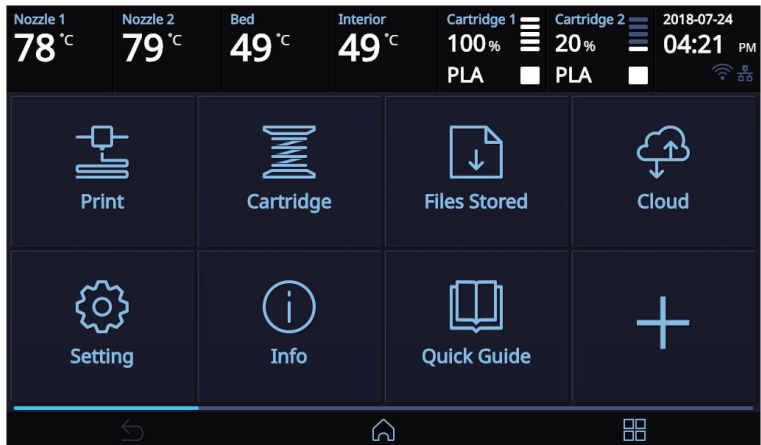# 3DWOX 5X / 7X/ riZE 7XC
USER MANUAL

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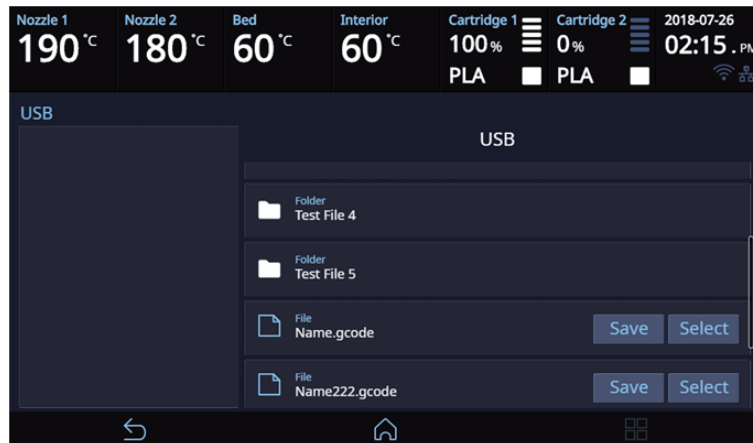
When the USB flash drive is connected while in the home screen, a list of files in the USB appears.

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.
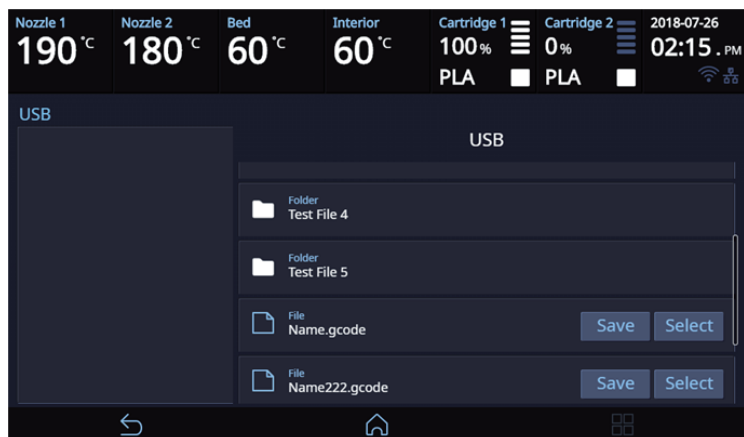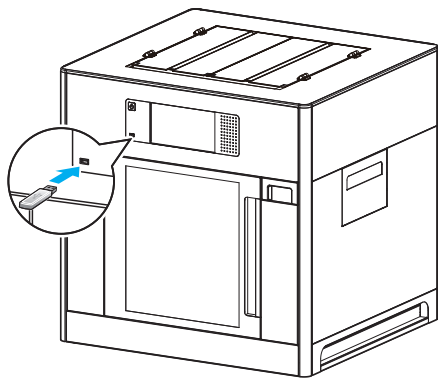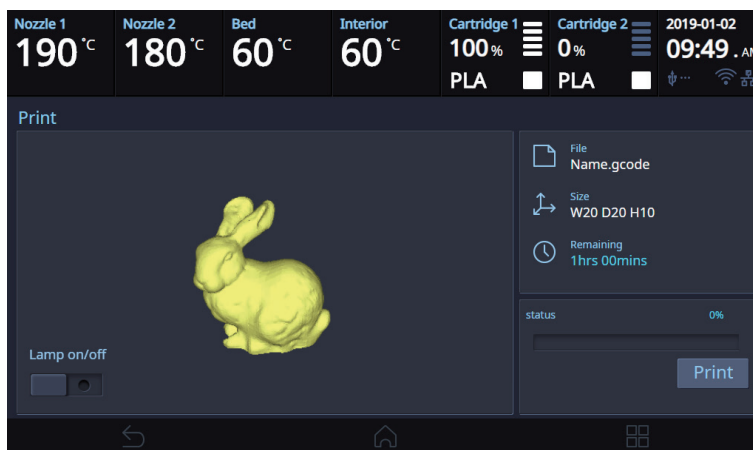
2 **Printing Files**

