



# DP200 Series

## USER MANUAL

- Read the User Manual before operating the product, and keep the manual at a convenient place near the product.



## Safety Instructions

Be sure to observe the following instructions when using the device.



**Warning: Failure to observe the instructions may lead to death or serious injury.**

- Directly plug the power cord in the receptacle on the wall. Do not use extension cord.
- If the power cable or plug is worn or damaged, pull out the power plug.
- The exposure of the interior of the machine can cause electric shock or burns.  
Do not remove covers or screws other than specified in this manual.
- Please be cautious. In the process of printing, the temperature of the nozzle and the heated bed rise higher than 100 degrees Celsius.
- Do not place the machine in a highly moist environment as it may cause deformation and malfunction.
- Avoid contact of electrical terminal with metal product such as necklaces, coins, keys, watches, etc.
- Do not hold the shaft for lifting or moving of the printer.
- For the following situations turn off power and pull out the power plug
  - When in contact with liquid
  - When in need for a service or repair request
  - When the device cover is damaged
- For the method of disposal contact local service center or use a proper collection site.
- Please turn off power when leaving the office after business hours or in circumstances where machine is unoccupied for a long period of time as it may cause abrupt fire accidents.



**Caution: Failure to observe instructions may cause injuries or damages to property.**

- Protect device from humid or wet conditions eg. rain, snow, etc
- Remove power cord from receptacle on the wall before moving device.
- Be careful not to damage power cord while device is being translocated.
- When removing the power cord, please pull the plug and not the power cable.
- Be cautious of clips, staples and any other small metal objects from falling inside the device.
- Please be cautious on safety when touching the interior of the machine, e.g. cleaning the interior.
- Do not dispose of device or consumables together with household waste.  
For the method of disposal, please contact local service center or use a proper collection site.
- Interior of device may be very hot. Please do not touch the part with “Caution: High Temperature” sign or its surrounding areas as it may cause burns.
- Our product maintains high quality standards and performance.  
It is recommended to use genuine components only, components can be acquired from any authorized distributors.

## Before use

Thank you for purchasing our product.

This user manual contains detailed information about correct use of device and easy maintenance to maintain the optimal state, and to contribute to the rationalization of office work of your company.

Carefully read the user manual before using the device and keep close at hand.

In order to use device correctly and safely, please carefully note the precautions before use.

## Prohibition and limitation

1. This User Manual has been created for the convenience of the user, actual product may differ from image and explanations shown.
2. The contents of this user manual is subject to change without notice. We are not responsible for the direct and/or indirect loss or damages caused by results of handling or operating the product in any case and for results occurring from user's negligence.
3. The copyrighted literary works can be duplicated and used for personal use or household use and within the same parameter. In other cases than the aforementioned, it is prohibited by law.
4. The above details present only a part of the applicable laws and regulations. Details on these laws/regulations may not be stated as they are. We do not guarantee its correctness and completeness. Please consult a legal advisor to check if the object you intend to print is legal.
5. User is responsible for all loss derived from modification of the product executed by the user or third party.
6. Font used in the printer GUI and the user manual is the "NANUM" font provided by NAVER.

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# 1. Preface

This User Manual describes detailed explanations and points to note in connection with operating and using the machine. Please read the User Manual carefully before using machine, and keep it for reference purpose.

## Important

- The content of the User Manual is subject to change without any prior notification.  
Sindoh shall not be liable for consequential, special, indirect damages or losses caused by the handling or operating of the machine or by the user's negligence.
- Copyrighted works can be printed and used for home and/or personal use; other usage is prohibited by law.
- The above details present only a part of the applicable laws and regulations and the details of the law may not be stated as they are. Sindoh is not responsible for its correctness and completeness.  
Please consult your legal advisor to check if the object you intend to print is legal.

## Note

- The User Manual may include a little different descriptions of the machine from the actual one.  
Some options may not be available in some countries. Please contact local distributor for details.  
Some standard units are optional in some countries.  
Please consult your local service center.
- In some countries some models are not available.  
Please consult your local sales office.
- This manual uses metric units of measurement

## 2. Conventions

### 2.1 Symbols

This manual uses the following symbols and meanings.

#### Warning

- Indicates importance safety notes.  
Ignoring these notes could result in serious injury or death.  
Be sure to read these notes carefully for your safe operations of the machine.

#### Caution

- Indicates important safety notes.  
Ignoring these notes could result in minor injury, or damage to the machine or to property.  
Be sure to read these notes for your safe operations of the machine.

#### Important

- Indicates points to pay attention to when using the machine, and explanations of likely causes of filament misfeeds, damage to originals, or loss of data.  
Be sure to read these explanations before operating the machine.

#### Note

- Indicates supplementary explanations of the machine's functions, and instructions on resolving user errors.

#### Reference

- This symbol is located at the end of sections. It indicates where you can find further relevant information.

[ ]

Indicates the messages or menus that appear on the machine's LCD display panel.

[ ]

Indicates the names of each function key on the machine control panel and the display window.



### 3. Safety Information

Plug the power cord into a properly grounded outlet which is near and quickly accessible from the machine.  
Do not use or place the machine in wet or humid environment.

#### **Caution** Hot Surface

- The inside of the machine may be hot. To reduce the risk of injury from a hot component, allow some time to cool down.  
(Please be cautious of getting burns during printing as the Nozzle and the heating bed will maintain a high temperature of over 100 degrees.)
- Do not put any portion of your body or objects on any part during machine operation as the motor and bed can be in very high temperature and can cause burns/injuries. Please be cautious.
- When the power is on, do not let any of your body touch the machine except the bed.  
If you have to touch the bed while the power is on, please do so after the bed temperature has been lowered to room temperature.
- If you have to touch any parts other than the bed, please do so after the bed and nozzle temperature have been lowered to room temperature.



#### **Caution** Electric Shock

- Proceed your work after turning off the machine and unplugging the power cord from the outlet in case of accessing the system board, or installing hardware or optional memory devices. If the machine is connected with other device, turn it off and separate the cables from the machine.
- This product has been designed, tested and approved to meet strict safety requirements of international safety standard. Some safety features of parts may not be guaranteed. Sindoh is not liable for problems caused by using an unauthorized spare parts or consumables.
- Disconnect the power cord and all the cables connected to the machine to prevent from any electrical shock when cleaning the outside or inside of the machine.



#### **Caution** Injuries

- Do not twist, fold, step or place heavy objects on the powercord.
- Be careful with the power cord peeled off or overloaded.
- Do not let the power cord pinched by furniture or walls.
- Misusing the cord could result in fire or electrical shock.
- Check the cord regularly. When checking the cord, unplug the cord from the outlet first.
- Please consult a qualified engineer for services or repairs not stated in this User Manual.

### **⚠ Caution** Injuries

- To prevent personal injuries or damages to the machine, you need to follow the below instructions before moving the machine.
  - Do not open the front and top door during machine operation.
  - When the power is on, do not let any of your body touch the machine except the bed.
  - If you have to touch any parts other than the bed, please do so after turning the power off, removing the power cord from the plug and after the bed and nozzle temperature have been lowered to room temperature.
  - Turn the power switch off, then unplug the power cord from the power outlet.
  - Unplug and release all the cords and cables before moving the machine.
  - Only use the power cords provided with this machine or cords that are approved by the manufacturer.
  - Do not put any portion of your body or objects during machine operation, as the bed, motor, nozzle will be in operation and moving. Small objects such as neckless, hair, etc may cause personal injuries or damages to the machine.
  - If any problems occur(malfunction, body part being caught inside the machine, etc) during machine operation, quickly press the pause [ ⏸ ] or stop [ ■ ] button located on the on the bottom right of the touch screen located on the bottom right of the upper side.



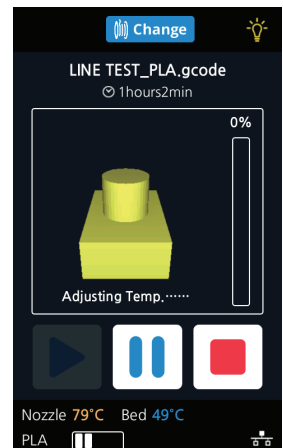
Nozzle



Bed



UI



## 4. Precautions

### 4.1 Installation

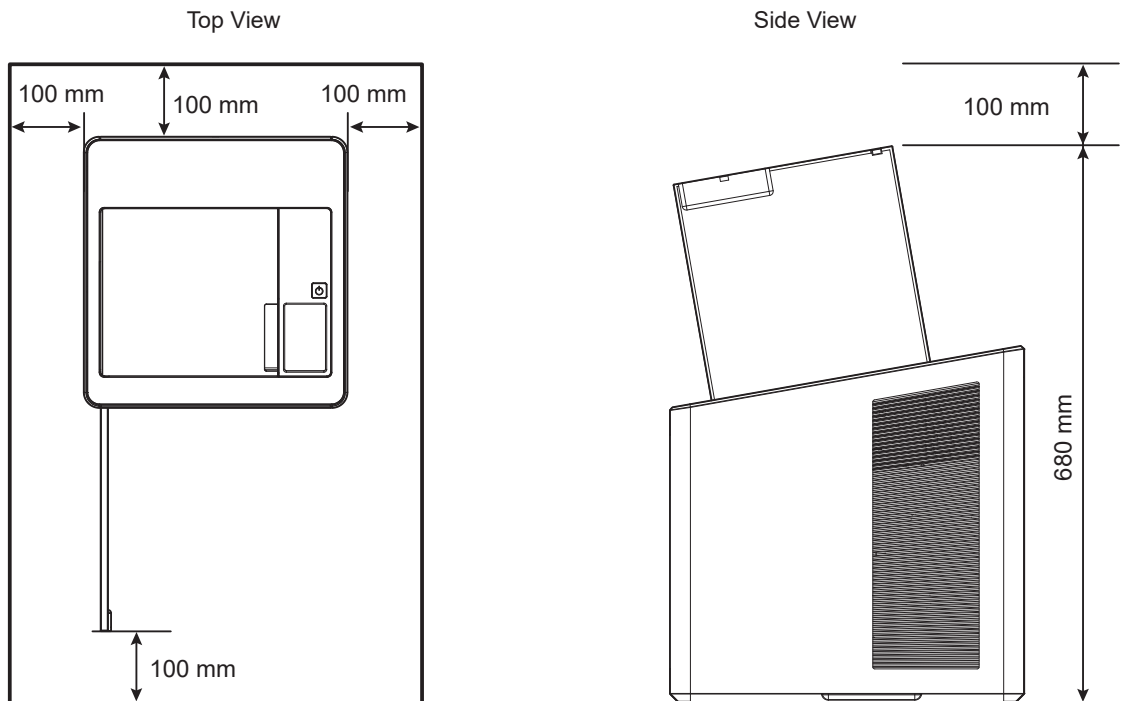
#### ⚠ Warning

- Install the machine in a well ventilated area.

You can smell odor during machine operation. It should not be harmful; however, if the area of where the machine is located is not ventilated, make sure to ventilate the area appropriately time to time.

#### ⚙ Important

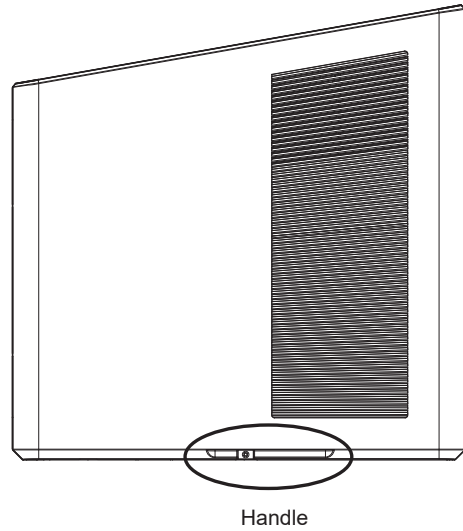
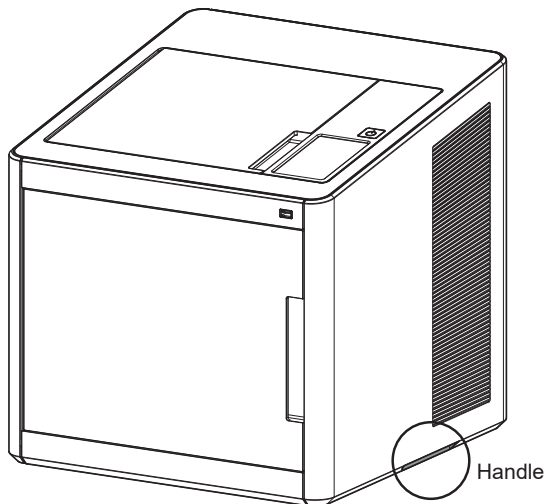
- Install the machine with its vents spaced at least 10 cm away from walls and other equipments. Secure properly sufficient space around the machine for easy ventilation and operation. Use the machine at temperatures of 16 °C ~ 29 °C and relative humidity of 20% ~ 70%. Do not install or use the machine outdoor.



## 4.2 Moving the Machine

**⚠ Warning**

- Before moving the machine, be sure to unplug the power cord from the outlet.  
When moving the printer, it is recommended that two people lift and move the printer for safety.
- Hold the bottom handles of the machine when moving it.  
Bend your knees enough to protect your spine when lifting the machine.



## 5. Consumables Handling

### Warning

- Do not burn the Cartridge unit or filament. It may be a cause of big fire or burn by ignition.

### Caution

- Keep them out of the reach of children.
- If skin irritation occurs after touching the filament, please see a doctor.

### Important

- Do not keep the cartridge unit in the following places.
  - Exposed to fire
  - Exposed to direct sunlight;
  - Where temperature or humidity may rise;
  - Where sharp change of temperature may occur;
  - Covered with dust;
  - Inside a vehicle for extended time.
- Keep cartridges away from physical impact or vibration.
- Do not unpack cartridges until you are just ready to use them.

## 6. Instructions for Use

**⚠ Caution**

- The nozzle and the bed that are inside the machine are very hot during machine operation. Please be cautious not to touch the nozzle or the bed during removal of the printed object or during inspection of the machine inside. It may become the cause of injuries or burns.
- Never operate the machine in the way this manual does not specifically instruct.

### Notification for California customers, USA

**⚠ Warning**

- This product uses chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. This appliance and its accessories can cause low-level exposure to chemicals during operation, which can be reduced by operating the appliance in a well ventilated area.

## 7. Ventilation

 **Caution**

- Use the machine in a place with good ventilation. If the machine is used in a place without good ventilation, this may be harmful for your health. Ventilate it on a regular basis.
- Do not block vents. Inappropriate cooling may lead to high temperatures inside the machine.
- In general, a new machine may produce small amount of gaseous components, so ensure good ventilation when the machine is used for the first time. If the machine is in operation for an extended time, do not stay in the same room for a long time.

## 8. Notices

### ❖ Noise Emission Level

The following are measured in accordance of ISO 7779 and reported to meet ISO 9296.  
Some modes may not be available in your purchased products.

Average Sound Pressure at 1 Meter Away	
Printing	53dBA(Normal Print Condition - Printing speed 40 mm/s, Travel speed 100 mm/s)
Standby	under 30 dBA

### ❖ Temperature/Humidity

Operation	16 °C ~ 29 °C 20%RH~70%RH
Shipping	-30 °C ~ 50 °C, 15%RH~95%RH(for 0 °C or lower temperature, room's temperature should be higher than the outdoor's; must not touch the floor)
Storage	-30 °C ~ 50 °C, Below 80%RH(No condensation, must not touch the floor)

### ❖ Disposal of The Products

Do not dispose the machine and consumables together with household wastes.  
For disposal or recycling, contact your local sales office.

### ❖ EMI(Electromagnetic Interference) Notice

This machine complies with the limits for Class B.  
Class B (Home Device): This device is designated to Class B. This equipment can be used in all areas including residential area as it has obtained EMC registration for household use.

#### ① FCC COMPLIANCE STATEMENT

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, and (2) this device must accept any interference received, Including interference that may cause undesired operation.

#### ② INFORMATION TO USER

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 m ore 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.



③ **CAUTION**

Any changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

④ **DECLARATION OF CONFORMITY (DOC Letter): 12page**

❖ **Wireless LAN Specifications**

The wireless device may be affected by electromagnetic interference so it should not be used for life saving services.

❖ **WLAN Notice**

Exposure to radio frequency radiation

The following notice is applicable if your printer has a wireless network card installed.

The radiated output power of this device is far below the FCC radio frequency exposure limits.

A minimum clearance of 20 cm (8 inches) must be maintained between the antenna and any persons for this device to satisfy the RF exposure requirements of the FCC.

❖ **Power Consumption**

Power Consumption of the Products

The below table shows power consumption.

Mode	Description	Power Consumption(W)
<b>Printing</b>	A device is printing using electronic input data.	150W
<b>Standby</b>	A device is in standby mode.	21W
<b>Power Off</b>	A power plug is plugged into the outlet with the machine's switch off .	0.05W

The above power consumption is the hourly average value.

Instant power consumption can be much higher than the average value.

**Deactivated Mode**

The machine consumes power even in the deactivated mode. Unplug the power cord to completely stop the power consumption.

**Total Energy Usage**

It would be useful to calculate the Total energy usage of the machine.

Since the electricity bill is charged in Watt unit, you have to multiply time spent in each mode by power consumption in order to calculate the energy use.

Total energy usage is the sum of energy used in each mode.

**Condensation**

Dramatic change of the ambient temperature may produces water droplets on the interior and exterior of the machine. Wipe the water droplets on the outer surface, but for the inside please let them dry off by leaving front door and cover opened.

# DECLARATION OF CONFORMITY

**Product name :** 3D Printer

**Model name :** DP200, DP102

**FCC Rules :** Tested to comply with FCC Part 15, Class B

**Operating Environment :** For HOME OR OFFICE USE

## FCC COMPLIANCE STATEMENT:

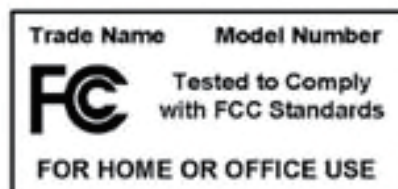
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## RESPONSIBLE PARTY:

**Name :** Sindoh America, Ltd.

**Address :** 6047 Tyvola Glen Circle, Suite #115, Charlotte, NC 28217

**Phone No. :** 1-704-414-6690



We hereby declare that the above specified equipment with the trade name and model number was tested conforming to the applicable FCC Rules under the most accurate measurement standards possible, and that all the necessary steps have been taken and are in force to assure that production units of the same equipment will continue to comply with the Commission's requirements.

**Manufacturer:** Sindoh Co., Ltd.

**Date of Issue :**

**Title/Name :**

**Signature :**

---

**Sindoh Co., Ltd.**

3, Seongsu-ro24(isipsa)-gil, Seongdong-gu, Seoul, 133-705 Korea



## 9. Disposal of Used Battery

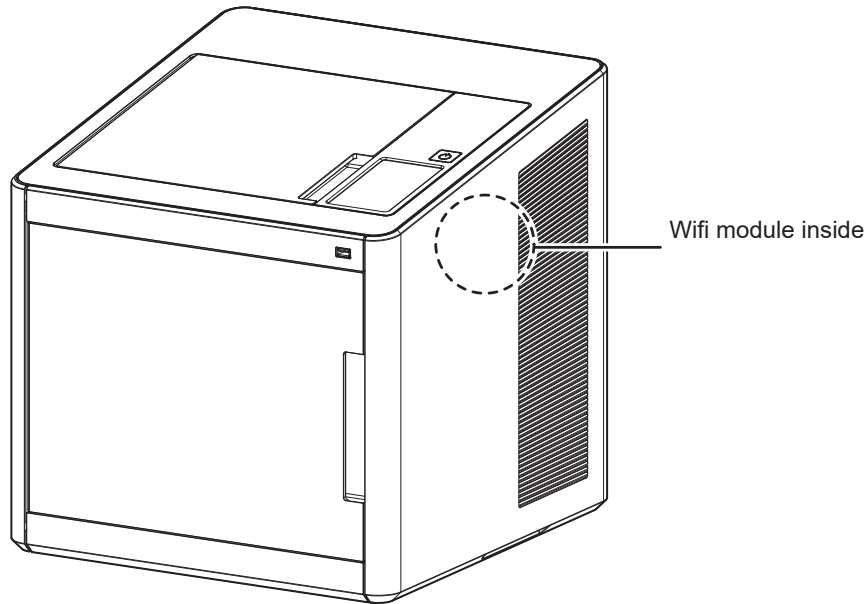
Control board uses a Lithium battery.

Please discard used batteries following the environmentally friendly procedure stated on the manufacturer guidelines.

To replace batteries, please contact a qualified service engineer.

## 10. Wifi Module Disclaimer

- ❖ This module includes a Wifi module, compatible only with Sindoh 3DWOX models.



### ❖ Precautions

This Wifi module can cause radio interference, therefore it should not be used for any purposes related to human lives.

Do not expose this product to water, humidity or liquid.

Do not expose this product to direct light, hot temperature or fire.

### **⚠ Warning**

- If the machine has been modified by an unauthorized personnel, Sindoh is not liable for the machine trouble or failure.

### **⚠ Caution**

- To prevent RF signals that exceed FCC RF exposure limits from being exposed to human, this module has been mounted in a place that minimizes human access.

## ❖ Precautions

<b>Frequency</b>	IEEE 802.11b : 2400MHz ~ 2484MHz IEEE 802.11g : 2400MHz ~ 2484MHz IEEE 802.11n(20MHz) : 2400MHz ~ 2483MHz IEEE 802.11n(40MHz) : 2400MHz ~ 2483MHz
<b>Antenna Power Density</b>	IEEE 802.11b : 10mW(10dbm)/MHz IEEE 802.11g : 10mW(10dbm)/MHz IEEE 802.11n(20MHz) : 10mW(10dbm)/MHz IEEE 802.11n(40MHz) : 10mW(10dbm)/MHz
<b>No. of Channels</b>	IEEE 802.11b : 14 IEEE 802.11g : 14 IEEE 802.11n(20MHz) : 14 IEEE 802.11n(40MHz) : 9
<b>Modulation</b>	IEEE 802.11b : DSSS/CCK IEEE 802.11g : OFDM IEEE 802.11n(20MHz) : OFDM IEEE 802.11n(40MHz) : OFDM
<b>Power Consumption</b>	5V 500mA(Maximum)
<b>Dimension</b>	37.0mm X 28.0mm X 3.7 mm
<b>Operation Temperature</b>	0 ~ 60 °C
<b>Storage Temperature</b>	-10 ~ 80 °C

## 11. USB Memory Disclaimer

### ❖ FCC COMPLIANCE STATEMENT

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### ❖ INFORMATION TO USER

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 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.

### ❖ CAUTION

Any changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

### ❖ Specification of compatible USB flash drive for 3DWOX

- Please use the enclosed USB flash drive.
- The enclosed USB flash drive is in FAT32 format.  
The 3DWOX 3D printer does not support USB flash drives in NTFS format.
- The warranty will not be valid if a 3rd party USB drive is used.

❖ **IC Identification on Class of ITE**

CAN ICES-3 (B)/NMB-3 (B)

**DECLARATION OF CONFORMITY**

Product name : USB Flash Drive  
Model name : 8GB-WJ004, 4GB-WJ004  
FCC Rules : Tested to comply with FCC Part 15, Class B  
Operating Environment : For HOME OR OFFICE USE



**Tested to Comply  
with FCC Standards**

**FOR HOME OR OFFICE USE**

**FCC COMPLIANCE STATEMENT**

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**RESPONSIBLE PARTY**

Name : Sindoh America, Ltd.  
Address : 6047 Tyvola Glen Circle, Suite #115, Charlotte, NC 28217  
Phone No. : 1-704-414-6690

We hereby declare that the above specified equipment with the trade name and model number was tested conforming to the applicable FCC Rules under the most accurate measurement standards possible, and that all the necessary steps have been taken and are in force to assure that production units of the same equipment will continue to comply with the Commission's requirements.

Manufacturer : Sindoh Co., Ltd.  
Address : 3, Seongsuiro24(isipsa)-gil, Seongdong-gu, Seoul, 04797 REPUBLIC OF KOREA





**DP200 Series  
USER MANUAL**

**Preparations for  
Machine Operation**

**1**

# 1. Machine Specifications

## 1.1 Printing

Printing Method	Fused Filament Fabrication
Max. Print Length(mm)	W(max):210, D(max):200, H(max):195
Print Layer Thickness Setting	0.05~0.4mm
Basic Nozzle diameter	0.4mm
Filament width	1.75mm
Printable materials	PLA, ABS
Printable color	White, Black, Gray, Red, Yellow, Green, Blue, Pink(PLA), Purple(PLA)
Bed leveling	Auto measuring + Manual leveling

## 1.2 Temperature/Speed

Continuous Nozzle Usage/ Maximum Temperature	Recommended Temperature(Nozzle): PLA 200℃, ABS 230℃ / Max 250℃
Continuous Bed Usage/ Maximum Temperature	Recommended Temperature(Bed): PLA 60℃, ABS 90℃ / Max 100℃
Recommended printing speed/maximum speed	40mm/s Recommended / 200mm/s max

\* Continuous operation at maximum temperature can cause malfunction, Please use in case of nozzle clogging or other troubles.

## 1.3 Machine

Power	150W
Dimensions	421 x 433 x 439
Weight	15kg
Port	USB, Wifi, Ethernet
Cartridge	Auto Load / Unload

## 1.4 Software/Support

Supported Software	Sindoh Exclusive Slicer
Supported File Format	*.stl, *.ply, *.obj
Supported Operating System	Windows 7 or above, Mac OSX 10.10 or above
Recommended Memory Requirements	DRAM 4 GB+

### Note

- Graphics must support OpenGL 2.0 or higher.

## 1.5 Default Setting of Print layer Width

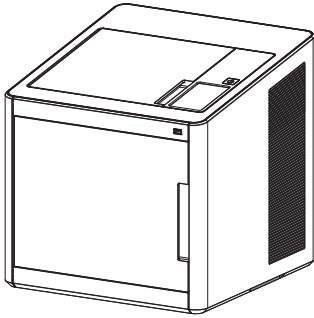
Nozzle Width	0.4mm
Print Layer Width	0.2mm

## 2. Basic Components

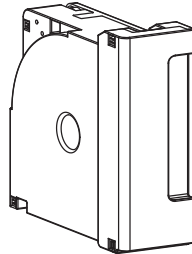
Please check all basic components are in the box.

**⚠ Caution**

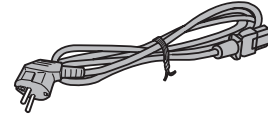
- Please keep the box and packaging material; they are needed for product exchange or repair service.



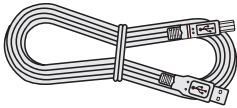
3D Printer



Cartridge



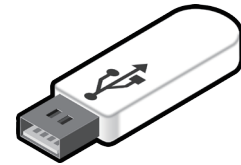
Power Cable



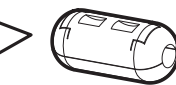
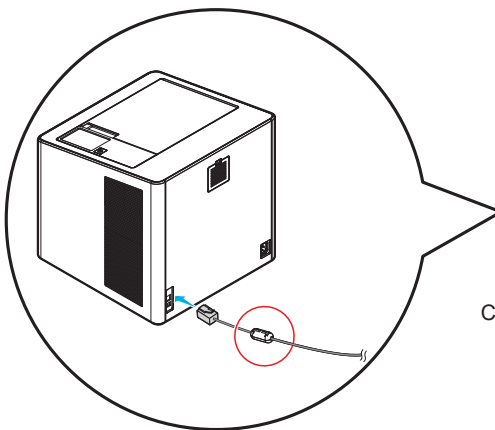
USB Cable



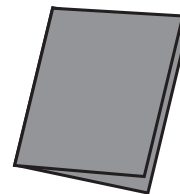
Scraper



USB Drive



Cable Ferrite Core Filter



Reference Guide

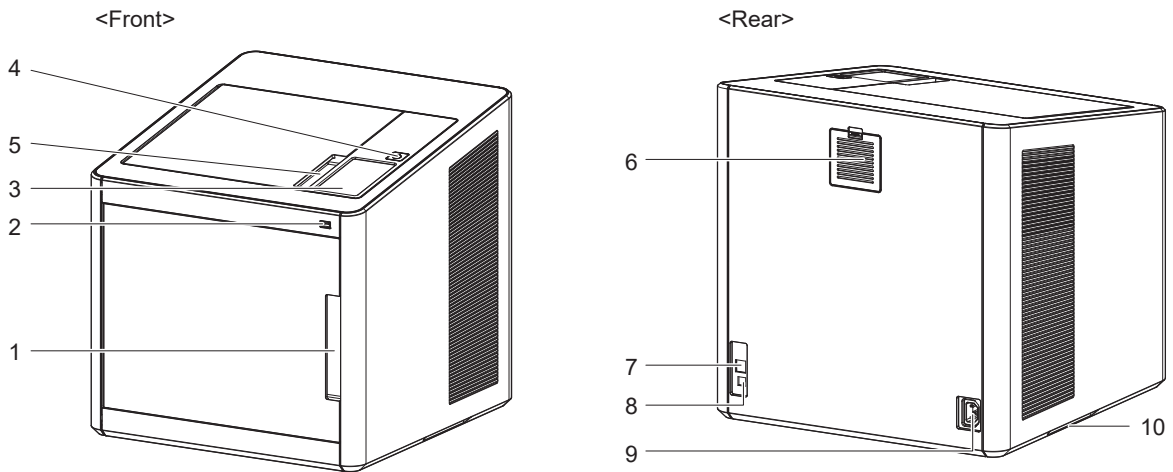
Please attach the Core to the LAN cable in use.

**⚠ Warning**

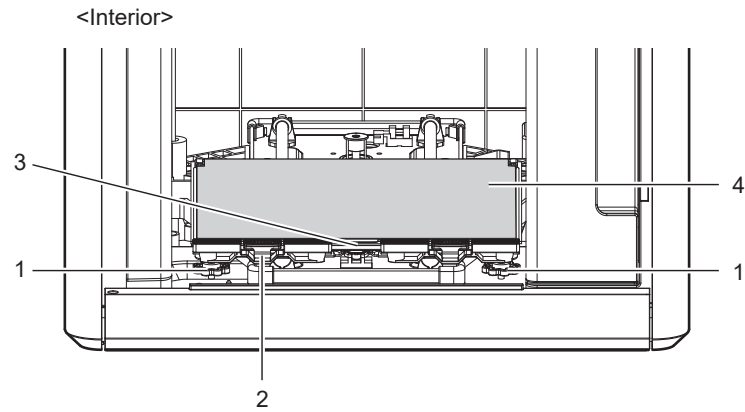
- The blades of the scraper can be very sharp. Please be cautious. Please do not use for other than removing printables.

