2

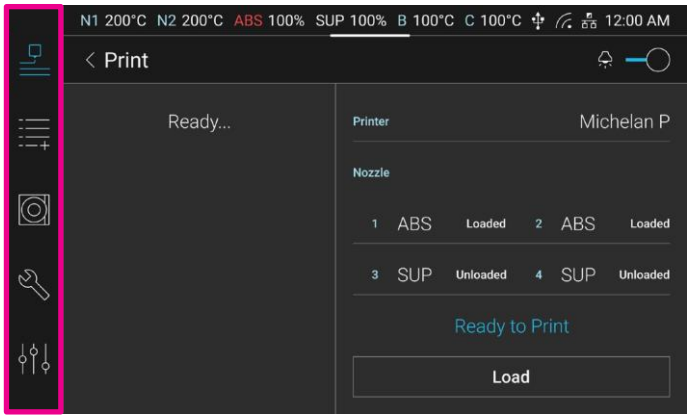
UI Menu Description

type A530

1. UI Home Screen Description

1. Default Display Menu

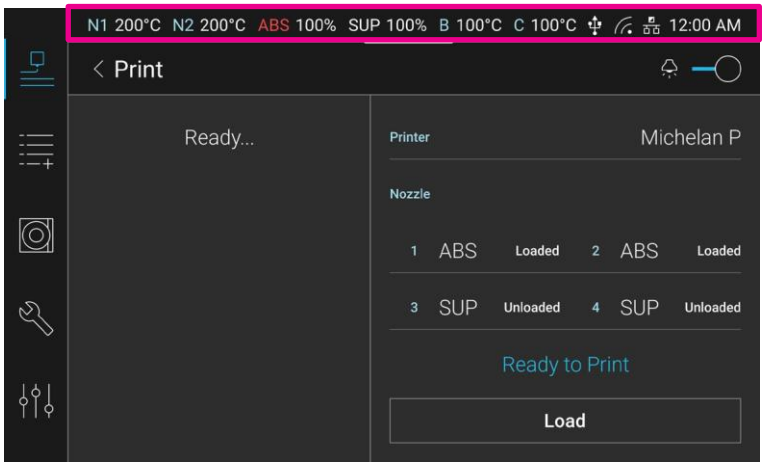
The control buttons on the left of the screen are always displayed. Press each button to move to the Print, Queue, Material, Tools, or Settings screen. Press a button to display its Details page on the right of the screen.

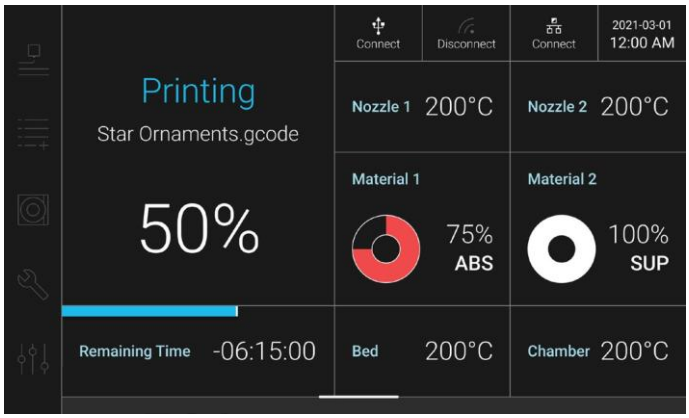


Icon	Name	Description
	Print	To use the functions related to printing.
	Queue	To manage the list of files to be printed in queue.
	Material	To check the information on nozzles and materials installed in the printer, and operate the function of loading/unloading materials.
	Tools	To operate the function of maintaining and calibrating the printer.
	Settings	To configure and adjust the basic setting of the printer.

1.2 Status Bar

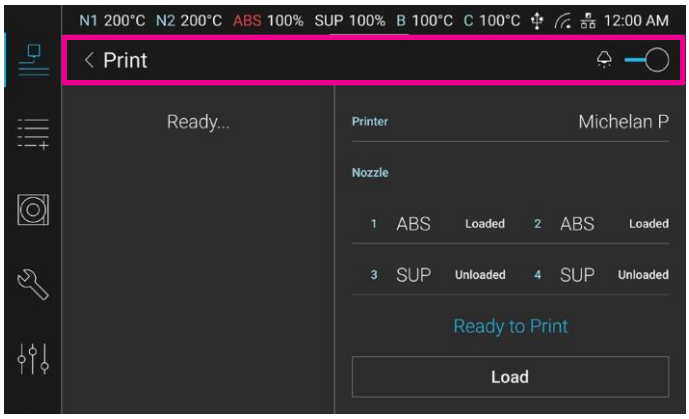
The current status information of the printer is displayed. Scroll down to see details.





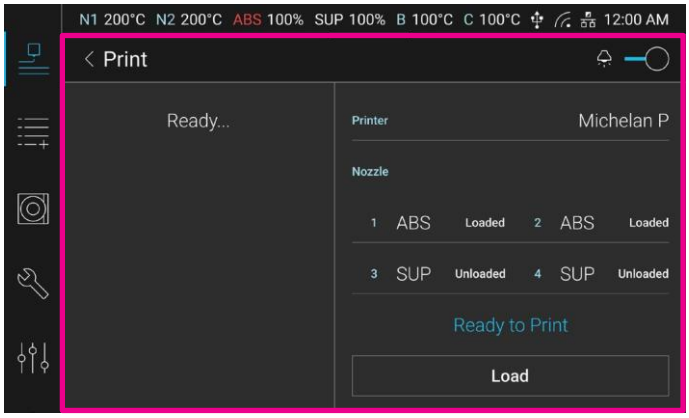
1.3 Navigation Bar

The location of the menu currently displayed can be checked, and additional functions can be operated.



1.4 Details Screen

The Details screen of the selected function is displayed.



2. UI Menu Description

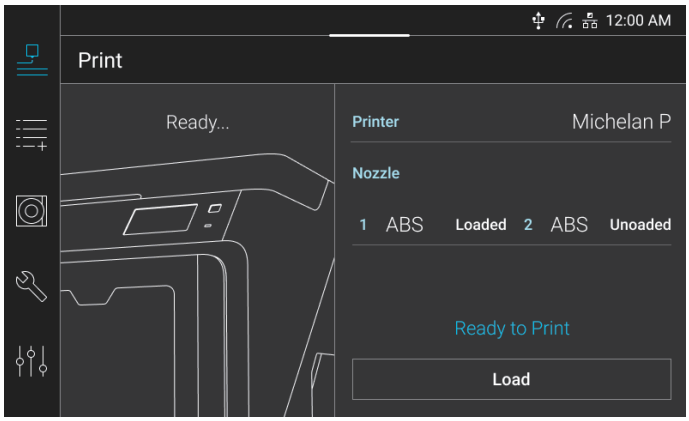
Print	USB		
	Internal Storage		
Queue	USB		
	Internal Storage		
Material	Nozzle		
	Cartridge	Load	
		Unload	
Tools	Management	X, Y, Z	
		Extruder	
		Nozzle Replacement	
		Nozzle Cleaning	
		Cleaning Case	
		Self-Check	
	Calibration	Bed Leveling	
		Nozzle Calibration	XY Calibration
			Enter Calibration Value
		Z Offset	
		Test Print	
Settings	Language		
	Unit		
	Time Settings		
	Network		
	Cloud		
	Security		
	Volume		
	Power Saving		
	Lamp		
	Camera Frame Rate		
	Open Material		
	Status Bar		
	Information	Name & Password Change	
		Update Check	
		History	
	Initialization		

2.1 Print

This menu allows to operate functions related to model printing.

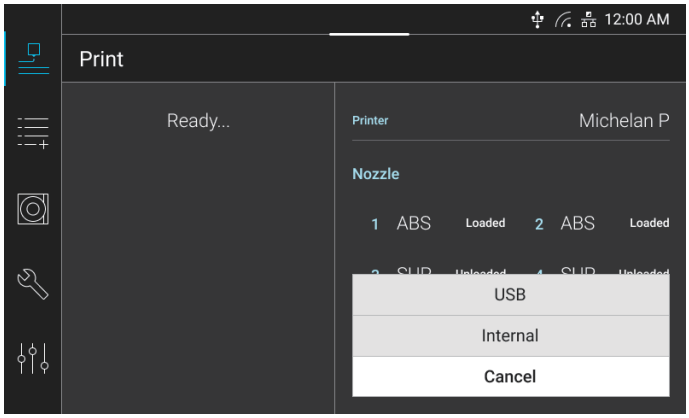
Screen Configuration

In the default screen, a user can check the printer name and the material information loaded. Press the Load button to select a file.

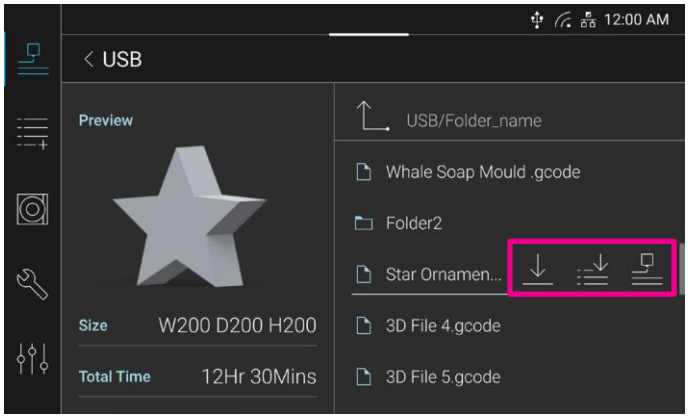


File Import

1 Press the **[Load]** button in the default screen to import a file. Press the **[USB]** and **[Internal]** button to check the location where the file is saved.



2 Select a file and press the **[Print]** button. Or, press the **[Download]** button to save the file in the internal storage or press the **[Add to Queue]** to add a file to the queue.