Select a file to print in the USB list.
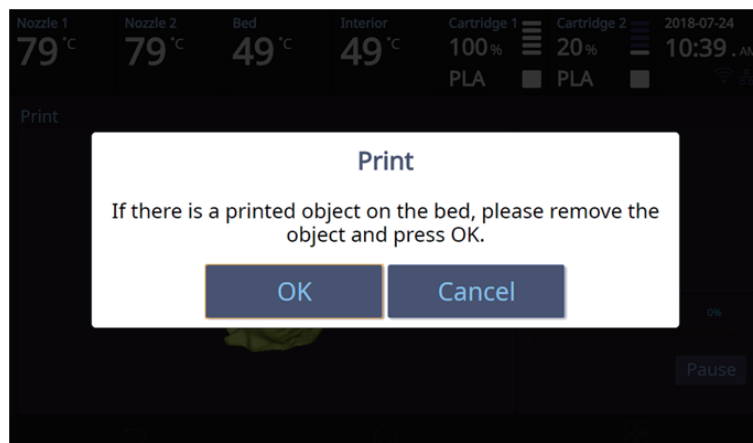

3 **Print Preview**
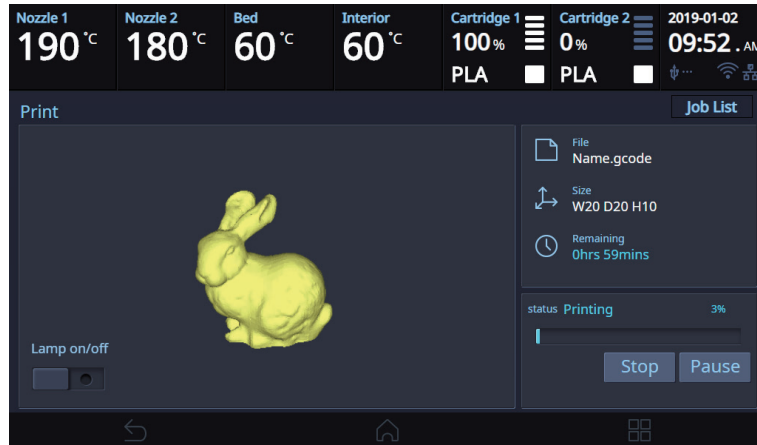
Once selected, a preview of the model appears on the screen.

4 **Printing**

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

5 **Pausing Print**

Pressing **[Pause]** during a print will pause the progress.

Press **[Resume]** again and nozzle is heated again, and the printer will continue printing.
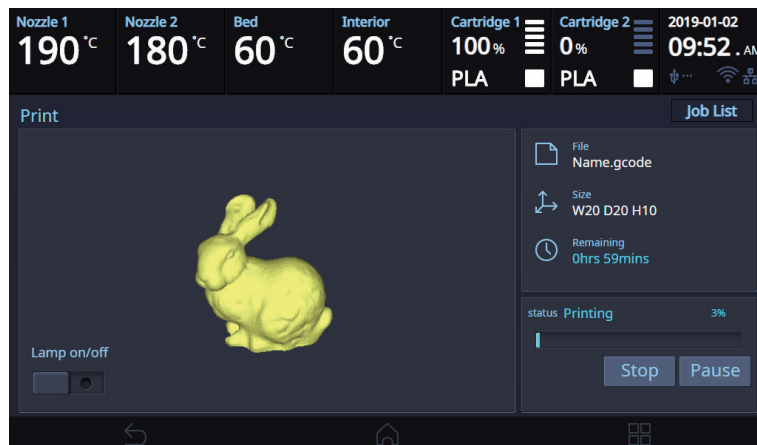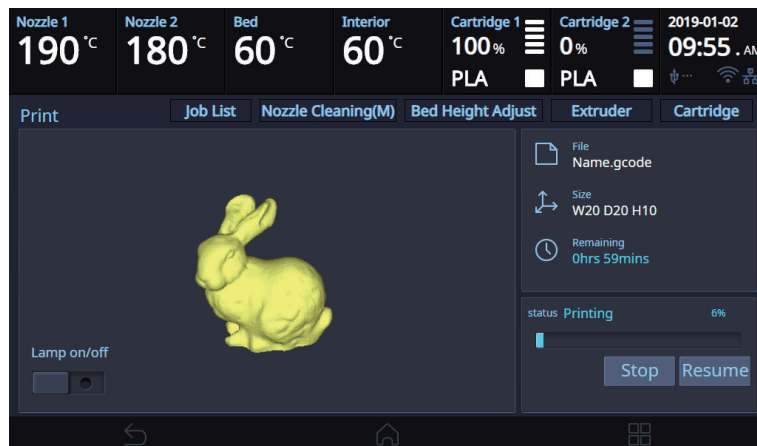
6 **Additional Functions of Pausing**

When the [Pause] button is pressed during printing, buttons appear in the upper right corner to execute additional function actions.
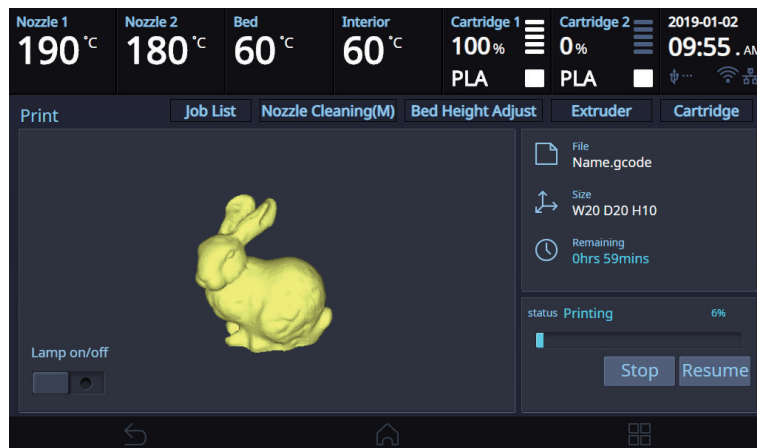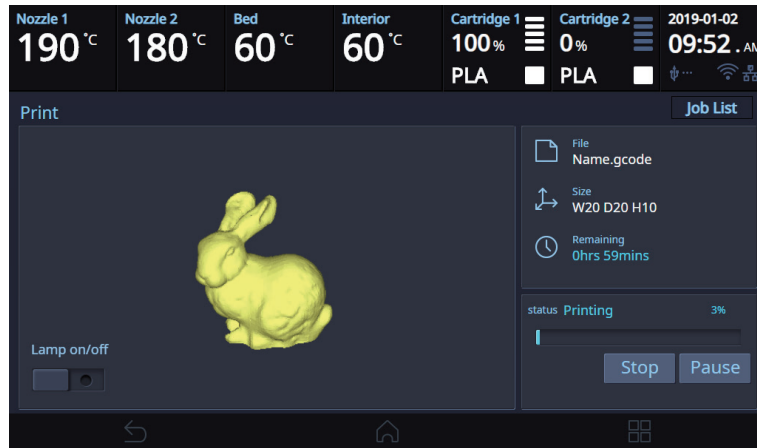
Additional functions include **[Nozzle cleaning], [Bed Height Adjustment], [Extruder], [Cartridge]** and so on. These additional functions are used for any mechanical problem or if the user needs them.