Please do not touch the blade of the scraper.

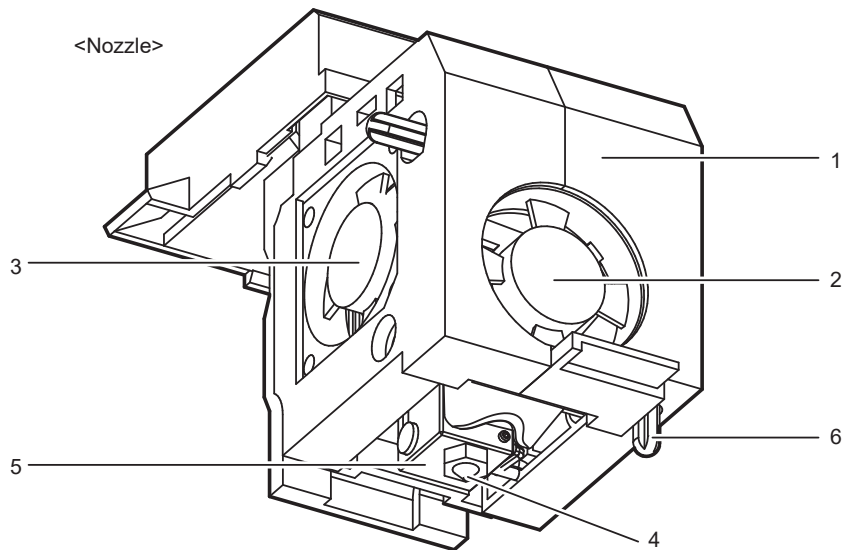
### 3. Understanding the Device Parts



No.	Part Name	Description	
1	Front door handle	A handle to open the front door.	
2	USB port	Connect USB flash drive containing printing information and print directly from USB flash drive.	
3	LCD Control panel	Screen used to control printer. <div style="border: 1px solid red; border-radius: 5px; padding: 2px; display: inline-block;"> <span style="color: red;">⚠ Caution</span> </div> <ul style="list-style-type: none"> <li>- Usage of printer is recommended after removing the protection film on LCD control panel. If the film is not removed, the touch screen may not work properly.</li> </ul>	
4	Power Button Indicator	Lamp On	Power is On.
		1 second interval flickering	Can be turned on instantly. (power cable is connected) <div style="border: 1px solid red; border-radius: 5px; padding: 2px; display: inline-block;"> <span style="color: red;">⚠ Caution</span> </div> <ul style="list-style-type: none"> <li>- If in case of not using the printer for long period of time, please unplug the power cord.</li> <li>- The lamp may flicker for a few seconds after the power cord is disconnected.</li> </ul>
		Lamp Off	Inactive Mode. (Power cord is unplugged)
5	Top door handle	A handle to open top door.	
6	Ventilator fan(Odor removing filter)	Discharges heat from interior. Filters out odor created through printing.	
7	Lan Port	Allows a device to connect to a network using a LAN cable.	
8	USB Port	Used to connect printer to computer with a USB cable.	
9	Power port	Power cord connector.	
10	Carrying Handles	Handles to use when moving the printer.	



No.	Part Name	Description
1	Bed height adjustment Knob	Used to level the aluminum bed.
2	Removable bed handle	Used to assemble and dismantle aluminum bed
3	Bed heater	Heats the printables' bottom surface to stabilize it on the bed.
4	Aluminum bed (bed sheet)	Seating space for Printable

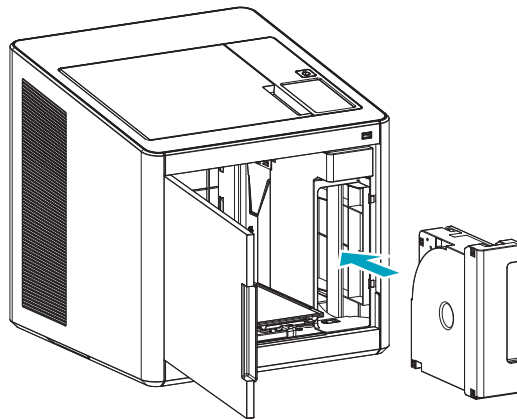


No.	Part Name	Description
1	Body	Main body of the nozzle part.
2	Fan 1	Cooling fan for extrusion.
3	Fan 2	Cooling fan for Nozzle heatsink.
4	Nozzle	Nozzle for printing.
5	Heater block	Nozzle part for filament heating.
6	Levelling sensor	Sensor for bed levelling sensor.

## 4. Installation(Product connection, Cartridge Setup and Software installation)

### 4.1 Device Connection

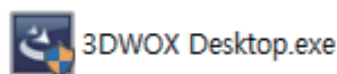
- 1** On the rear side of the machine, connect the power cable to the power socket.  
Next, connect the power cable to the power outlet.
- 2** Press the power button, located on top of the machine.
- 3** After main menu is displayed on the LCD screen, install the cartridge (Refer to UI manual “LOAD”).



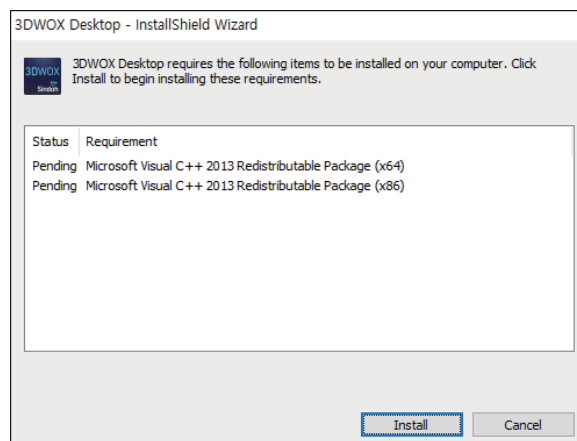
- 4** Connection to PC
  - 1) Direct Connection: Connect one end of the enclosed USB cable to the back of the 3DWOX and the other end to the PC.
  - 2) Network Connection: Refer to 2-22(Network) of the User Manual.
- 5** Plug USB flash drive in, and install machine drivers and Slicer program.

### 4.2 Program Installation

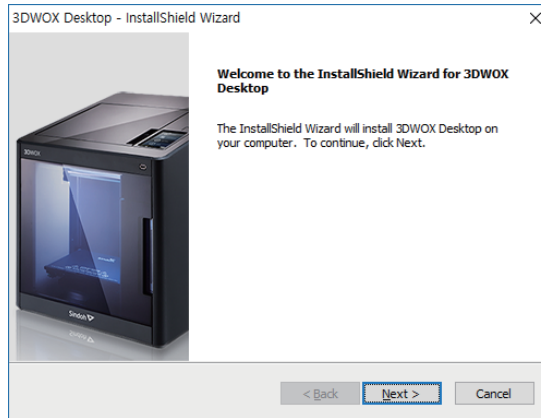
- 1** Start the installation of 3DWOX Desktop program by clicking on “**3DWOX Desktop.exe**” file in the enclosed USB.



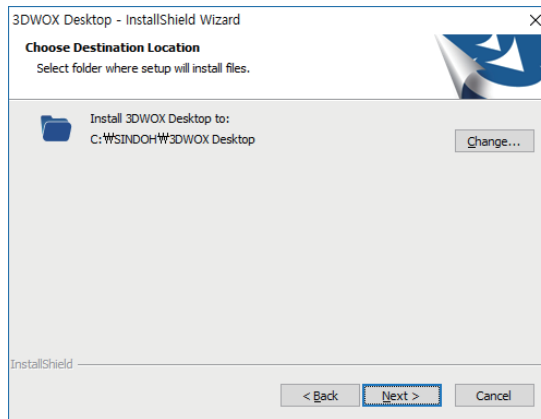
- 2** Install the additional files required by the software first.



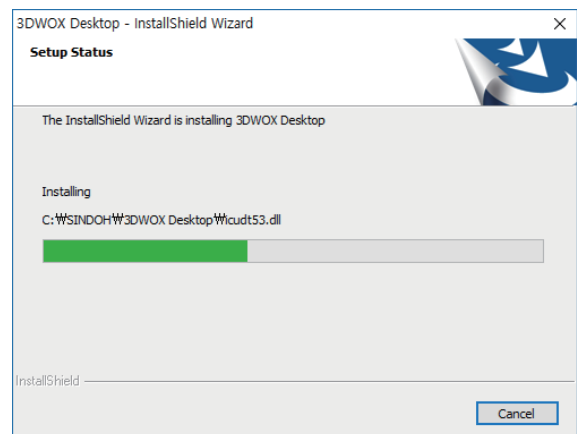
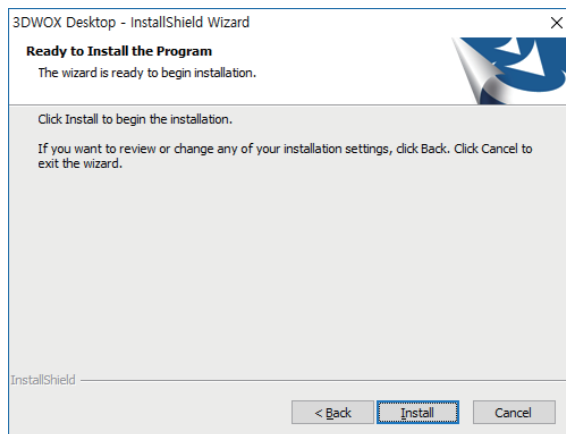
- 3** When installation of the file is complete, a pop-up window shows up as picture below. Press **[Next]** button to initiate the installation of 3DWOX Desktop program.



- 4** Choose the destination location of the file and press **[Next]** to proceed.



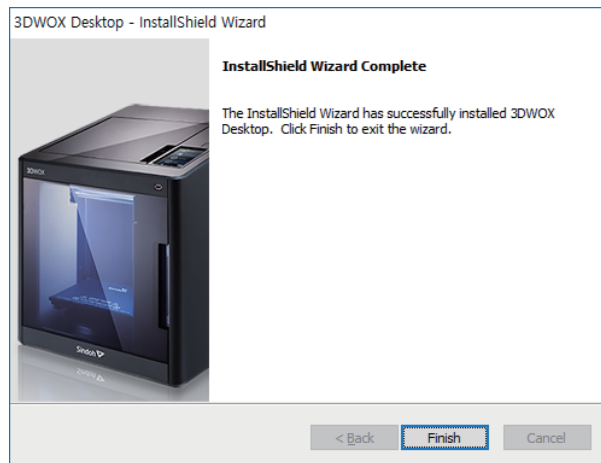
- 5** The file gets saved and the installation starts.



## 1 Preparations for Machine Operation

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- 6 After all installation is complete, you can see that the “**3DWOX Desktop**” created on the desktop of your computer.





**DP200 Series  
USER MANUAL**

**UI Menu Function**

**2**

# 1. UI Menu Function description

CARTRIDGE	LOAD					
	UNLOAD					
	UNLOCK					
SETTING	X,Y,Z	ALL,X,Y,Z				
	EXTRUDER					
	BED LEVELING					
	Z OFFSET	Move				
		Save				
	NOZZLE CLEANING					
	CLEANING CASE					
	NETWORK	Wifi	(Options)			
			Wifi	On		
					Off	
			SELECT NETWORK	LIST		
			DHCP			
			Static			
			Clear SSID			
			Wired	(Options)		
		DHCP				
		Static				
LAMP	(Options)					
	*Always On					
	Always Off					
	On only in printing					
BED LOWERING						
TEST PRINT	(Options)	SELECT FILE	START/PAUSE			
			CANCEL			
POWER SAVING MODE	(Options)					
	0~100 min					
BEEP SOUND	(Options)					
	Low					
	*Middle					
	High					
	Off					
NOZZLE SETTING						

\* indicates factory set value.

LANGUAGE			
E-MAIL	E-mail Address		
	E-mail Server Info	Address	
		Port	
		ID	
	PW		
UNIT	Celsius(°C)		
	Fahrenheit(°F)		
	meter(m)		
	feet(ft)		
TIME SETTING	YYYY, MM, DD, HR, MIN		
TIME ZONE			
WEB			
SOFTWARE UPDATE			

INFORMATION	Name			
	PW			
	Change Name & PW	Name		
		PW		
		Reconfirm PW		
		Cancel		
		OK		
	Model Name			
	Serial No.			
	Version			
	Wired IP			
	MAC			
	Wireless IP			
Wireless MAC				
HISTORY				
Guide				

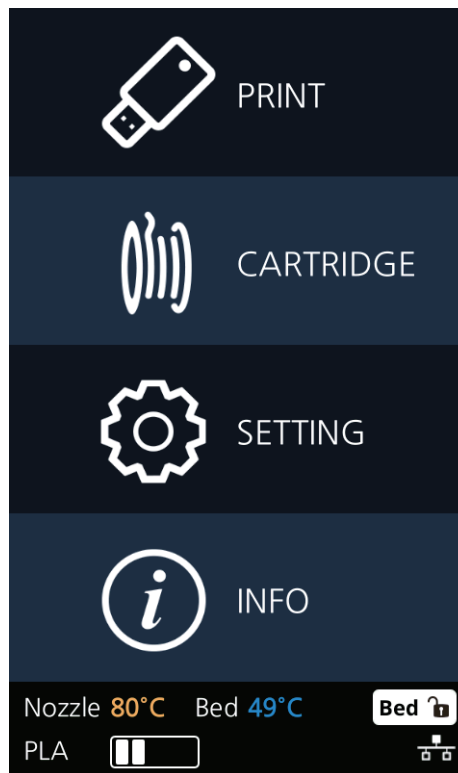
## 1.1 CARTRIDGE

CARTRIDGE	LOAD
	UNLOAD
	UNLOCK

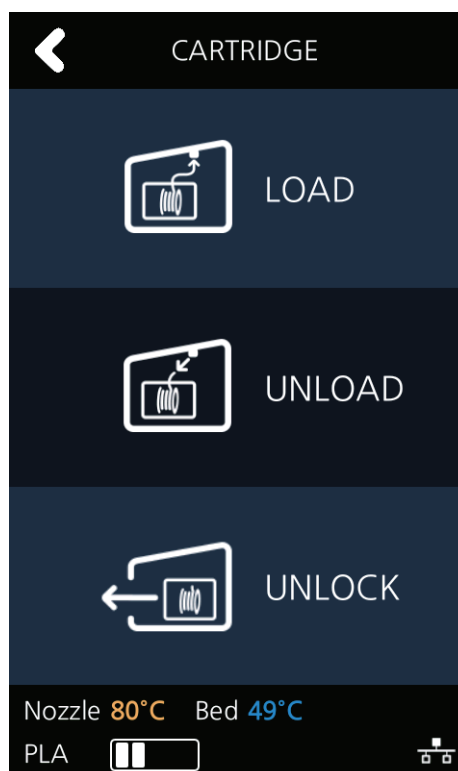
### LOAD

This function automatically loads filament to the Nozzle.

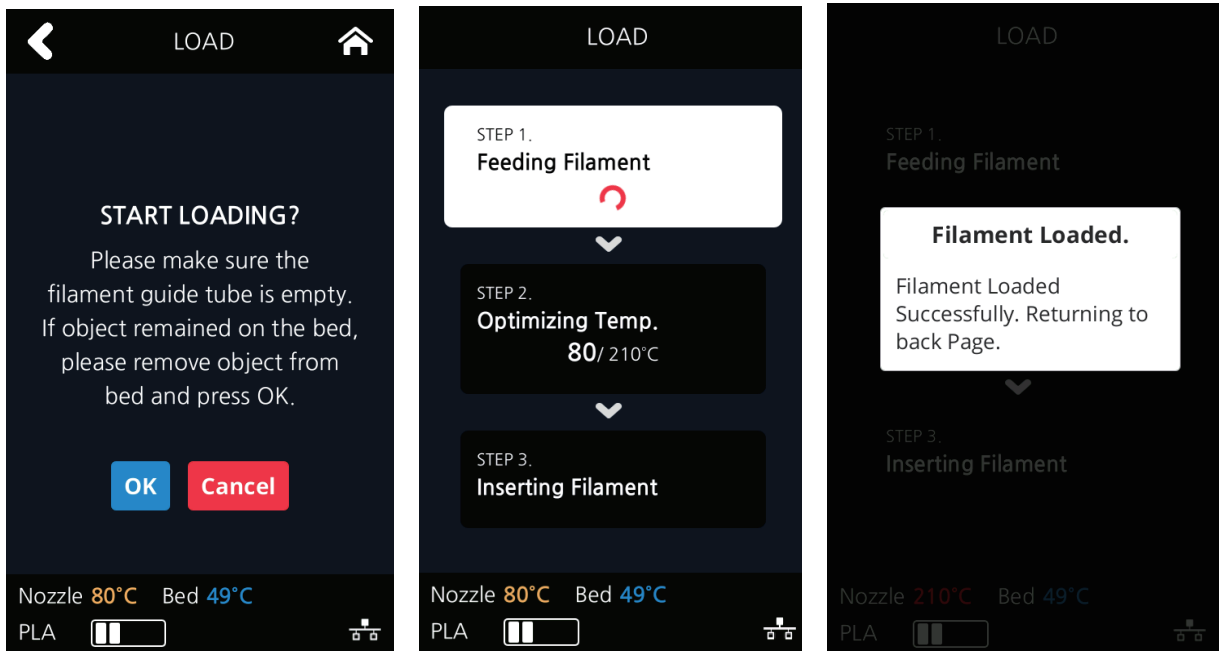
- 1 From the HOME screen press **[CARTRIDGE]**.



- 2 Press **[LOAD]** to activate Cartridge load.



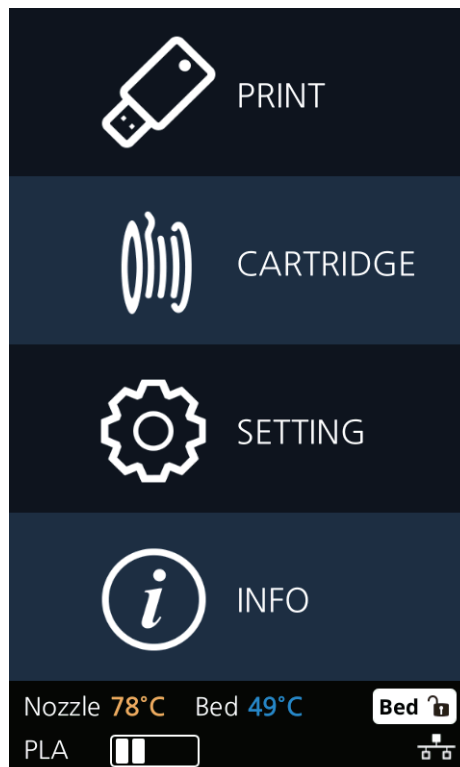
- 3** When [OK] is pressed at the cartridge load confirming message, cartridge load will automatically proceed. The filament reaches to the nozzle and it is heated up to the specified temperature. Then the filament is inserted into the heated nozzle. After the process has finished, screen will automatically return to the [HOME] screen.



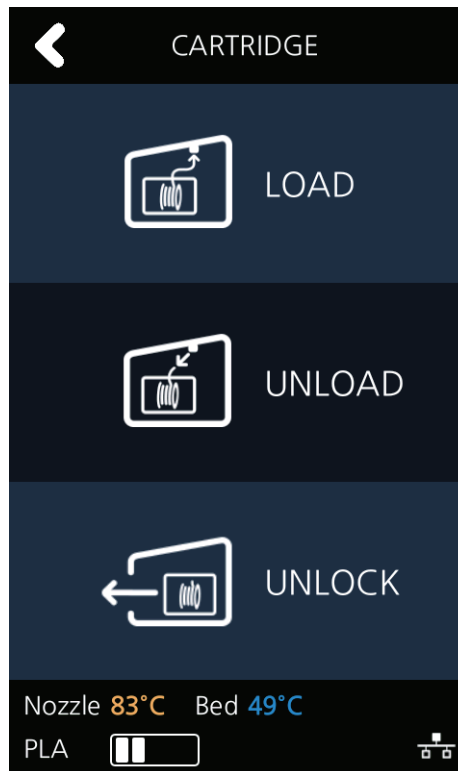
## UNLOAD

This function automatically unloads filament from the nozzle.

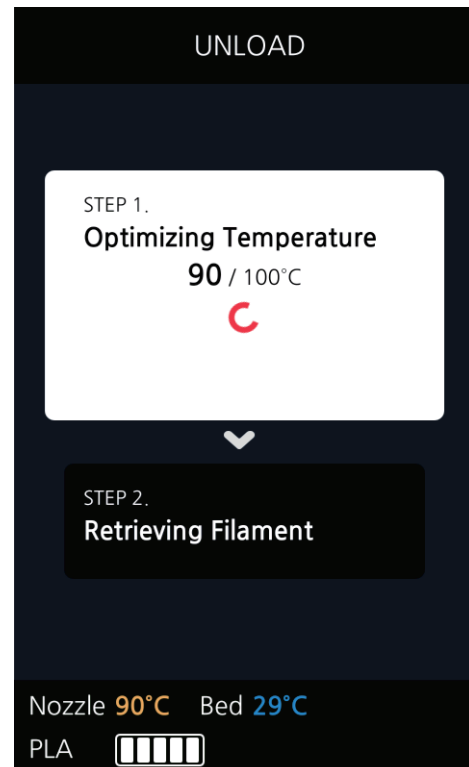
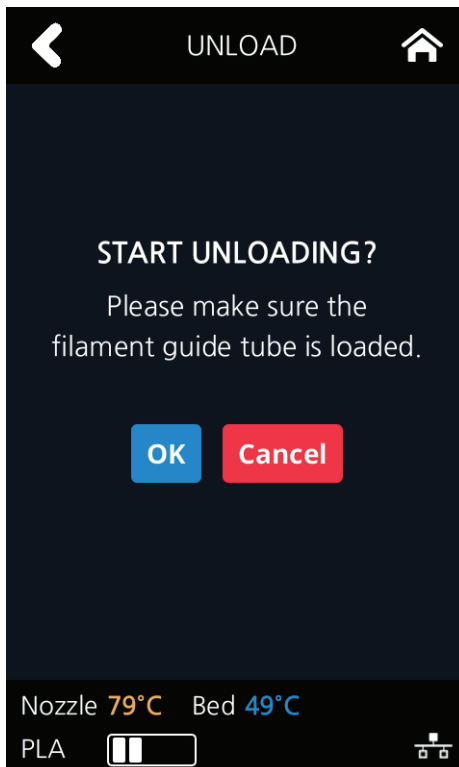
- 1** From the HOME screen press [CARTRIDGE].



- 2 Press [UNLOAD] to activate Cartridge unloading.



- 3 When [OK] is pressed at the cartridge unload confirming message, cartridge unloading will automatically proceed. To remove filament, the nozzle is heated up to the specified temperature and the filament unload starts. After the filament has been removed, the screen will automatically turn to the [UNLOCK] screen to let the user remove the cartridge.

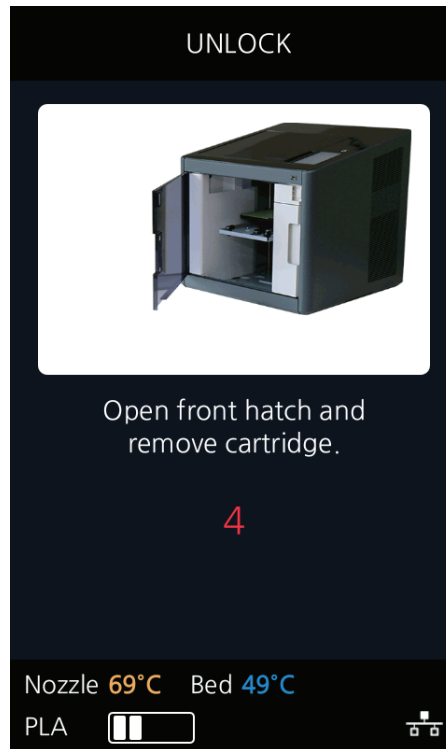


## UNLOCK

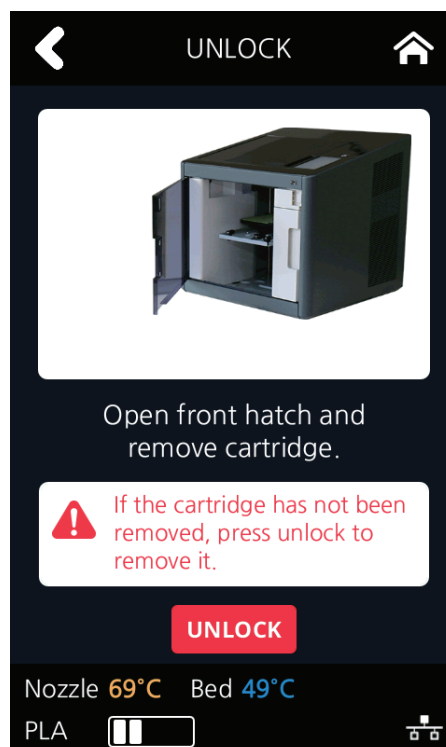
This Function is to remove the cartridge out of the printer. Cartridge unlock automatically initiates when filament unload is finished. Cartridge unlock can also be manually done by the user.

❖ **When unlock screen automatically appears after cartridge unload.**

- 1 For 10 seconds **[LOCK]** state is deactivated and the user can detach cartridge from printer. If the cartridge can't be pulled out even after "unlock", gently push it forward and then try to pull out again.



- 2 After 10 seconds printer will automatically change to **[LOCK]** state and **[UNLOCK]** appears.

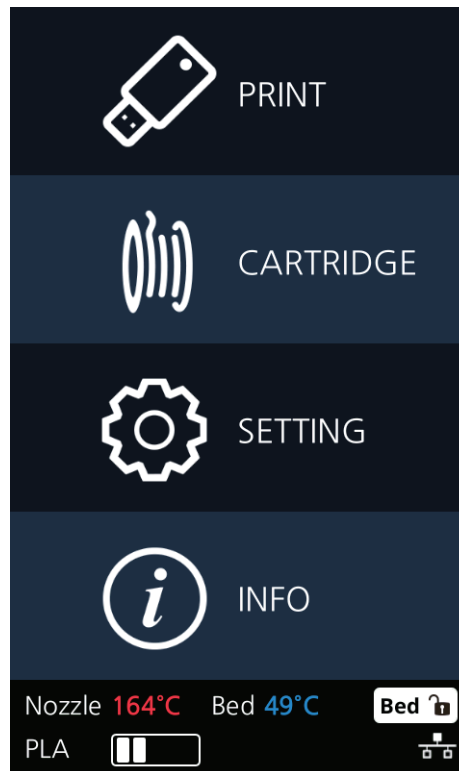


## 2 UI Menu Function

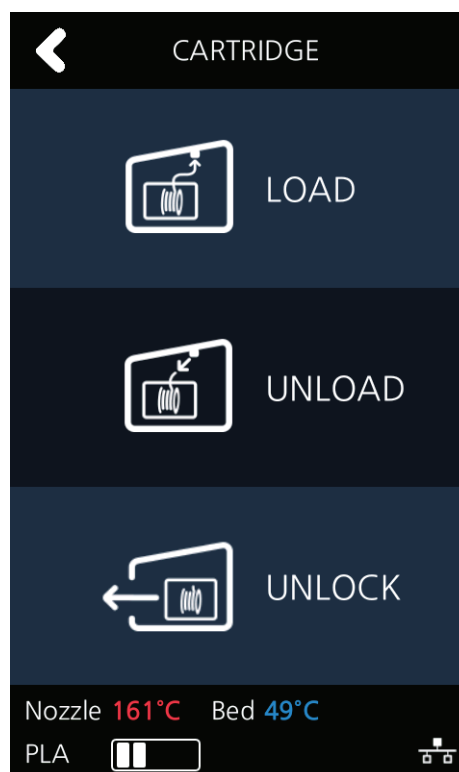
---

❖ To manually unlock later.

1 From home screen press [CARTRIDGE].

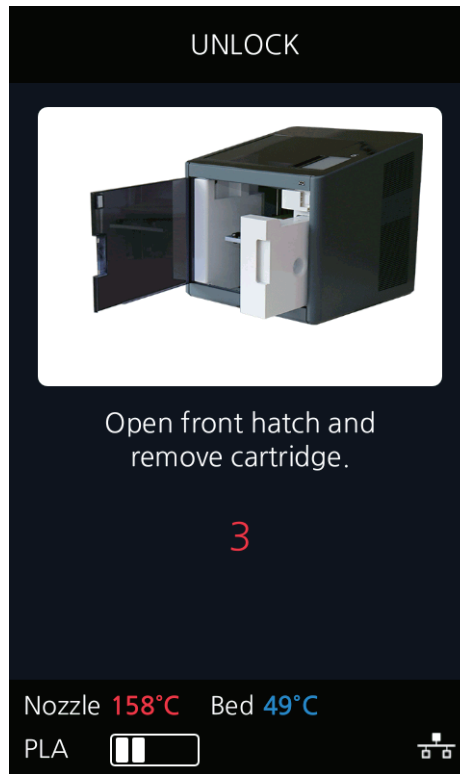


2 Press [UNLOCK] to activate UNLOCK function.

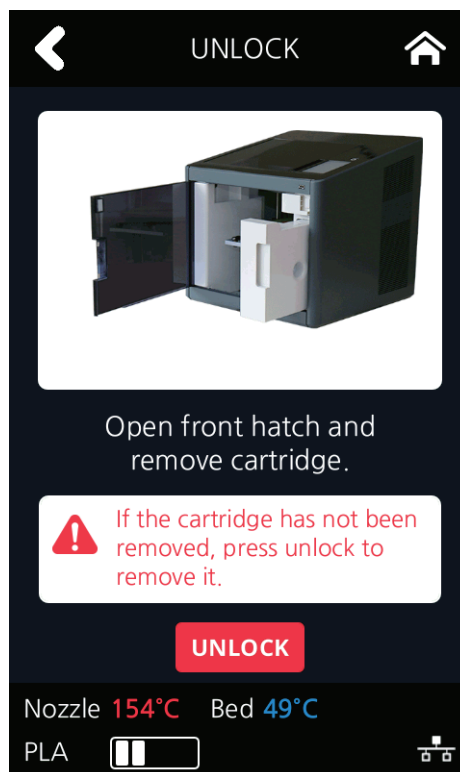




- 3** For 10 seconds **[LOCK]** state is deactivated and the user can detach cartridge from printer.  
If the cartridge can't be pulled out even after "unlock", gently push it forward and then try to pull out again.



