DP201 Series

USER MANUAL

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

Sindoh
Unmistakable

3dprinter.sindoh.com

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 electrocution 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

Firstly we at Sindoh truly thank you for your purchase of 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.

Contents

Chapter 3 Printing

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. Our company 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/support office.
> – In some countries some models are not available.
>   Please consult your local sales office.
> – This User Manual uses two measuring units and the metric unit is applicable for this machine.

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
  will maintain a high temperature of over 100 degrees.)**
– **Do not put any portion of your body or objects during machine operation
  as the motor 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 machine, please do so after the nozzle temperature have been
  lowered to room temperature.**

⚠ Caution   **Electrocution**

– **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 any 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.
  The corresponding manufacturer of the machine shall not be responsible for usage of any
  other replacement parts.**
– **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 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

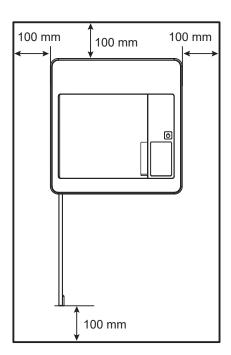Please comply with the following instructions and the **"Safety Information"** provided with the purchase of this product.
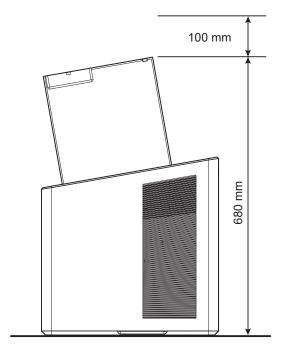
4.1   Installation

⚠ **Warning**

– **Install the machine in a well ventilated area.**
   You can small 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.

⚠ **Caution**

– **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 ℃ ~ 29 ℃ and relative humidity of 20% ~ 70%.
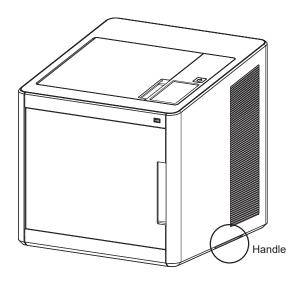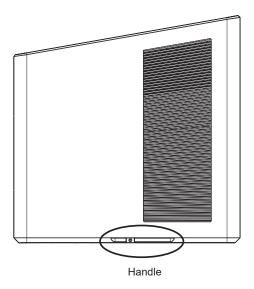   **Do not install or use the machine outdoor.**

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.

Handle

Handle

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 a place.**

       • **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 inside the machine is very hot during machine operation.**
  Please be cautious not to touch the nozzle during removal of the printed objected or during inspection of the machine inside. It may become the cuase 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 at 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 150 mm/s)
Standby	under 40 dBA

❖ **Temperature/Humidity**

Operation	16 ℃ ~ 29 ℃ 20%RH~70%RH
Shipping	-30 ℃ ~ 50 ℃, 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 ℃ ~ 50 ℃, 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 STATEMET**

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 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.

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 competent 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)
Printing	A device is printing using electronic input data.	70W
Standby	A device is in standby mode.	12W
Power Off	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 : DP201, DP202

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

Trade Name	Model Number
FC	Tested to Comply with FCC Standards

FOR HOME OR OFFICE USE

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, Seongsuiro24(isipsa)-gil, Seongdong-gu, Seoul, 133-705 Korea
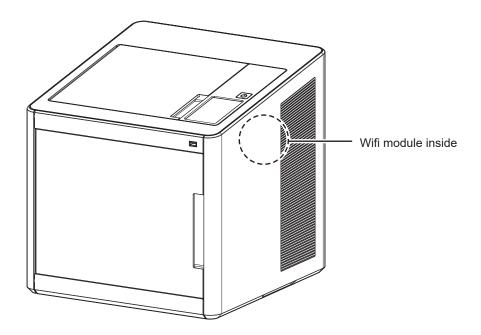
Sindoh

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 manufacturer service engineer.

10. Wifi Module Disclaimer

❖ **This Product contains the Wi-Fi module that is only compatible with below Sindoh models**

Wifi module inside

❖ **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**

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

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 (File Allocation Tables) format.
  The 3DWOX does not support USB flash drives in NTFS (New Technology File System) format.

– The warranty will not be valid if a 3rd party USB drive is used.

