _____ Purchase Date: _____

Product Model : _____ Serial Number : _____ Dealer's Seal: _____

* This is the basic proof of the warranty. Please fill in it carefully and hand it over to the customer for safekeeping.

Customer Name : _____ Contact: _____ Phone Number: _____

Address: _____ Service Evaluation: ☐Excellent ☐Good ☐Normal ☐Bad

Customer Signature : _____

FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions.

- (1) this device may not cause harmful interference.
- (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modications 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.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum 20cm distance between the radiator and your body: Use only the supplied antenna.