- 4** After 10 seconds printer will automatically change to **[LOCK]** state and **[UNLOCK]** appears.



**1.2** Settings

SETTING	X, Y, Z	ALL,X,Y,Z		
	EXTRUDER			
	BED LEVELING			
	Z OFFSET	Move		
		Save		
	NOZZLE CLEANING			
	CLEANING CASE			
	NETWORK	Wifi	(Options)	
			Wifi	On
				Off
			SELECT NETWORK	LIST
			DHCP	
			Static	
			Clear SSID	
		Wired	(Options)	
			DHCP	
			Static	
	LAMP	(Options)		
		*Always On		
		Always Off		
		On only in printing		
	BED LOWERING			
	TEST PRINT	(Options)	SELECT FILE	START/PAUSE
				CANCEL
	POWER SAVING MODE	(Options)		
		0~100 min		
	BEEP SOUND	(Options)		
		Low		
		*Middle		
		High		
		Off		
	NOZZLE SETTING			
	LANGUAGE			

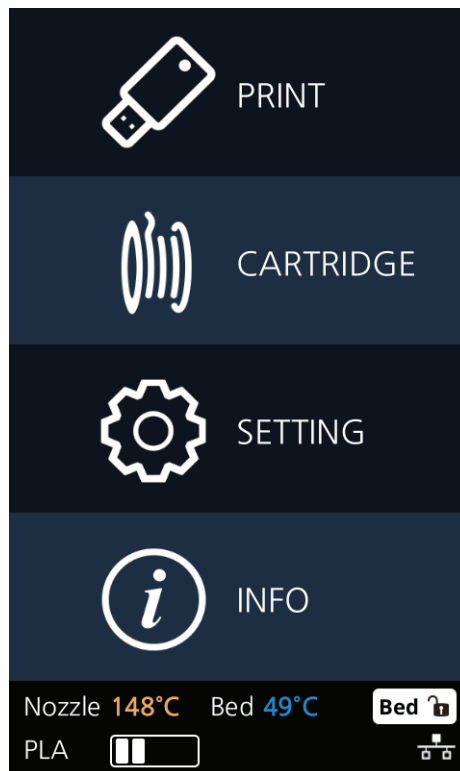
\* indicates factory set value.

E-MAIL	E-mail Address	
	E-mail Server Info	Address
		Port
		ID
		PW
UNIT	Celsius(°C)	
	Fahrenheit(°F)	
	meter(m)	
	feet(ft)	
TIME SETTING	YYYY, MM, DD, HR, MIN	
TIME ZONE		
WEB		
SOFTWARE UPDATE		

### X, Y, Z

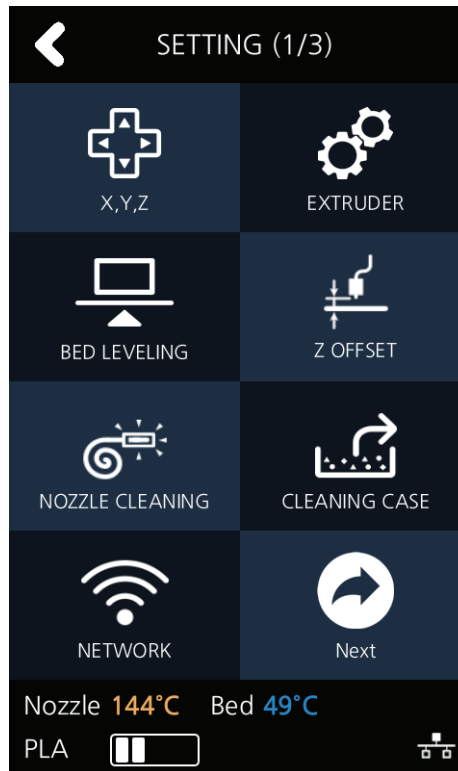
Use to change the position on the X, Y, and Z axes of the Nozzle.

- 1 From home screen press **[SETTING]**.

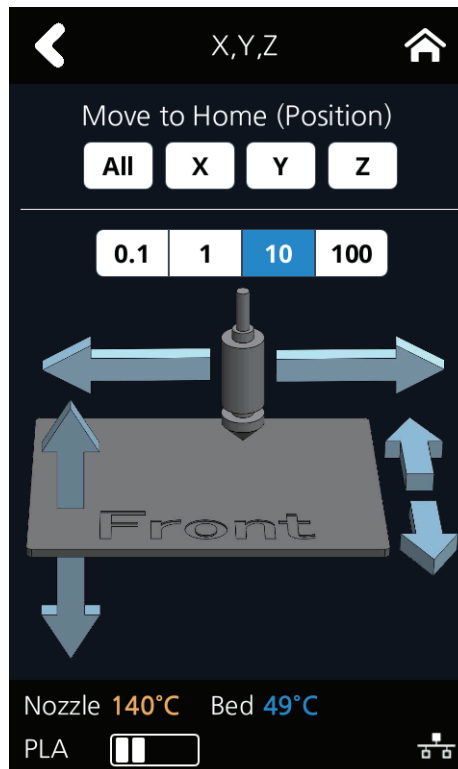


## 2 UI Menu Function

- 2 Press the **[X,Y,Z]** button to enter X, Y, Z.



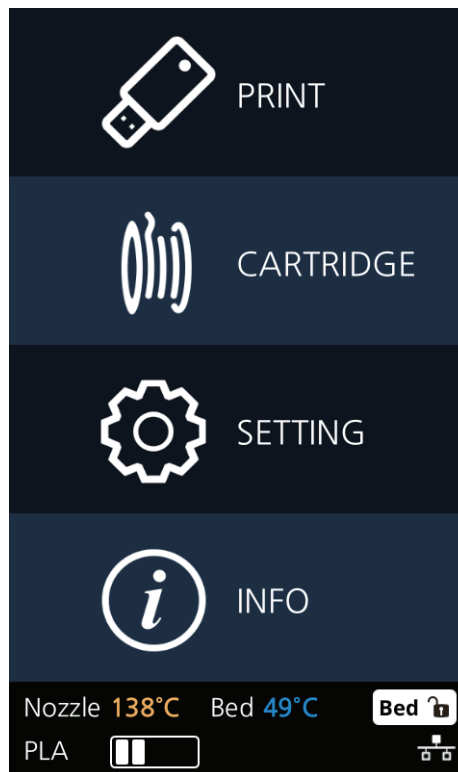
- 3 Press either **[0.1]**, **[1]**, **[10]**, or **[100]** to select the length of transfer, and press the arrows to move the Bed and the Nozzle in the respective position.  
To move to each axis' home location, press **[All]**, **[X]**, **[Y]** or **[Z]**.



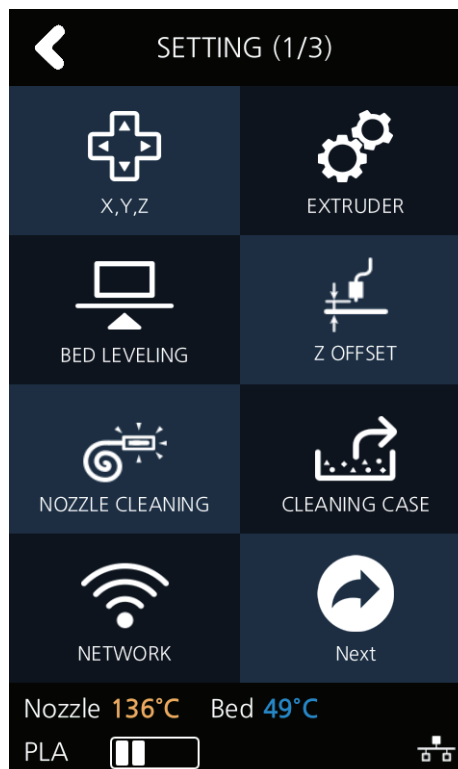
## EXTRUDER

This function is used to fine control the filament to its position.

- 1 From home screen press [SETTING].

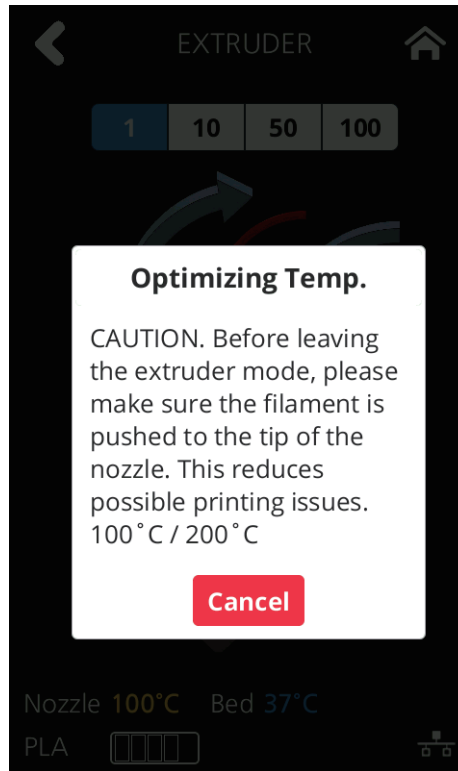


- 2 Press [EXTRUDER] to enter EXTRUDER settings.

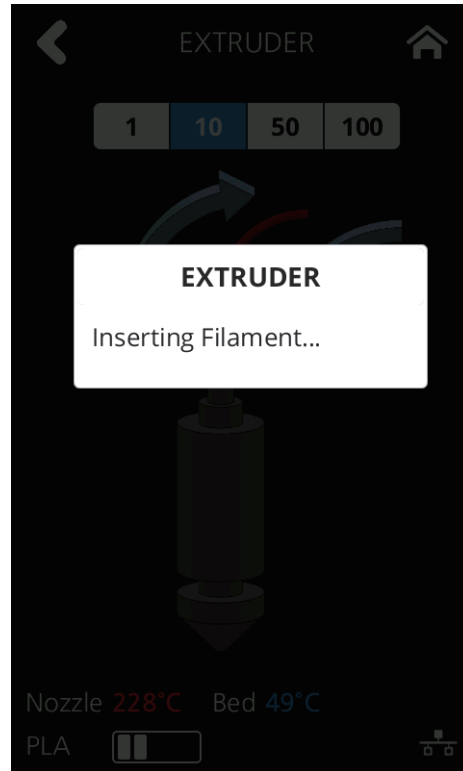
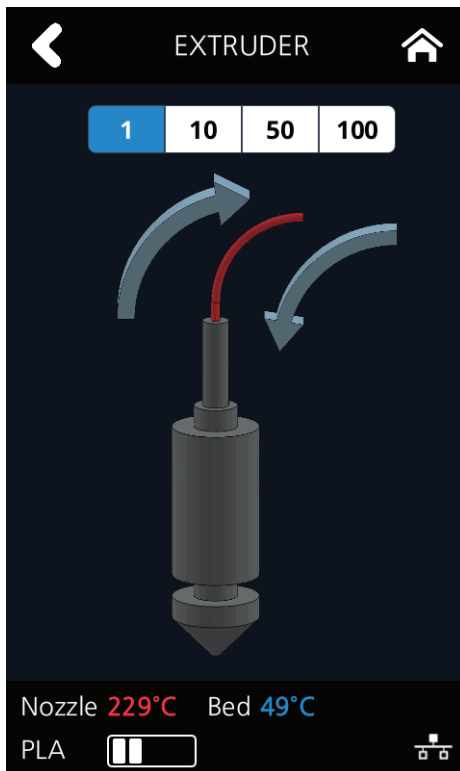


## 2 UI Menu Function

- 3 To Control [EXTRUDER], Nozzle temperature needs to be raised.



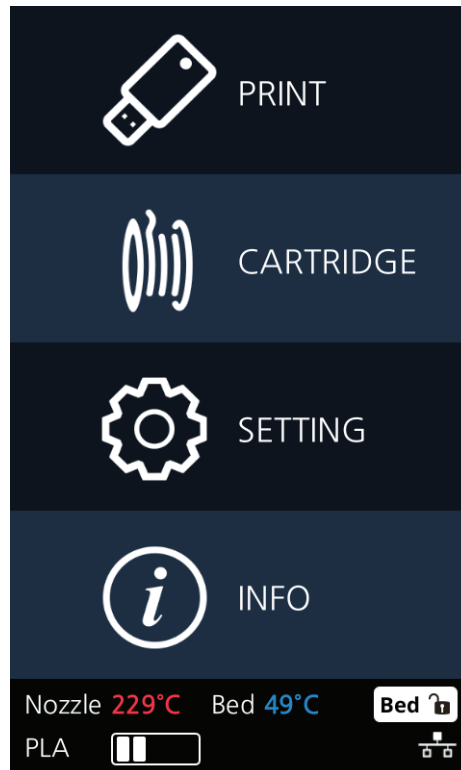
- 4 Press [1], [10], [50], or [100] to select an amount.  
In the image shown below, press the direction to move the filament.



## BED LEVELING

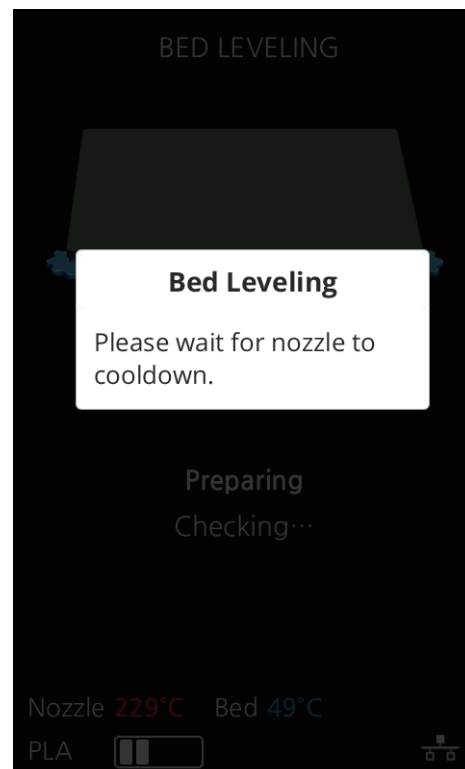
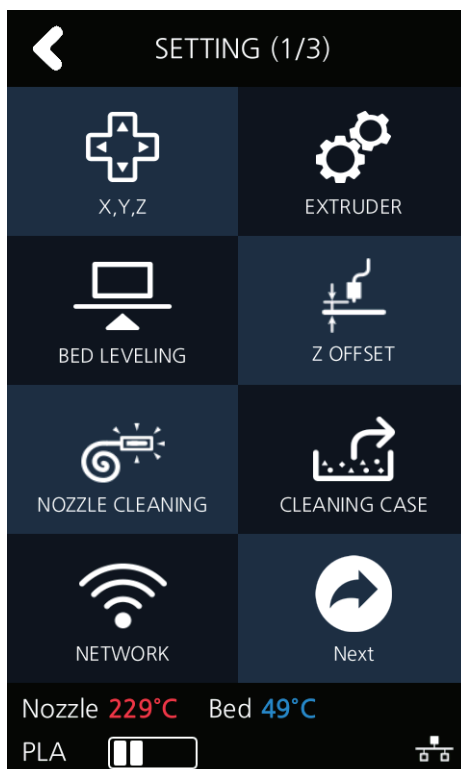
This function is used to perform the leveling of the bed.

- 1 From home screen press **[SETTING]**.

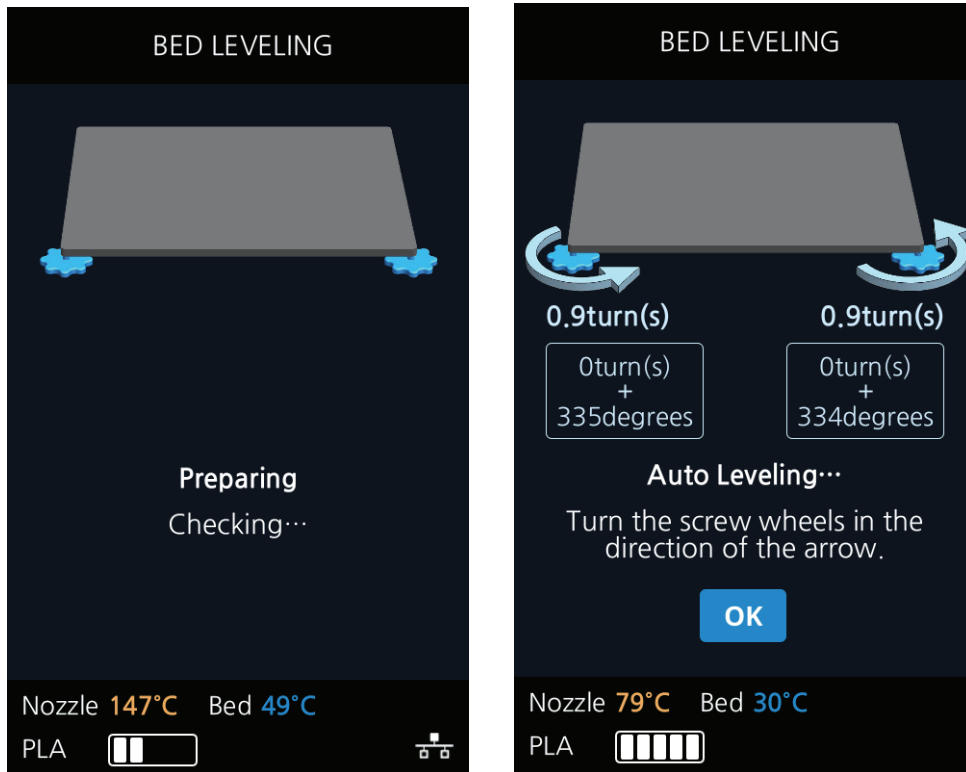


- 2 Press the **[BED LEVELING]** button to enter BED LEVELING settings.

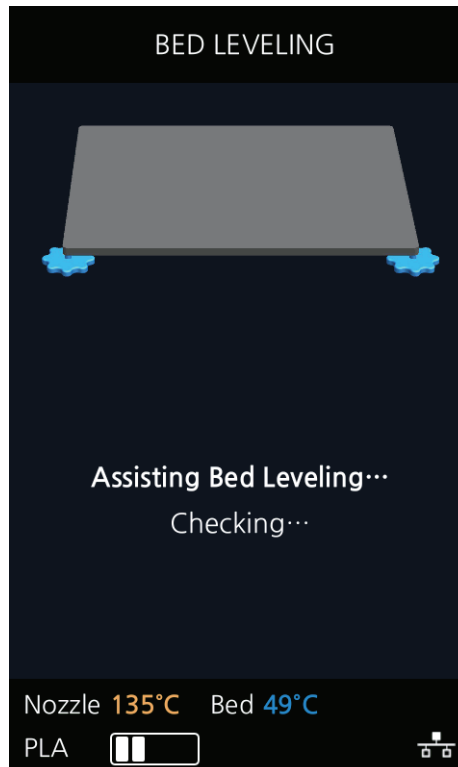
If the current Nozzle temperature is too high, process for cooling down the Nozzle temperature is added.



- 3 On the SETTING page, user is able to perform bed leveling. The bed leveling process consists of 3 steps. From the center, the top side is measured first, and then both sides of the bottom level are measured. If the height of the bed is perfect then levelling process will be finished but if the height of the bed and nozzle does not match, screws will appear informing user the direction and the number of screw rotation.

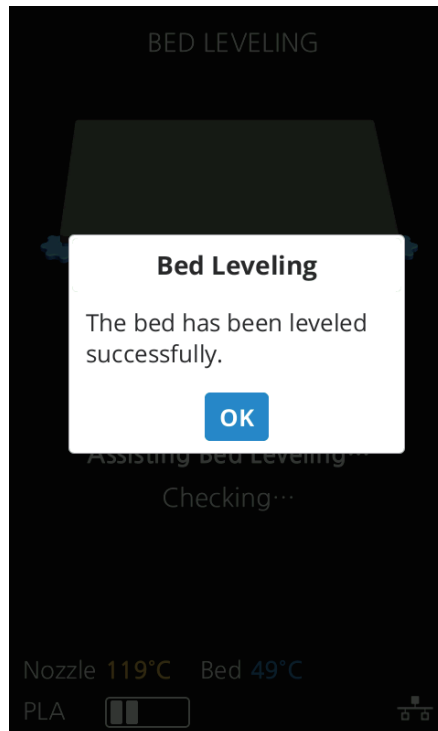


- 4 Turn the screw and press [OK]. The measuring is performed and the value to fix appears again.





- 5 When all settings are done the program returns to the previous screen.



## Z OFFSET

After bed leveling, it is highly recommended to check the z-offset.

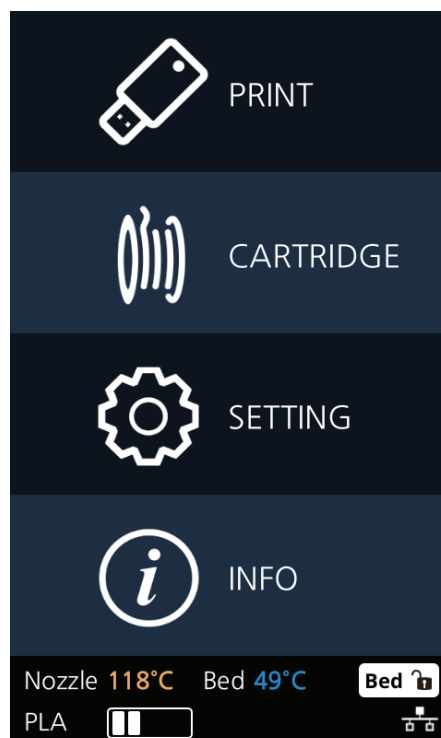
This Menu allows user to control the GAP in between Nozzle and BED. Standard is 0.25mm and can be customized.

[+] button widens the GAP, [-] button shortens the GAP.

For higher adhesive strength between the print output and the bed, shorten the distance of the z-offset.

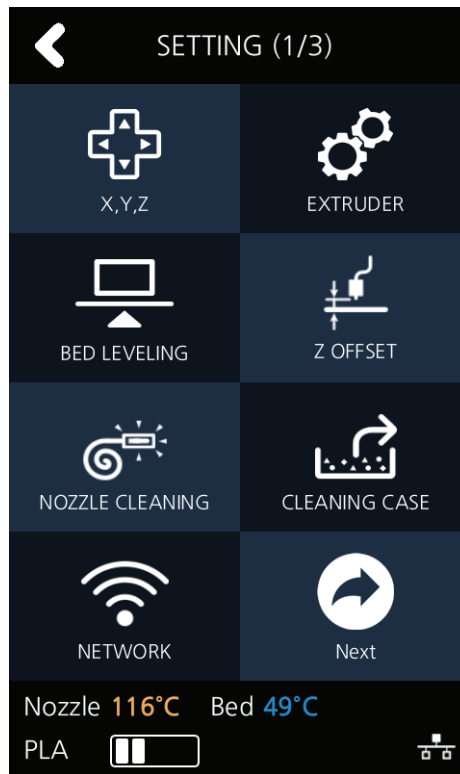
For less adhesive strength, widen the distance of the z-offset.

- 1 From home screen press [SETTING].

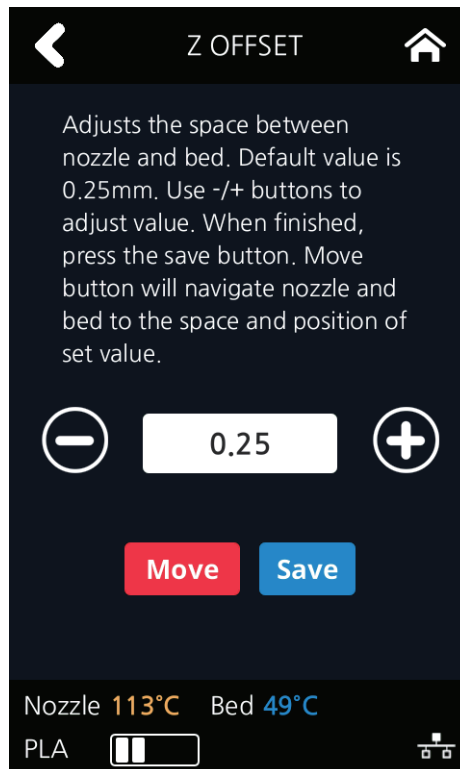


## 2 UI Menu Function

2 Press the [Z OFFSET] button to access Z Offset screen.



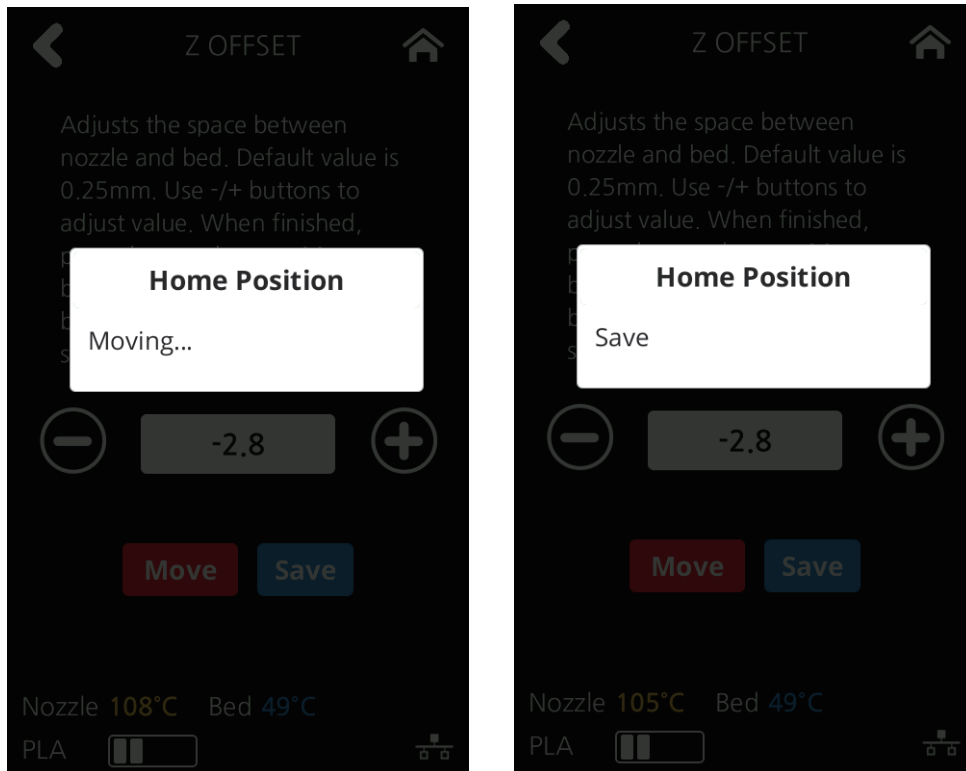
3 Default value is 0.25mm, Use [+], [-] buttons to move in 0.05 mm unit.



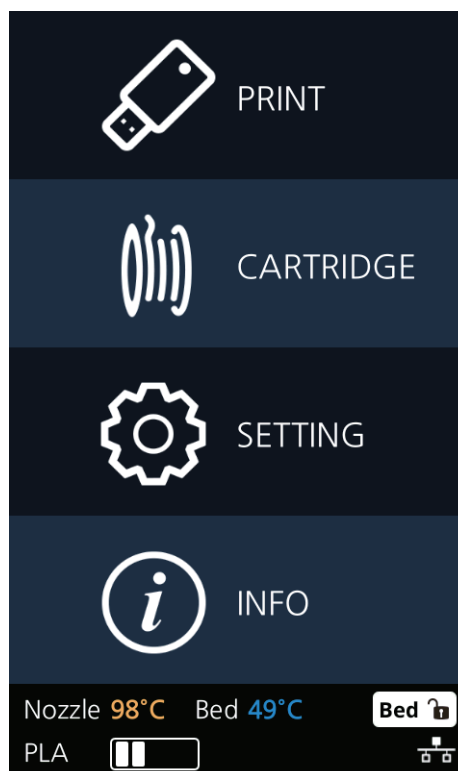
**4** Use the [MOVE] and [SAVE] buttons to adjust the gap and to save the setting.

The saved value is applied when next time the print starts.

These values will be reset if bed leveling is initiated.

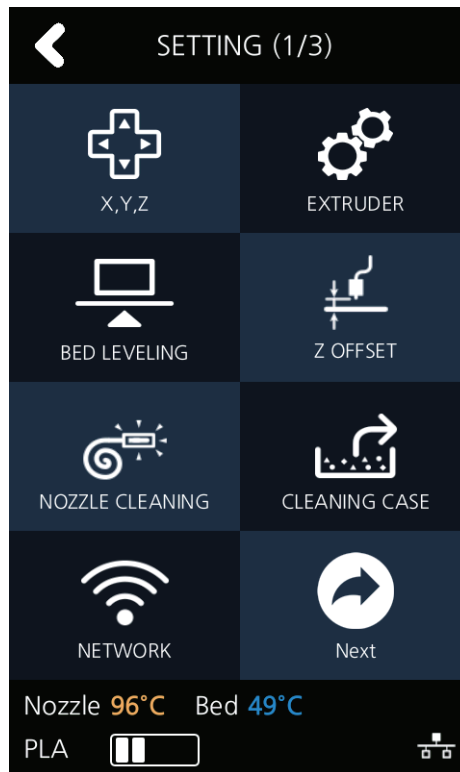
**NOZZLE CLEANING**

Function used when nozzle needs cleaning of left over filament residue.

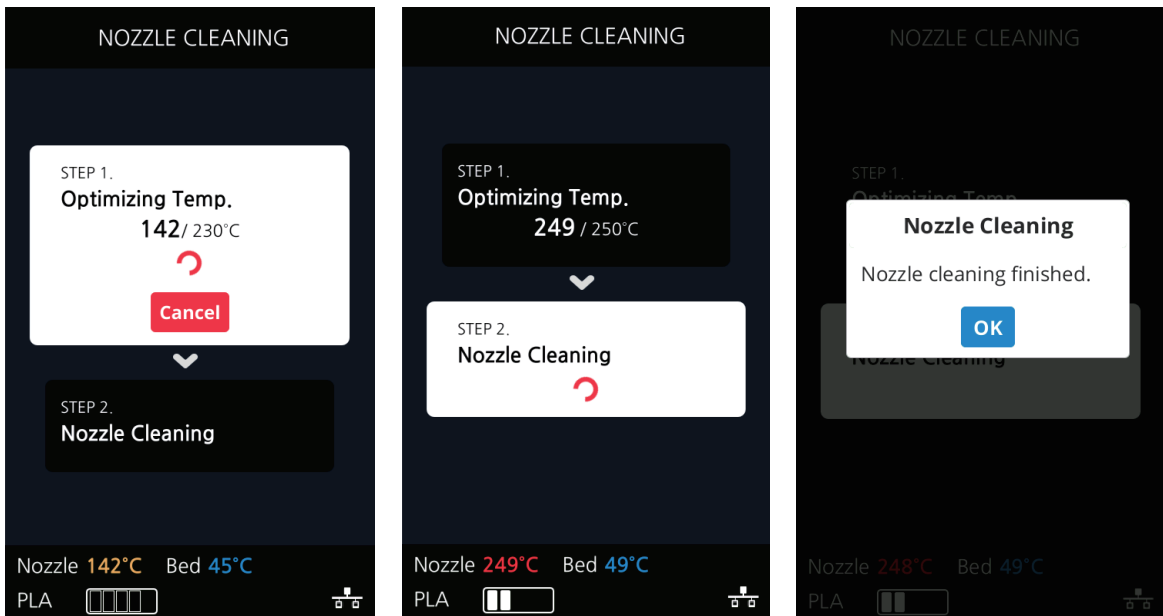
**1** From home screen press [SETTING].

