

**2X Series
USER MANUAL**

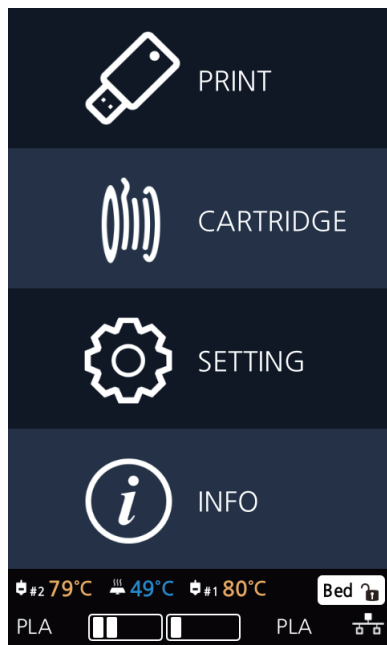
Printing

3

1. Printing

User can print printables via USB flash drive, USB cable, or over the network.

The following on the printer means it is ready to start print.



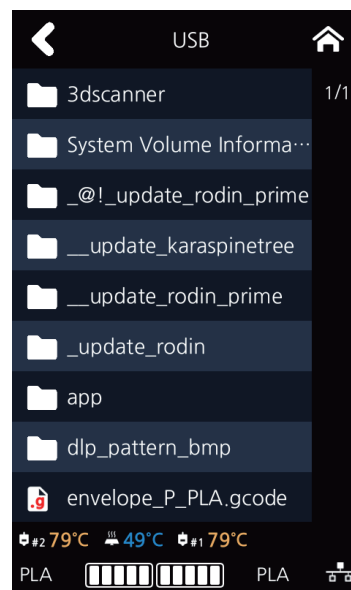
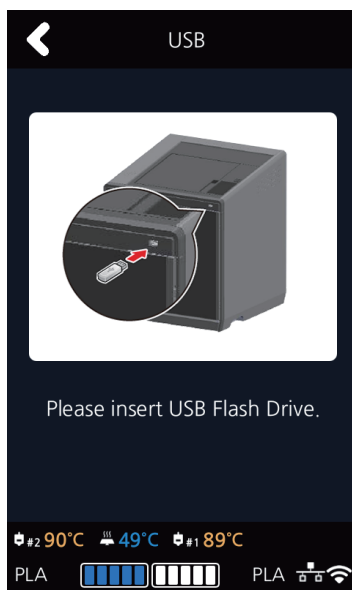
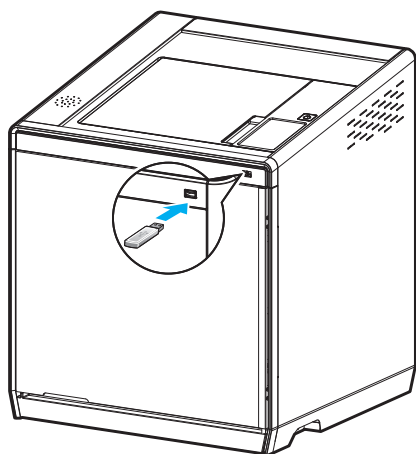
1.1 Printing from USB Flash Drive

- 1 Connecting USB flash drive to the printer.

In order to print using a USB flash drive, insert the flash drive into the USB port.

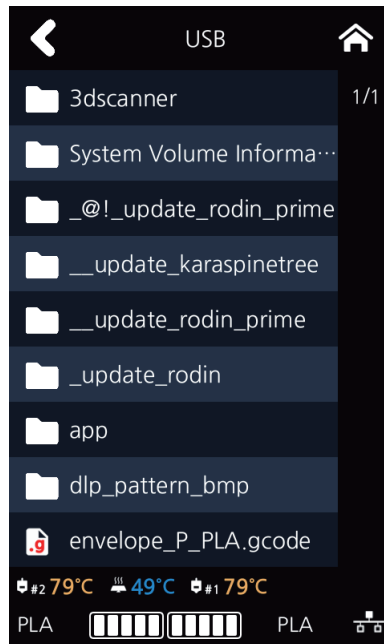
When the USB flash drive is connected while in the home screen, a list of files in the USB appears.

When **[PRINT]** is selected without the USB flash drive connected, a message requesting for USB connection will pop up and once USB flash drive is connected a list of the USB files will emerge.



2 Printing Files

Select a file to print in the USB list.



3 Print Preview

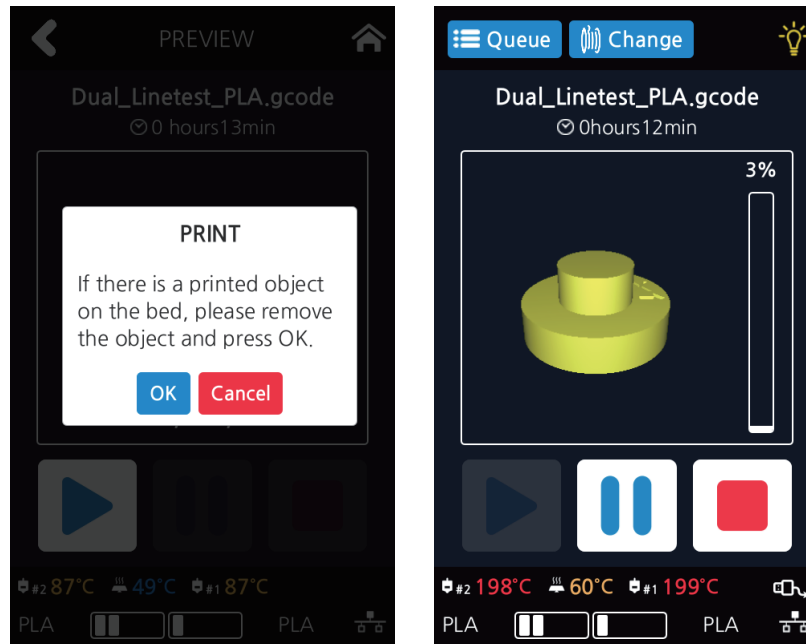
Once selected, a preview of the model appears on the screen.