❖ **IC Identification on Class of ITE**
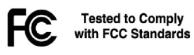 CAN ICES-3 (B)/NMB-3 (B)

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, 133-705 REPUBLIC OF KOREA

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DP201 Series
USER MANUAL

Preparations for Machine Operation

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1. Machine Specifications

1.1 Printing

Printing Method	Fused Filament Fabrication
Max. Print Length(mm)	W(max):210, D(max):200, H(max):189
Print Layer Thickness Setting	0.05~0.4mm
Basic Nozzle diameter	0.4mm
Filament width	1.75mm
Printable materials	PLA
Printable color	White, Black, Gray, Red, Yellow, Green, Blue
Bed leveling	Auto measuring + Manual leveling

1.2 Temperature/Speed

Continuous Nozzle Usage/ Maximum Temperature	200 ℃ Recommended / 230 ℃ max
Recommended printing speed/maximum speed	40mm/s Recommended / 200mm/s max

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

1.3 Machine

Power	70W
Dimensions	421 x 433 x 444
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	4GB + DRAM

📎 **Note**

– Graphic card must support OpenGL 2.0 or higher.

1.5 Default Setting of Print layer Width
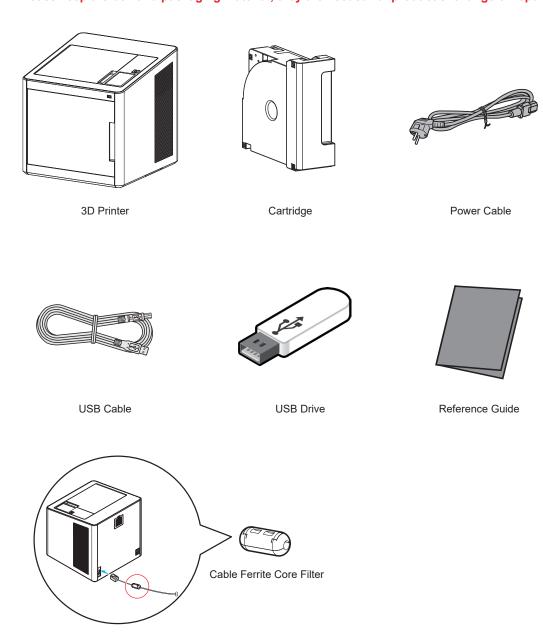
Nozzle Width	0.4mm
Print Layer Width	0.2mm

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   USB Drive   Reference Guide

Cable Ferrite Core Filter
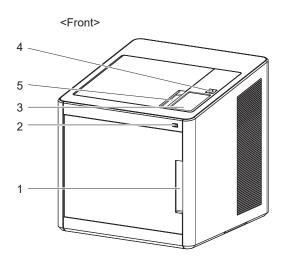
Please attach the Core to the LAN cable in use.
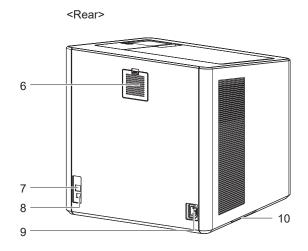
> ⚠ **Caution**
>
>   **– The blades of the scrapper can be very sharp. Please be cautious. Please do not use for other than removing printables.**
>   **Please do not touch the blade of the scrapper.**
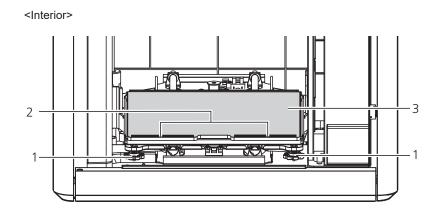
3. Understanding the Device Parts
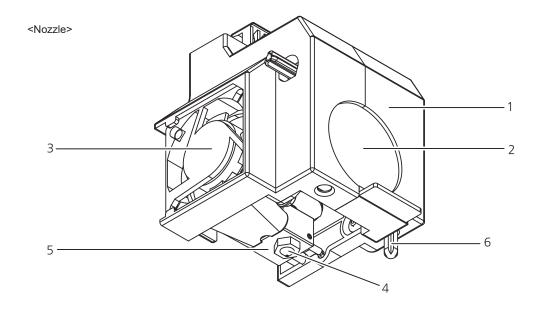
No.	Designation	Explanation	
1	Front hatch handle	A handle to open the front door.	
2	USB port	Connect USB flash drive containing printing information and print directly from USB flash drive.	
3	LCD Control panel	Screen used to control printer. ⚠ **Caution** – **Usage of printer is recommended after removing the protection film on LCD control panel. If the film is not removed, the touch screen may not work properly.**	
4	Power Button	Briefly press this button to turn on printer. Press and hold for 2 seconds to turn off the printer	
	Power Button Indicator	Lamp On	Power is On.
		1 second interval flickering	Can be turned on instantly. (power cable is connected) ⚠ **Caution** – **If in case of not using the printer for long period of time, please unplug the power cord.** – **The lamp may flicker for a few seconds after the power cord is disconnected.**
		Lamp Off	Inactive Mode. (Power cord is unplugged)
5	Top hatch 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 through USB cable.	
9	Power port	Power cord connector.	
10	Carrier Handles	Handles to use when moving the printer.	