## 2 UI Menu Function

- 2 Press the **[NOZZLE CLEANING]** button to access nozzle cleaning settings.



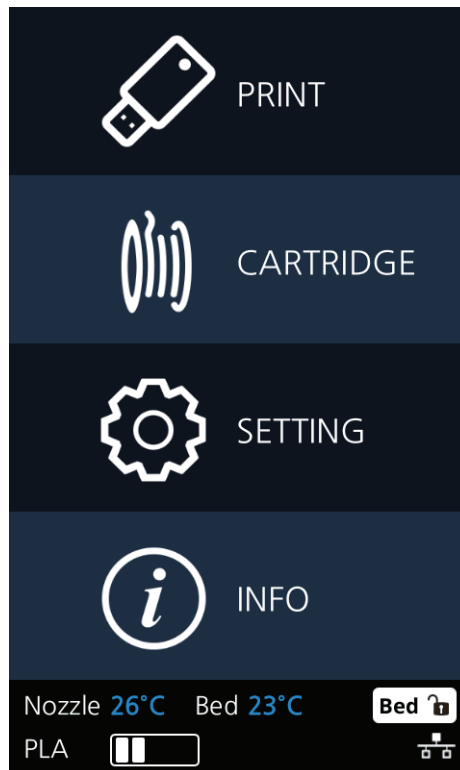
- 3 In order to get rid of filament residue, the nozzle needs to be heated.  
When the specified temperature is reached, it moves on to the next step to remove filament residue.  
Once finished message will appear press **[OK]**, printer will return to the settings screen.



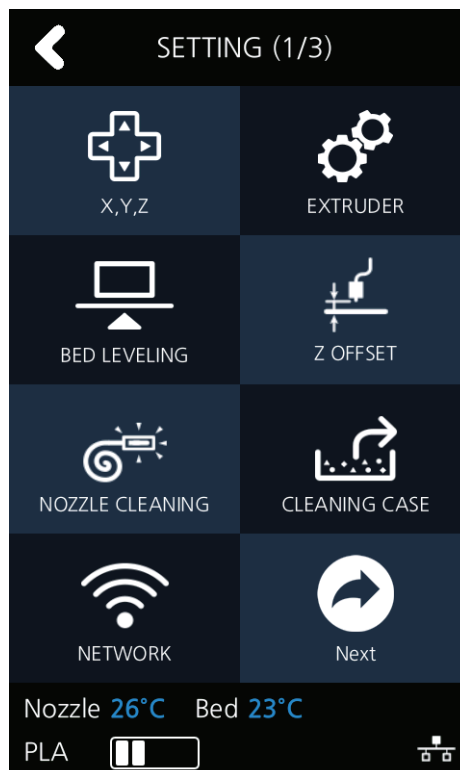
## CLEANING CASE

Function used to clean out the case for the collected filament residue.

- 1 From home screen press **[SETTING]**.

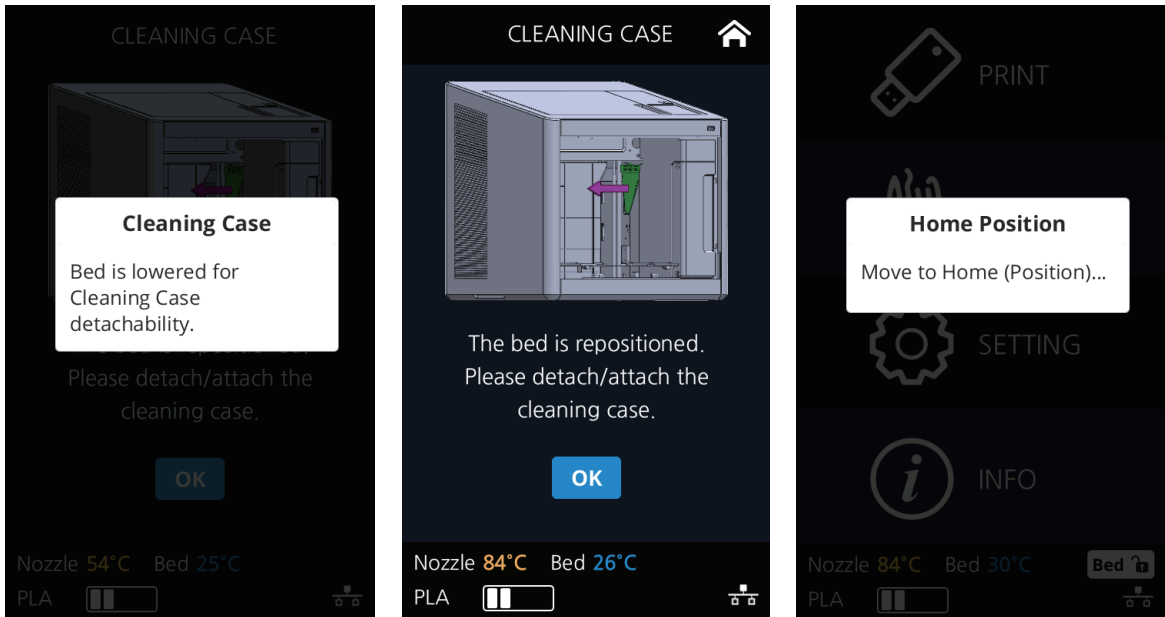


- 2 Press the **[CLEANING CASE]** button to enter CLEANING CASE settings.



## 2 UI Menu Function

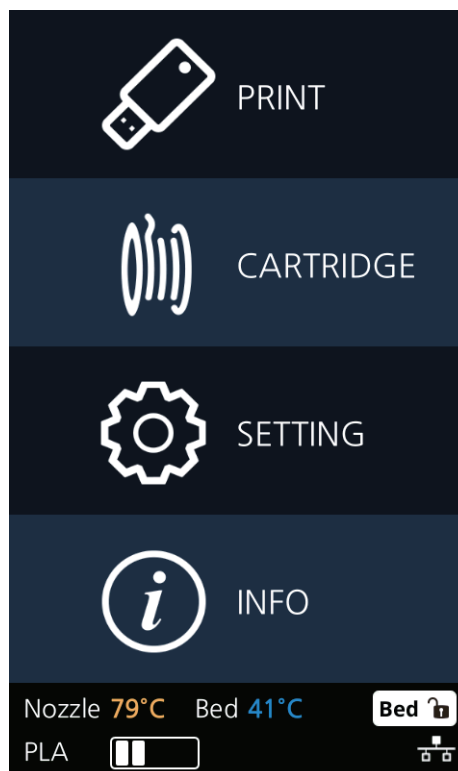
- 3 Entering Cleaning Case, the nozzle will automatically position itself to the left side to be visible and accessible. Like shown in the image, empty the CASE, press **[OK]** when done and user will be returned to the settings screen.



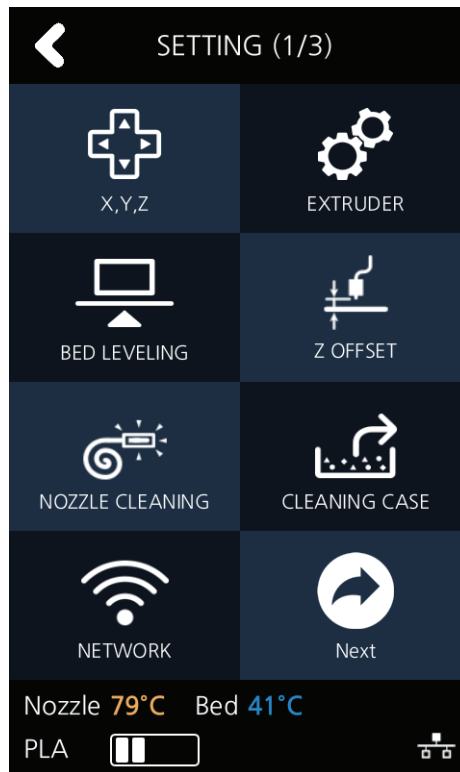
## NETWORK

This is a menu to configure users network setting. IP address can be set up manually or automatically via DHCP setting. Wifi network is also supported.

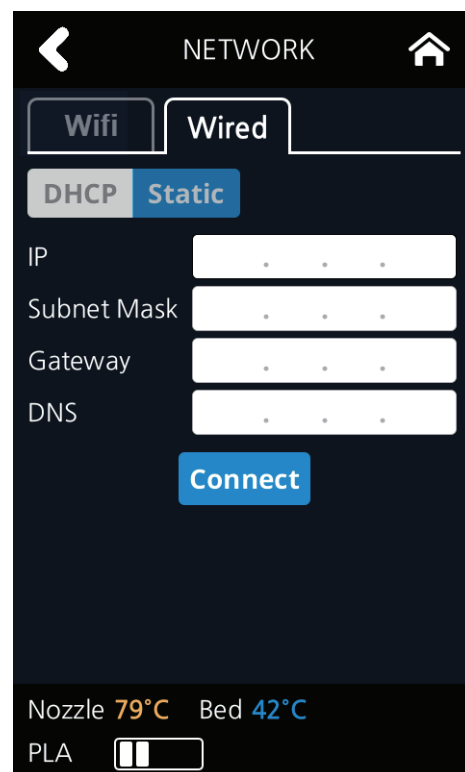
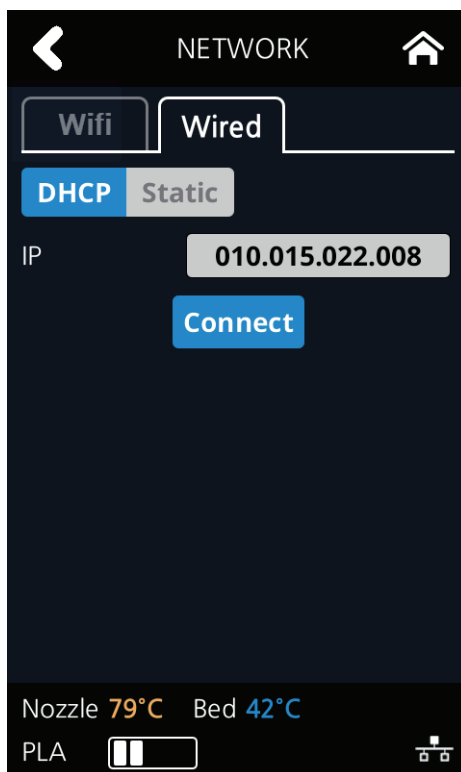
- 1 From home screen press **[SETTING]**.



- 2 Press the [NETWORK] button to access network configuration screen.

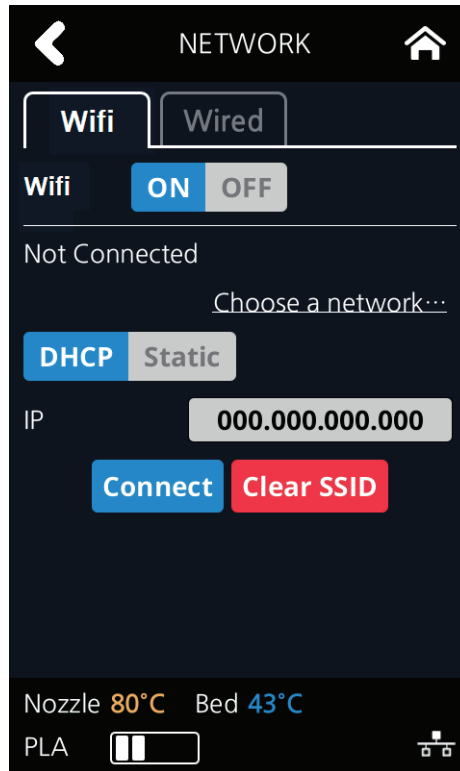


- 3 The default network setting is Wired (connection using LAN line). Press [DHCP] for automatic IP address setup. To manually input a fixed IP address press [Static] and enter an IP address. Press [Connect] to save the changes.

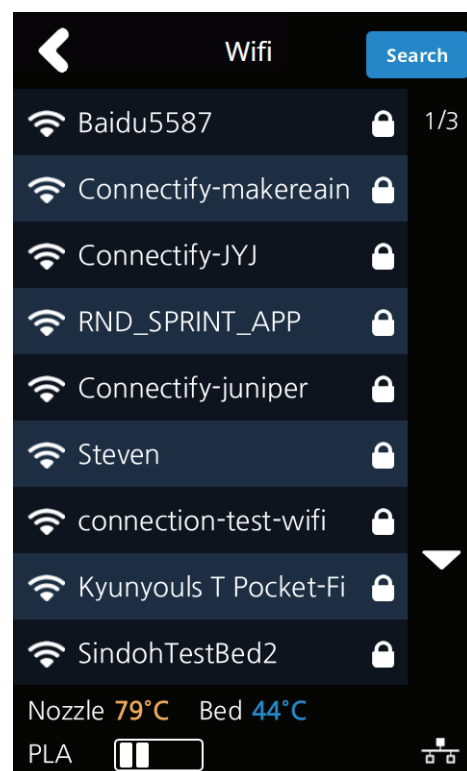
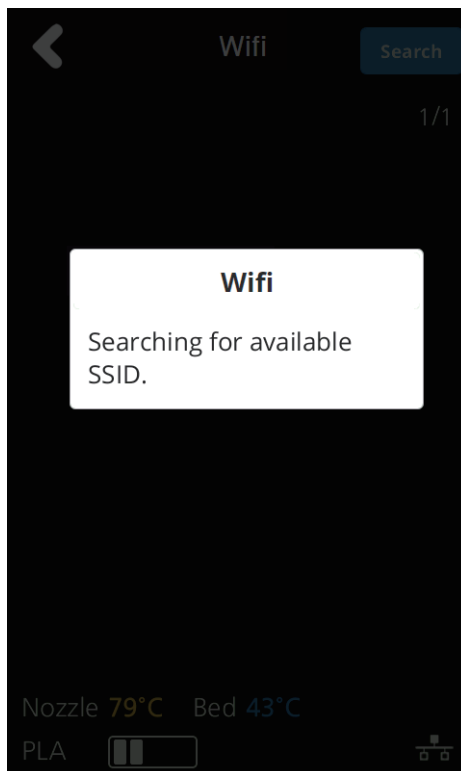


## 2 UI Menu Function

- 4 In any case to use Wifi press the [Wifi] tab.  
Wifi setting can be turned ON or OFF.

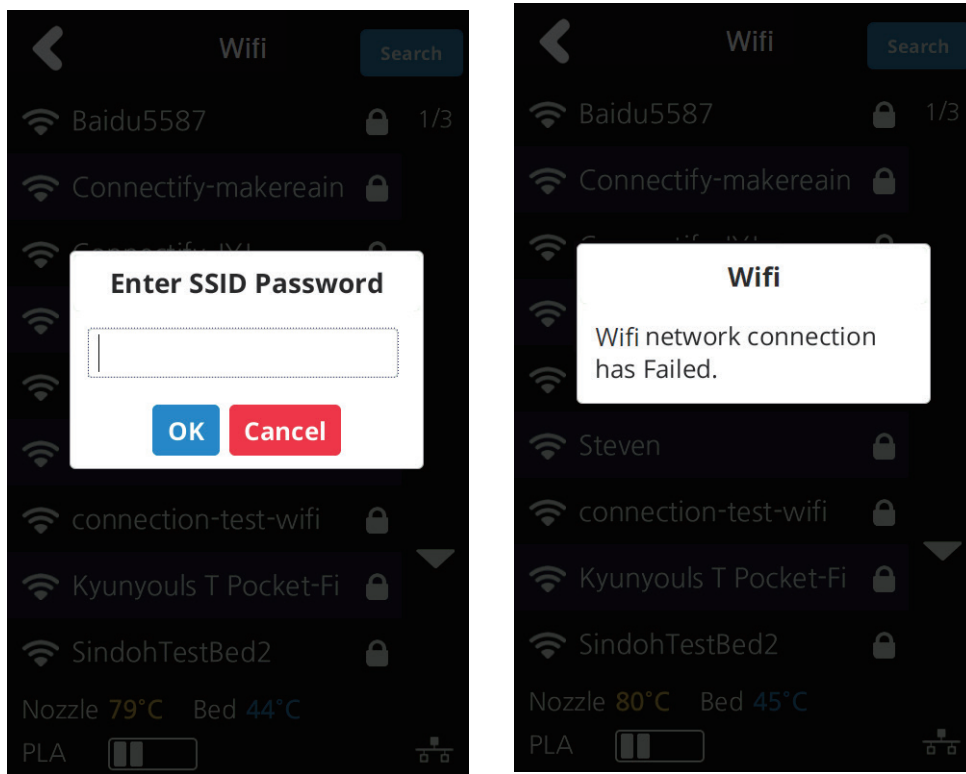


- 5 To select a Wifi network, click [Choose a network...] and the printer shows all available Wifi connections.





- 6** Select a wireless network from the list to connect to the network. For a password-protected network, a dialog pops up and asks for the password. You can refresh the network list by clicking **[Search]**.

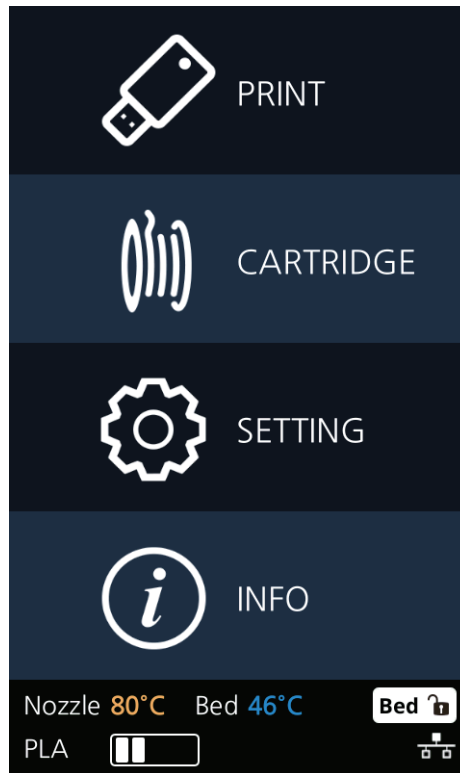


- 7** After successful connection printer may ask for **[DHCP]**, **[Static]** similar to the WIRED setting. When all settings are finalized press **[Connect]** to save settings.

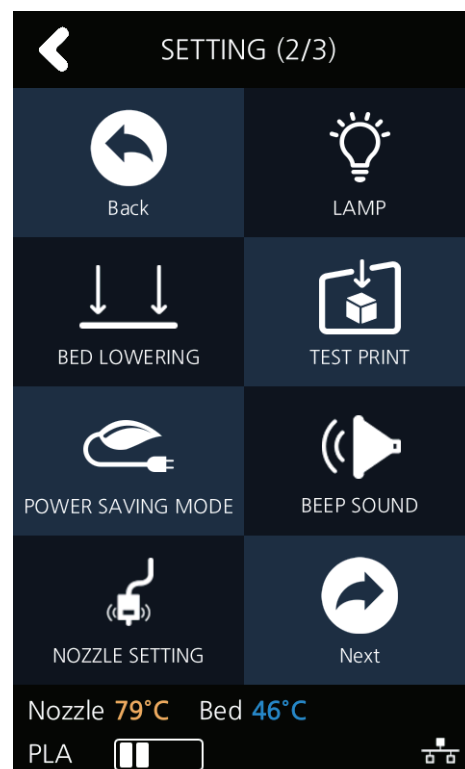
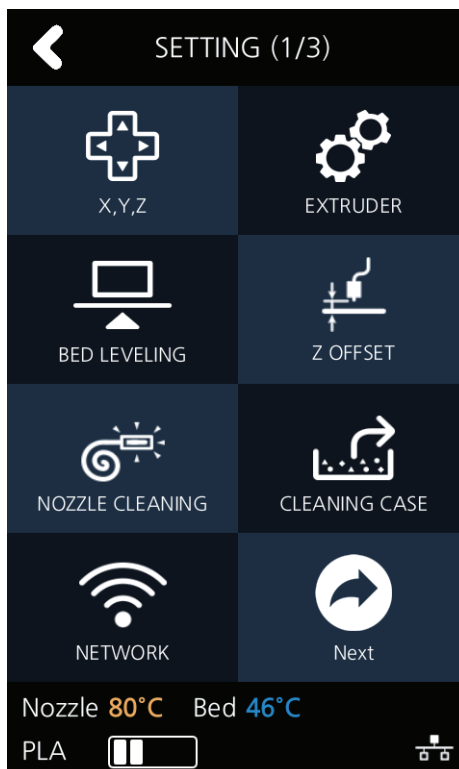
### LAMP

Menu to configure settings for machine lamp.

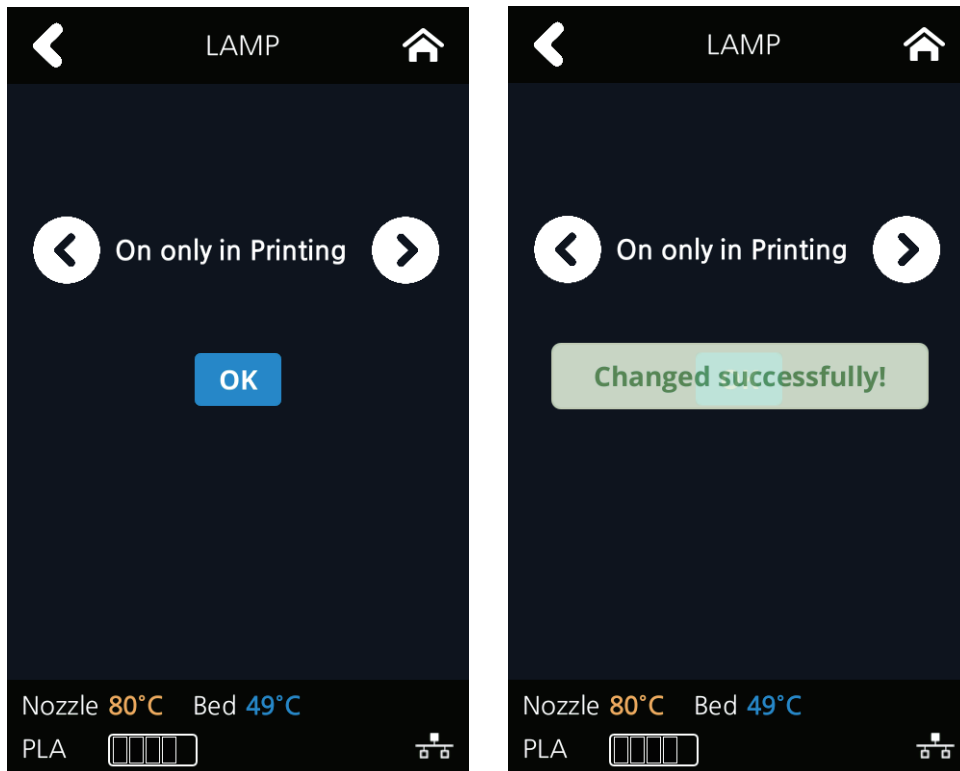
- 1 From home screen press [SETTING].



- 2 Press [Next] to enter [LAMP] setting screen.



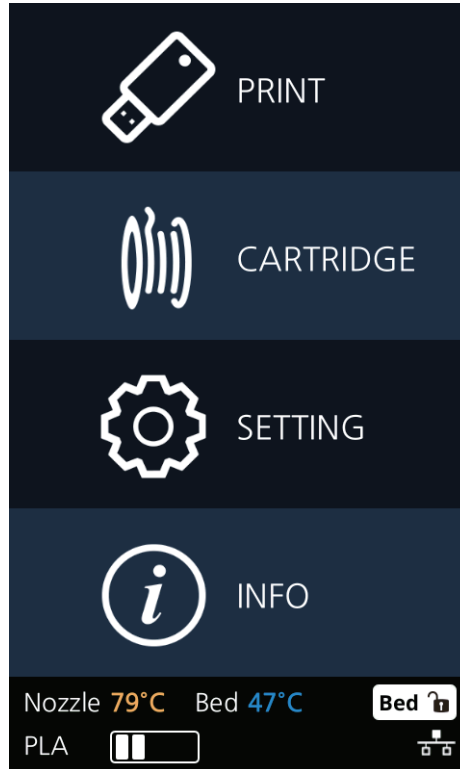
- 3** Settings available for **[LAMP]** are **[Always On]**, **[Always Off]**, and **[On only in printing]**. Use arrow buttons to select an option and press **[OK]**.



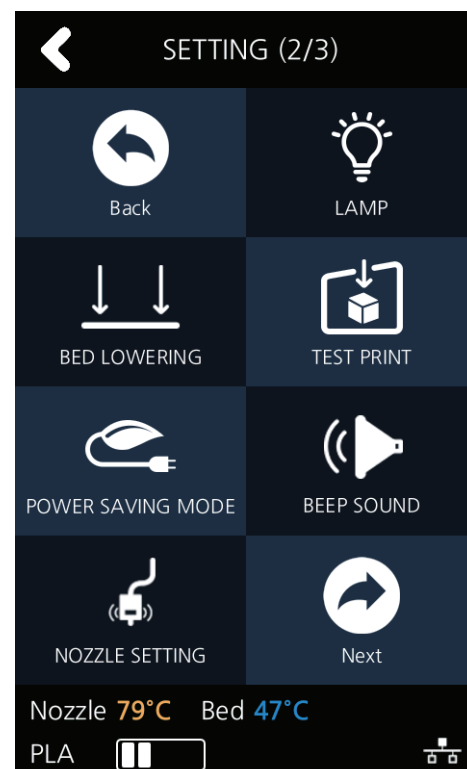
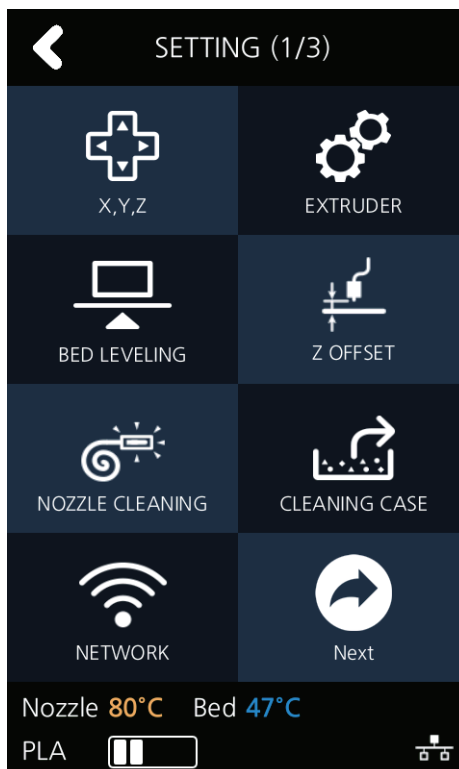
### BED LOWERING

Use this function, in times of moving printer to a different location.  
Bed will be lowered to the bottom and will be locked into position.

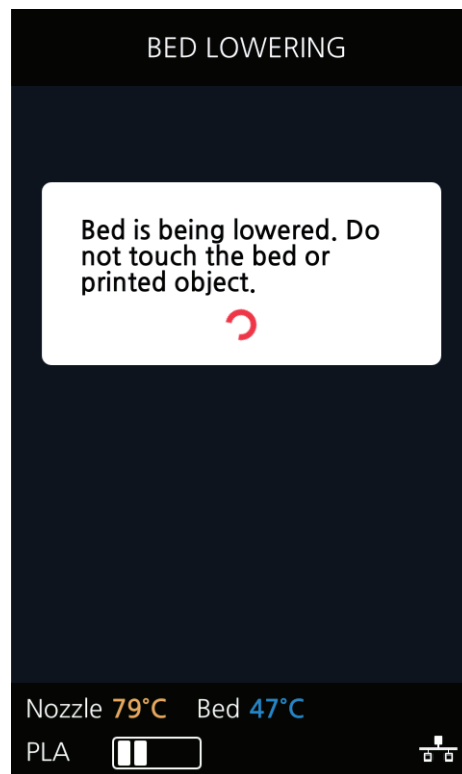
- 1 Press **[SETTING]** from the home screen.



- 2 Press **[Next]** to move to next page, where the **[BED LOWERING]** button is located.



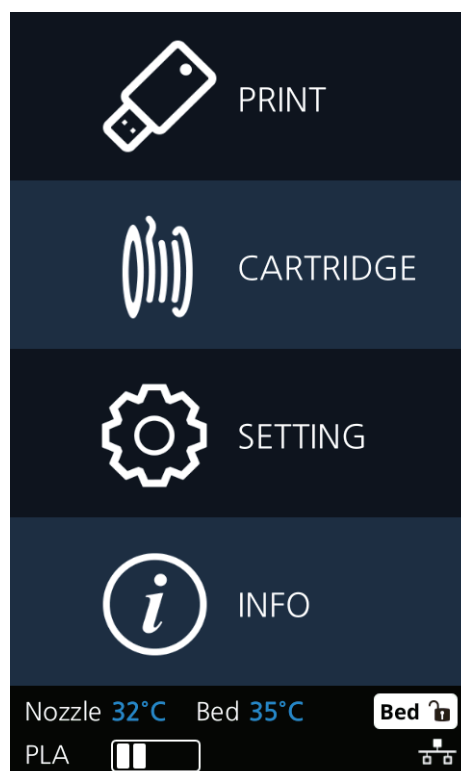
- 3 Upon selection, the bed will automatically be lowered.