❖ **Nozzle Cleaning**

① This menu can be used to clean a nozzle manually if the filament does not come out of the nozzle for printing.

② Select a nozzle to clean.

③ Enter the temperature and press the **[OK]** button. Press the heating nozzle button to set the temperature of the nozzle.

④ Press the **[1], [10], [50],** or **[100]** button to select the desired moving amount.

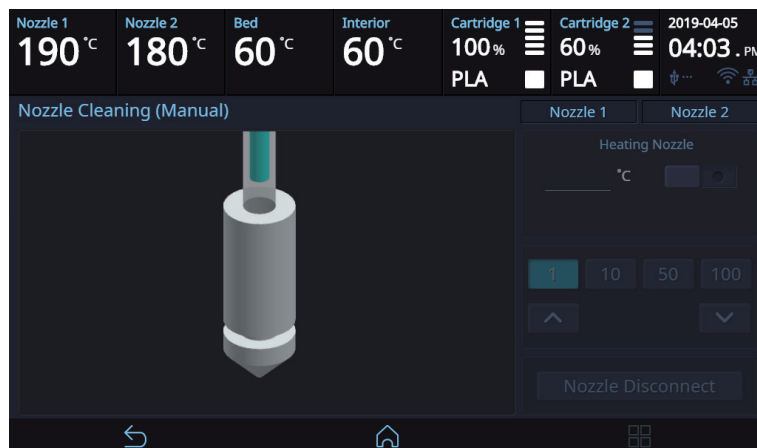⑤ Press an arrow button to move the filament to a desired direction.

⑥ Press the **[Disconnect Nozzle]** and **[Disconnect]** buttons to disconnect the nozzles if they need to be cleaned.

❖ **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.
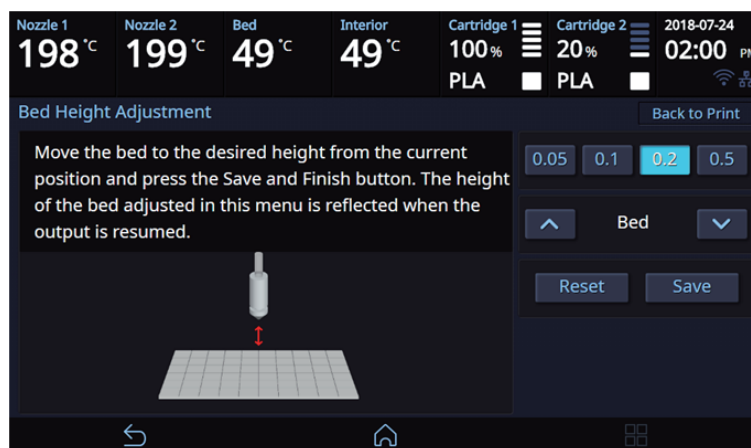
❖ **Extruder**

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

❖ **Cartridge**

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

7 Print Cancelation

During print pressing **[Stop]** 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.
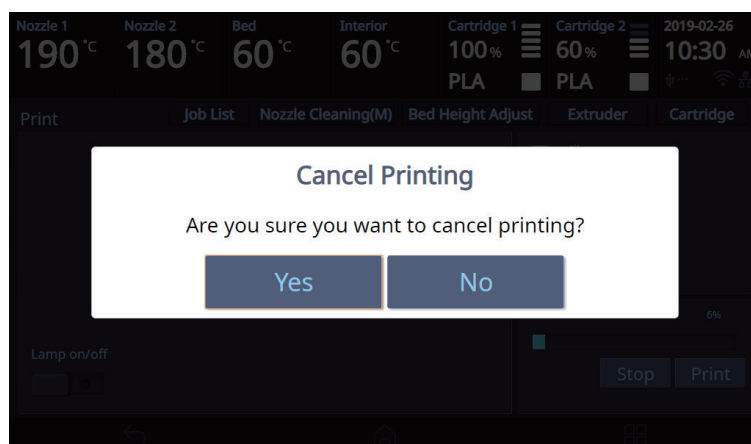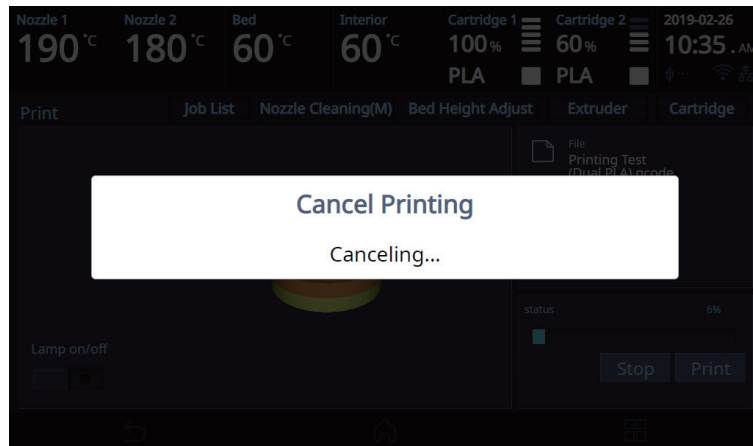
8 **Printing Completion**