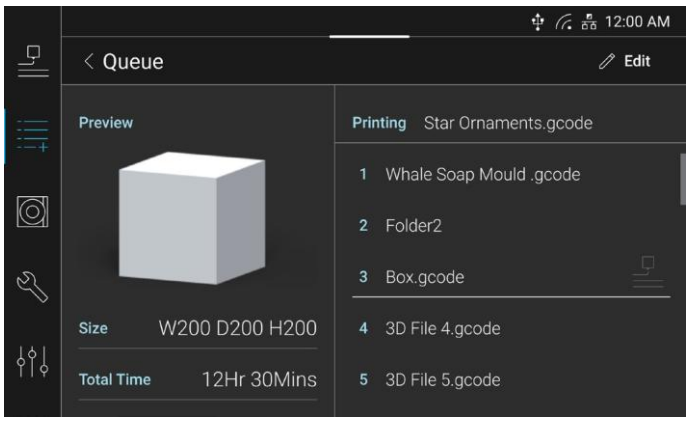
Icon	Name	Description
	Download	Save a file to the internal storage.
	Add to Queue	Add a file to the queue.
	Print	Print a file.

2.2 Queue

This menu allows to manage the files in queue. Files are added to the list of the queue in the order they are sent from a PC or the **[Print]** menu. The order of files in the queue can be changed, and a file can be added or deleted.

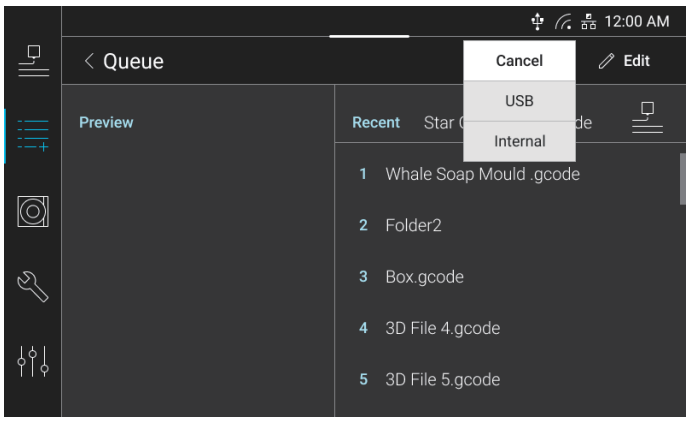
Screen Configuration

A user can check the list of files in queue on the right of the screen. Select a file to check the shape of the output on the left of the screen. If nothing is printed, the file most recently printed is displayed on the top of the queue. When an item is being printed, the file being printed is displayed. Press additional function buttons on the upper right of the screen to add, delete, or change the order of a file in the queue.



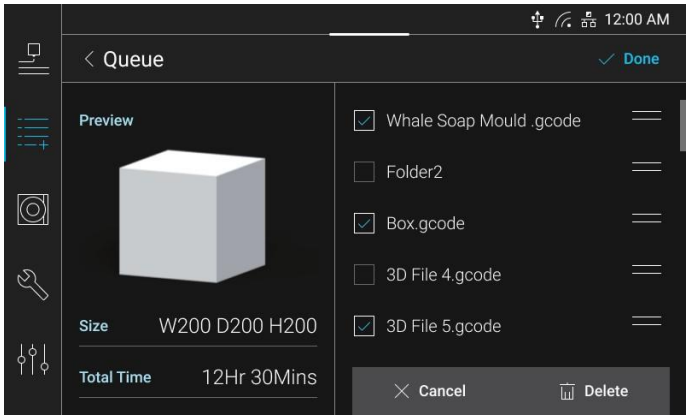
Adding a File to Queue

Press the **[Load]** button on the upper right of the screen and select the internal storage where the file to add is saved.



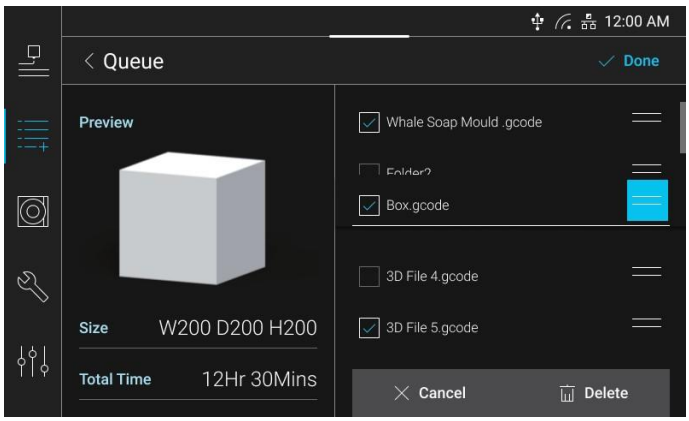
Deleting a File from Queue

Press the **[Edit]** button on the upper right of the screen and select a file. Press the **[Delete]** button on the bottom. After the action is done, press the **[Complete]** button.



Changing File Order

Press the **[Edit]** button on the upper right of the screen. Press and hold the icon to the right of the file name and move up or down the icon to change the file order. After the action is done, press the **[Complete]** button.

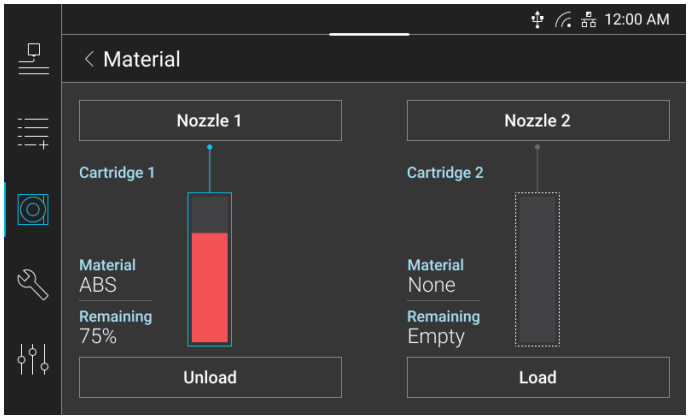


2.3 Materials

This menu allows to check the information on nozzles and materials in the printer, and loading or unloading a material.

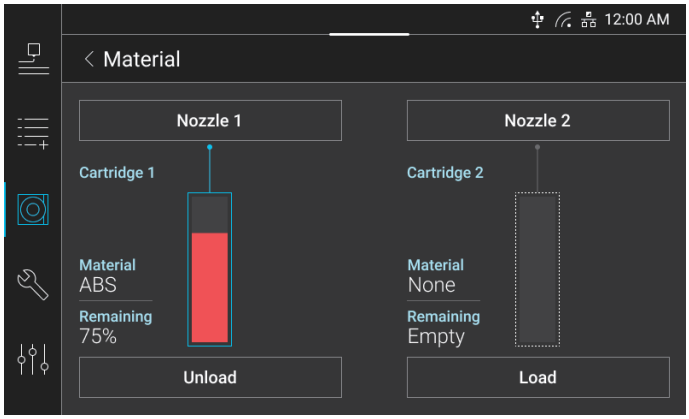
Screen Configuration

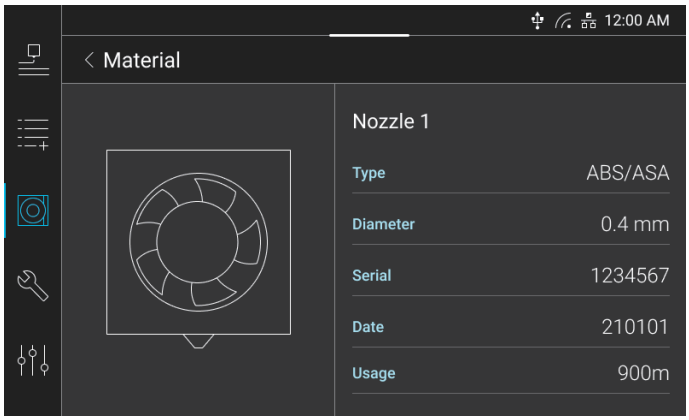
In the initial screen, a user can check the type, color, remaining amount, and load status of a material in each nozzle. Press the Nozzle button on the top to check the nozzle information, or press the Load or Unload button to load or unload a material.



Nozzle Information Checking

Press the **[Nozzle 1]** or **[Nozzle 2]** button to check the information on nozzle types, usages, etc.



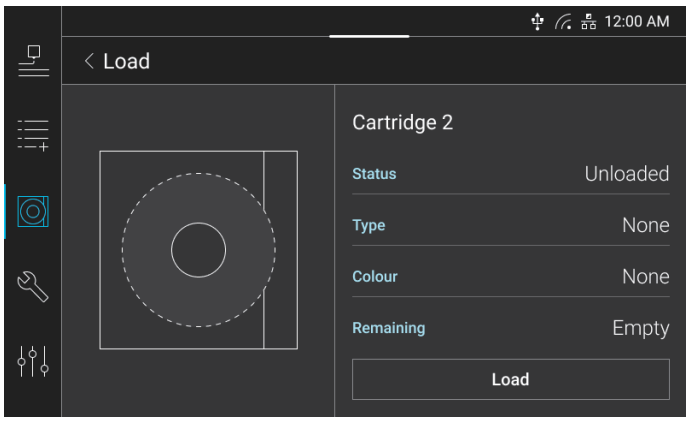


Material Loading

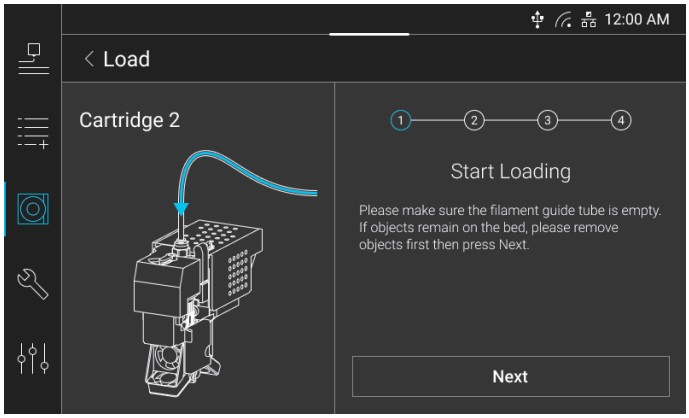
1 Install a spool in the printer and select the spool to load. Press the **[Load]** button.