## TEST PRINT

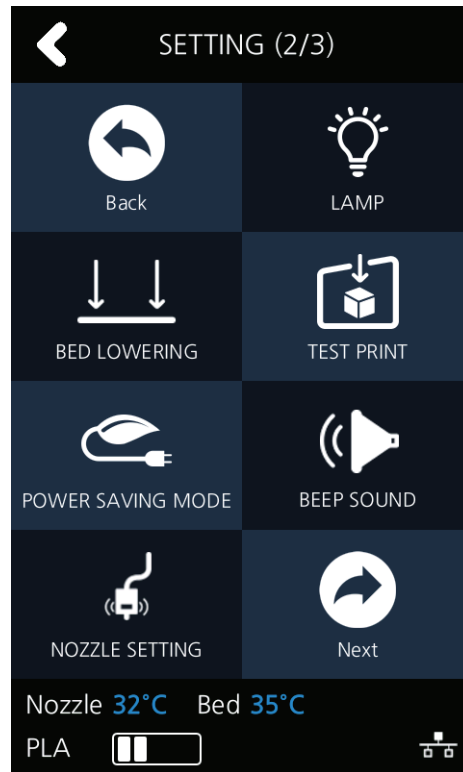
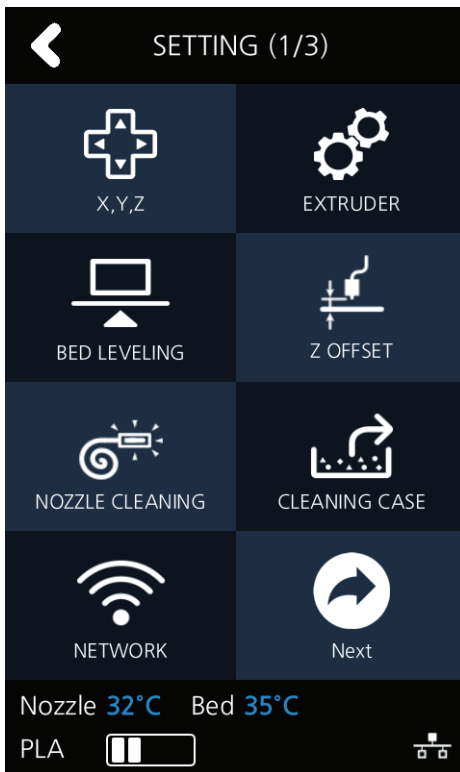
This function allows the user to test print a sample model already saved in the printer.

- 1 From home screen press [SETTING].

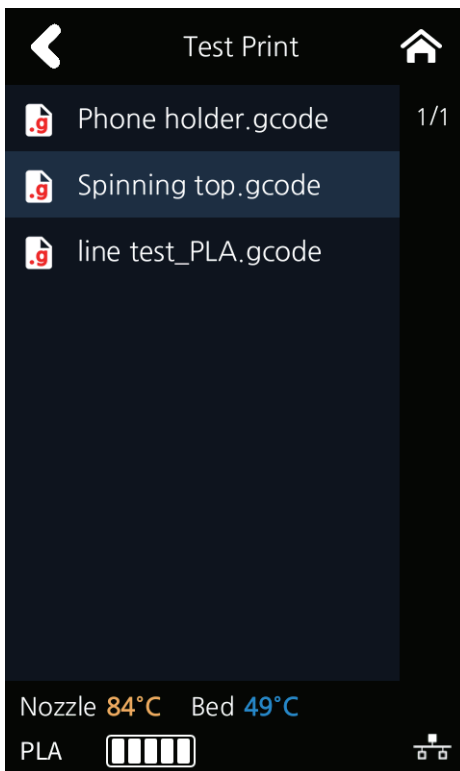


## 2 UI Menu Function

2 Press [Next] button to move to the next page and press [TEST PRINT].



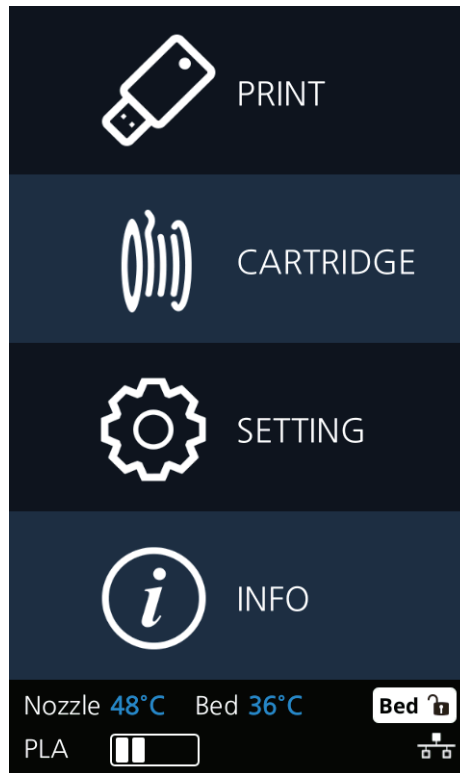
3 Select the test file to print.



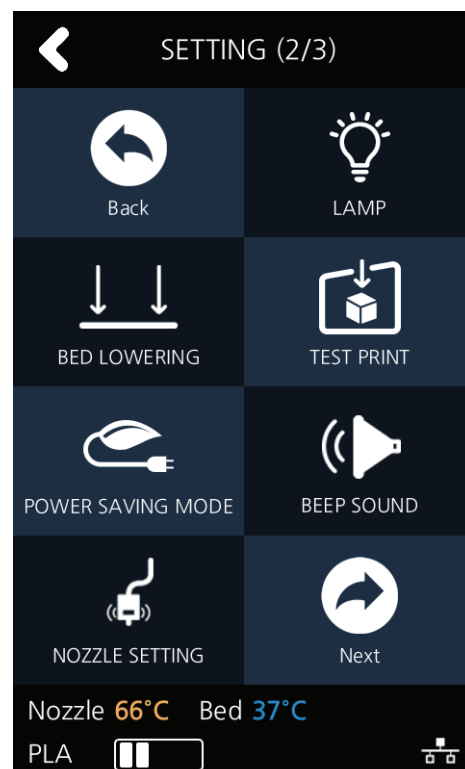
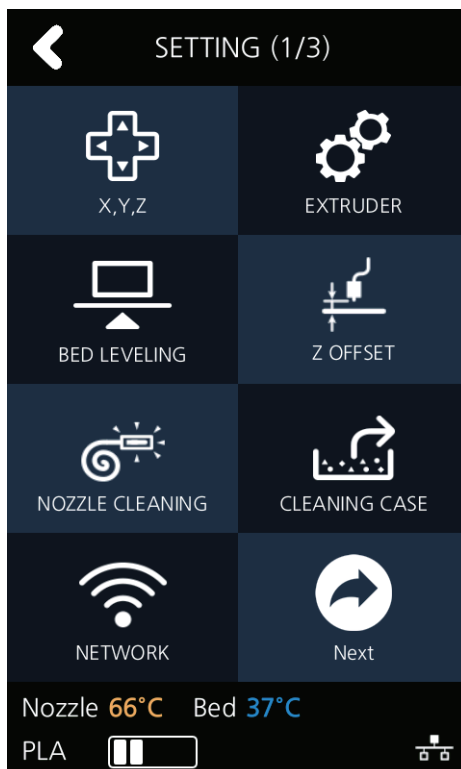
## POWER SAVING MODE

Function to set timer for printer energy saver mode.

- 1 From home screen press [SETTING].



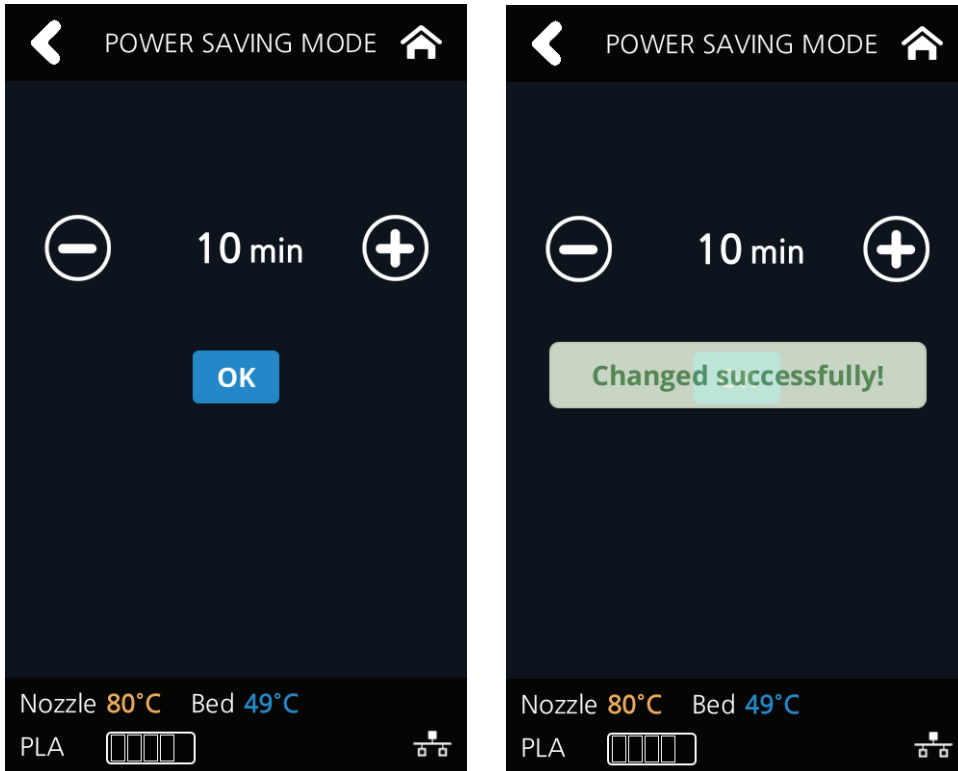
- 2 Press [Next] button to move to the next page and press [POWER SAVING MODE].



## 2 UI Menu Function

3 The adjustable values of energy savor mode are [0 ~ 100 min]. The time can be adjusted in 5 min unit, select the desired time using the [ +, - ] then press [OK] button to save changes.

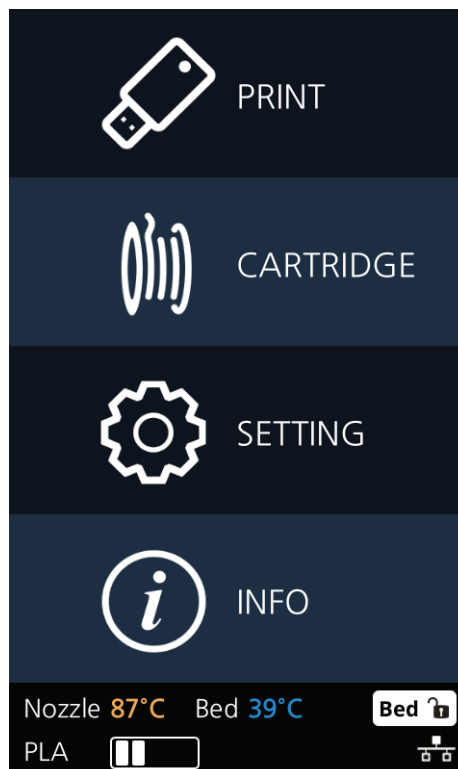
- 0 Min : Do not use Energy Saving Mode
- 5~100Min : Energy Saving Mode in 5 ~ 100 Min. of Inactivity.



### BEEP SOUND

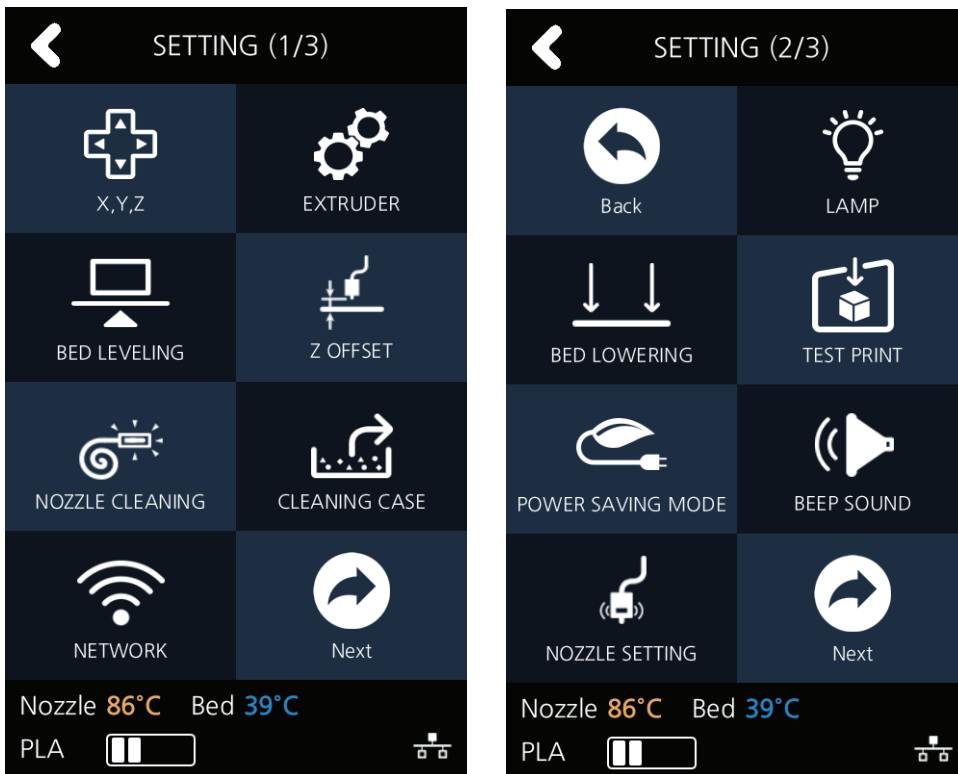
The volume level of beep sound can be adjusted using this menu.

1 Press [SETTING] button from the home screen.

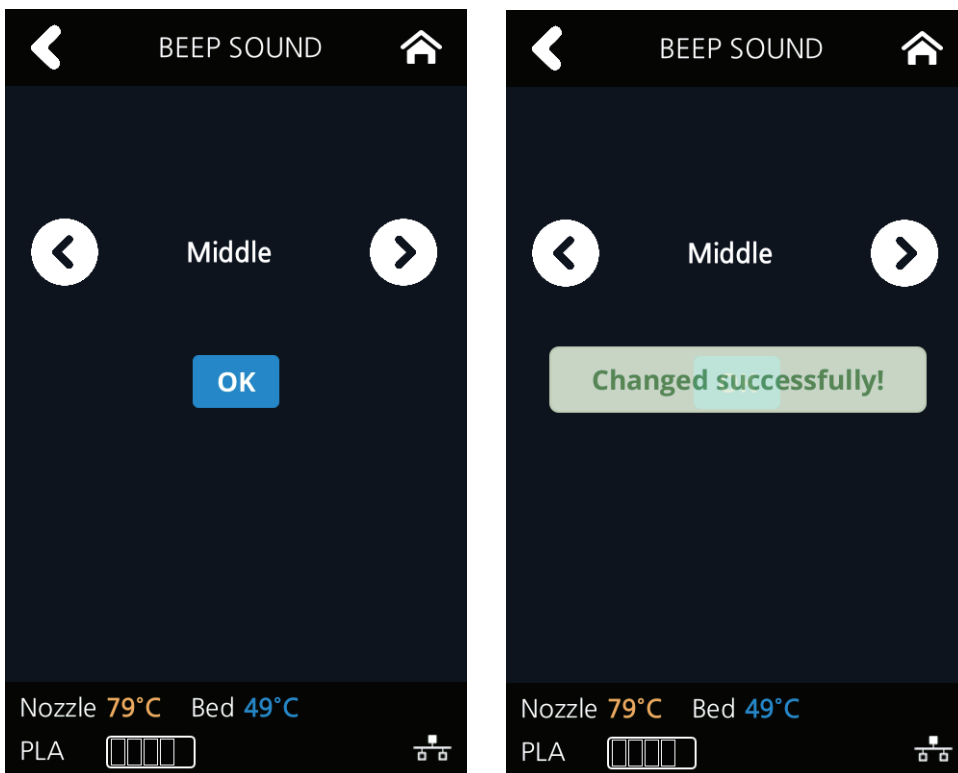




**2** Tap on the **[Next]** button to move to next page, and press **[BEEP SOUND]**.



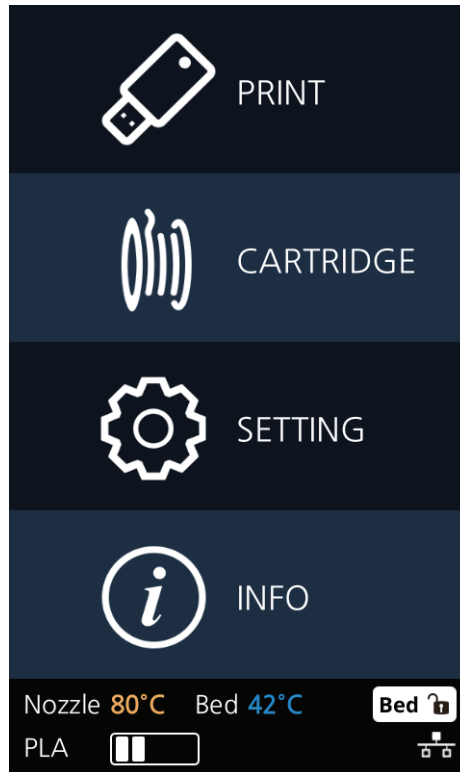
**3** Currently available sound settings are Low, Middle, High and Off. Select the desired setting and press the **[OK]** button to save settings.



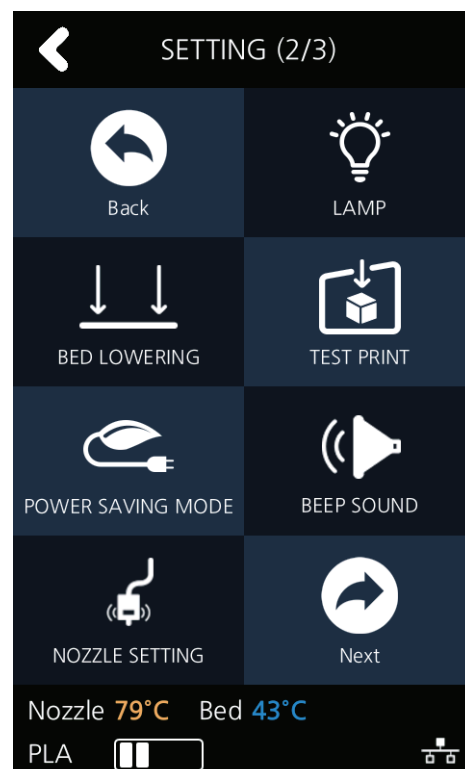
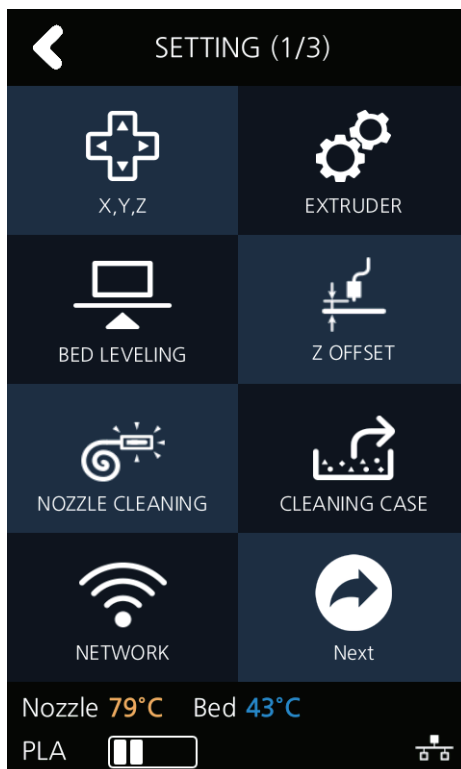
## NOZZLE SETTING

Use this menu only when the nozzle has been replaced. (Refer to P.5-10 「4.4 Exchanging Nozzle」)

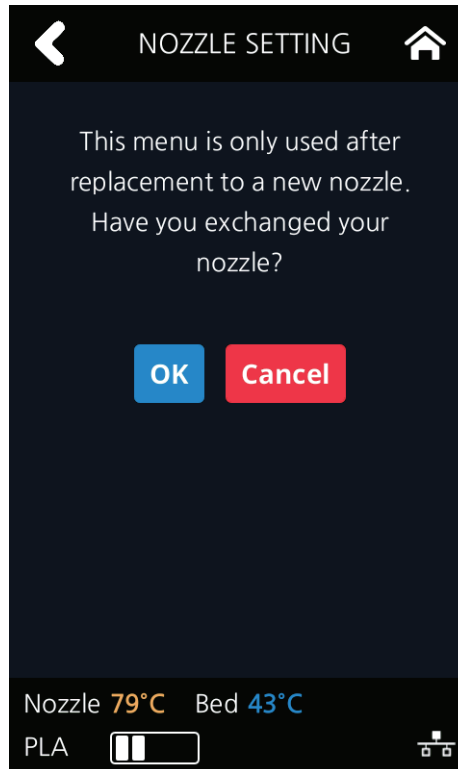
- 1 Press [SETTING] button from the home screen.



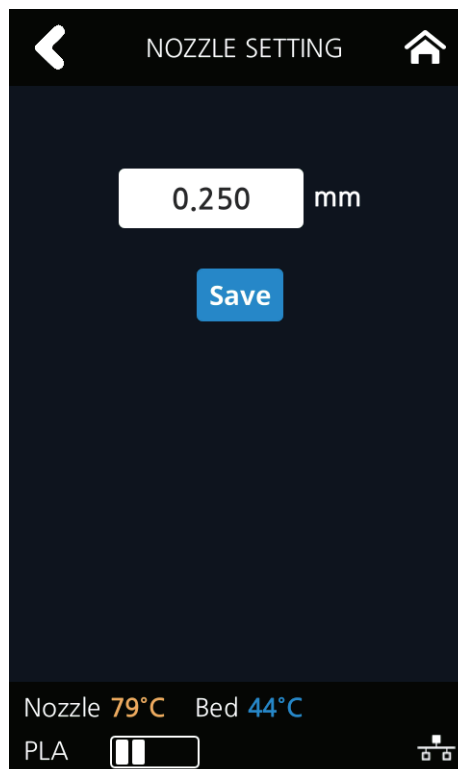
- 2 Tap on the [Next] button to move to next page, and press [NOZZLE SETTING].



- 3** “**NOZZLE SETTING**” menu is a function that should be used after replacement to a new nozzle.  
Entering the menu, a notification message will pop up. Press the **[OK]** button to move to the next screen.



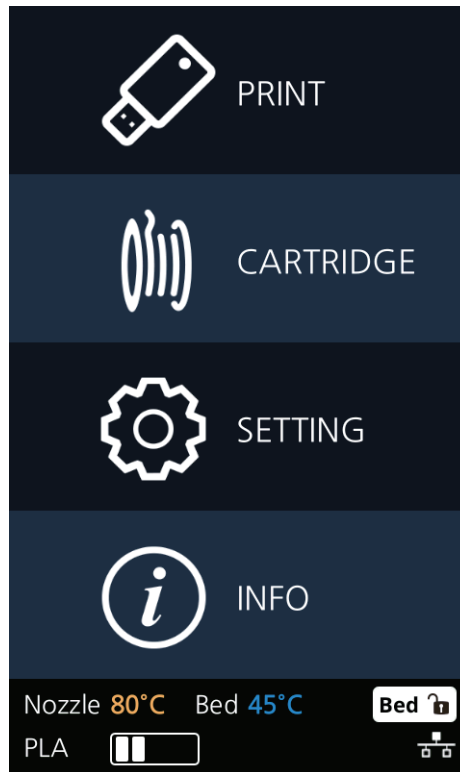
- 4** Click inside the input field to insert the values for the new nozzle.  
Each nozzle has own value and it influences the GAP between nozzle and bed after bed leveling.  
(P.5-9 「4.4 Exchanging Nozzle」)



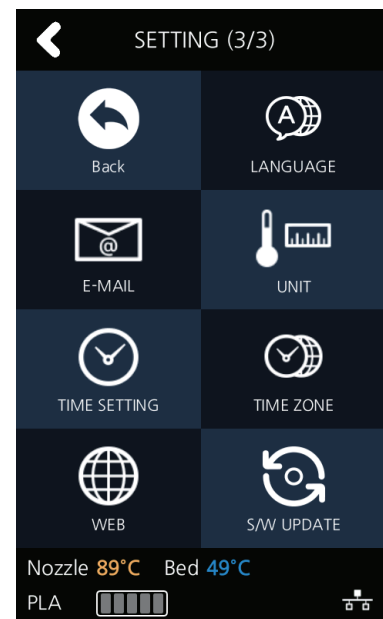
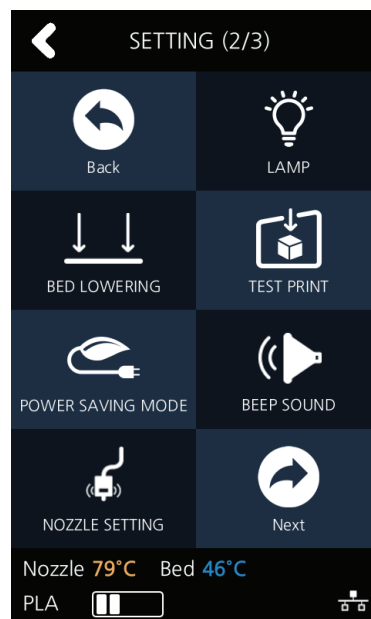
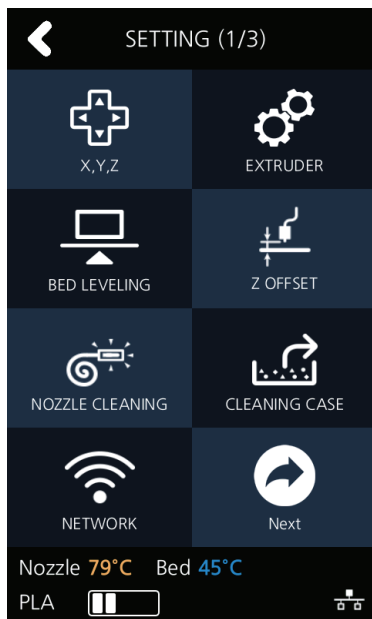
## LANGUAGE

Menu to set language for machine.

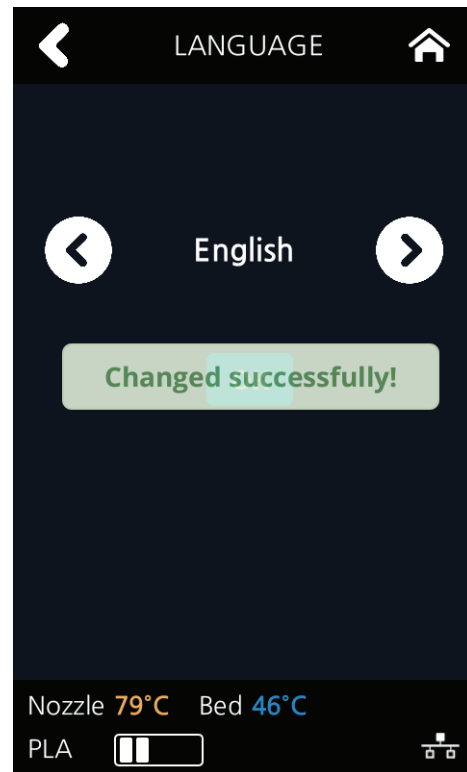
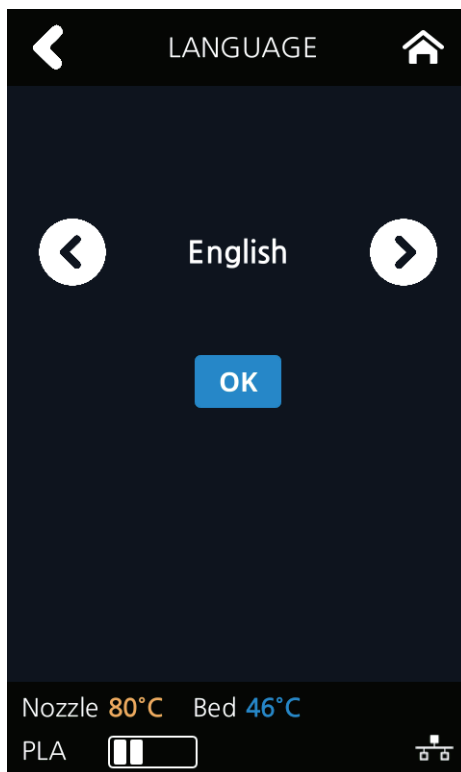
- 1 From home screen press [SETTING].



- 2 Press [Next] 2 times to go to the screen where the [LANGUAGE] menu is.



**3** Using the arrows select a language and press [OK].

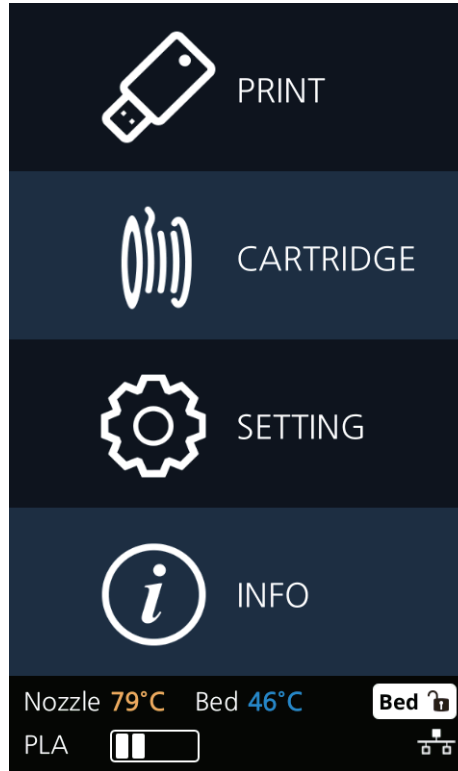


### E-MAIL

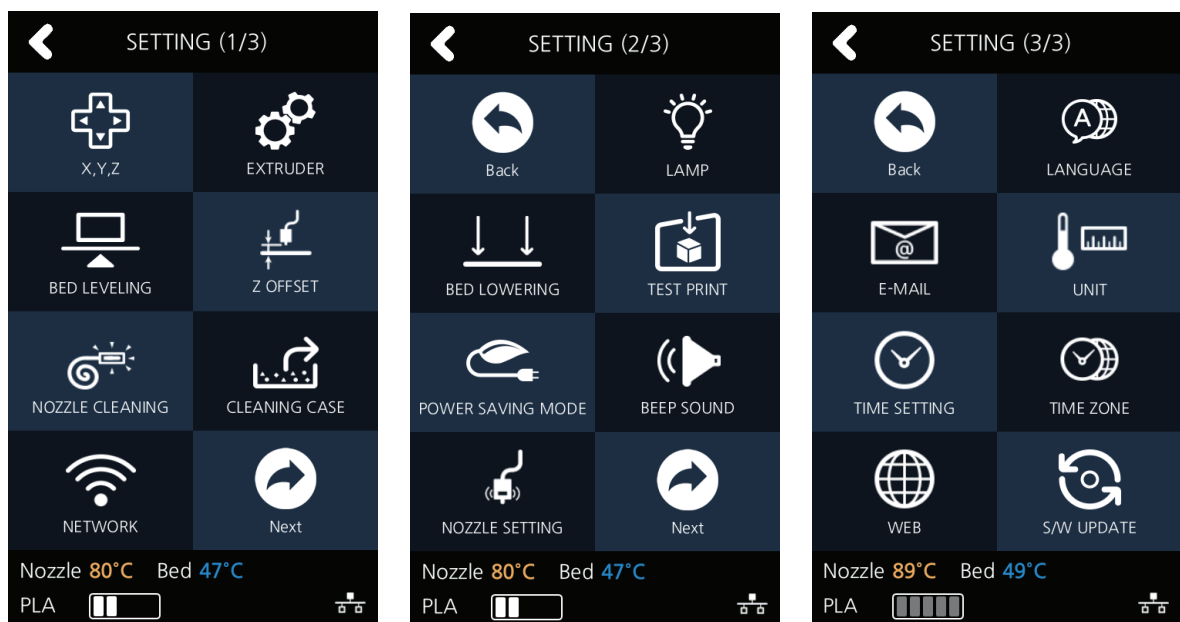
The printer takes an image of the current printing status and sends the information to the email address specified.