3 Printing

4 Printing

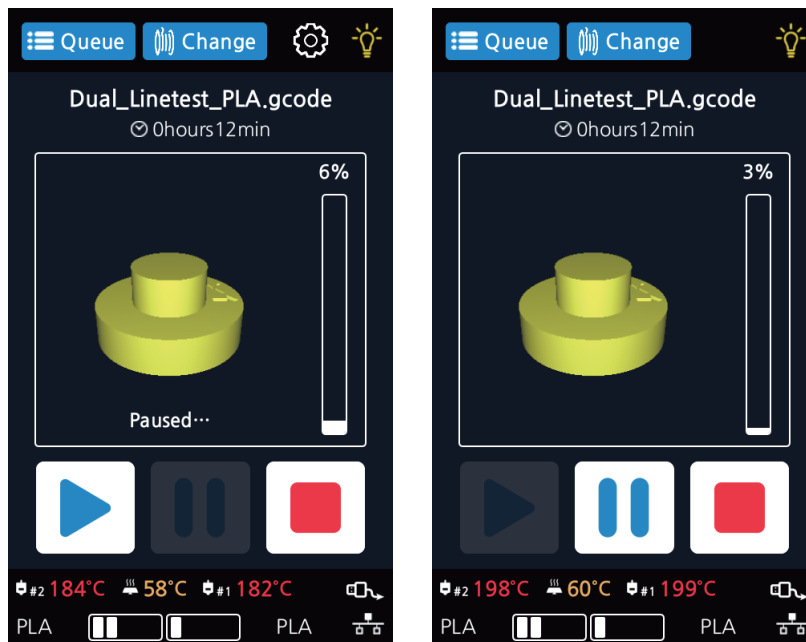
Once [▶] is pressed the nozzle starts to be heated. When the specified temperature is reached, the printing starts.




5 Pausing Print

Pressing [⏸] during a print will pause the progress.

Press [▶] again and nozzle is heated again, and the printer will continue printing.

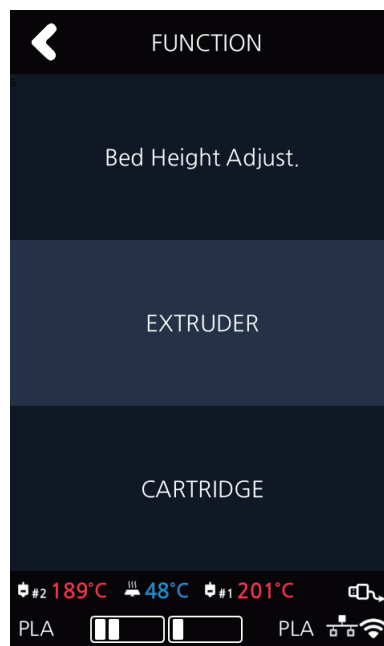


6 Additional Functions of Pausing

Press the [] button during printing to pause it, and then press the [Setting] icon to run additional functions.

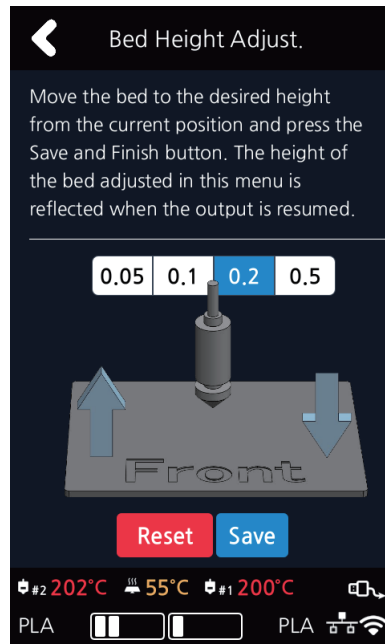


These additional functions include [Bed Height Adjustment], [Extruder], and [Cartridge-Load, Unload, and Unlock]. These additional functions are used for any mechanical problem or if the user needs them.



■ Bed Height Adjustment

- ① This menu is used to adjust the height of the bed during printing for a high-quality outcome.
- ② [Save] the adjusted bed height and return to the printing screen to print the adjusted bed height.
- ③ Press the [Reset] button to return the bed to its previous position.