Reference

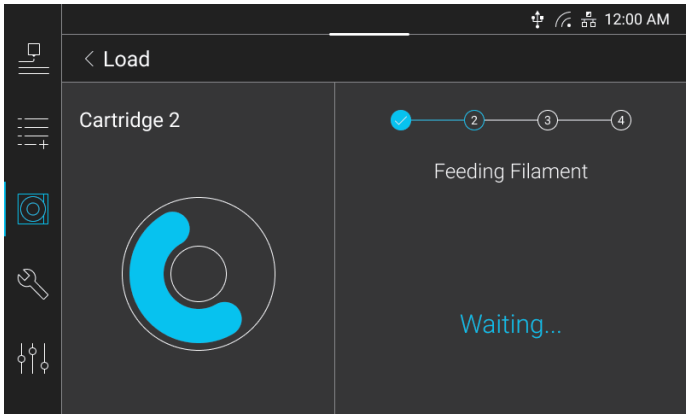
- For the information on how to install a spool, see "Spool Replacement" on Page 5-11.



2 Check if the tube is properly inserted to the nozzle and if there are debris on the bed. Press the **[Next]** button to start the loading.

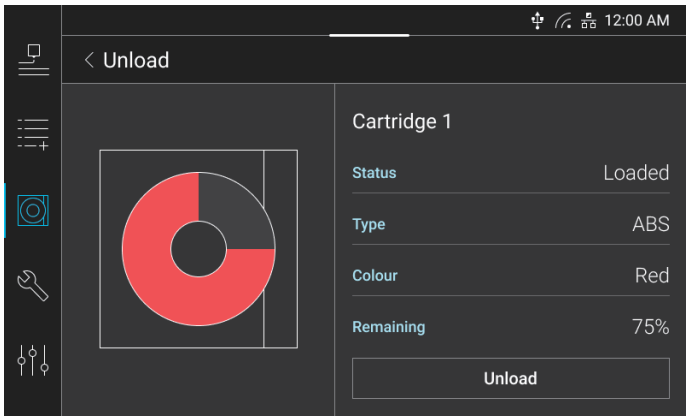


3 The printer automatically inserts the filament up to the nozzle. Once the loading is completed, the previous screen is displayed.

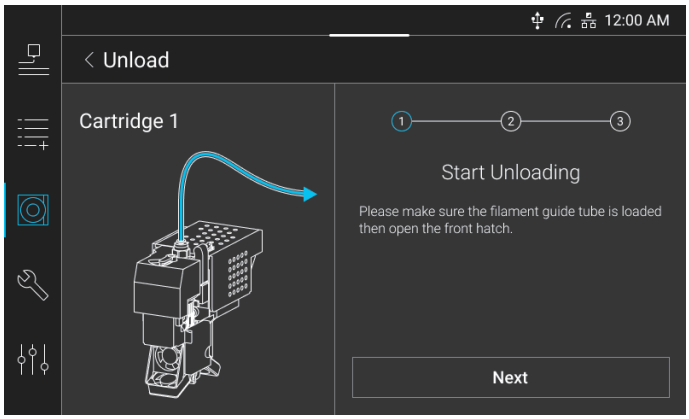


Material Unloading

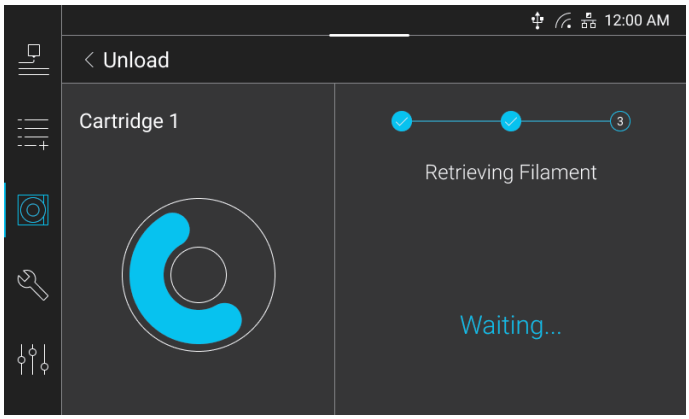
1 Select a spool to unload and press the **[Unload]** button.



2 Check if the tube is properly inserted to the nozzle and press the **[Next]** button.



3 The printer automatically removes the filament. Once the unloading is completed, the previous screen is displayed.



Reference

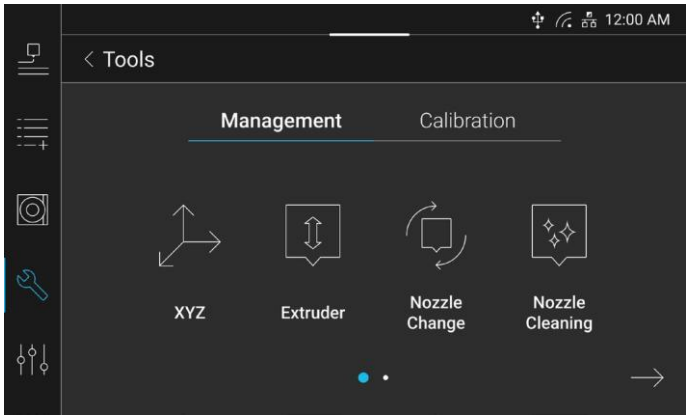
- For the information on how to remove a spool after unloading, see "4.3 Spool Replacement" on Page 5-11.

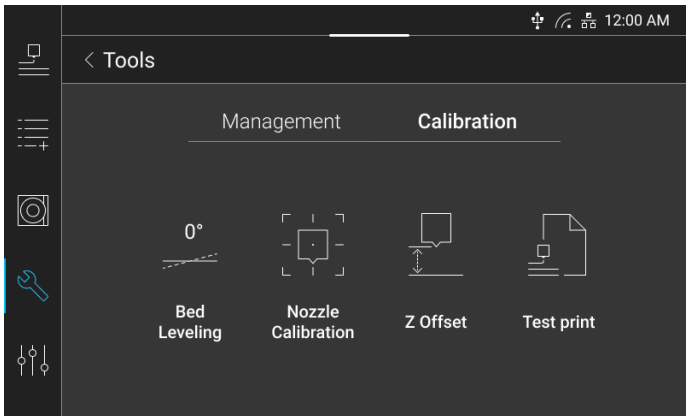
2.4 Tools

This menu allows to use the functions of maintaining and calibrating the printer.

Screen Configuration

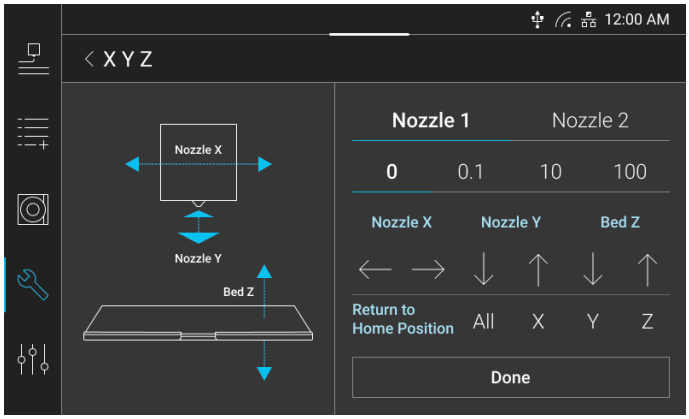
This menu consists of **[Management]** and **[Calibration]** sub-menus. In **[Management]** sub-menu, there are options to maintain the printer. In **[Calibration]** sub-menu, there are options to calibrate the nozzle and the bed.





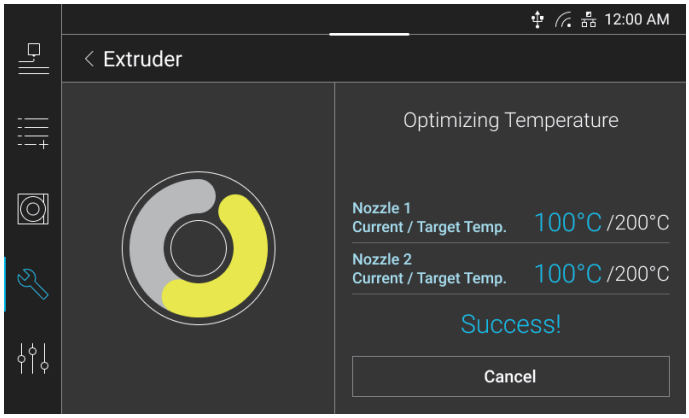
XYZ

The nozzle and the bed can be moved to a desired location. Press the **[Nozzle 1]** or **[Nozzle 2]** button to select a nozzle to move. Select a desired value and press a arrow. Click the **[All]**, **[X]**, **[Y]**, or **[Z]** buttons on the bottom to move to the home location of each direction.