Printer will send information of completion (%) based on the PC program standard settings. Maximum of 10 emails can be sent.

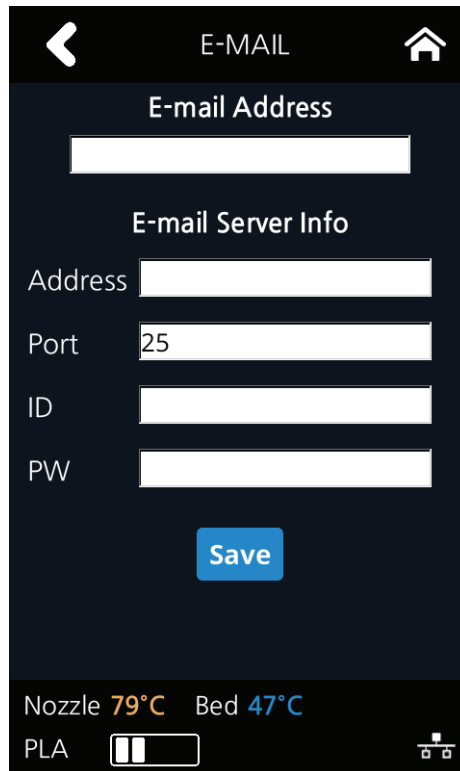
- 1 From the home screen, press [SETTING].



- 2 Press the [Next] 2 times and select [E-MAIL].



- 3** Configure the setting for email notification to be sent out from the device.  
Only the information that is required for sending the email is set up from the printer and the recipient information has to be configured in the Slicer program.



Category	Description
E-mail Address	The sender info to be seen by the recipient(e.g. sender@domain.com) The recipient can reply to this email address
Address	SMTP server address (e.g. smtp.domain.com) - This is the server address of the email service (xxxx@gmail.com)
Port	SMTP Server Port (e.g. 25) - Normally the port number 25, 587 or 465 is used. Due to the increased security, some service providers do not allow the use of port number 465. If port number 465 is not available, please use 25, 587 or the port number that the service provider recommends.
ID	SMTP server login ID (e.g. sender) - Enter the ID for your email. - Depending on the service provider, a full email address may be requested. Please contact server administrator or email service provider for more information.
PW	SMTP server login password (e.g. *****) - Enter the password for your email

Inquire your email server administrator or services provider for detailed information of the input information on each category. Especially for SMTP server log in ID, it may be needed to enter the entire email address which includes the domain name.

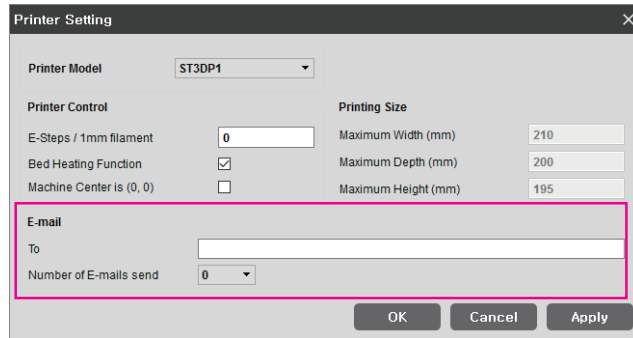
This setting is for the SMTP (Simple Mail Transfer Protocol) server to be used for sending emails. The SMTP setting may have to be enabled depending on the system.

## 2 UI Menu Function

To check the detailed setting values, please refer to the setup information from your email service provider. For the set up to use the outgoing email service, please find information by internet search or your email service provider's instructions.

A certain amount of interval time may be required after setting up the SMTP service before using. For more details, please inquire your email provider for the service policies.

### 4 Configure the recipient email information from the 3DWOX slicer program.



Under **[E-mail]**, input the recipient email address(es) and select the number times that you wish to send the notification emails.

Additional recipient addresses can be added by using semicolon.  
e.g. recipient1@test.com; recipient2@test.com; recipient3@test.com

The maximum number of notification emails that can be sent is 10.

Regardless of the number entered for the email notification, an email will be sent out for the user to see if the initial email notification is working properly by default. e-mail will be sent out one more time than the number that the user entered. However, the total number of e-mail that is sent will not exceed 10 times. (When user selects 10 times, the notification e-mail will be sent out 10 times)

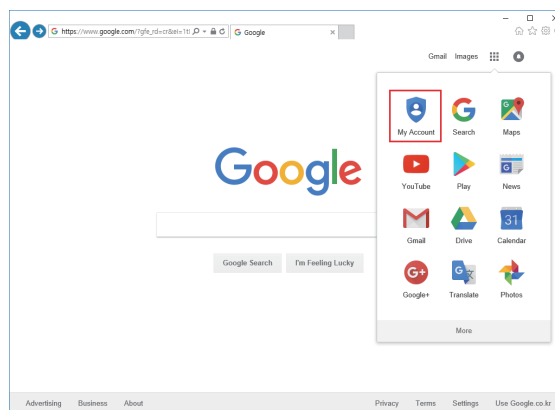
### ❖ In the case of using a Google email account.

According to Gmail policies, the following settings have to be met.

- **Google account setting**

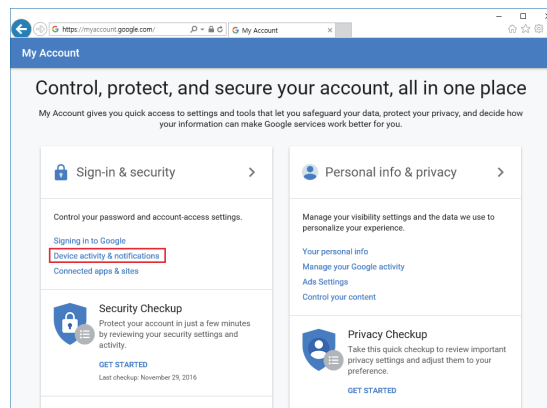
1 Log into your Google account that you are planning to use.

2 Click on the apps button on the top right hand corner.  
After click on **"My Account"**

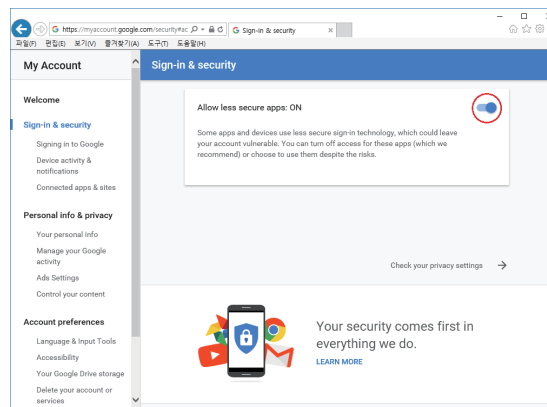




- 3** Under "Sign-In&Security" click "Device activity & notifications"



- 4** Scroll down and there is a "Allow less secure apps" criteria. Set it to "On" to enable the option.



- **Printer Setting**

- 1** Set "smtp.google.com" for the settings of the email address.

- 2** For Google, 25 and 587 ports are compatible.

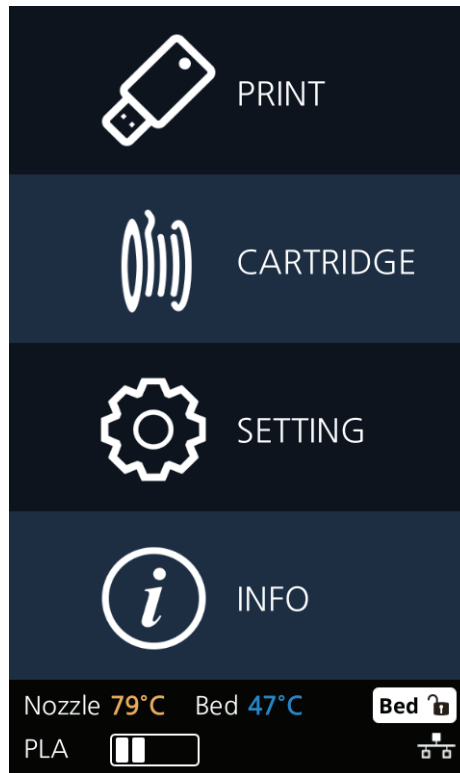
**⚠ Caution**

- According to the service provider, the email address and port number may be changed. For more information please contact service administrator.

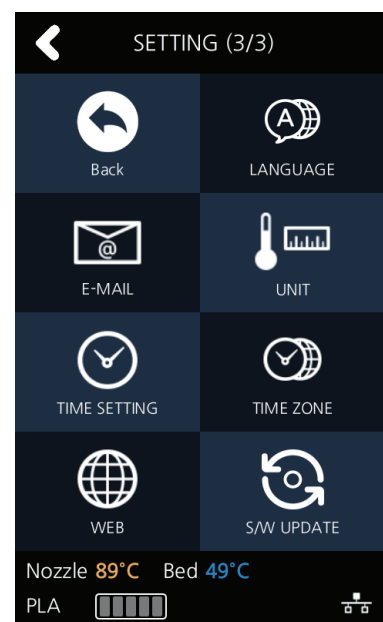
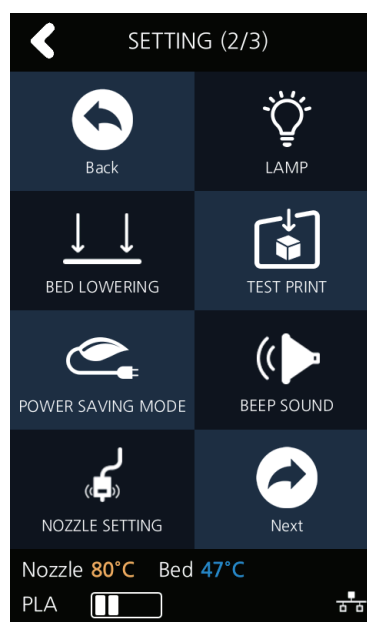
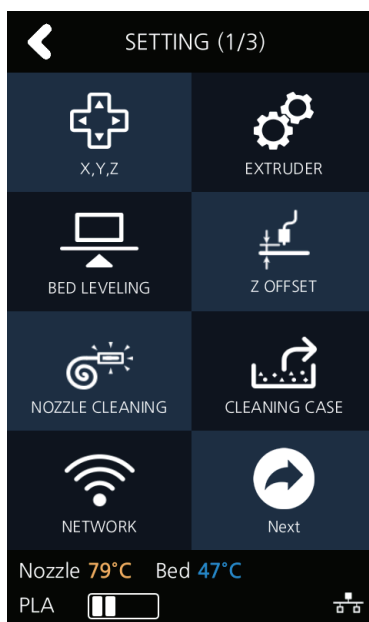
### UNIT

Settings for the units of measurements displayed on the printer.

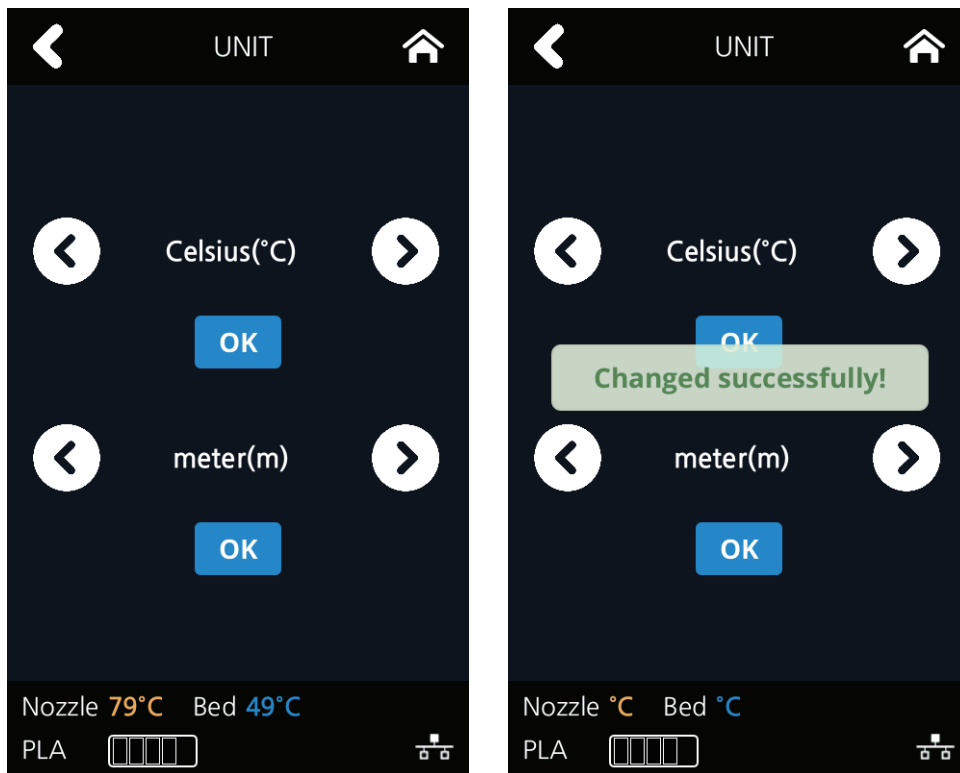
- 1 From the home screen, press [SETTING].



- 2 Press [Next] 2 times and select [UNIT].



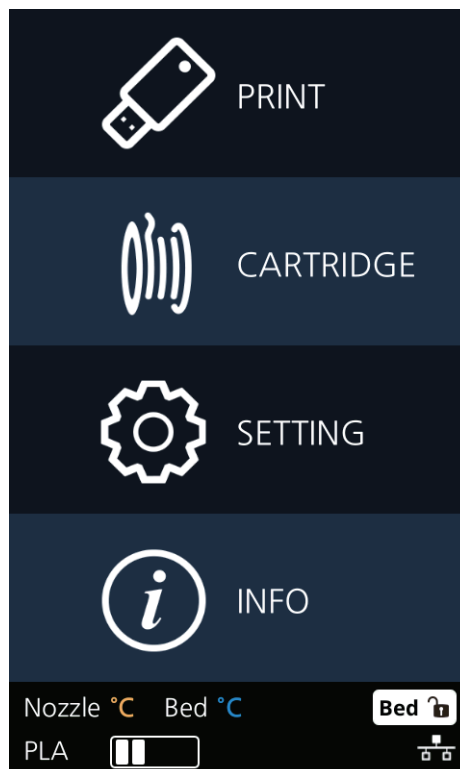
**3** The units for temperature and length can be changed.



## TIME SETTING

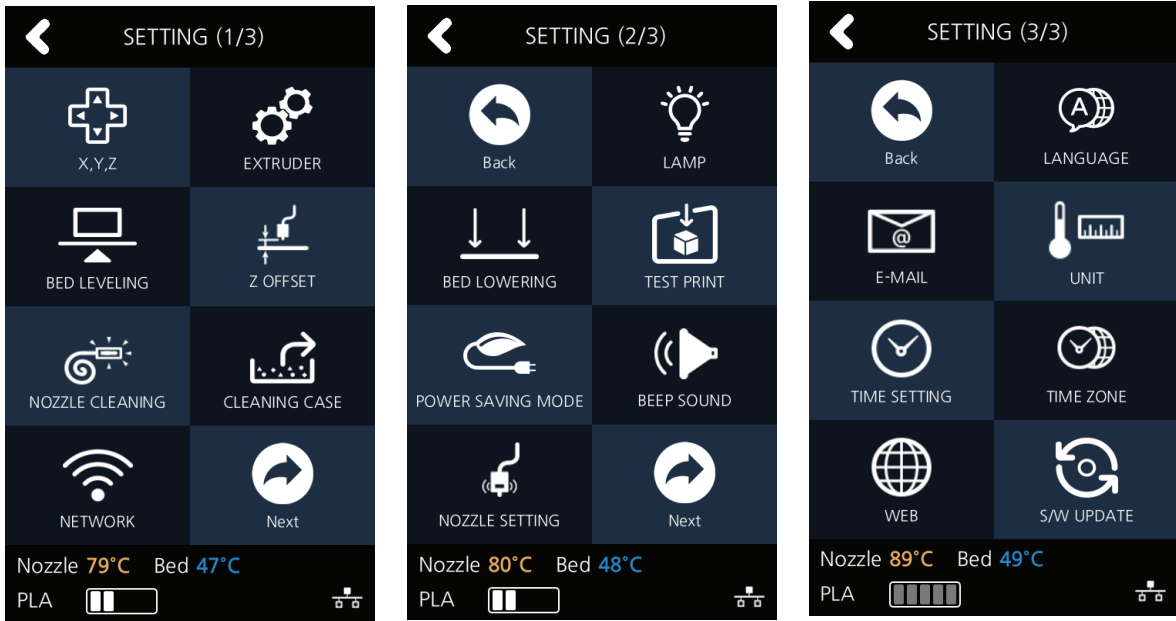
You can view or change the time setting.

**1** From the home screen, press [SETTING].

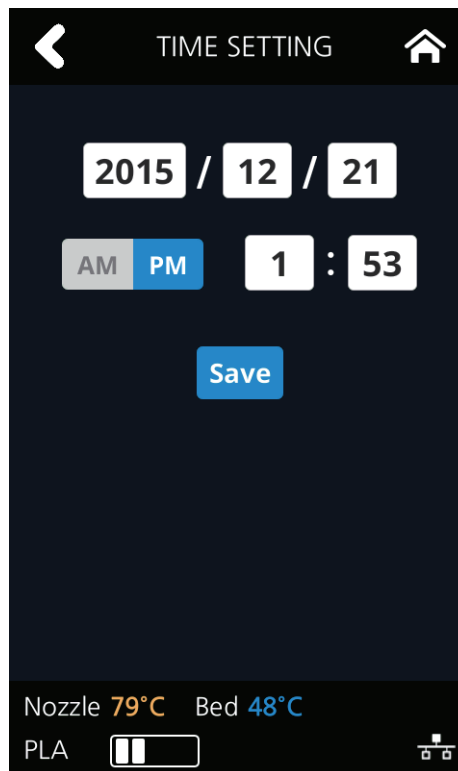


## 2 UI Menu Function

- 1 Press [Next] 2 times and select [TIME SETTING].



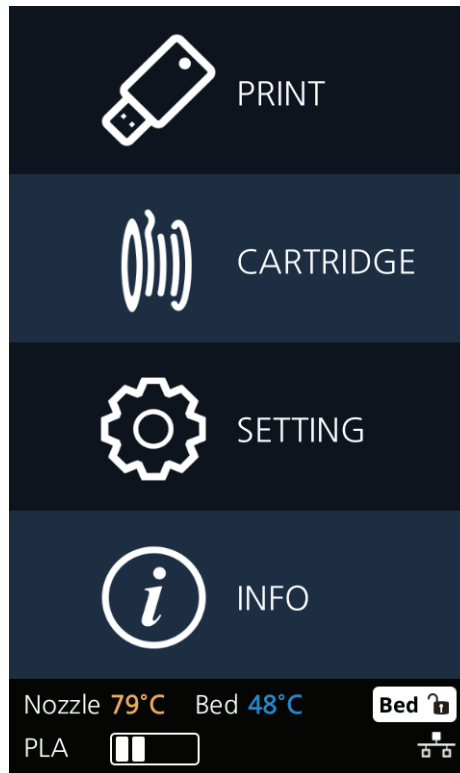
- 3 The time setting can be changed in this screen.



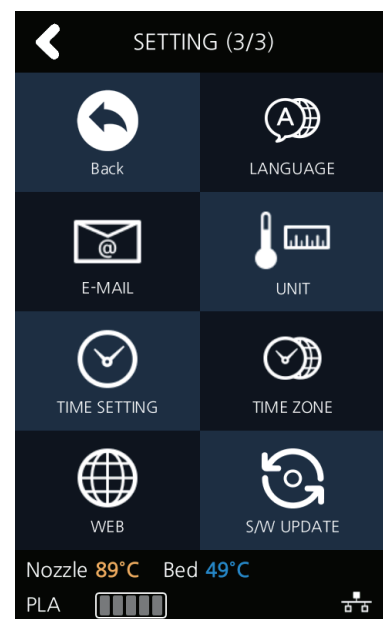
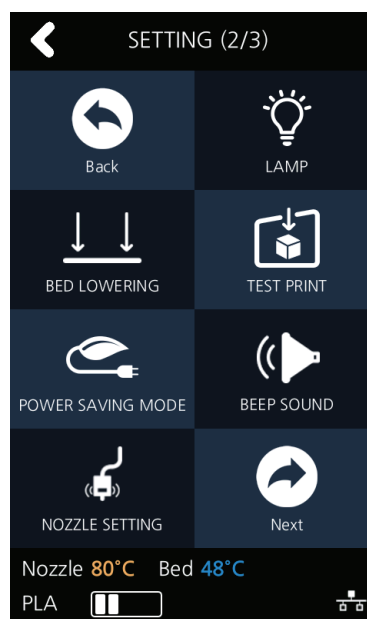
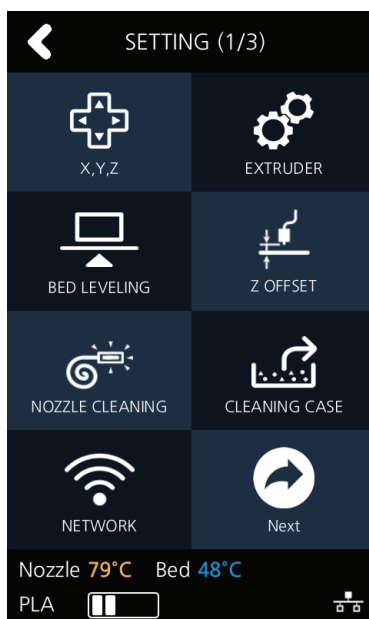
## TIME ZONE

You can view or change the time zone setting.

- 1 From the home screen, press [SETTING].

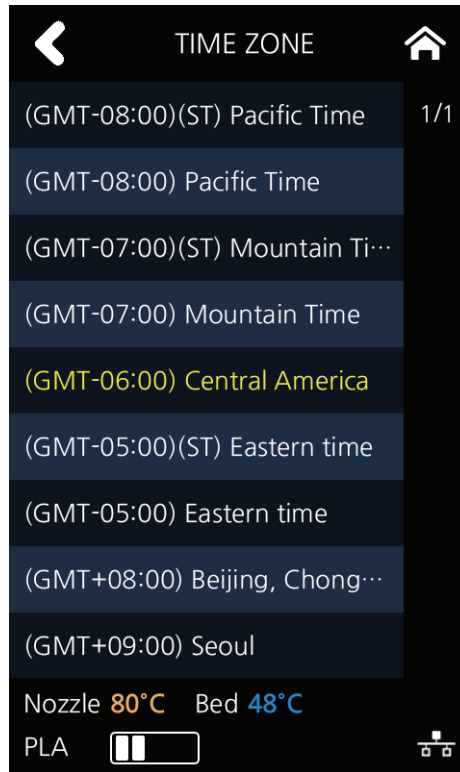


- 2 Press [Next] 2 times and select [TIME ZONE].



## 2 UI Menu Function

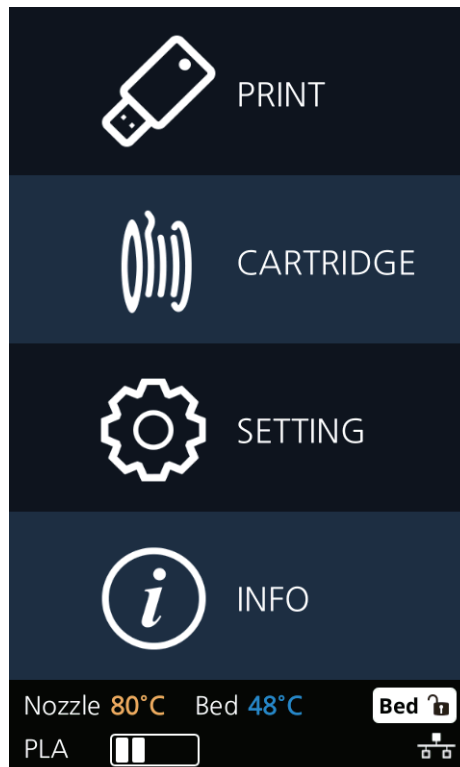
- 3 A preferred time zone can be selected from the time zone list.  
Once Time Zone has been set, the printer will restart to apply the new settings.



### WEB

3dprinter homepage for the user to view.

- 1 From the home screen, enter the settings menus by pressing the [SETTING] button.



**2** Press the [Next] and enter the [WEB] menu.



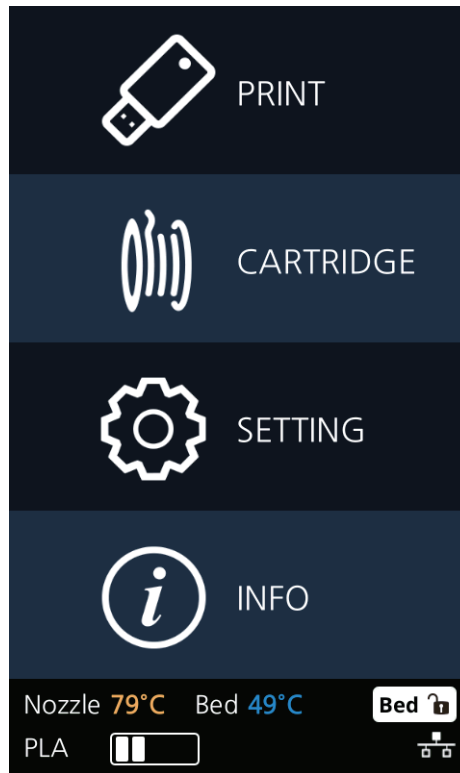
**3** The 3dprinter homepage will be opened and user can view the information of user preference. The company website address is <http://3dprinter.sindoh.com/>



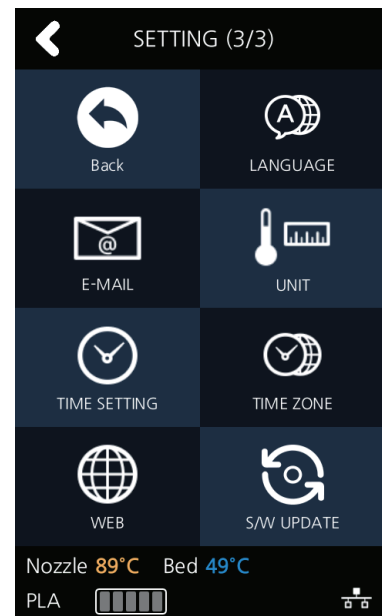
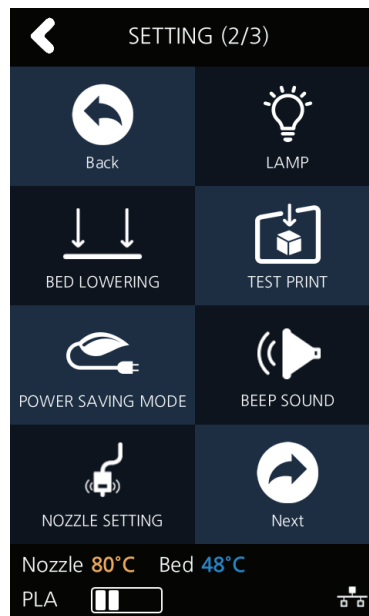
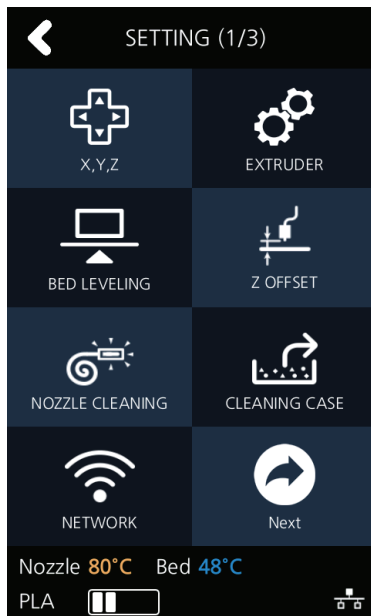
### S/W UPDATE

With the printer connected to the internet user is able to download the latest software.

- 1 From the home screen, press [SETTING].

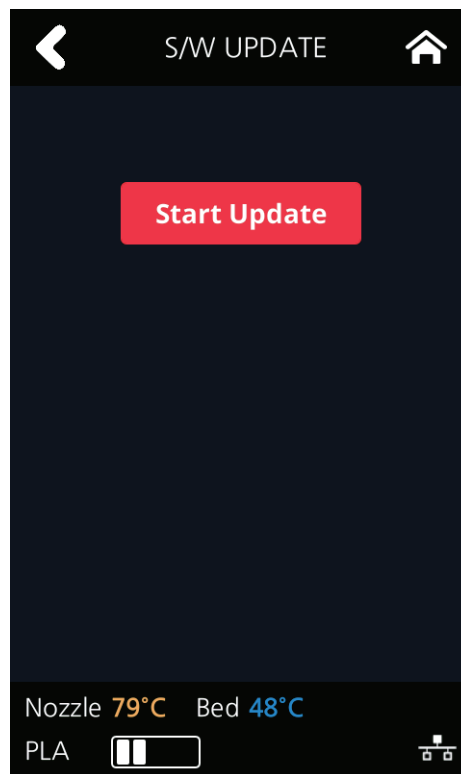


- 2 Press [Next] 2 times and select [S/W UPDATE].