Extruder

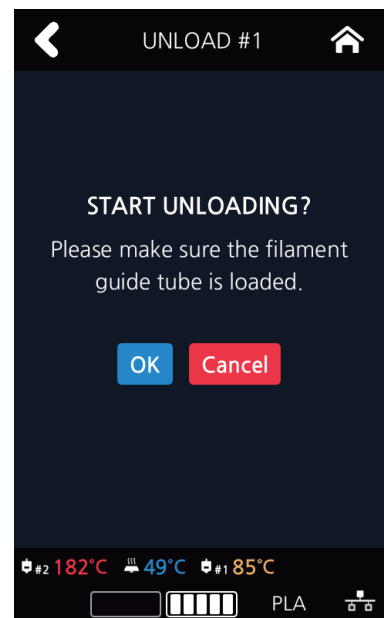
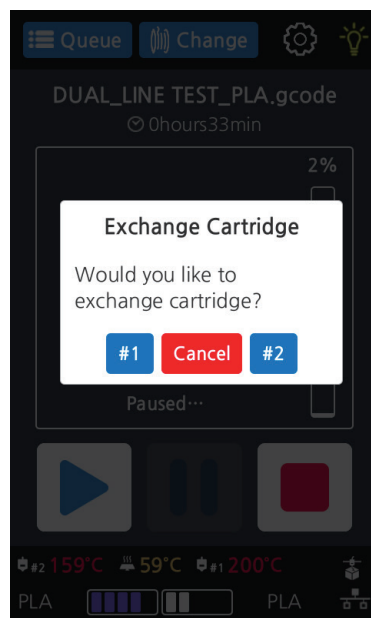
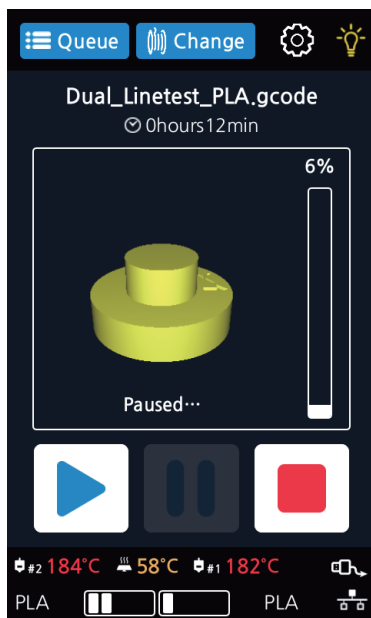
It functions just like the extruder operation in your printer's settings.

Cartridge


The cartridge can be loaded, unloaded, or unlocked during printing.

7 Exchanging Cartridge during print

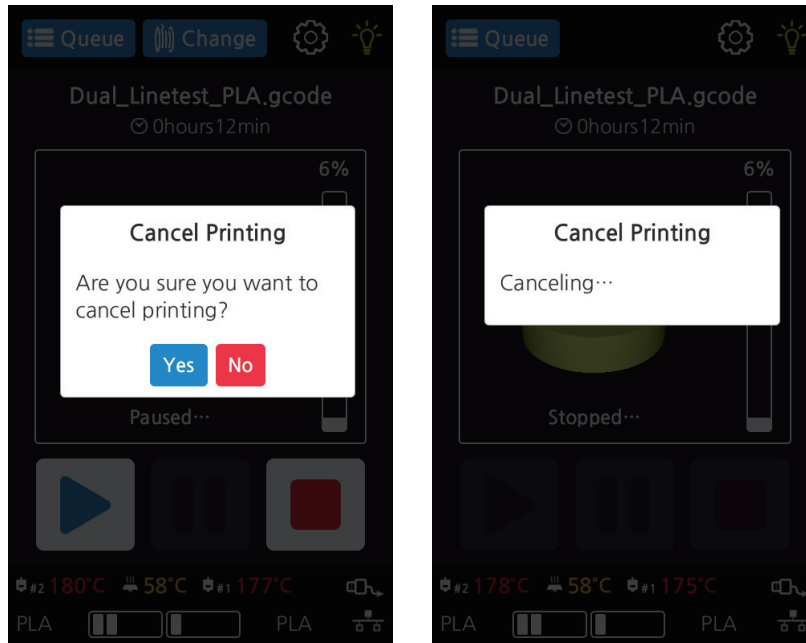
Press **[Change]** to switch the currently using cartridge into a different cartridge.



8 Print Cancellation

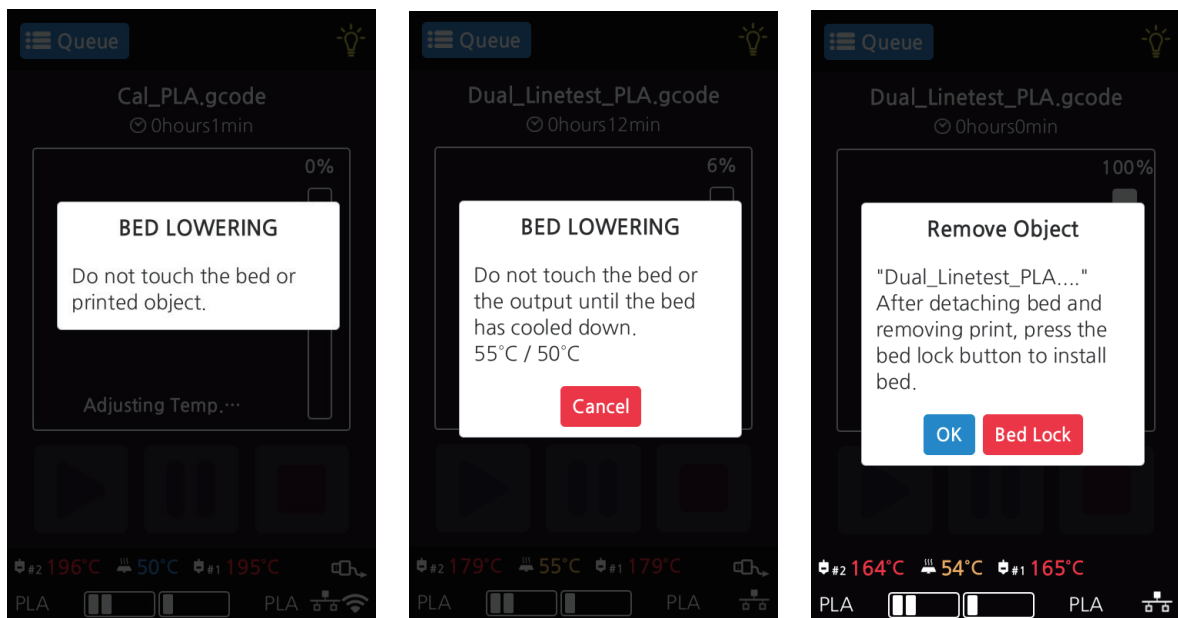
During print pressing [] button a message pops up and asks for confirmation on the print canceling. When confirmed, the rest printing job is canceled.