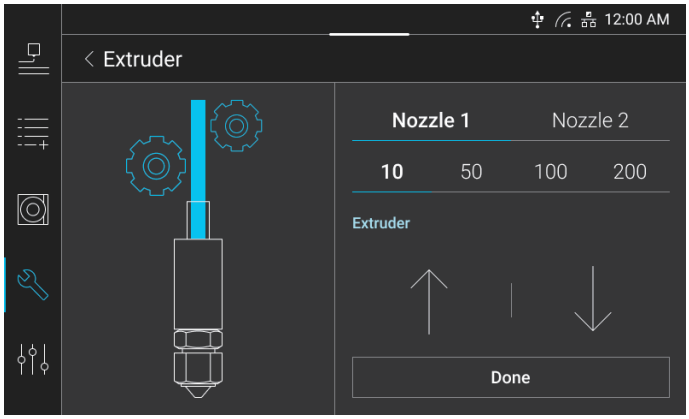


Extruder

Filament transfer can be manually operated to adjust the filament location. In this menu, the nozzle is automatically heated first. If the nozzle reaches its target temperature, the filament transfer can be operated. Press the **[Cancel]** button when the nozzle is heated to exit from this menu.



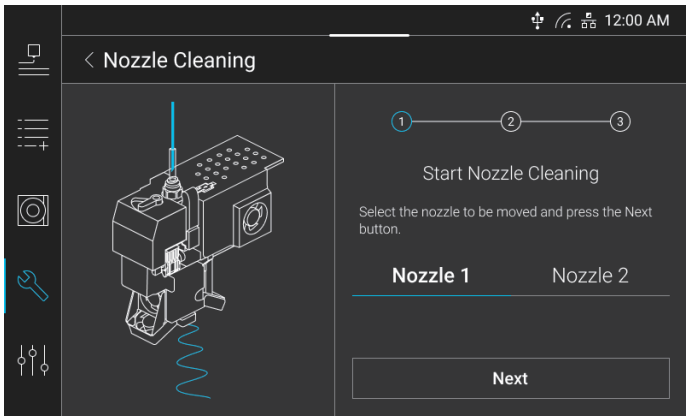
Press the **[Nozzle 1]** or **[Nozzle 2]** to select a nozzle. Select a value to transfer the filament and press a arrow to transfer it to the desired direction.



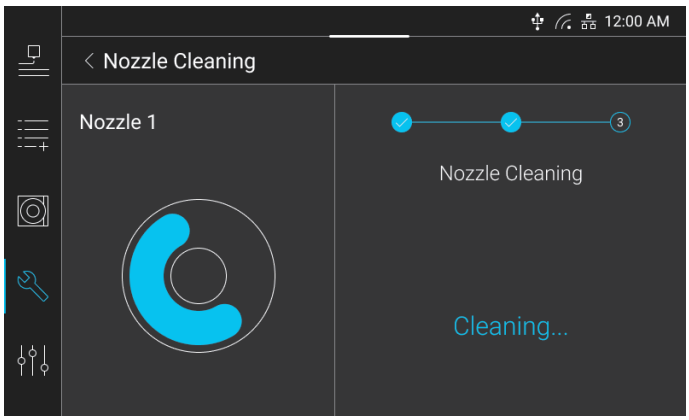
Nozzle Cleaning

※ Before using this function, load the filament.

1 Automatically remove the filament residue left inside the nozzle. Press the **[Nozzle 1]** or **[Nozzle 2]** to select a nozzle to clean and press the **[Next]** button.



2 Before cleaning the nozzle, the nozzle is heated. If the nozzle reaches its target temperature, it is automatically cleaned.

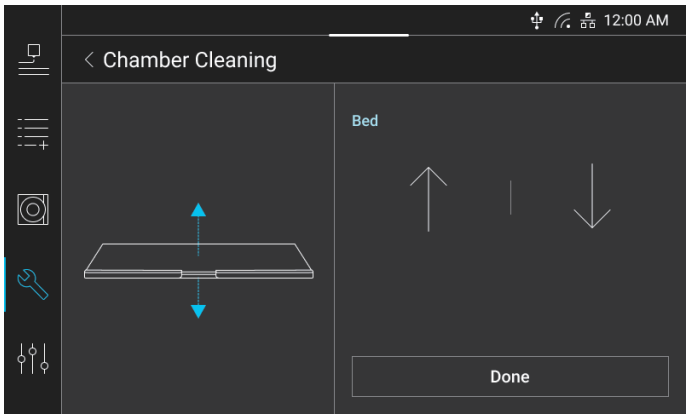


Chamber Cleaning

The bed can be moved up and down to clean the inside of the chamber. Press a arrow button to slightly move the bed up or down.

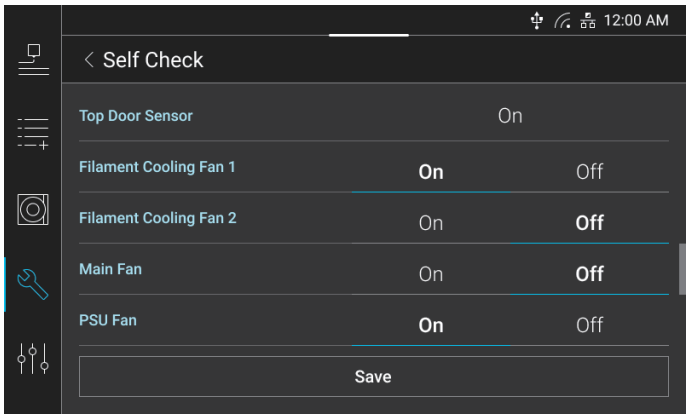
Caution

- Be careful NOT to have your body parts caught while the bed is operated. In addition, do NOT excessively move the bed. The product may be damaged.



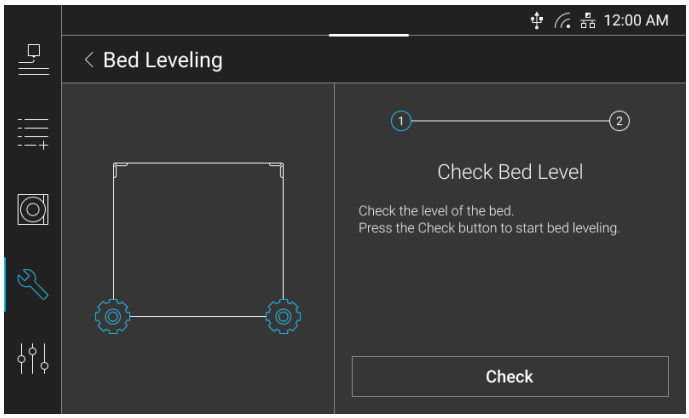
Self-Check

A user can do a self-check to see if various sensors and devices of this printer are normally operated.

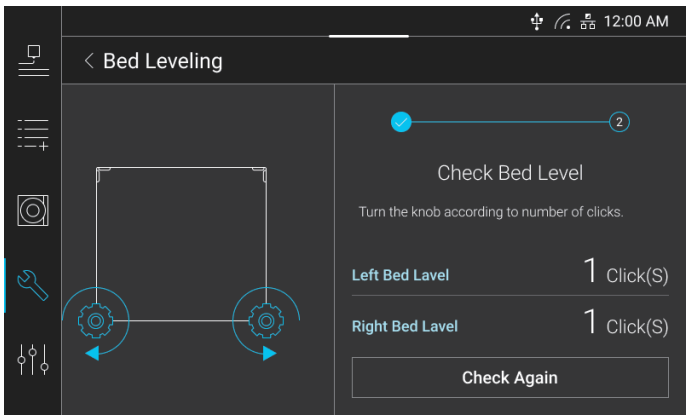


Bed Leveling

1 The bed can be leveled by measuring the degree of inclination of the bed. Press the **[Check]** button to start the measurement.



2 Turn the leveling knob on the bottom of the bed as many as the revolutions displayed in the screen. Press the **[Check Again]** button to measure is again.

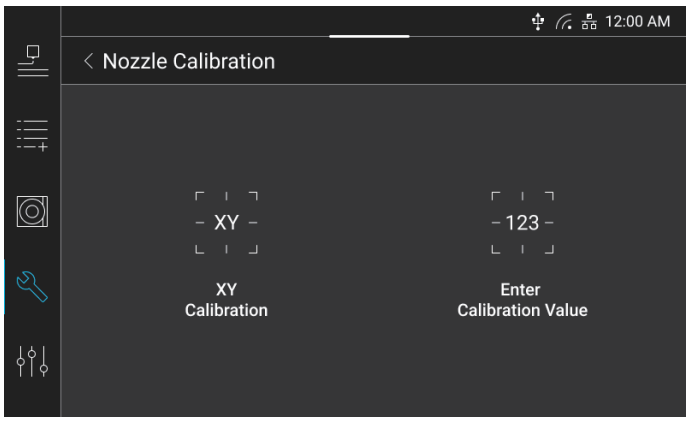


Nozzle Calibration

The position in the X- and Y-axis directions between Nozzle 1 and Nozzle 2 can be calibrated. When two nozzles intersect to print, they should print on the same coordinates.

Important

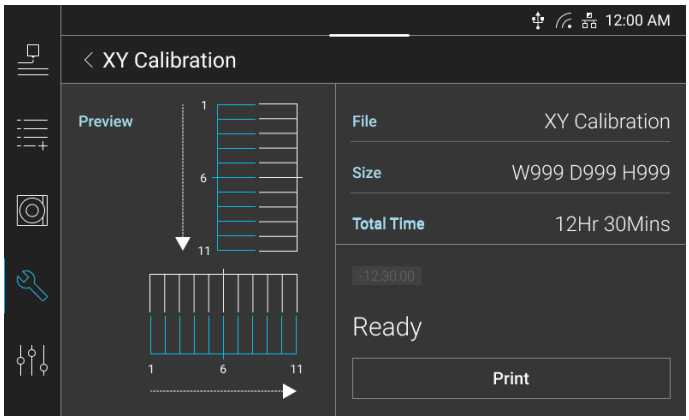
- If the positions of Nozzle 1 and Nozzle 2 are incorrectly calibrated, the print quality may be affected.