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

⚠ **Caution**

– **Do not touch the bed or the output until the bed has cooled down.**

– **To remove the printed output before the bed is cold, press the [Cancel] button, wear protective gear, and then remove the output.**
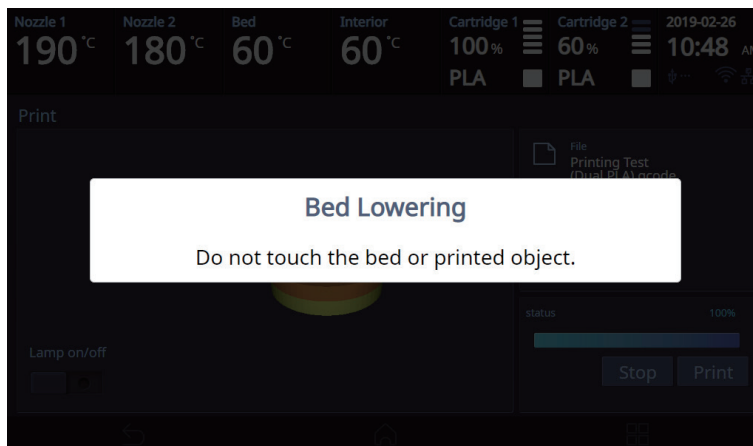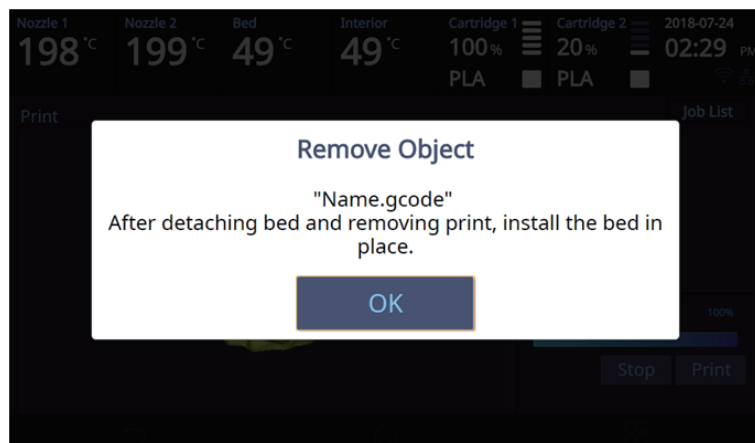
🔍 Reference

– 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.
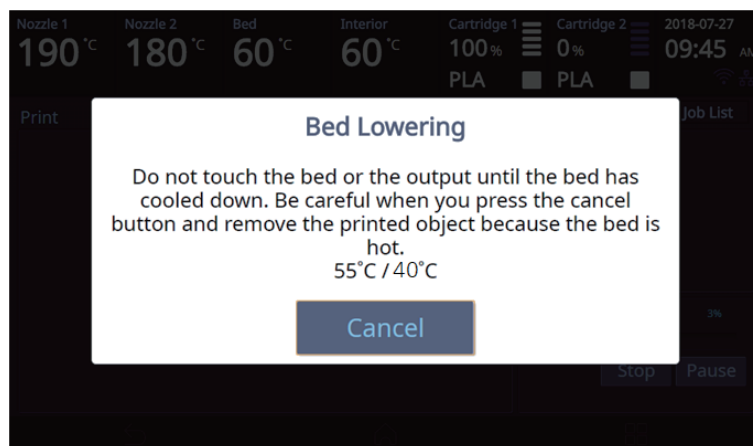
4 Following Steps (Same as steps 3~9 of printing via USB)

✏ Note

– Pause, print cancelation, please refer to P.3-2 Printing from USB Flash Drive.
– Refer to "3DWOX Desktop Manual" for the details.

1.3 CLOUD Printing

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

1 On the Home window, click the **[Cloud]** button.
   - When the user clicks **[CLOUD]** on the Home screen, the available CLOUD App is listed.
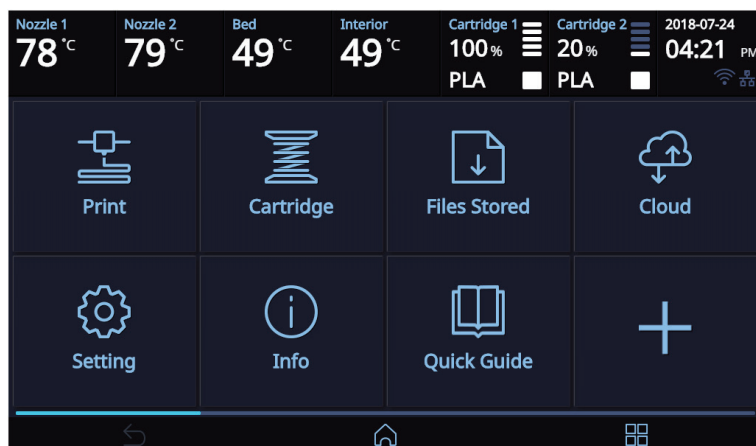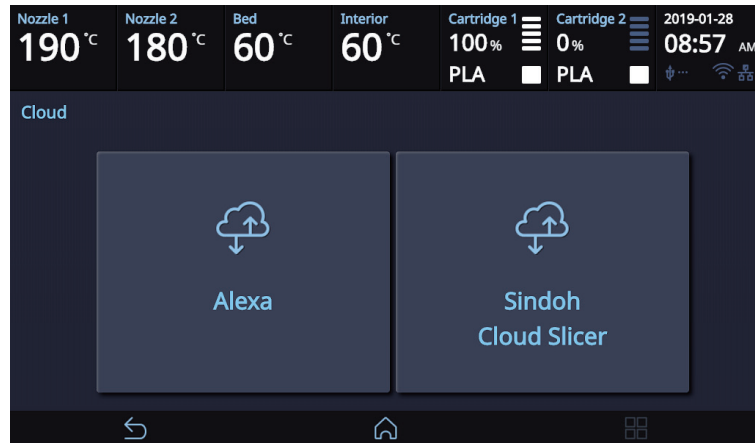
*Additional cloud apps can be added later.

2 When using **[CLOUD]** for the first time, users must register their printer.
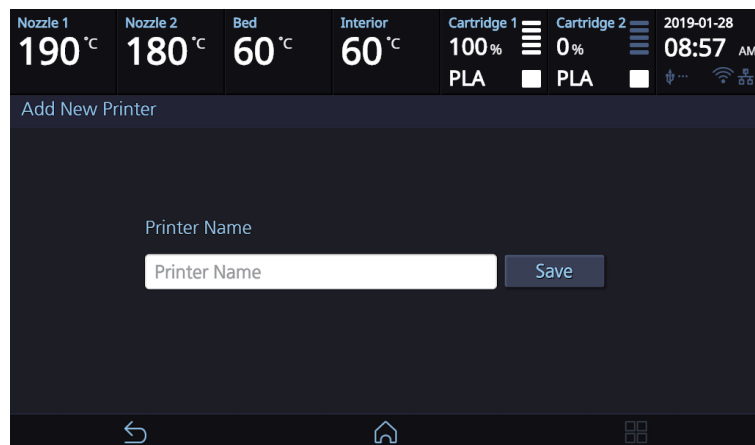
* Alexa and Sindoh Cloud Slicer app share Printer registration information.