Another message requesting the removable of left print will popup press [OK] and screen will return to home screen.



9 Printing Completion

After printing has completed, follow the instructions and remove the printed product. Press the [OK] to return to home screen.



 **Reference**

- Methods of removing printables refer to P. 4-2 "1. Printed Output Check".

1.2 Printing Via PC

- 1 Prepare PC connected to the same network where the printer is connected to.
- 2 Run 3DWOX Slicer program.
- 3 Press the “Print” button.
- 4 Following Steps (Same as steps 3~9 of printing via USB)

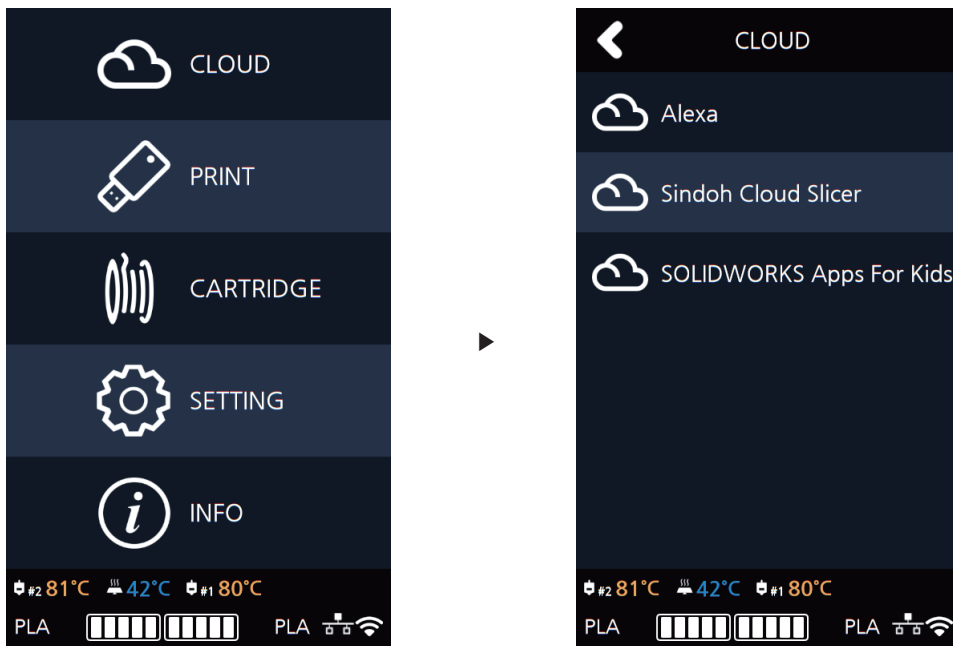
Note

- Pause, print cancelation, please refer to P.3-2 Printing from USB Flash Drive section.

1.3 CLOUD Printing

To begin using the Cloud Print function, users must register the printer to the server.

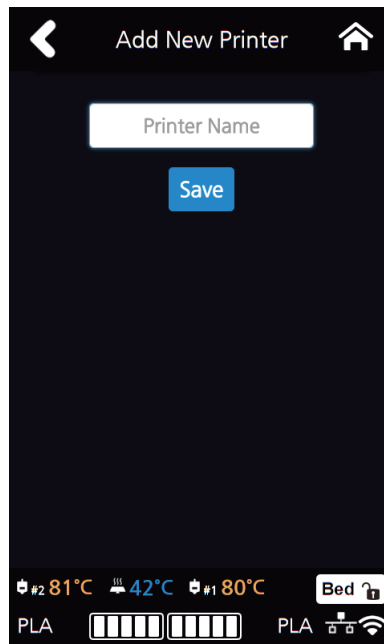
- 1 Select [CLOUD] from the home screen
 - When the user clicks [CLOUD] on the Home screen, the available CLOUD App is listed.



* Additional CLOUD Apps will be added.