1 Press the **[XY Calibration]** button to print the pattern for calibration.

Note

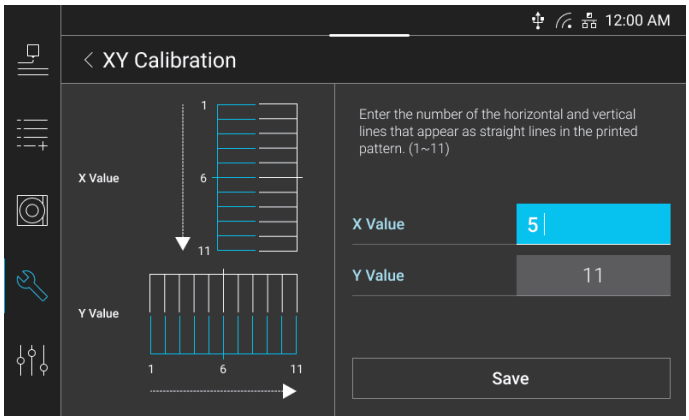
- Press the [Enter Calibration Value] button. Then, a value for calibration can be directly entered without printing the pattern for calibration.



2 Once the print is completed, enter the number of lines that is the most straight among those printed by Nozzles 1 and 2. If there are no straight lines, enter the number of lines most approximate to a straight line. After entering the value, press the **[Save]** button to print the pattern again to check.

Note

- The X-axis value is 0 at the center, -11 at the left end, and 11 at the right end.
- The Y-axis value is 0 at the center, -11 at the top, and 11 at the bottom.

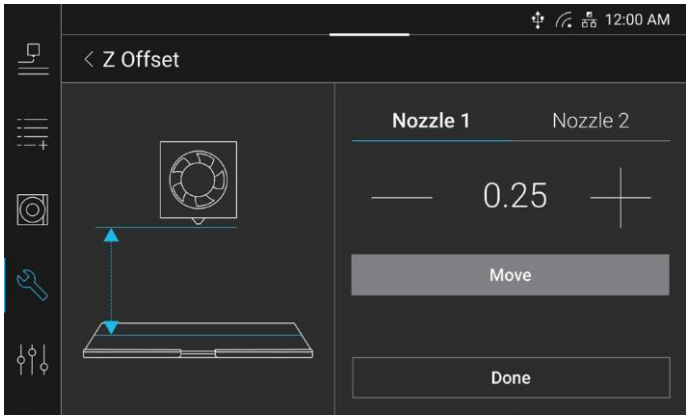


Z Offset

The gap between the nozzle and the bed can be adjusted. Select Nozzle 1 or Nozzle 2 and press the **[-]** or **[+]** button to calibrate the gap between it and the bed. Press the **[Auto Calibration]** button to automatically measure the gap and save the calibration value.

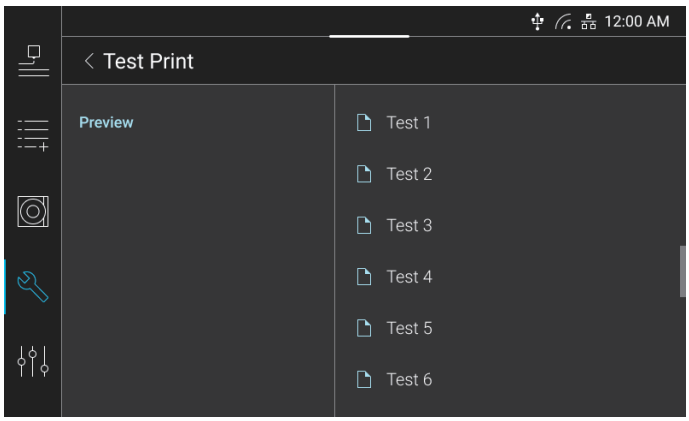
Note

- Press the [-] button to narrow the gap, and press the [+] button to widen the gap. Narrow the gap to strengthen the adhesion between the output and the bed, and widen the gap to reduce the adhesion.



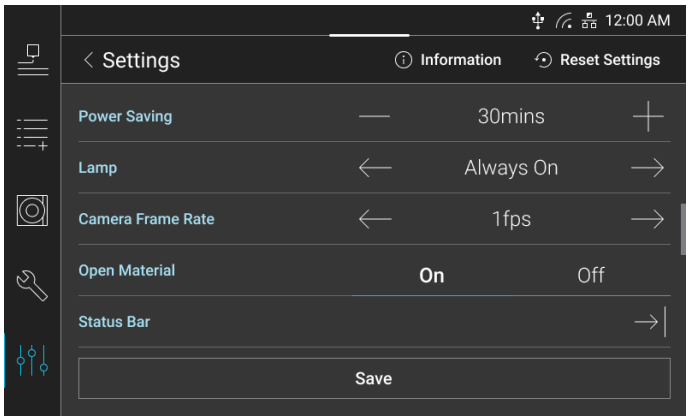
Test Print

The example files saved in the printer can be printed.



2.5 Settings

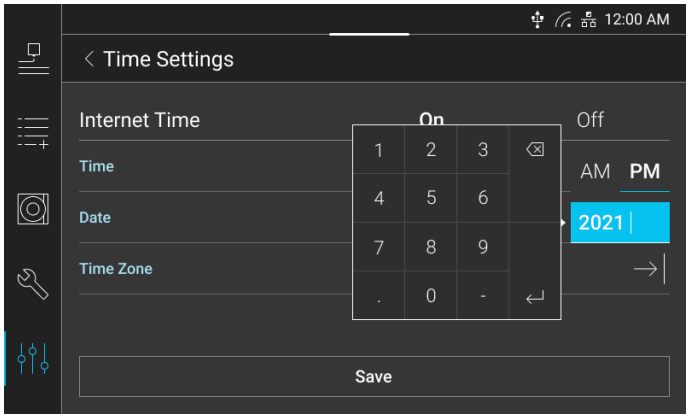
This menu allows to configure and adjust the default settings of this printer.



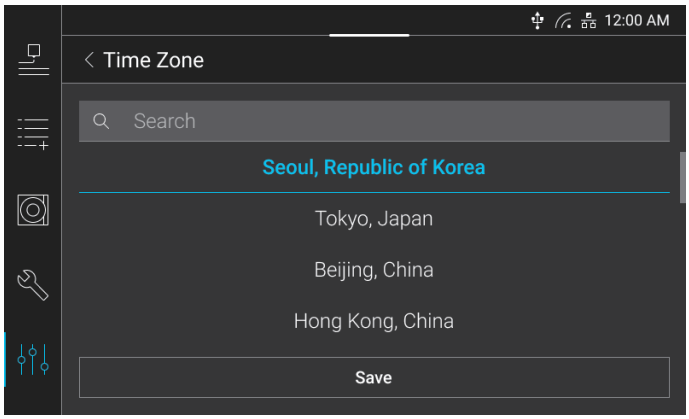
Item	Description	Value
Language	Set a language to be displayed in the screen.	English & Korean
Unit	Set temperature and length units to be displayed in the screen.	Temperature: ˚C & ˚F Length: m & feet
Time Settings	Set the time to be displayed in the screen.	See "Time Settings".
Network	Set a wired or wireless network.	See "Network".
Cloud	Set the cloud function.	See "Cloud".
Security	With the security setting, unauthorized operations by another user can be restricted.	On & Off
Volume	The buzzer sound level of the printer can be adjusted.	Off, Min., Med., & Max.
Power Saving	Set a time period of power saving.	0 - 100 minutes * 0 min.: Power saving function disabled. *5 - 100 min.: Power saving enabled during the set time if a user does not operate the printer.
Lamp	Set the operation of an internal lamp. 노트 Note - The lamp is turned on when the web monitor is connected.	Always On, On during Print & Always Off
Camera Frame Rate	Set the operation speed of a web monitor camera.	1 - 5 fps
Status Bar	Set the information to be displayed in the Status Bar on the top of the screen.	See "Status Bar".
Information	Check the default information of the printer.	See "Information".
Initialization	Initialize all settings.	

Time Settings

If the time displayed in the screen is different from the current time, a user can adjust the printer time. If the network is connected, the printer time can be synchronized with the Internet time by pressing the **[On]** button to synchronize times. Or, press the **[Off]** button from the Internet Time field to cancel the synchronization and directly adjust the time.



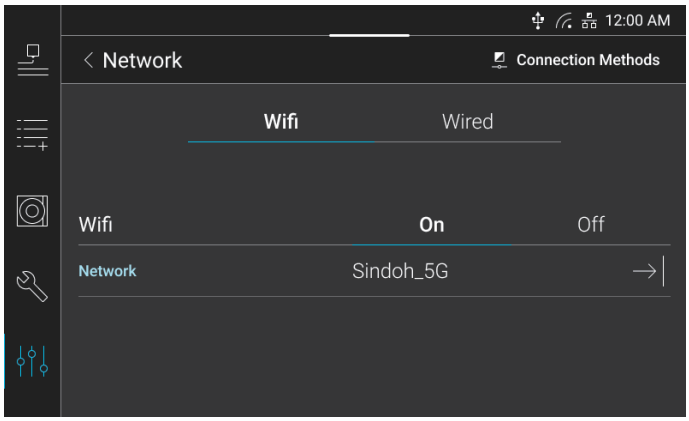
In the Time Zone field, press the arrow button to display the detailed settings. Set a region to change the time zone.