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.
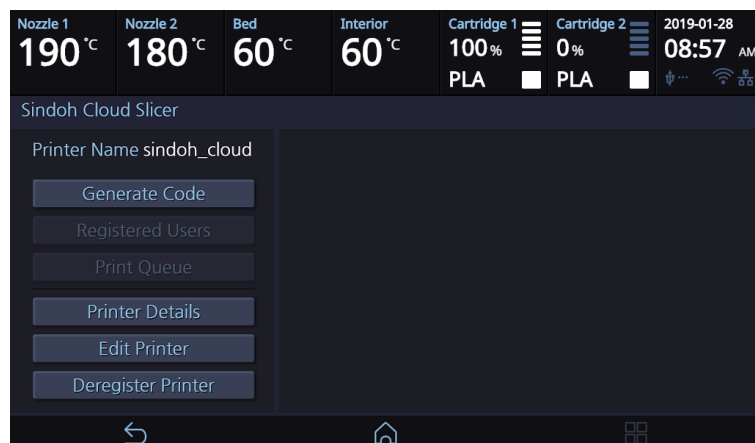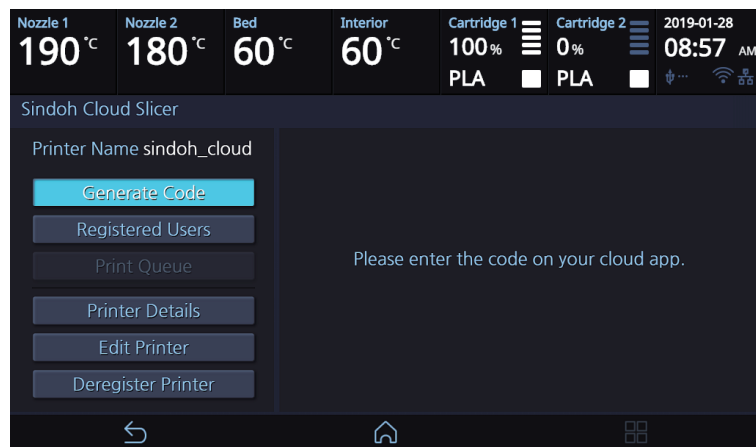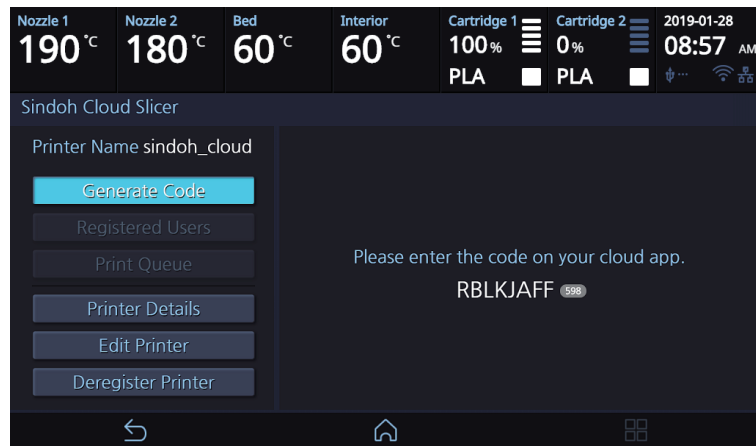
4 When the print job is sent to the printer registered in the app, a menu called **[Print Queue]** appears, and the names of the sender and the transmitted print job are displayed in the list when the menu is entered. The transferred print job can be deleted with the **[-]** button.
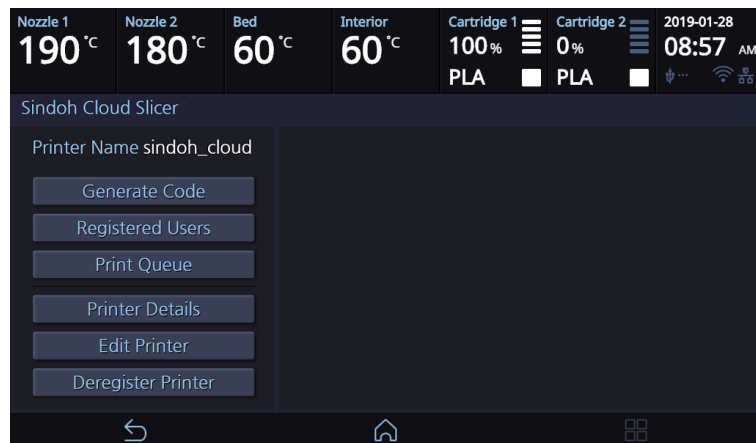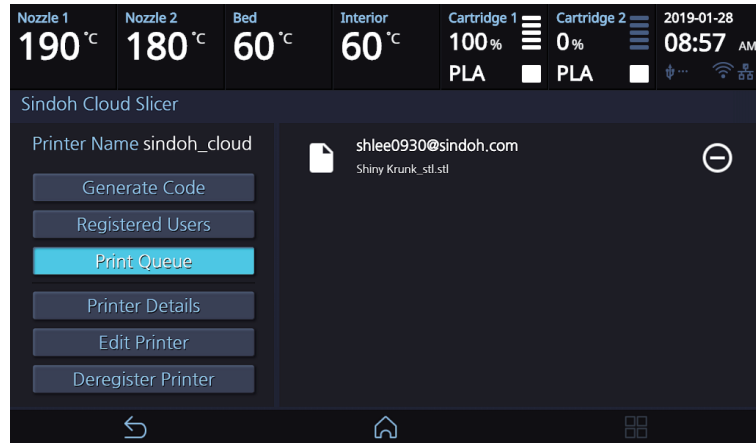
5 When you select the print job you want to print, the preview image of the print job will be displayed, and by clicking the **[Print]** button, the print job starts immediately after downloading the corresponding output. When the printing is started, the print job in **[Print Queue]** will be deleted from the list.
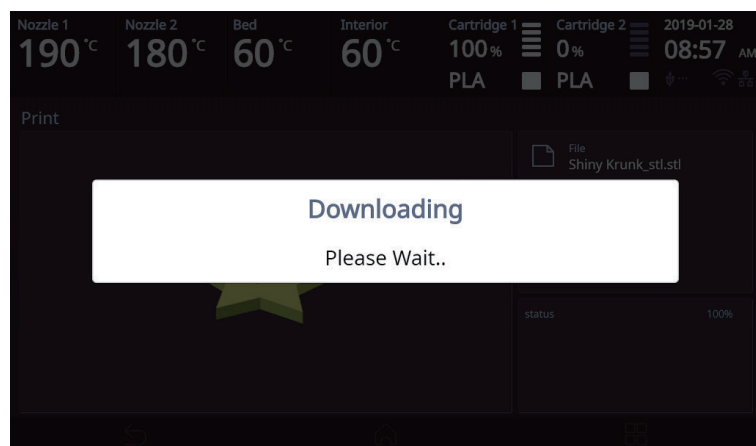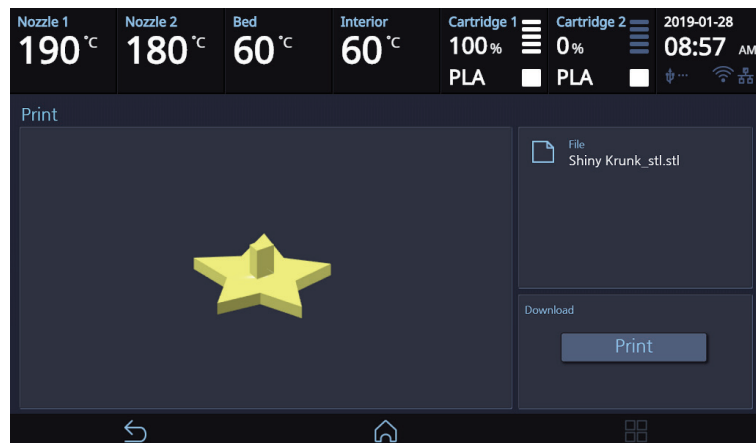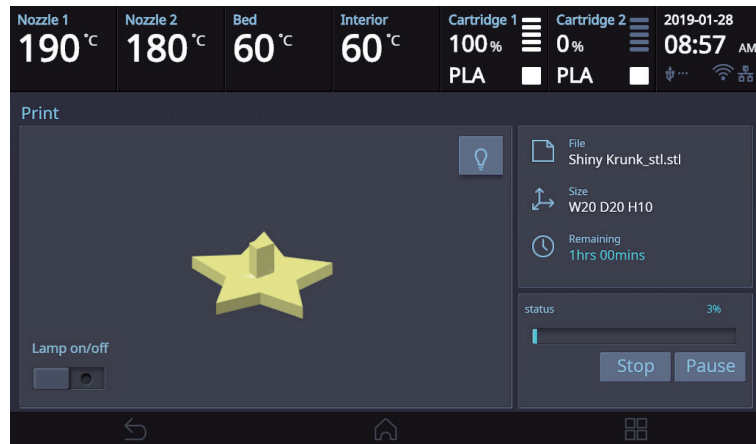
6 **[Printer Detail]** menu lets users check the printer information.
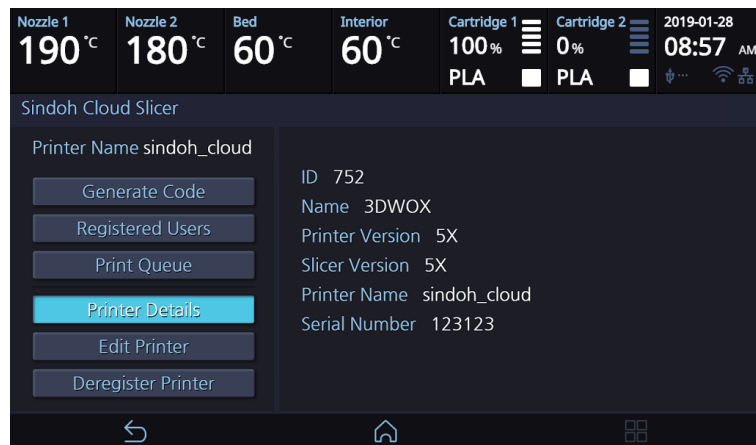
7 **[Edit Printer]** menu lets users change the **[Display name].**
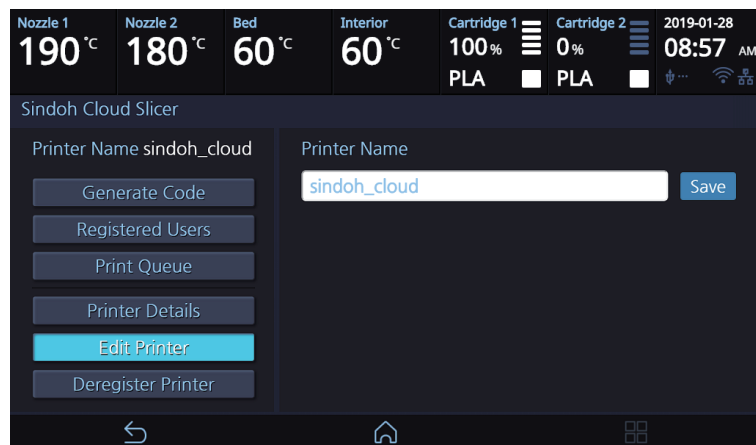
8 **[Deregister Printer]** menu lets users delete the registered printer in the server.