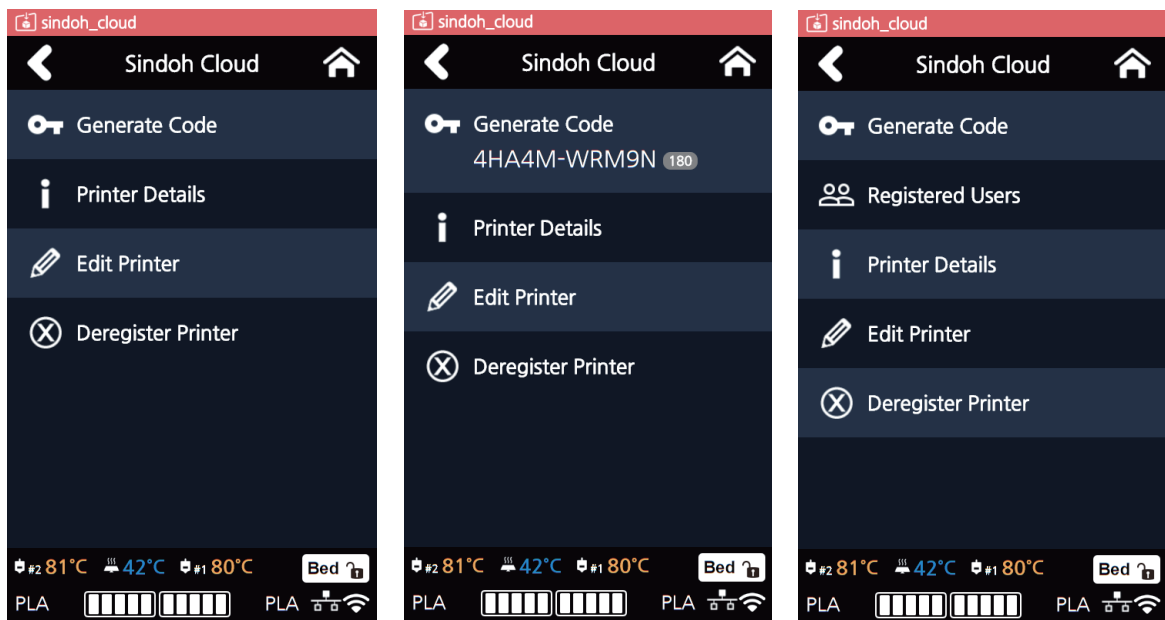
* When Open Material is set as “On”, CLOUD print function(‘Sindoh Cloud Slicer’)is disabled and cannot be selected.

2 When using [CLOUD] for the first time, users must register their printer.



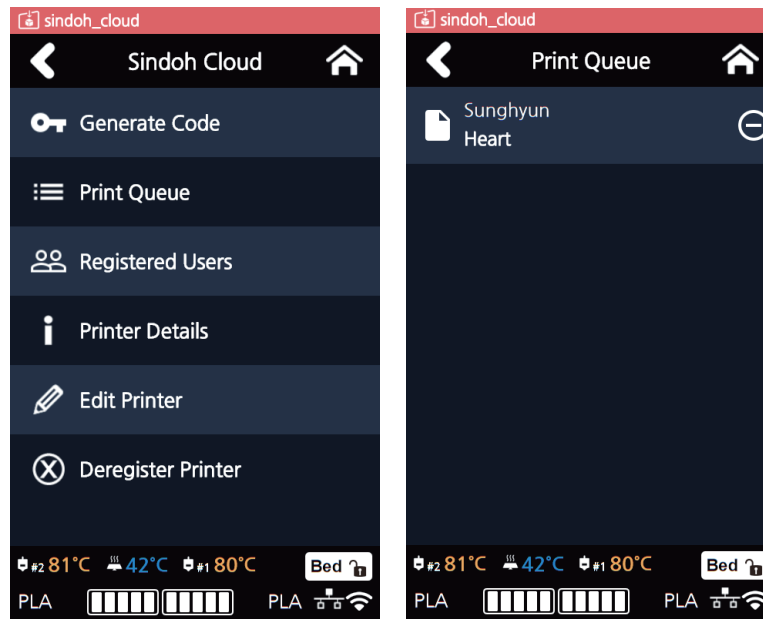
* Alexa and Sindoh Cloud Slicer app share Printer registration information.

3 [Generate Code] allows you to connect the device with the account of the user registered in the App. If there is a user registered on the device, [Registered Users] appears, listing the registered users and deleting them by clicking the [-] button.