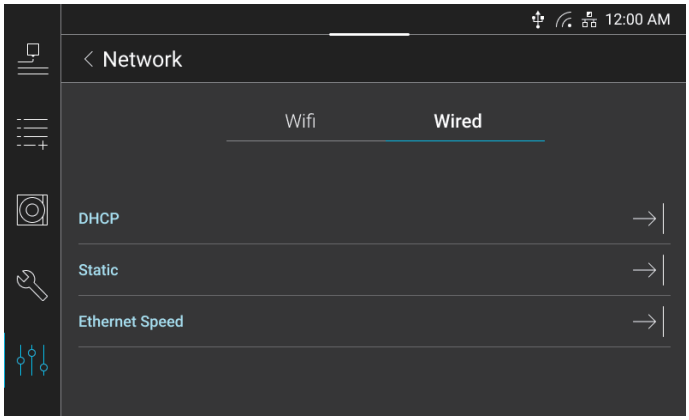
Network

By connecting a LAN, a wired network can be set, or a wireless network can be set via Wi-Fi.

To use Wi-Fi, press the **[Wifi]** tab and press the **[On]** button in the Wi-Fi section to activate the wireless network function. In the Network field, a user can view the available Wi-Fi list and select a Wi-Fi to connect.



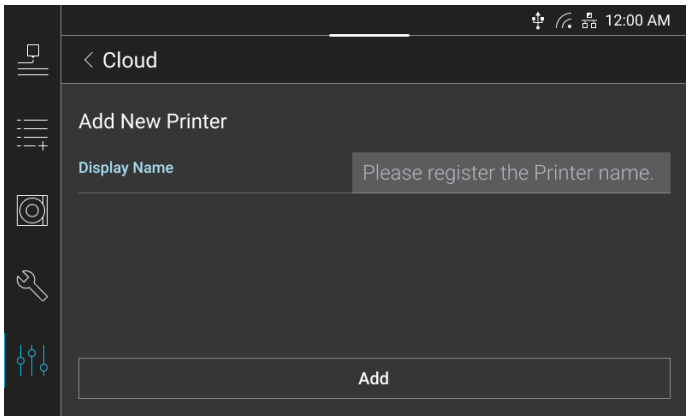
To connect a wired network using LAN, press the **[Wired]** tab. To use a dynamic IP, press the arrow button on the right of the **[DHCP]** option. To use a static IP, press the arrow button on the right of the **[Static]** option and enter the IP.



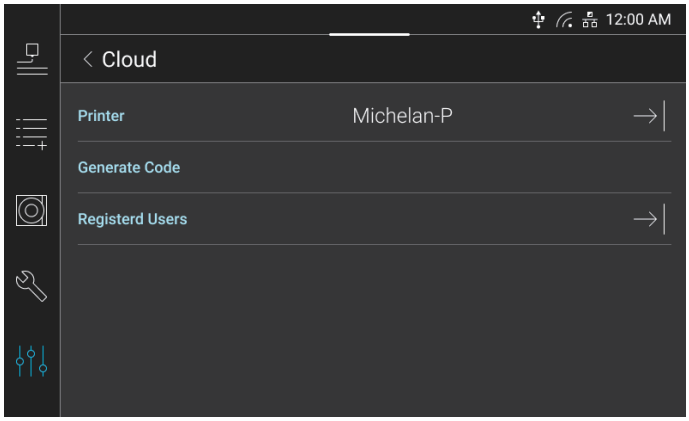
Cloud

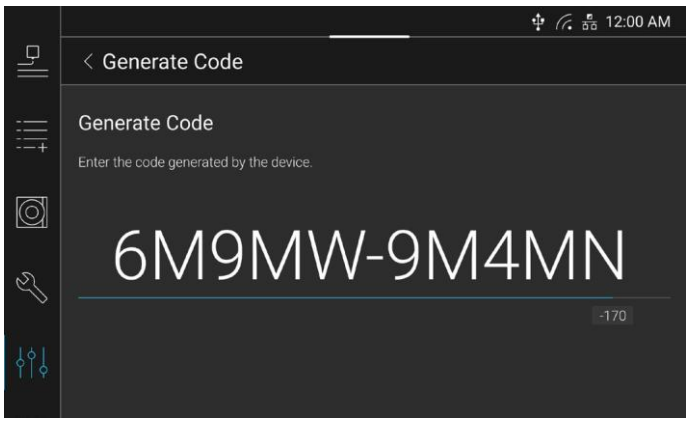
If a network is connected, a user can configure the setting to connect with the cloud service. If a user uses the cloud service for the first time, the printer should be registered with the cloud server to use the service.

1 Enter the printer name to be displayed in the screen and press the **[Add]** button.

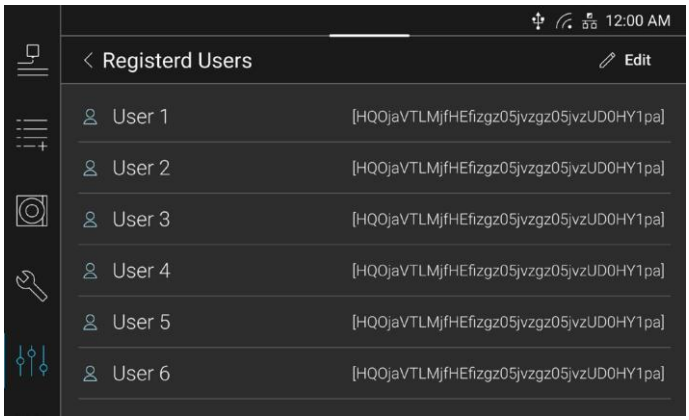


2 A code to link the user account registered in the cloud server with the printer should be created. Press the **[Generate Code]** button to create a code and enter the code into the cloud server.



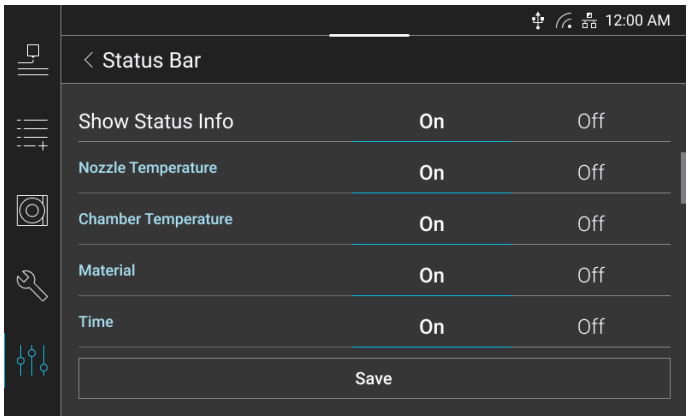


3 Once a user account is added, press the **[Registered Users]** button to view the list of registered users. Press the **[Edit]** button to delete a registered user.



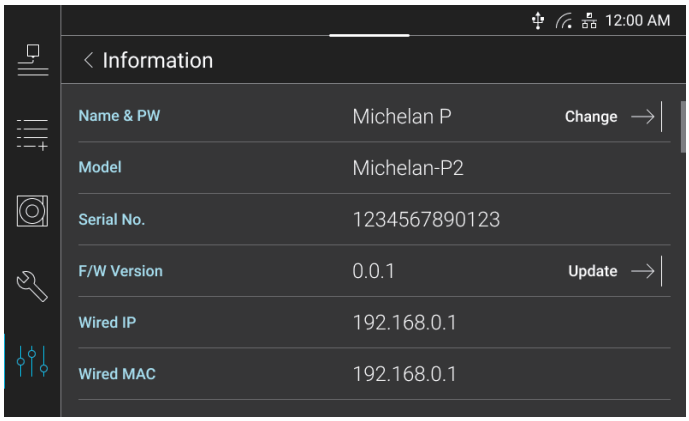
Status Bar

The information to be displayed in Status Bar on the top of the screen can be set. Select an item to display, press the **[On]** or **[Off]** button and press the **[Save]** button.

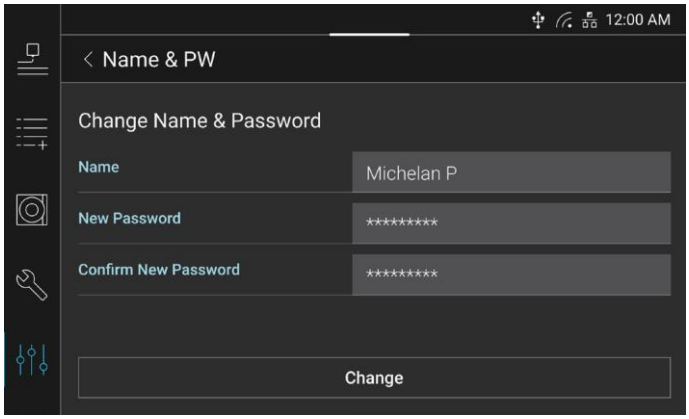


Information

The default information of the printer can be checked. In addition, the firmware update and printer history can also be checked.



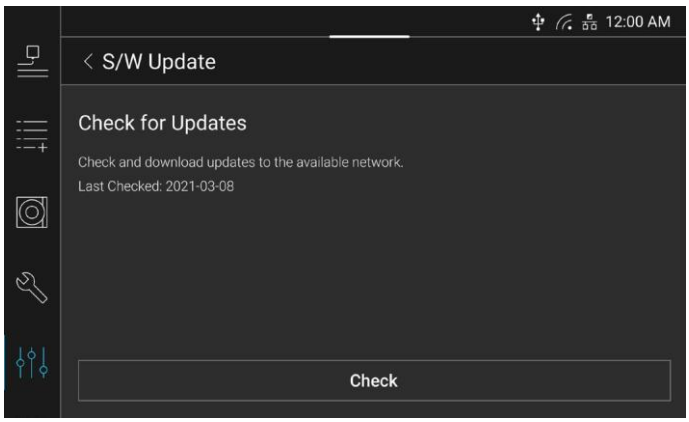
To change the name and password of the printer, press the **[Change]** button in the Name & PW field. Enter the new name and password and press the **[Change]** button.