Nozzle 1	Nozzle 2	Bed	Interior	Cartridge 1	Cartridge 2	2019-01-28
190 °C	180 °C	60 °C	60 °C	100 % PLA	0 % PLA	08:57 AM

Sindoh Cloud Slicer

Printer Name sindoh_cloud   Deregister Printer

- Generate Code
- Registered Users
- Print Queue
- Printer Details
- Edit Printer
- Deregister Printer
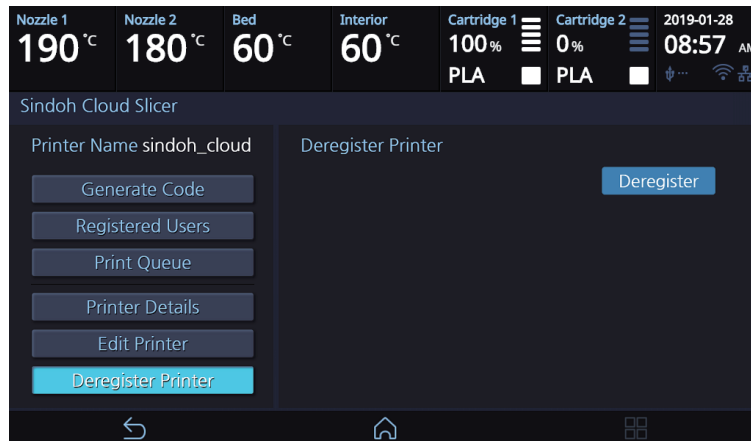
Deregister

* 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 **[Job List]** button on the upper right hand corner while printing.