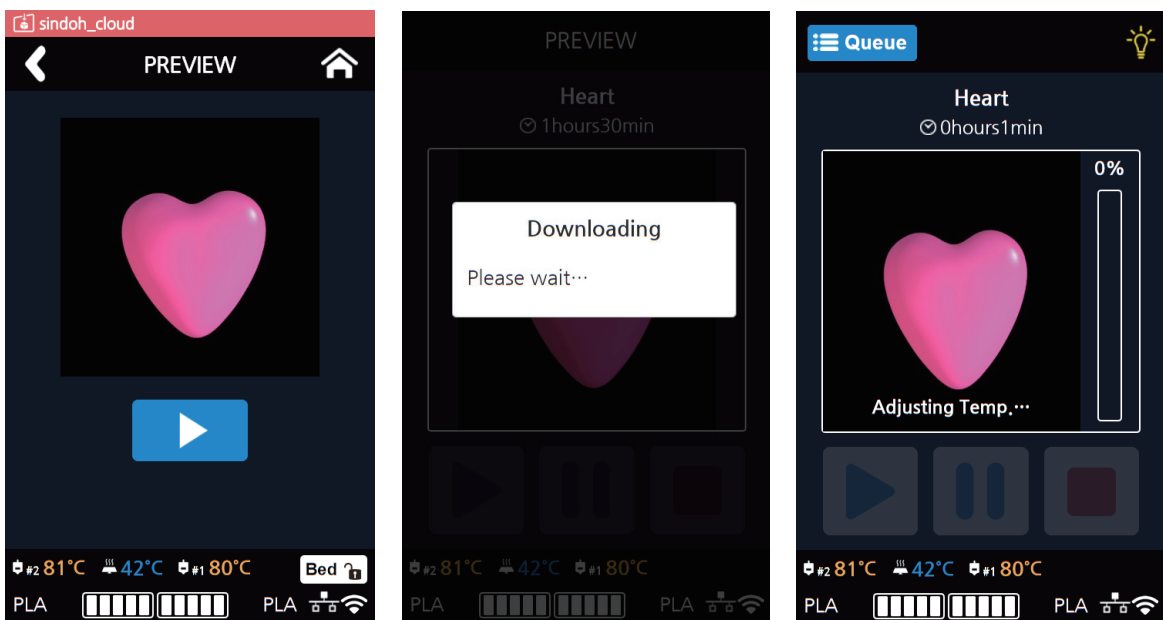


3 Printing

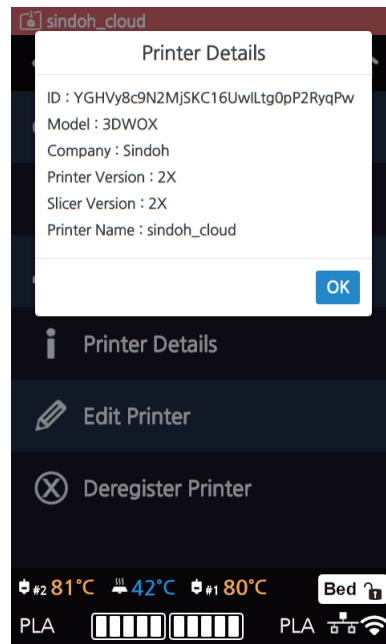
- When the print job is sent to the printer registered in the app, a menu called **[Print Queue]** appears, and the names of the sender and the transmitted print job are displayed in the list when the menu is entered. The transferred print job can be deleted with the **[-]** button.



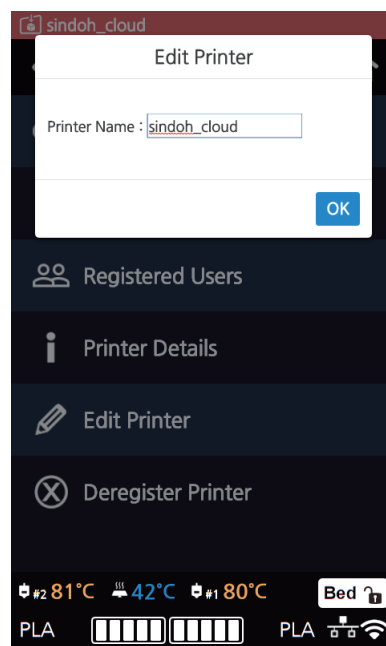
- When you select the print job you want to print, the preview image of the print job will be displayed, and by clicking the **[▶]** button, the print job starts immediately after downloading the corresponding output. When the output is completed, the print job in **[Print Queue]** will be deleted from the list.



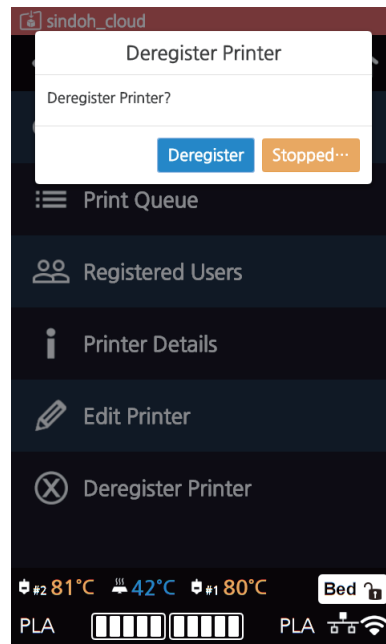
6 [Printer Detail] menu lets users check the printer information.



7 [Edit Printer] menu lets users change the [Display name].



8 [Deregister Printer] menu lets users delete the registered printer in the server.

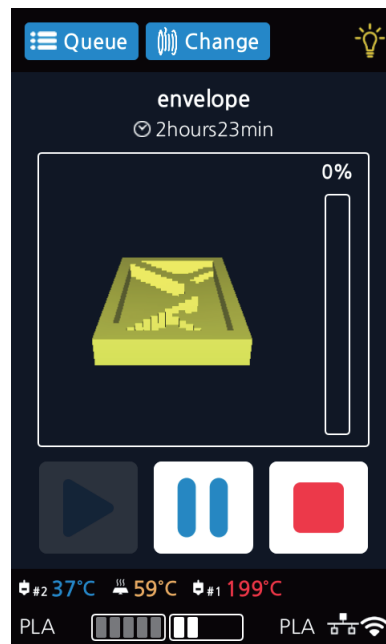


- * If users delete the printer information, the [Print queue] list and the registered user list will be initialized.
- * If users want to use the [CLOUD] function again after deletion, printer must be re-registered in the server.

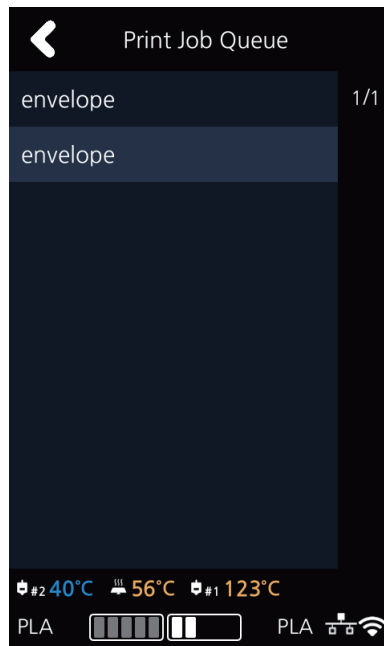
1.4 Print Job Management

You can manage print jobs in queue.