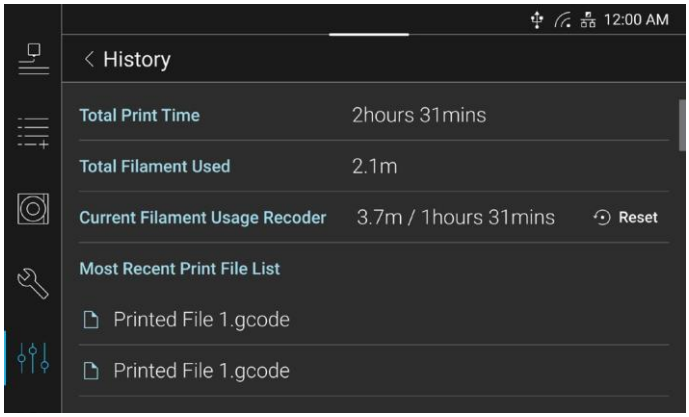
Reference

- Before changing the name and password of the printer, enter the existing password. The default password is "0000". The setting password is used for the security function.

If a network is connected, check if there is an available firmware version to update. If so, download the latest version. In the F/W Version field, press the **[Update]** button. Press the **[Check]** button to check if there is an available version to update. If there is a latest version, download it to update the firmware. Once the update is completed, reboot the printer.



Press the **[History]** button to display the total print time, total filaments used, file names recently printed, etc.



3

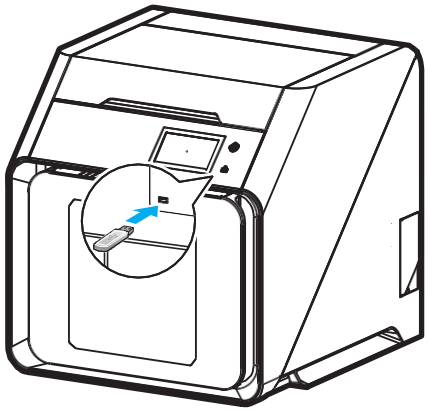
Print

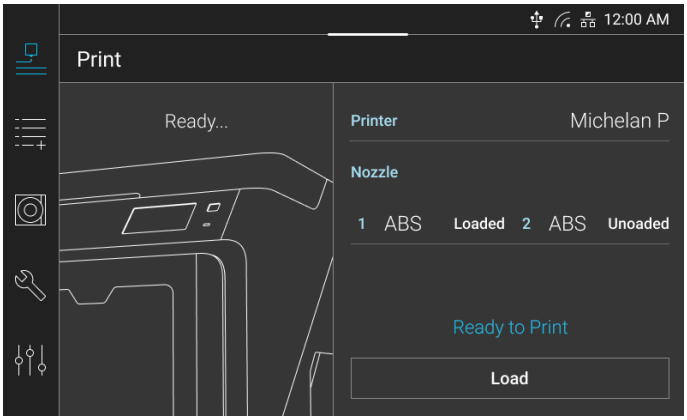
type A530

1. Print

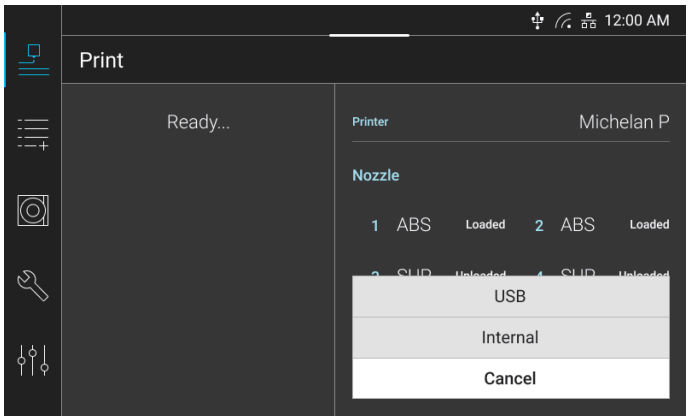
1. Printing Files in USB Flash Drive

Insert the USB flash drive to the printer. Press the Print button, which is the first button in the default display menu. If the following screen is displayed, it indicates that the printer is ready to print.

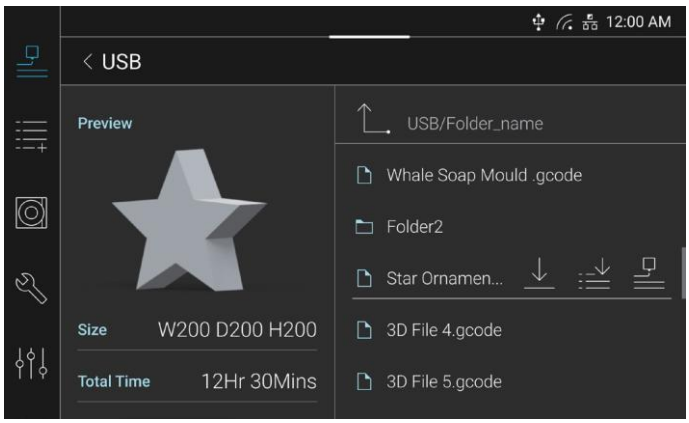




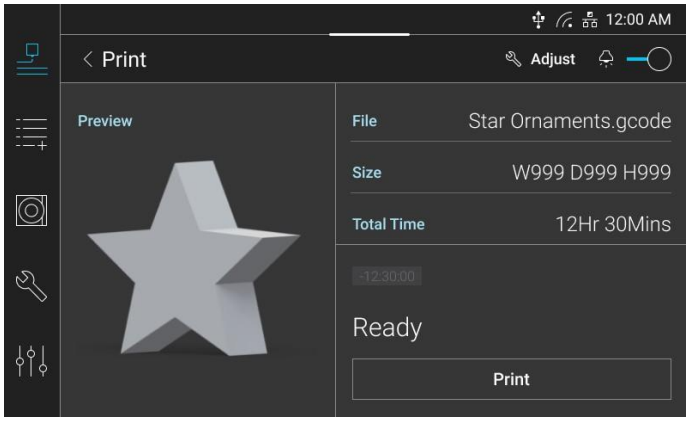
1 Press the **[Load]** button and the **[USB]** button.

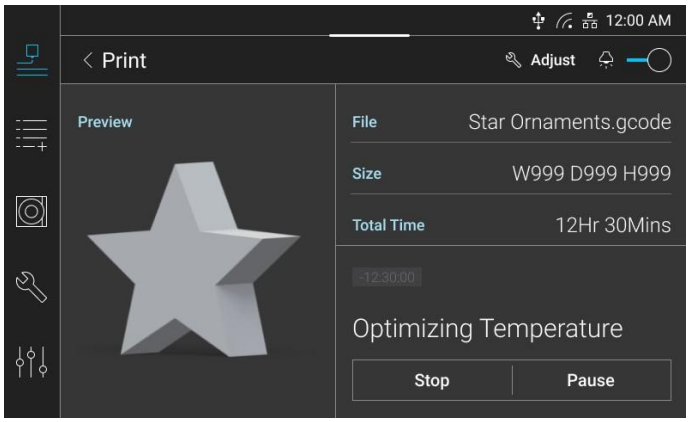


2 Select a file from the file list in the USB flash drive. Press the Output button, which is the third button on r ight of the file name.

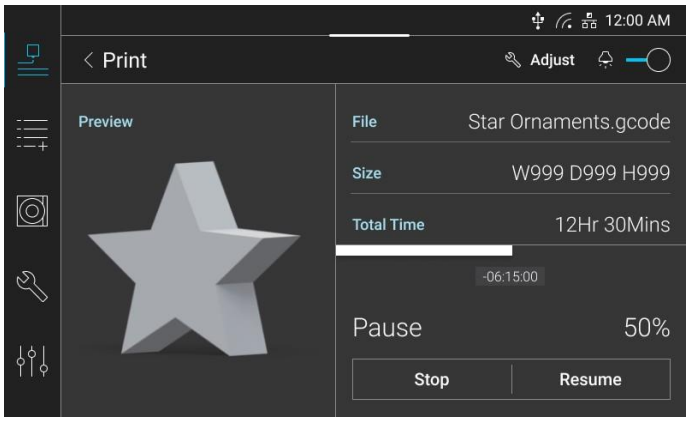


3 Check the information of selected file and press the **[Print]** button to start printing. After heating the nozzle and the bed, the preparatory operation is performed and the print is started.





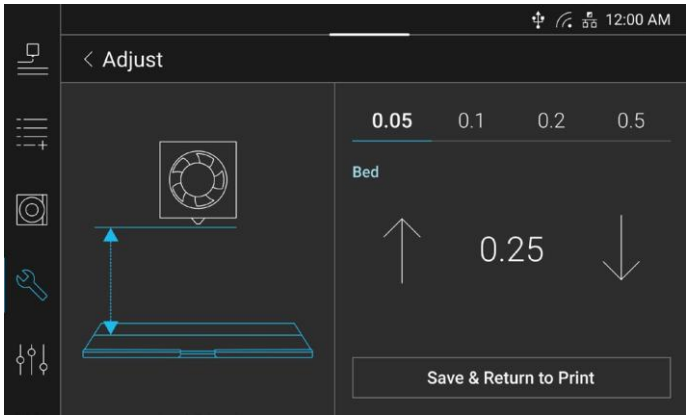
4 Press the **[Pause]** button during the print. Then, the print work temporarily stops. Press the **[Resume]** button to start the print again.



5 During the print, if the nozzle is too close to the bed to eject the filament, or if the nozzle is too far from the bed and the filament is not adhered, press the **[Adjust]** button to adjust the height. Press number buttons and arrow buttons as appropriate to adjust the height, and press the **[Save & Return to Print]** button to return to the Print screen.

Reference

- The height adjusted during a print is applied only to the current print.
- Press the [↑] button to narrow the gap by lifting the bed, and press the [↓] button to widen the gap by lowering the bed.