Nozzle 1	Nozzle 2	Bed	Interior	Cartridge 1	Cartridge 2	2019-01-02
190 °C	180 °C	60 °C	60 °C	100 % PLA	0 % PLA	09:52 . AM

Print   Job List

File
Name.gcode

Size
W20 D20 H10

Remaining
0hrs 59mins

status Printing   3%

Lamp on/off   Stop   Pause
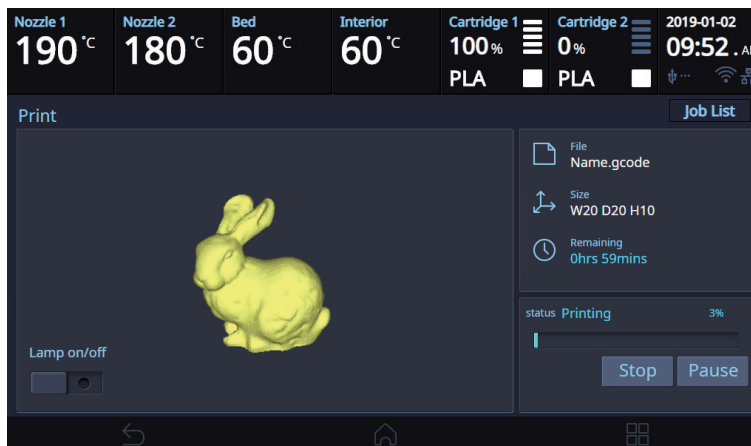
2 The print jobs in queue are listed.

Nozzle 1	Nozzle 2	Bed	Interior	Cartridge 1	Cartridge 2	2019-01-14
190 °C	180 °C	60 °C	60 °C	100 % PLA	60 % PLA	11:50 . AM

Job List

jobQueueTest   Fri Jan 11 12:52:08 2019
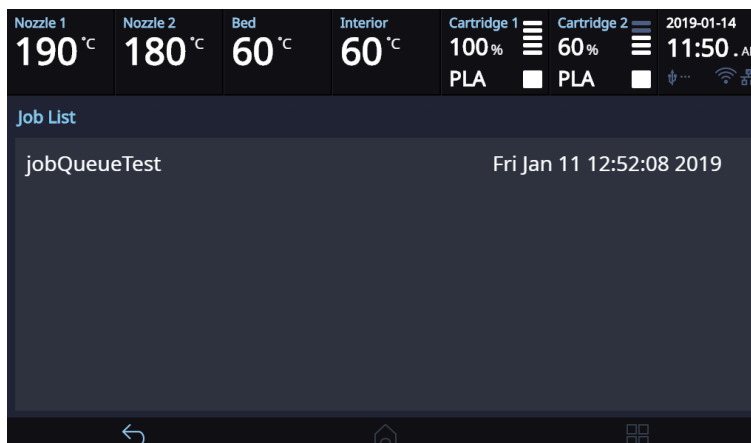
3 You may click the list to look at the information of the print job and delete it if necessary.
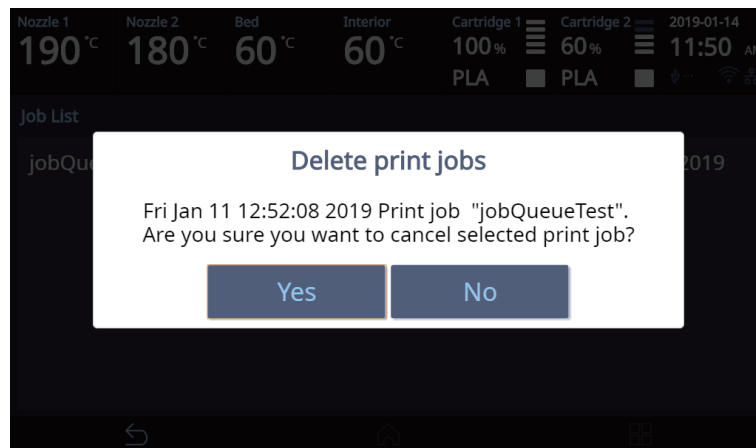
1.5 Printing with Two Types of Filaments

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	FLEXIBLE	PVA(PVA+)
PLA	O	X	X	O
ABS	X	O	X	X
FLEXIBLE	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.

**3DWOX 5X / 7X/ riZE 7XC
USER MANUAL**

Printed Output Check

4

1. Printed Output Check

1.1 Detaching Printed Output

> 📝 **Note**
> – If Side B of the FLEXIBLE bed is used, the Printed Output can be detached when the bed cooled down, without detaching the FLEXIBLE bed.
> – If Printed Output is large that doesn't detached on its own, detach the flexible bed after the bed has cooled down, and detach the Printed Output by bending the bed up and down. (Scraper is not required).

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.

⚠ **Caution** **Heavy Risk**

– **When you detach the bed it may fall and cause injury. Please detach the bed carefully to prevent it from dropping.**

1 Cooling the Bed

After the printer has finished printing, check the LCD screen and built-in speaker. Wait until temperature goes below 40ºC or 104ºF. Do not touch the bed or the bed handle until you are told you can touch the bed.