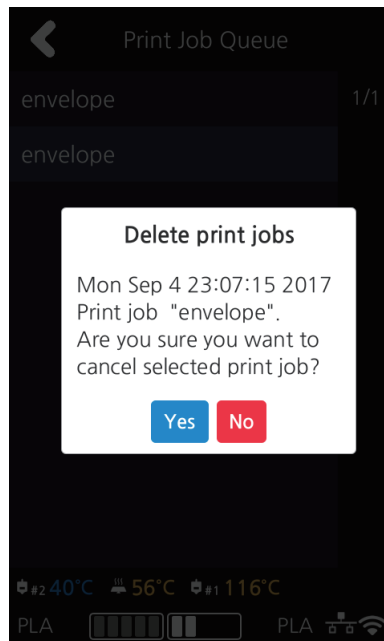
1 Press the [Queue] button on the upper left hand corner while printing.



2 The print jobs in queue are listed.



3 You may click the list to look at the information of the print job and delete it if necessary.



1.5 Printing with Two Types of Filaments

1 Two nozzles can cross print the same material.

- PLA & PLA
- ABS & ABS

2 Two nozzles can cross print the same material.

- PLA and PVA(PVA+)

	PLA	ABS	FLEX	PVA(PVA+)
PLA	O	X	X	O
ABS	X	O	X	X
FLEX	X	X	X	X
PVA(PVA+)	O	X	X	X

1.6 Changing Filaments

To prevent clogging of the nozzle when switching from the used filament to different material filament, you must perform Nozzle Cleaning.

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Printed Output Check

4

1. Printed Output Check

1.1 Detaching Printed Output

To safely detach the printed model, first let the bed cool down. Bed top plates must be detached as well.

⚠ Caution Hot Surface

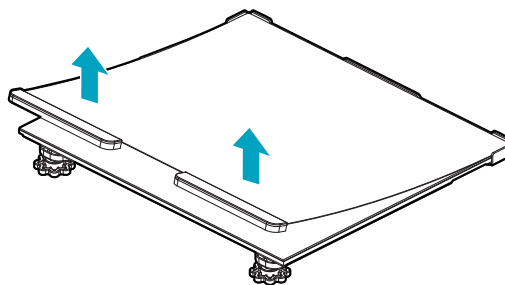
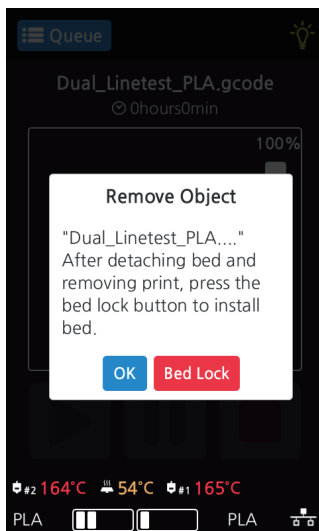
- Without sufficient cooling the bed can be very hot. Please be cautious coming into contact . It may cause burns.

1 Cooling the Bed

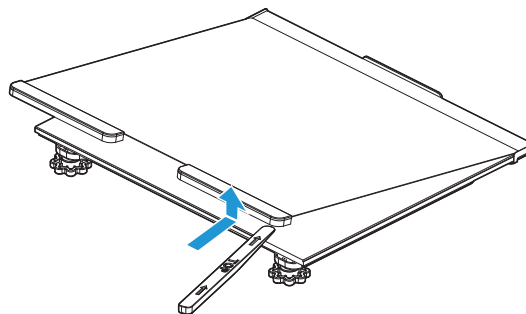
After the printer has finished printing, check the LCD screen and built-in speaker. Wait until temperature goes below 50°C or 122°F. Do not touch the bed or the bed handle until you are told you can touch the bed.

2 Detaching Bed

Press **[Bed Lock]** on the screen to fix the bed in place. The Flexible Bed is detached if you hold the bed handle and lift it.



You can easily detach a large output if you insert a plastic hera in a direction of lower left corner of the bed as shown in the picture.



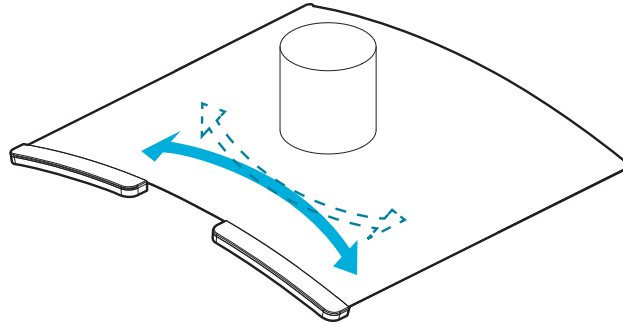
3 Detaching the printed output

⚠ Caution Risk of Injuries

- The scrapper is very sharp. Handle with care. Please be cautious of injuries when removing printed objects with the scrapper.
- When you have printed the large object, be careful when removing the bed so that the object does not touch the interior of the printer.

Detach the object from the Flexible Bed. The object can be easily detached by bending the Flexible Bed up and down. Using the scrapper provided with the printer will be useful.