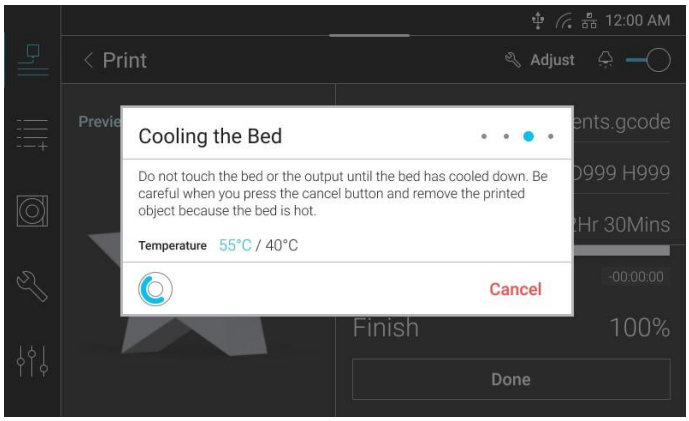


6 To cancel the print without completing the procedure, press the **[Stop]** button.

After the print is completed, the bed automatically falls to the lower section of the chamber and waits until it is cooled down.

Caution

- The bed is hot. Thus, do NOT touch the bed and the output until the bed has cooled down.
To remove the output before the bed is cooled down, press the [Cancel] button and wear protective gloves to take it out.



Reference

- For the information on how to remove an output, see "1. Output Checking" on Page 4-1.

1.2 Printing via PC

Connect the printer to the PC with a USB cable or the same network. Execute the program on the PC to prepare a file and press the Send button.

Note

- For detailed information, see the website.

1.3 Combination of Loadable and Printable Materials

By default, load a model material to Nozzle 1 and a support material to Nozzle 2.

Nozzle 1	Nozzle 2
ABS	ARS
ASA	ARS
PLA	PLA

Note

- Available nozzles vary with materials. Be sure to use the proper nozzle depending on the material.
  ABS dedicated nozzle: ABS, ASA
  ARS dedicated nozzle : ARS
  PLA dedicated nozzle : PLA

4

Output Checking

type A530

1. Output Checking

1. Output Separation

⚠ Caution **Hot Surface**

- Without sufficient cooling, the bed is very hot. Be careful of burns.

⚠ Caution **Risk of Heavy Output**

- When an output is large and heavy, it may fall while detaching the bed and you may be injured. Detach the bed by supporting it safely.

1 Cooling of Bed

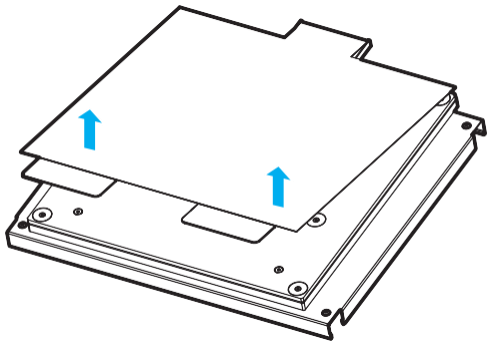
After a print is completed, wait until the bed temperature reduces to below 50℃ in accordance with the instructions on the LCD screen. Do not touch the bed or the bed handles until an instruction is displayed.

⚠ Caution

- **The bed is hot. Thus, do NOT touch the bed and the output until the bed has cooled down.**
- **To remove the output before the bed is cooled down, press the [Cancel] button and wear protective gloves to take it out.**

2 Removal of Flexible Bed

Hold the detachable handles of the bed and lift them upwards to separate the flexible bed.



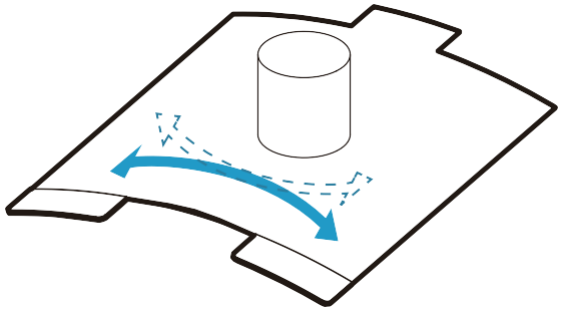
3 Separation of output

⚠ Caution **Risk of Injuries**

- **The scraper is sharp. Thus, be careful when using it. When separating an output, be careful NOT to be injured by the scrapper.**
- **When a large size file is printed, be careful NOT to let the output collide with the inside of the printer when removing the bed.**

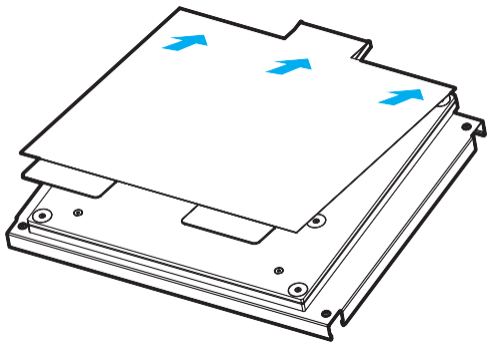
Bend the flexible bed up and down to easily detach the output. In case of small models, use the scrapper provided. Do not apply excessive force to the bed with the scrapper. The bed sheet may be damaged.

If you pull the output with force, it may be damaged because of the filament material. Thus, be careful when pulling the output.

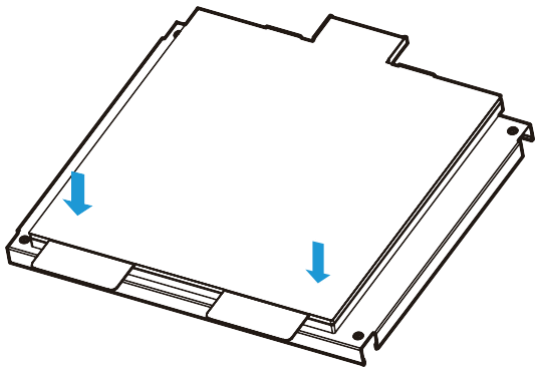


4 Installation of Flexible Bed

① Align both ends of the bed with the corners, and attach them to each other.



② Position the flexible bed in place, and put it down.



③ If the flexible bed is placed at an angle, the bed may not be leveled. Lay it down to match the floor surface.

⚠ Caution

- Any debris left on surface of the bed may cause a problem in printing. Make sure there is nothing left on the bed before use.

2. ARS Removal

Reference

- smartWash is a separate component that can dissolve support materials.
- smartWash detergent is a support remover that is used in smartWash with water.

To easily remove ARS, use the smartWash detergent to dissolve ARS. smartWash detergent is dissolved in water to make a weakly alkaline solution. It is good to use smartWash to dissolve ARS. The circulation rate and the temperature affect the dissolution rate of ARS. To correctly handle the smartWash detergent, see the following instructions:

Note

- Before using the smartWash detergent, use proper protective gloves, protective goggles, and respiratory protection equipment. A weakly alkaline solution that is heated and circulated is needed to dissolve ARS.
  ARS is dissolved faster in solution at higher temperatures. The temperature of a solution varies with the temperature at which the material of an output may be deformed. Generally, the temperature is set to about 70 – 80 degrees for ARS. The pH of an alkaline solution should be at least 10.

1. Dissolve 100g of smartWash detergent per 4L of water in smartWash to make a solution of about 2.5% concentration.
2. Heat the smartWash to the necessary temperature and start the circulation process.
3. If the smartWash detergent is sufficiently dissolved and the target temperature is reached, put the output into the solution.
4. It usually takes about one to nine hours to dissolve the support material. (The time varies with the amount or shape of the support material .) Check the progress regularly and, if necessary, change the position so that the output is well immersed in the solution.
5. Once the support material is completely dissolved, rotate the output and dry it for at least 15 minutes to let the solution drain off.
6. After the initial drying, rinse the output thoroughly with warm running water to remove the residual solution.
7. After the output is completely dried, a white residue may appear. If so, place the output in warm water at 30–50°C for at least 1 hour.

Note

- It is possible to dissolve 1kg or larger of ARS with 1kg of smartWash detergent.
  The higher the amount of ARS dissolved in a solution is, the slower the ARS dissolution rate is.
  It is recommended to keep a record of how many grams of ARS are dissolved so that the time of replacing the weakly alkaline solution can be checked.

8. Before discarding the solution, neutralize it. For this, it is recommended to add 5–10g of citric acid per liter. The generation of foams indicates the solution is neutralized.
9. The solution in which smartWash detergent and ARS are dissolved (only limited amount) is a weakly alkaline solution that can be discarded through waste water. Refer to the local regulations.

1.3 Print Quality Improvement

1 Temperature of nozzle and bed

Proper temperature of the nozzle and bed depends on the material such as PLA and ABS.
The output quality may vary depending on the environment (temperature and humidity) during printing.
There is no absolute value of a proper temperature. You need to find a proper temperature by changing temperature conditions. Temperature conditions can be changed in the Slicer program.

Material	Proper Temperature of Nozzle	Proper Temperature of Bed
ABS	230 ℃ ~ 250 ℃	90 ℃ ~ 100 ℃
ASA	230 ℃ ~ 250 ℃	90 ℃ ~ 100 ℃
ARS	230 ℃ ~ 250 ℃	90 ℃ ~ 100 ℃
PLA	190 ℃ ~ 210 ℃	50 ℃ ~ 60 ℃

2 Bed leveling

If an output is not properly attached to the bed or is too closely to the bed, try the followings:
① See "5-1.4 Flexible Bed and Nozzle Cleaning" to clean the bed surface and the tip of nozzle.
② See "2-2.4 Bed Leveling" to level the bed.
③ Once the bed is completely leveled, see "2-2.4 Z-Offset" to check the gap between the tip of nozzle and the bed. If the gap is too wide or too narrow, adjust the gap.

3 Print model modification

The output quality may vary depending on the print model shapes. To get the best quality, change the model shape or the print direction, or adjust the print conditions in Slicer.