- 3 Press the **[Start Update]** button, and printer will start updating. After it has finished, restart the printer and updates will be applied.

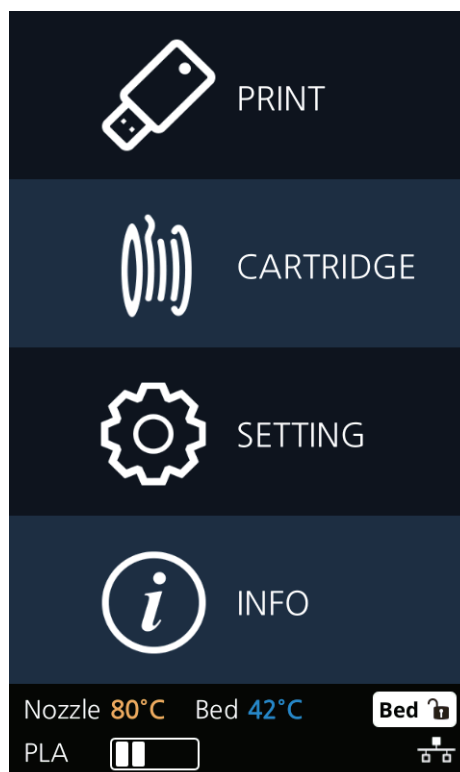


### 1.3 Information

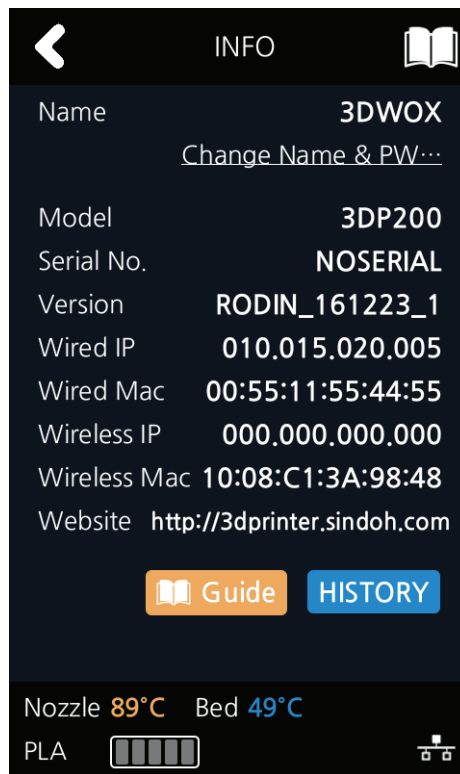
INFORMATION	Name	
	Change Name & PW	Name
		PW
		Reconfirm PW
		Cancel
		OK
Model Name		
Serial No.		
Version		
Wired IP		
MAC		
Wireless IP		
Wireless MAC		
HISTORY		
Guide		

In this menu user is able to view the detail information of the printer, and set device name & password. In **[HISTORY]** screen, user is able to view all the records of past works.

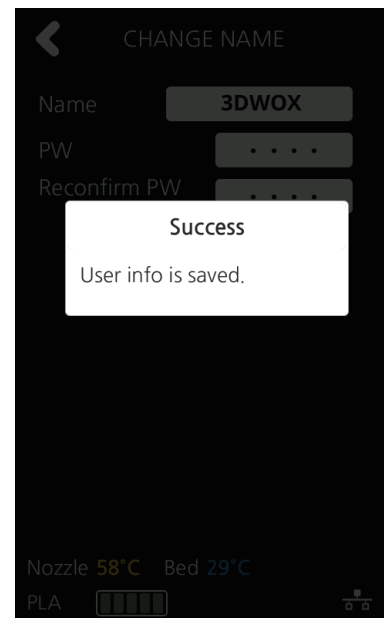
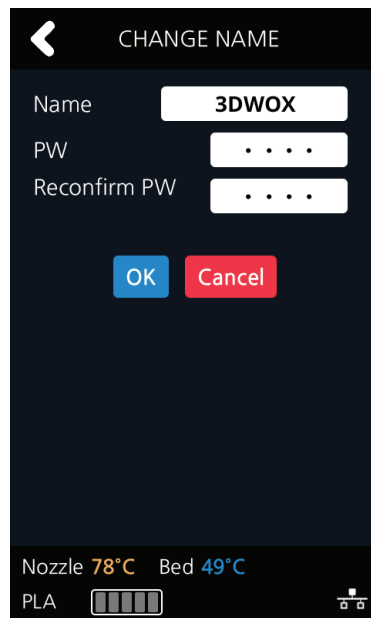
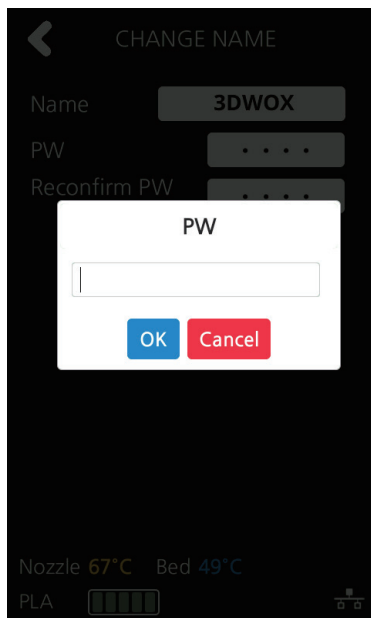
- 1 From home screen, press **[INFO]**.



**2** To set password and name for printer, select **[Change Name & PW]**.



**3** By entering the password, you can edit name and set a new password. Pressing **[OK]** saves the changes.

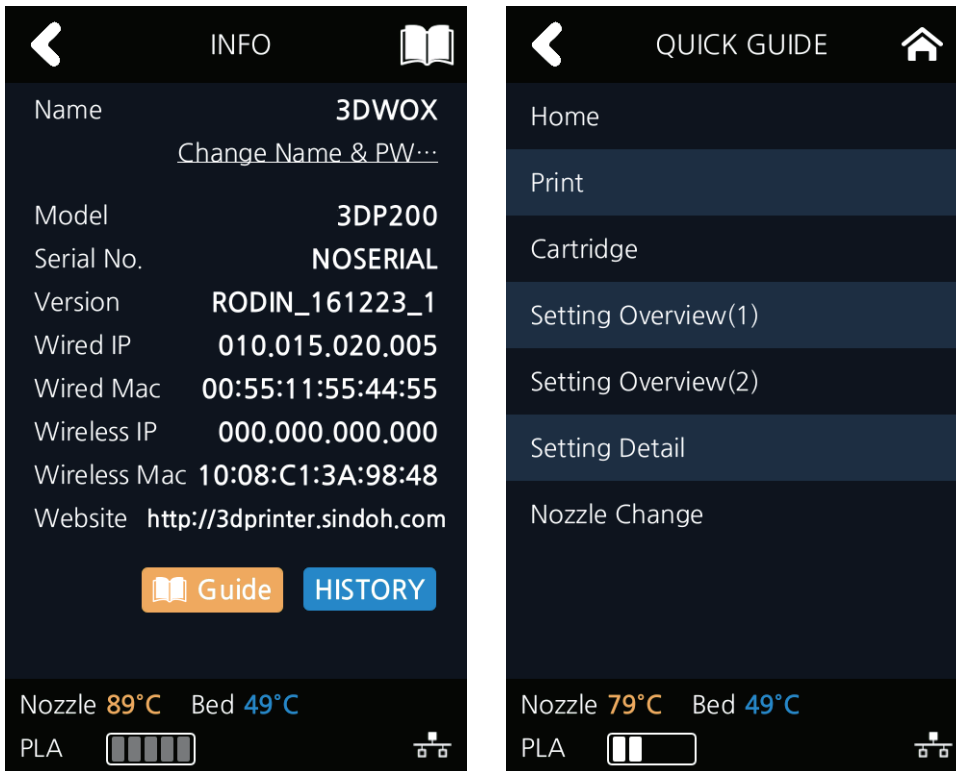


**Reference**

- \*Initial password is '0000'.

## 2 UI Menu Function

4 In [INFO] screen, press [Guide] to access to the "Quick Guide" for the printer.



5 Other useful information is also available in [INFO] screen.

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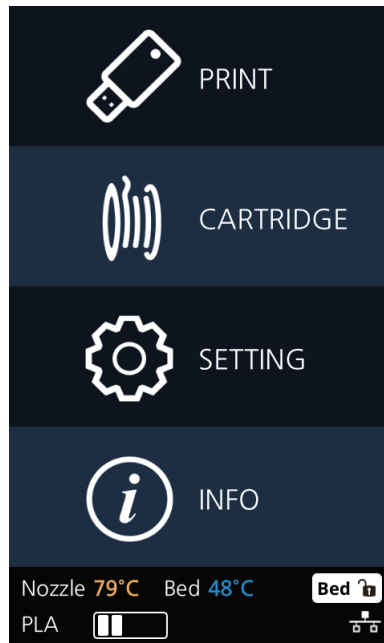
**Printing**

**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.



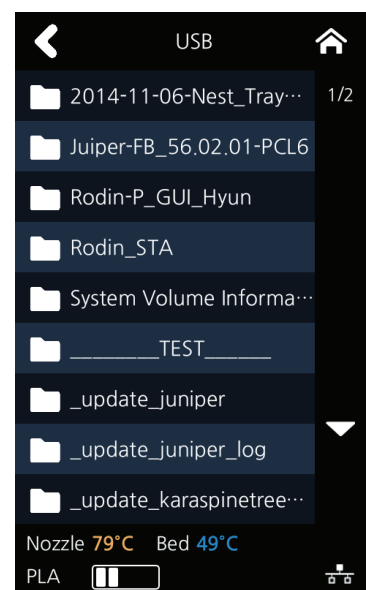
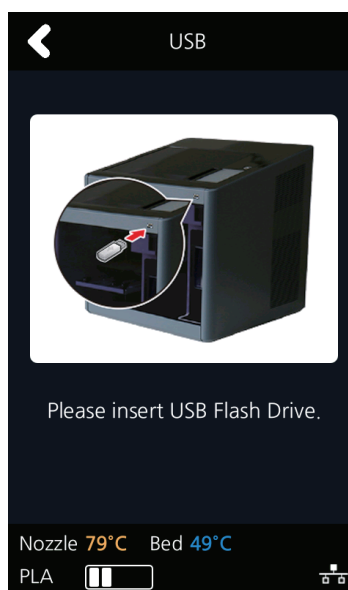
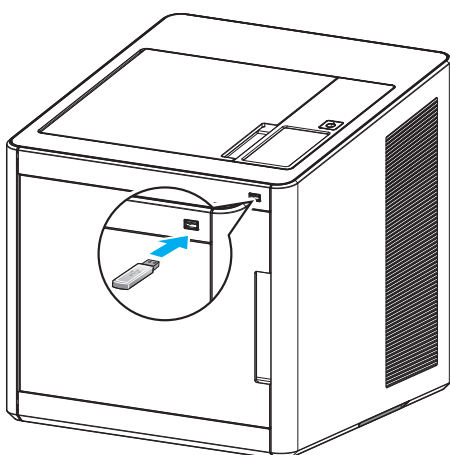
## 1.1 Printing from USB Flash Drive

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.

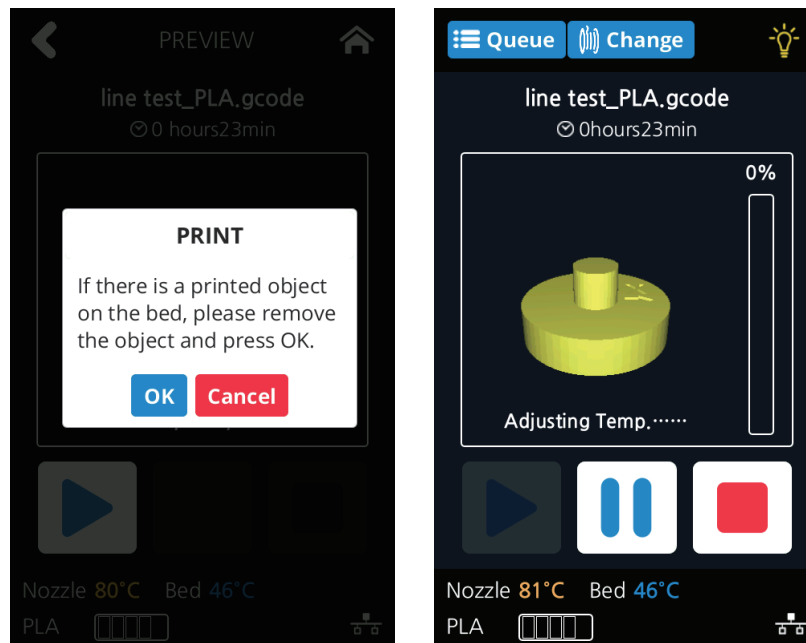




### 3 Printing

#### 4 Printing

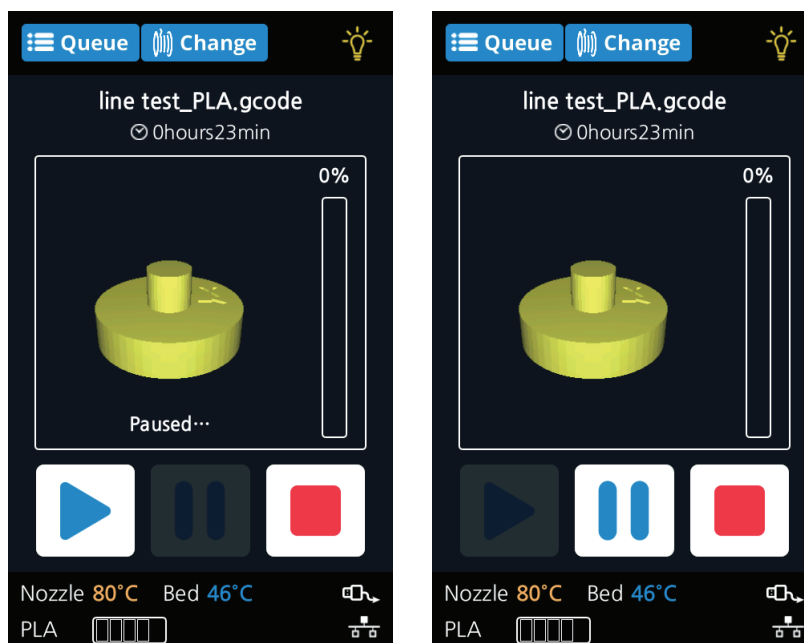
Once [▶] is pressed the nozzle starts to be heated. When the specified temperature is reached, the printing starts.



#### 5 Pausing Print

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

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




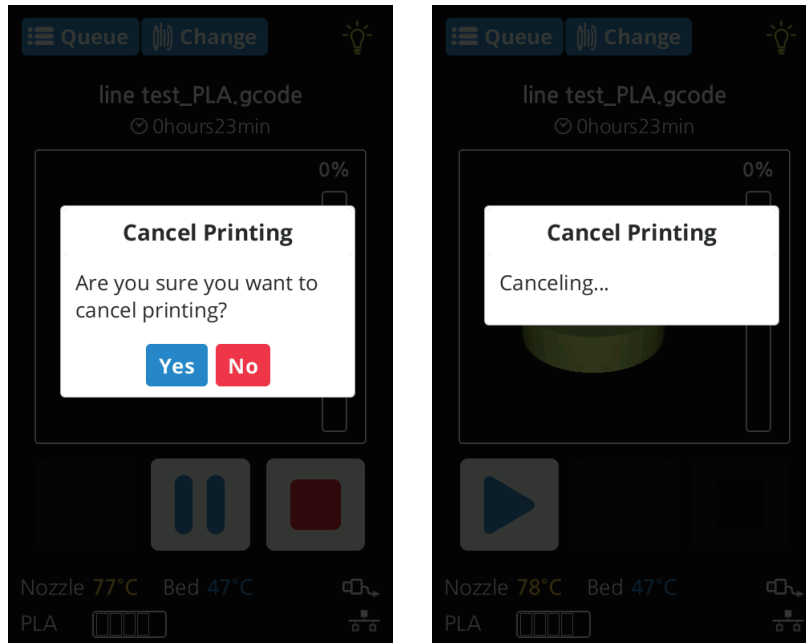
#### 6 Exchanging Cartridge during print

Press [Change] to switch the current ly using cartridge into a different cartridge.



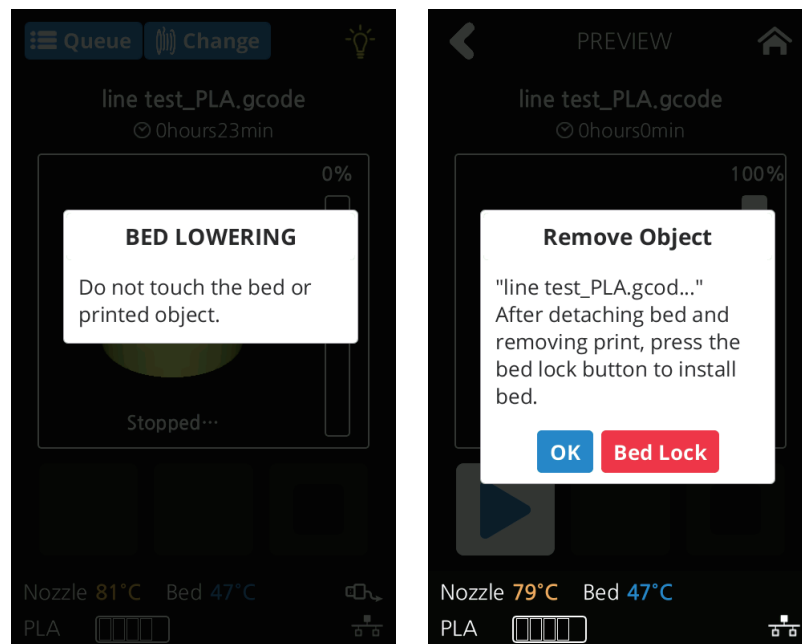
**7** Print Cancellation

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.



**8** 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 3~7 of printing via USB)

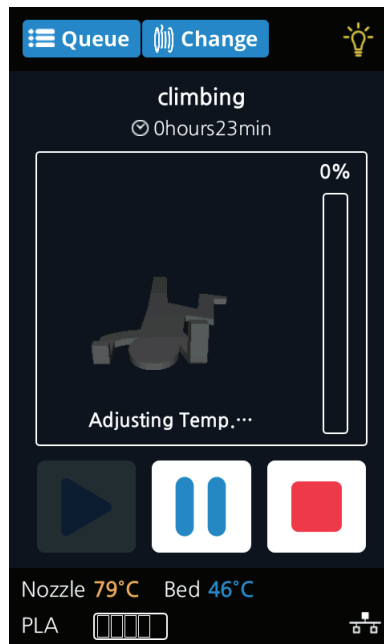
 **Note**

- Pause, print cancelation, please refer to "USB printing" section.

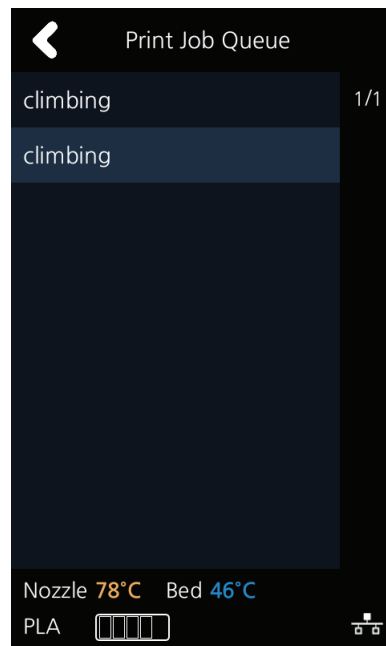
## 1.3 Print Job Management

You can manage print jobs in queue.

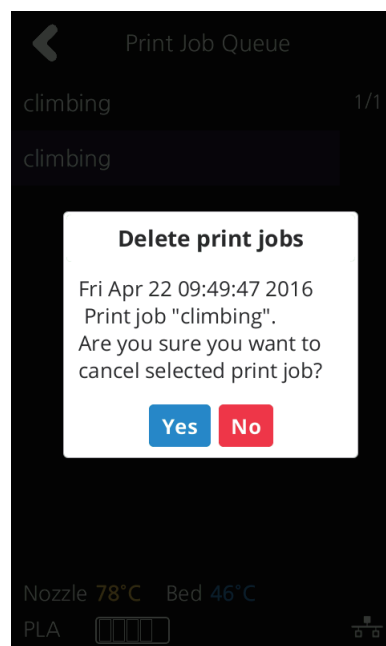
- 1 Press the [**Queue**] button on the upper left hand corner while printing.



**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.





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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**

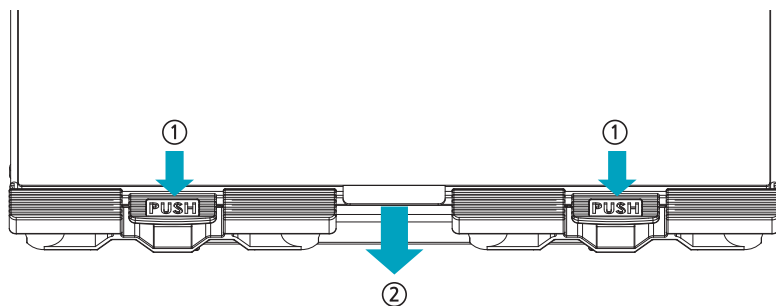
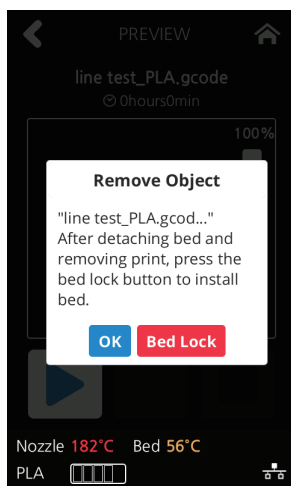
- Without sufficient cooling the bed can be very hot. Please be cautious coming into contact . It may cause burns.

**1** Cooling the Bed

After the printing, check the LCD screen and wait until temperature goes below 50 °C or 122 °F.

**2** Detaching Bed

Press **[Bed Lock]** on the screen to fix the bed in place. Pressing and holding the **[PUSH]** buttons on the bed handles, pull the bed out.

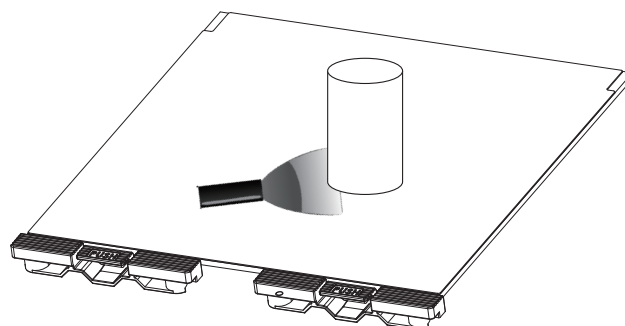


**3** Detaching the printed output

**⚠ Caution** **Risk of Injuries**

- The scrapper is very sharp. Handle with care. Please be cautious of injuries when removing printed objects with the scrapper.

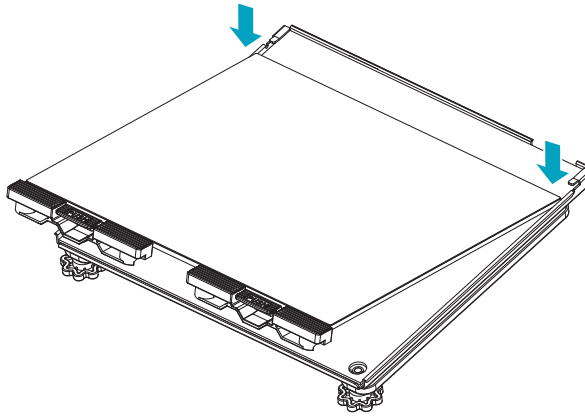
Detach the printed output from the bed. Using the scrapper provided with the printer will be useful. Be careful not to apply too much pressure while using the scrapper could damage the bed sheet and the aluminum bed. Depending on the filament material the printed output may easily break or damage, please be cautious.



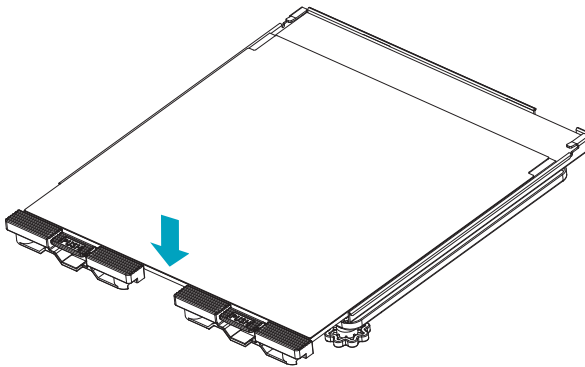
**4** Aluminum Bed Installation

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.

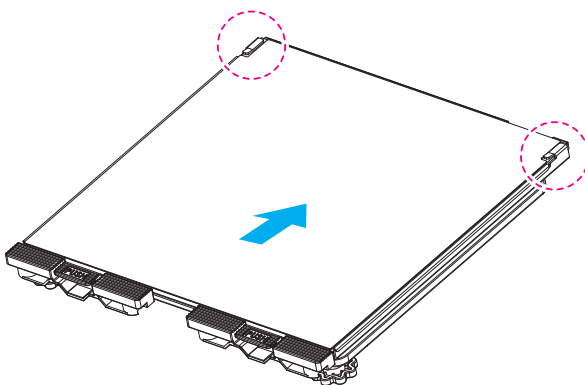
(1) Like the picture gently place the aluminum bed's end corners on top of the bed heater.



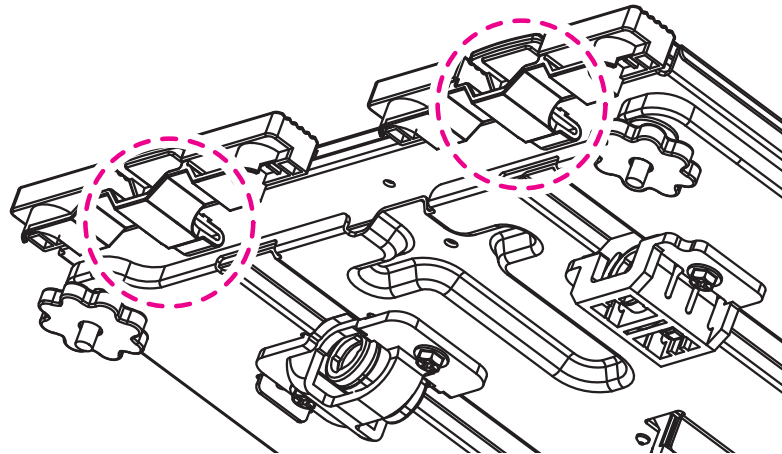
(2) Lay the aluminum bed on the bed heater.



(3) Grab and press the handles to push and lock the bed into shackles.



(4) Push the handles until they click in place.



### 1.2 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	40 °C ~ 60 °C
ABS	220 °C ~ 240 °C	Above 80 °C

#### 2 Support

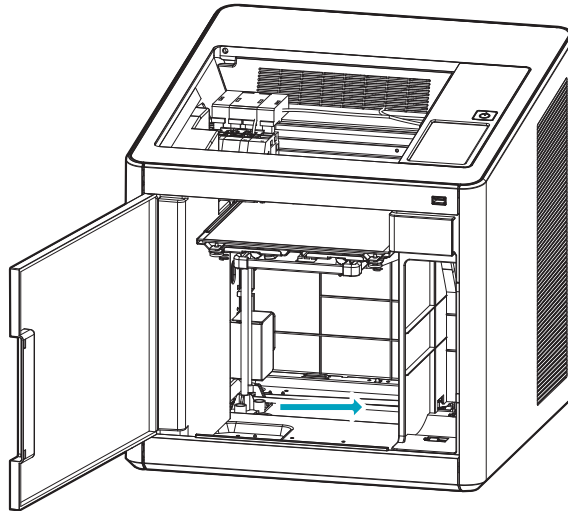
For higher printing quality, minimize the use of supports.

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 <http://3dprinter.sindoh.com>.

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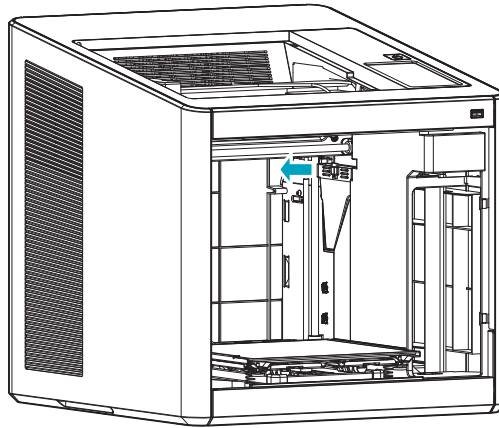
**Maintenance**

**5**

# 1. Machine Cleaning

## 1.1 Cleaning Case Maintenance

- 1 On the LCD, if a message requesting for the cleaning of the cleaning case pops up, detach the cleaning case and clean all the filament residue inside the case.



- If in need for further cleaning, on the menu, under settings, select cleaning case. The cleaning case can be detached.

## 1.2 Printer Interior Cleaning

Over time, there will be a build up of filament residue within the printer. If the residue goes into conveyor belt or fan wings, it can cause printer malfunction. Please clean the inside of the printer regularly or right after a print job.

## 1.3 Periodical Inspection

### Oil/Grease Inspection

During manufacturing grease/oil is applied to the gears. After a period of time, grease and oil can dry and cause printer noises during operation. At least once a month inspect the condition of grease and oil. Especially, If printer begins to make noises during operation, immediately check if oil and grease are applied properly. If necessary contact service center for inspection.