⚠ **Caution**

– **Do not touch the output until the bed is cooled down.**
– **To remove the output before the bed is cooled down, press the [Cancel] button and wear protective gear and remove.**

2 Detaching Bed

The Flexible Bed is detached if you hold the bed handle and lift it.
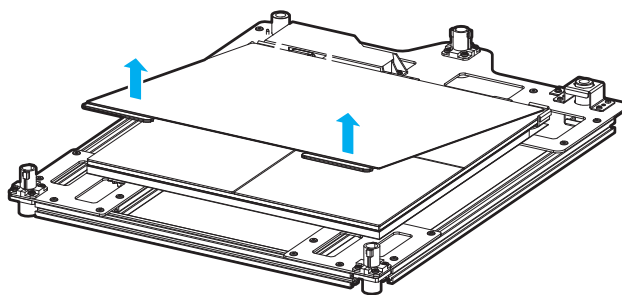
3 Detaching the printed output

⚠ **Caution** **Risk of Injuries**

– **The scrapper is very sharp. Handle with care.**
Please be cautious of inuries 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.
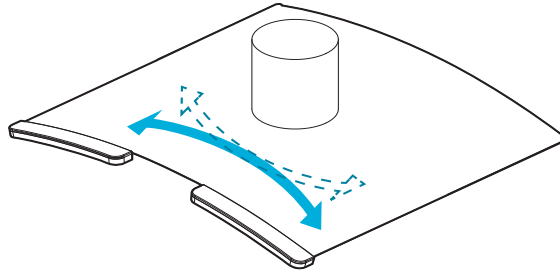
Depending on the filament material the printed output may easily break or damage, please be cautious.

4 Flexible Bed Installation

① After facing upwards the side to be used between side A or B of the bed sheet, push the Flexible Bed all the way in as shown in the picture.
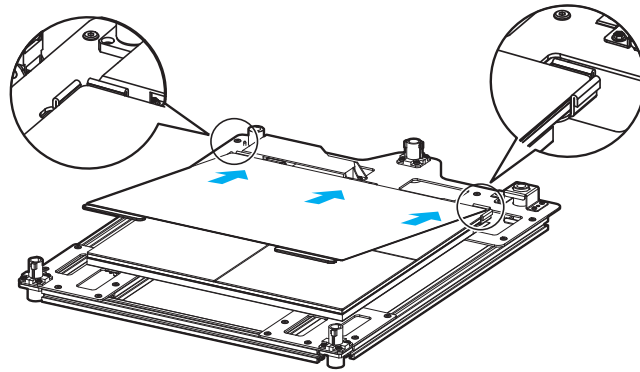
② Place Flexible Bed fix to position.
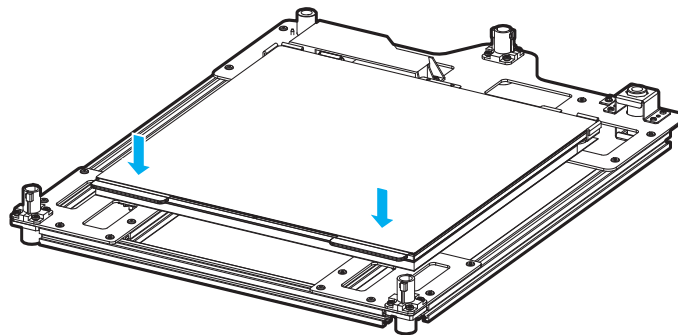
③ If the flexible bed is placed at an angle, it may be difficult to level the bed. Place it down to match the base.

⚠ **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(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(PVA+) support will become soft and easy to remove. Use a tweezer type tool to remove the support.

2 Remove any remaining PVA(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(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(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.

Material	Appropriate nozzle temperature	Appropriate bed temperature
PLA	190 °C ~ 210 °C	50 °C ~ 60 °C
ABS	220 °C ~ 240 °C	Above 90 °C (Above 100°C for Side B)
FLEXIBLE	220 °C ~ 245 °C	50 °C ~ 60 °C
PVA	200 °C ~ 225 °C	50 °C ~ 60 °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.

3 Bed Leveling
 If outputs are not properly or too-tightly attached to the bed, please try the following procedures.
① Check whether foreign matters have been deposited on the bed, and clean the bed by referring to "1.4 Flexible bed and nozzle cleaning" in P5-2.
② Carry out bed leveling again by referring to "Bed leveling" in P2-20.
③ When bed leveling is completed, check the gap between the nozzle and the bed by referring to "Z-Offset" in P2-22.
Move the nozzle by touching the [Move] button, and adjust the gap, so that the enclosed "Z-Offset adjustment sheet" can barely pass through the gap between the nozzle and the bed.

Z-offset calibration sheet

Nozzle

Z-offset calibration sheet

Bed
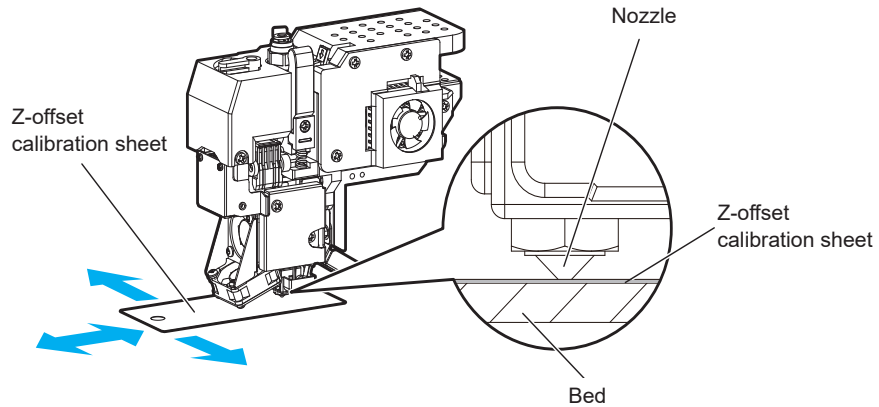
📝 Note

– When ABS materials are output
– If outputs are not properly attached to Side B, use only Side A, or carry out printing by adding the raft setting at the slicer.
– When one or more arranged small outputs (50 mm × 50 mm or smaller) that have a small area at which they attach to the bed are printed out, it is recommended to print by adding the raft setting to Side A.

4 Correcting Output Model

Output quality may vary depending on the shapes of the output model. To get the optimal quality, carry out printing by changing the shape or output direction of the model or by adjusting the output condition at the slicer.

5 Recommended Direction of the Bed

Material	PLA	ABS	FLEX	PVA(PVA+)
Direction	Side A	Side A or Side B	Side A	Side A

2. If problems persist

1 Please visit http://3dprinter.sindoh.com.