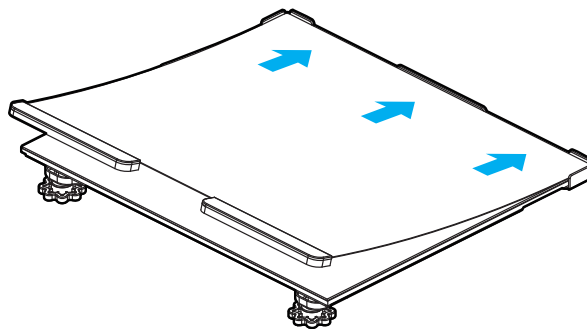
Be careful not to apply too much pressure while using the scrapper could damage the bed sheet and the bed. Depending on the filament material the printed output may easily break or damage, please be cautious.



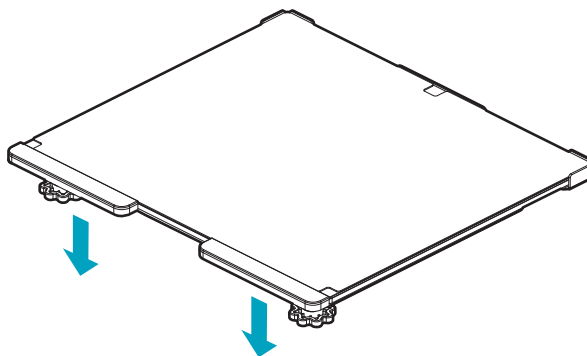
4 Flexible Bed Installation

After a period of time bed locking will automatically released, if bed is unlocked, press the lock button again to fix the bed into position before installation.

(1) Push the Flexible Bed all the way in as shown in the picture.



(2) Place Flexible Bed fix to position.



(3) If the flexible bed is placed at an angle, it may be difficult to level the bed. Place it down to match the base.

⚠ Caution

- Any foreign substance left on a surface of the bed can cause a problem in printing.
Make sure there is nothing left on the bed before usage.

1.2 PVA Filament Removal Guide

- 1 After printing a model with PVA supports, Detach the printed output from the bed, and then soak it in water. Once it's soaked in water, the PVA support will get dissolved.

Note

- If the water is warm, the dissolution time can be shorten. Make sure to keep the water temperature doesnot exceed 35°C; otherwise, the shape of the PLA can be deformed due to hot temperature..
- Able to shorten the dissolution time by Stirring or flowing the soaking water.
- After 10 min of dipping the output in the water, the PVA support will become soft and easy to remove. Use a tweezer type tool to remove the support.

- 2 Remove any remaining PVA from the output by rinsing it.

- 3 Wastewater Handling

- Dispose of Wastewater in accordance with your local and national waste posed through the drain only if the waste water distribution network is connected to a waste water treatment plant. The water with dissolved PVA can cause clogging in the drain. Pour it into the drain, followed by hot water for 30 sec or more to remove any possible PVA residue.

1.3 Improving Printing Quality

- 1 Nozzle, Bed temperature

Depending on the material (PLA, ABS etc.), optimum temperature for the nozzle and bed can be different. Environmental factors (temperature, humidity) can affect the quality of the printed product.

There is no absolute value for optimum temperature. Testing various temperatures and finding the optimum temperature are needed.

Temperature options can be changed in the 3DWOX Desktop slicer.

Filament	Appropriate Nozzle Temperature	Appropriate Bed Tempereure
PLA	190 °C ~ 210 °C	50 °C ~ 60 °C
ABS	210 °C ~ 240 °C	Above 80 °C
FLEX	235 °C ~ 250 °C	50 °C ~ 60 °C
PVA	205 °C ~ 225 °C	50 °C ~ 60 °C
PVA+	190 °C ~ 210 °C	50 °C ~ 60 °C
PETG	230 °C ~ 250 °C	80 °C
ASA	235 °C ~ 255 °C	90 °C

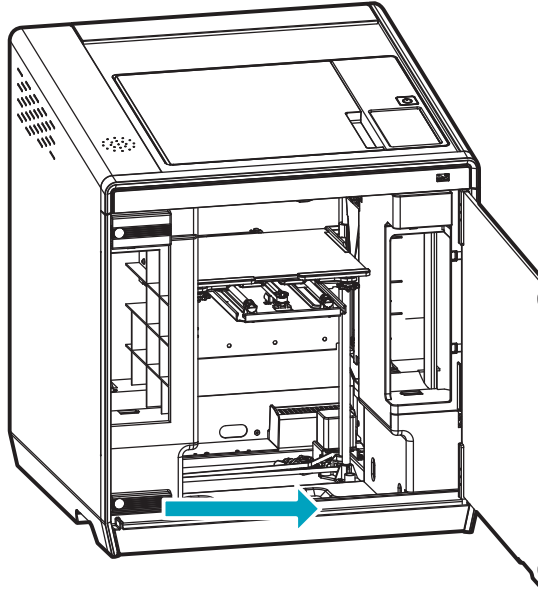
- 2 Support

For higher printing quality, minimize the use of supports.

However, shapes that are located in midair needs a support. If it's the case, control the distance so it can easily separate.

2. When Printer Cannot be Turned On

- 1 Open the Front door shown below and turn the belt counter-clockwis.
- 2 After the bed is lowered, remove printed output and turn the power on.



3. If problems persist

1 Please visit <https://3dprinter.sindoh.com>.