## 2. Error Message and Solutions

Message	Description	What To Do
<b>Booting</b> <b>Please wait until booting is complete.</b>	Message means on the first boot user must wait until the booting is finished.	Once the boot up process is over and machine is ready, this message disappears automatically.
<b>EC301~308 (Nozzle)</b> <b>EC351~355 (Bed)</b>	Malfunction of temperature sensor of nozzle and bed heater.	Reboot the printer. If problem persist then request A/S.
<b>EC311, EC312, EC313</b> <b>Please Reboot Machine.</b>	Error related with leveling sensor operation.	Please check and remove residue left around the nozzle area or printable left on the bed, anything that might interfere with the operation of the machine. Then reboot the printer. If problem persists, please contact service center.
<b>EC321</b> <b>Please Reboot Machine.</b>	Error related with cooling fan (fan 2) of nozzle heatsink.	Remove any thing that might be interfering with the operation of the fan. If problem persists after reboot, please contact service center.
<b>EC322</b> <b>Please Reboot Machine.</b>	Error related with the printed output cooling fan (fan 1).	Remove any thing that might be interfering with the operation of the fan. If problem persists after reboot, please contact service center.
<b>ERROR</b> <b>EC 5XX. Please Reboot machine.</b>	Error related with motor travel on X, Y, and Z axes.	Check if there are any debris or any particles left on the bed and the nozzle. Clean the bed and reboot the printer.
<b>EC401</b>	Filament is not transfered properly.	Following the instructions on the LCD screen, start recovery process. However, if problem does persist, follow the instructions on P.5-6, remove cartridge, remove filament debris and re-install the cartridge for use.
<b>Filament End</b> <b>Not enough filament.</b>	Message appears when there is not enough filament in cartridge.	Following the instructions on the LCD, first clean any filament debris, then install and load a new cartridge.
<b>Filament Break</b> <b>Filament break has been detected. Please remove.</b>	There remain some filament but it's cut in the middle.	Following the instructions on the LCD, first clean any filament debris, then install and load a new cartridge.
<b>Cartridge is already loaded.</b>	Filament is loaded already and the load button was pushed again.	Automatically return to normal state.
<b>Cartridge is already unloaded.</b>	Filament is unloaded already and the unload button was pushed again.	Automatically return to normal state.

Message	Description	What To Do
<b>Notification 431</b> <b>Cartridge cannot be detected.</b> <b>Re-insert cartridge after cartridge removal.</b>	Occurs when printer is unable to detect cartridge.	Automatically UNLOCK screen will be displayed. Reinstall cartridge.
<b>Notification 432</b> <b>Cartridge cannot be detected.</b> <b>Re-insert cartridge after filament UNLOAD.</b>	Occurs when printer is able to detect filament inside but is unable to detect cartridge.	UNLOAD screen. Reinstall cartridge.
<b>Notification 471</b> <b>Cartridge loading as been detected as incomplete. Go to Extruder menu and move the filament to the end of the nozzle through manual control.</b>	After boot up, the cartridge load was detected incomplete. Load was incomplete.	Pressing <b>[OK]</b> displays EXTRUDER screen. Feed the filament to the end of Nozzle.
<b>Notification 481</b> <b>Cartridge unloading has been detected as incomplete. Please retry UNLOAD again.</b>	Message appears when unload was incomplete.	Pressing <b>[OK]</b> printer performs unload again.
<b>Notification 433</b> <b>Cartridge quantity sensor has detected a malfunction. Please exchange cartridge.</b>	Message will appear if there are more than 5% difference between the cartridge quantity and recorded usage levels.	Replace Cartridge.
<b>Notification 472, 473, 476, 482, 483, 484, 488</b> <b>Remove cartridge. Is there any remaining filaments in the tube or on the entrance of filament insertion (front of printer)?.</b>	Problem has occurred during the load/unload process, remaining filament must be removed.	Follow the on-screen instructions and remove all remaining filament. (Refer to the image in P. 5-6)
<b>Notification 487</b> <b>Please Remove the Cartridge. Please make sure there are no leftover filament inside the Tube or the Extruder.</b>	There was a problem during the loading process and the leftover filament has to be removed.	Remove the filament sticking out of the cartridge. (Refer to the Label attached on the cartridge)
<b>Notification 411</b> <b>Please check leftover filament after cartridge removal.</b>	Occurs when filament is not correctly inserted during LOAD.	Follow the on-screen instructions and remove cartridge, cut filament, reinstall and run again.
<b>Notification 412</b> <b>Remove cartridge. Is there any remaining filaments in the tube or on the entrance of filament insertion (front of printer)?</b>	Occurs when filament is not correctly inserted during LOAD.	Following the on-screen instructions, first remove the cartridge, then cut the filament and re-install the cartridge.

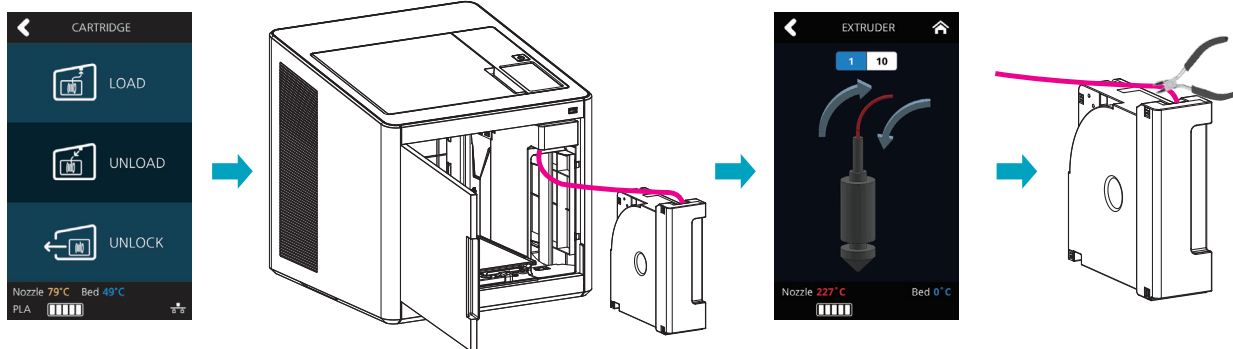
Message	Description	What To Do
<p><b>Notification 422, EC 423</b>  <b>Remove cartridge. Is there any remaining filaments in the tube or on the entrance of filament insertion (front of printer)?</b></p>	<p>Occurs when filament does not come out during UNLOAD.</p>	<p>Follow the on-screen instructions and remove cartridge, and any filament residue.</p>
<p><b>Notification (408)</b>  <b>Model has exceeded the minimum print range of the "X" axis.</b></p> <p><b>Notification (408)</b>  <b>Model has exceeded the minimum print range of the "Y" axis.</b></p> <p><b>Notification (408)</b>  <b>Model has exceeded the minimum print range of the "Z" axis.</b></p>	<p>The printing job has exceeded the minimum printable range.</p>	<p>Press the <b>[OK]</b> button, and the pop up message will disappear.</p>
<p><b>Notification (408)</b>  <b>Model has exceeded the maximum print range of the "X" axis</b></p> <p><b>Notification (408)</b>  <b>Model has exceeded the maximum print range of the "Y" axis</b></p> <p><b>Notification (408)</b>  <b>Model has exceeded the maximum print range of the "Z" axis</b></p>	<p>The printing job has exceeded the maximum printable range.</p>	<p>Press the <b>[OK]</b> button, and the pop up message will disappear.</p>

### 3. Problems and Solutions

#### 3.1 If filament does not come out of the nozzle (Fix for EC 401)

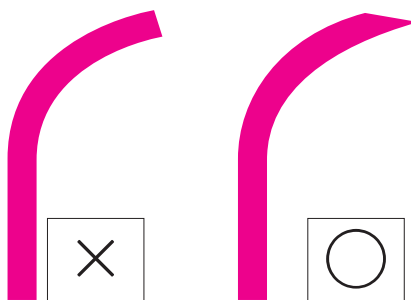
Follow the on-screen instructions and start the auto recovery process. After the recovery process if problem persists follow the below steps.

- 1 Initiate cartridge unlock. Remove the cartridge from the printer. Use the extruder jog mode to remove the filament. Cut the removed filament, (Use below image as reference) re-install the cartridge and run LOAD.

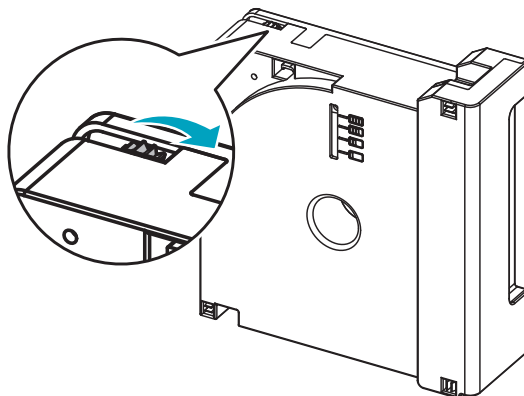


**Note** Cutting Filament Tip

- Cut the filament in the way the cut end is sharp as shown below. It makes the filament run through easier.



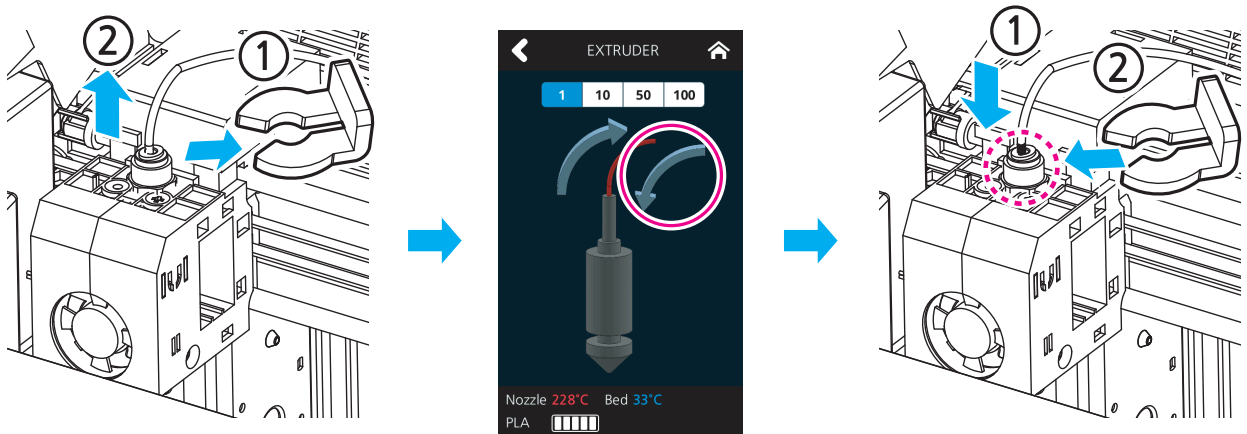
- After unloading, turn the cartridge gears for the filament to come out, cut the dented part (approx 50~60cm) this makes the LOAD easier.





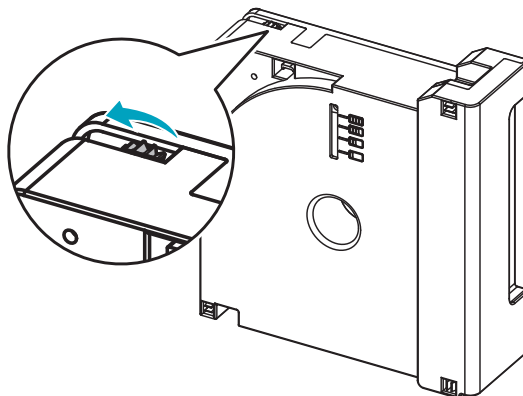
### 3.2 In Cases where Filament is Cut Between the Extruder and Nozzle

- 1** Remove the Snap-Ring on the fitting in the nozzle and pull out the tube.
  - Use Extruder mode and move the filament towards the nozzle to push out the cut filament.
  - After removing all cut pieces of filament, insert the tube into the nozzle and attach the snap ring.
    - \* Push the tube in until the tube under the black indicator cannot be seen.
    - After attaching the Snap-Ring, gently push the tube in (Approx 1.5mm)
  - Use Extruder mode to transfer the filament towards the nozzle and check that filament is coming out of the end of the nozzle to make sure it is working properly.



### 3.3 When Filament End is Visible Outside the Cartridge After Unloading

- 1** Pull out the filament approximately 50~60cm, and cut the filament. (Reference to 3.1 filament cutting tip)
- 2** Like the image below turn the gears and the filament will retrieve back to cartridge. Insert until filament is invisible, reinstall the cartridge into the printer and activate LOAD.



## 4. Replenishing Consumables

### 4.1 Bed Replacement

#### Removing Aluminum Bed

 Reference

- Please refer to P. 4-2 "1.1 Detaching Printed Output".

#### Installing Aluminum Bed

 Reference

- Please refer to P. 4-2 "1.1 Detaching Printed Output".

 Note

- Small Scratches on the bed made during normal usage will not affect the print quality but if the bed sheet is ripped off or contaminated, the printed output may not adhere on the bed properly and should consider exchanging the bed to a new one.
- Bed sheet is a consumable.
- Please replace the bed sheet if models don't get attached to it due to a significant scratch or defected parts of the bed.

### 4.2 Filter Replacement

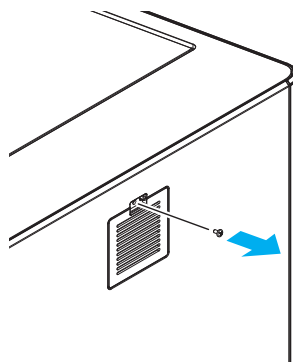
 Caution

- Turn the machine power off before starting the replacement.

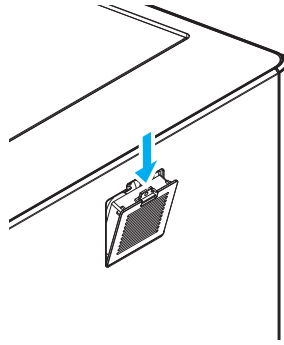
 Note

- It is recommended to exchange filter and nozzle together.
- Depending on environment, replacement interval may differ. If you smell odor from the filter, please replace the filter.

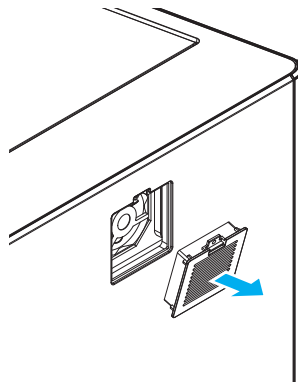
- 1** Use a Phillips screwdriver to remove screws of filter.



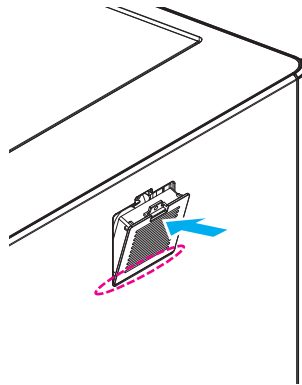
- 2** Pull the upper fitting of the filter, and it will detach from the printer.



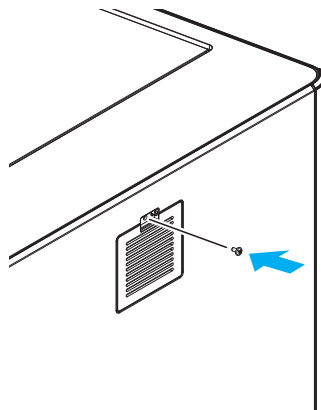
- 3** Gently pull the filter to separate from printer.



- 4** As shown below, slightly hang the lower half of the filter and gently push the top side to click it in.



- 5** Fasten the screw using a Phillips screwdriver.



### 4.3 Cartridge Replacement

Replace cartridge when a cartridge is used up or a different color/material is needed.

- 1 Initiate Cartridge Unload.

 **Reference**

- For details on cartridge unload, please refer to P. 2-5 "UNLOAD"

- 2 Please switch the cartridge first and then load.

 **Reference**

- For details on cartridge load, please refer to P. 2-4 "LOAD"

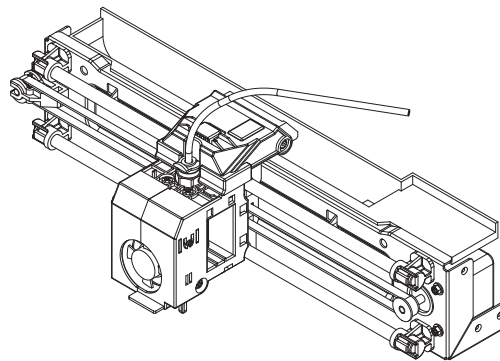
 **Note**

- When replaced with a different color, the previously used color may be seen in the beginning of printing. If the color is the only difference from the previous filament, it doesn't affect the printing quality. Difference in material, however, may affect the printing quality.
- To fix problem, after changing cartridge, please run nozzle cleaning (Refer to P. 2-19 "NOZZLE CLEANING") before printing.

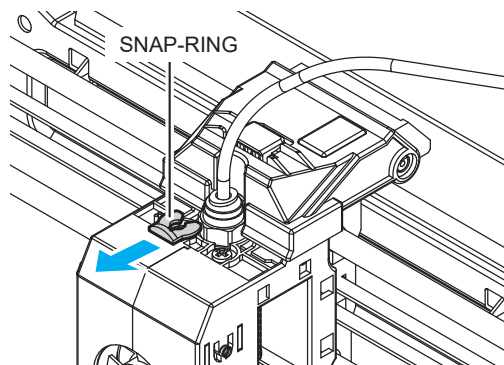
### 4.4 Nozzle Replacement

#### Methods of Detaching Nozzle

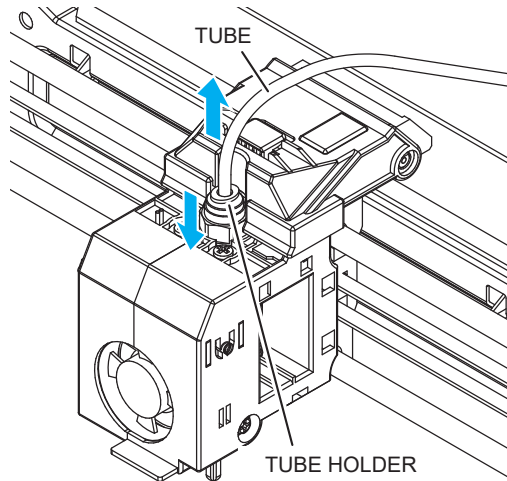
Initiate **[Cartridge] - [Unload]** in the UI. Initiate detaching process **ONLY** after power of machine is turned OFF, and after all power cables are disconnected.



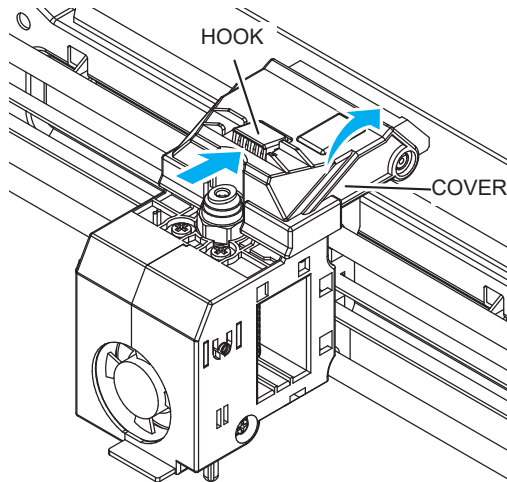
- 1 Remove Snap-Ring.



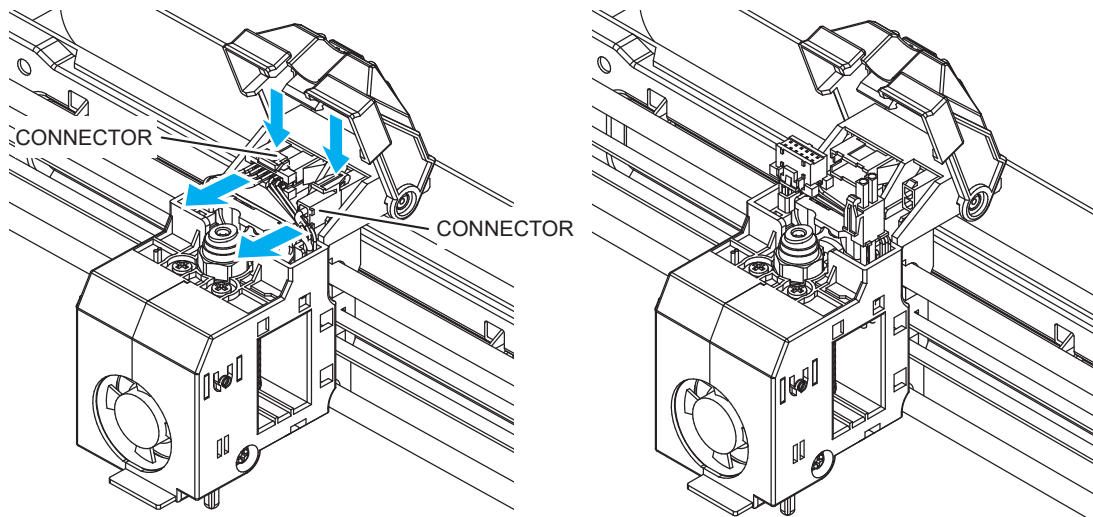
- 2** Press the tube holder and pull the tube to remove.



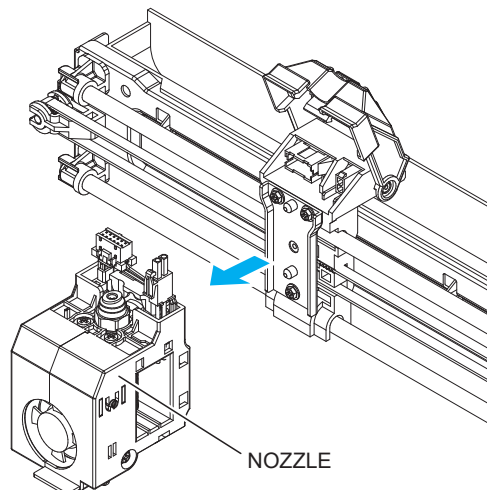
- 3** Push the hook on the top, and lift open the cover.



- 4** Push the 2 hooks on the harness connector to disengage the connector.  
To remove the left hand side connector, press on the hook until you hear a click sound.  
Then you can safely disconnect.



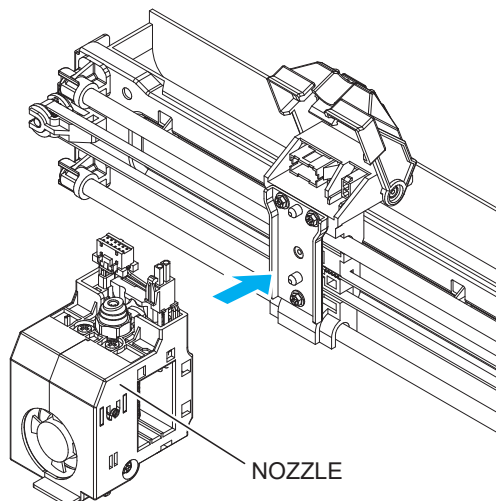
- 5** Pull the nozzle component to detach.



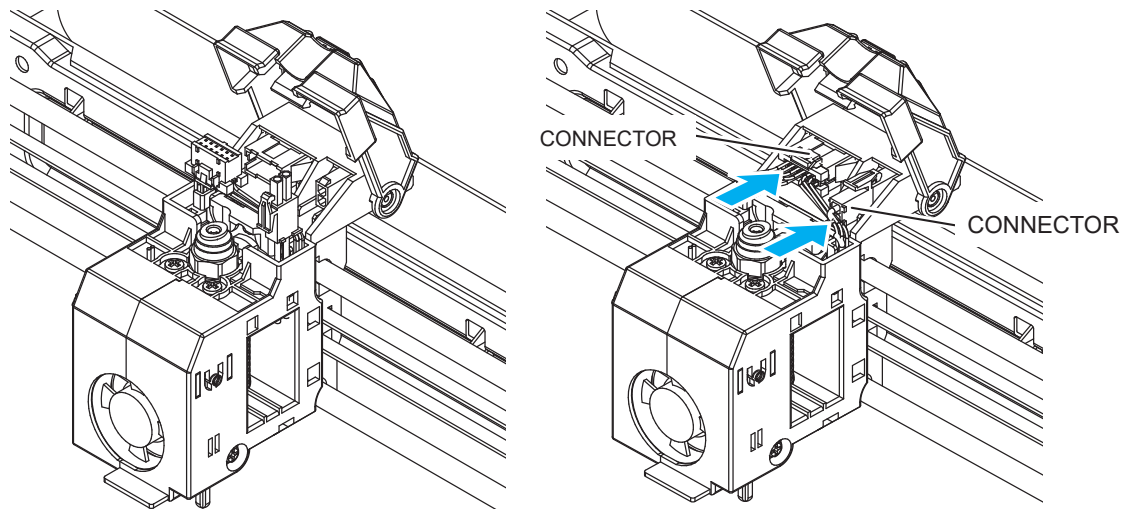
### Assembling the Nozzle

Initiate process ONLY after power of machine is turned OFF, and after all power cables are disconnected.

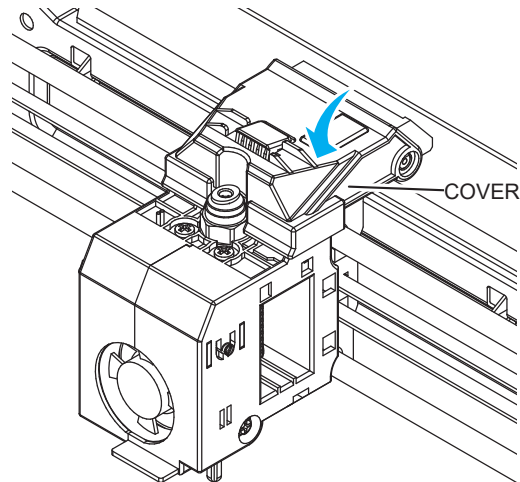
- 1** With the cover lifted up attach the nozzle.  
The Nozzle attaches with magnet power, but please make sure that the component is firmly attached.



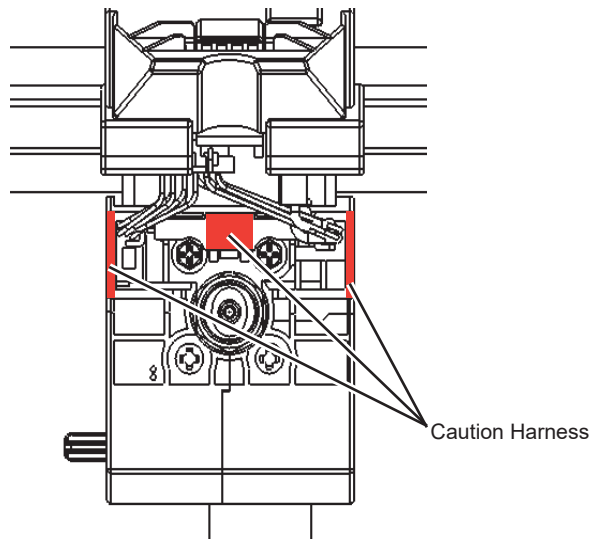
- 2** Insert the 2 connectors and make sure to hear the clicking sound.



- 3** Push the cover down and make sure to hear the clicking sound.



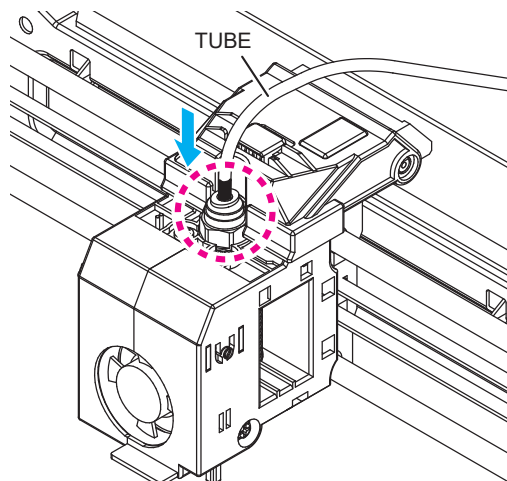
Please be careful not to position the harness near the left, right and center section of the cover. The harness can get caught in between covers when closing.



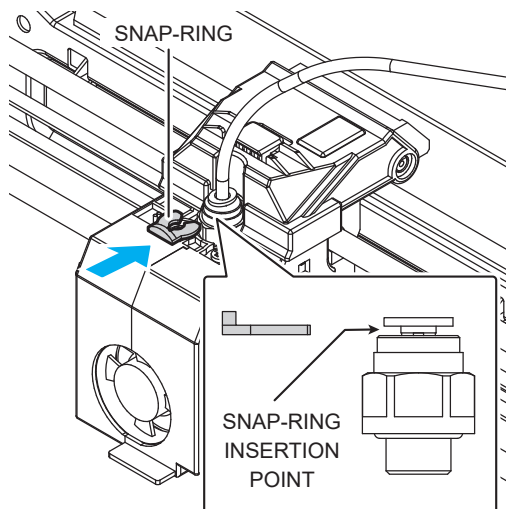
- 4** Insert Tube.

**Note**

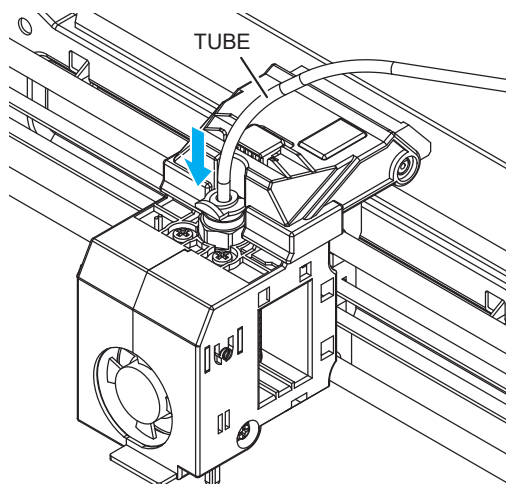
- Push the tube in about 50mm until the tube under the black indicator cannot be seen.



- 5** Slightly lifting the tube and insert the Snap-Ring.  
Insert the Snap-Ring in between the Fitting and Holder.



- 6** Finally, push tube in all the way through.  
- Approximately 1.5mm can be additionally inserted.



- 7** Use the “**CARTRIDGE-LOAD**” command to finish the cartridge loading process.



**DP200 Series  
USER MANUAL**

**Appendix**

**6**

# 1. Type of Consumables (Material, Color)

Material: PLA and ABS are compatible

Color: white, black, gray, green, blue, yellow, red, Pink(PLA), Purple(PLA)

## Notice to Users

Type	Notice
• <b>Class A equipment</b> <b>(commercial telecast equipment)</b>	This equipment is a Class A EMC (electromagnetic compatible) equipment, and should not be used in household locations
• <b>Class B equipment</b> <b>(domestic telecast equipment)</b>	This equipment is a Class B EMC (electromagnetic compatible) equipment, for household purposes, available to be used in any location.

※ This Product is a Class B equipment.