<Interior>

No.	Designation	Explanation
1	Bed height adjustment Knob	Used to level the bed.
2	Removable bed handle	Used to assemble and dismantle bed.
3	Flexible Bed	Seating space for Printable.

<Nozzle>

No.	Designation	Explanation
1	Main Body	Main body of the nozzle part.
2	Transparent Screen	A transparent screen through which user can watch the printing.
3	Fan	A 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.
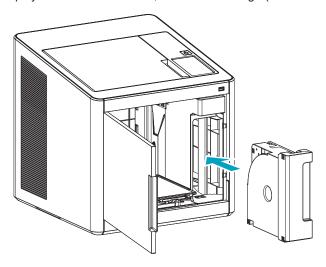
4. Installation (Product connection, Cartridge Setup and Software installation)

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.
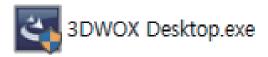
2   Press the power button, located on top of the machine.

3   After main menu is displayed on the LCD screen, install the cartridge (Refer to UI manual **"LOAD"**).
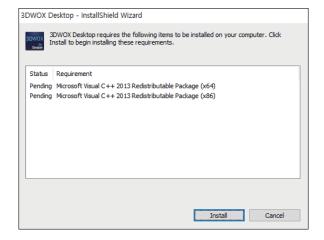
4   Connect the one end of the USB cable to the back of the printer and the other to the computer.

5   Plug USB flash drive in, and install machine drivers and Slicer program.

4.2   Program Installation
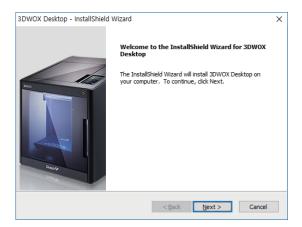
1   Start the installation of 3DWOX Desktop installation program by clicking on **"3DWOX Desktop.exe"** file in the enclosed USB thumb drive.
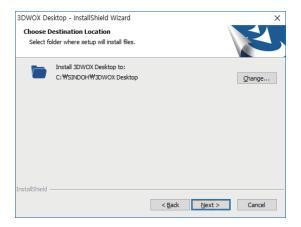
2   Select program language.
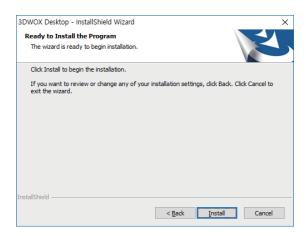
3 Select language, press **"Next"** program will start installation.
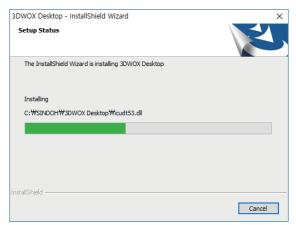
4 Saving files and installing.
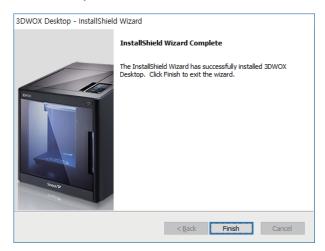
5 Install additional files required by the program.

1-8

6 After installation, **"3DWOX Desktop"** icon should be available on your desktop.

DP201 Series
USER MANUAL

UI Menu Functions

2

1.   UI Menu Function description

CARTRIDGE	LOAD
	UNLOAD
	UNLOCK

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

* indicates factory set value.

EMAIL SETTING	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 SETTING			
WEB			
SECURITY	On		
	*Off		
CLOUD	*On		
	Off		
S/W UPDATE			

INFORMATION	Name	
	PW	
	Change Name & PW	Name
		PW
		Confirm PW
		Cancel
		OK
	Model Name	
	Serial No.	
	Version	
	IP	
	MAC	
	Company	
	Website	
	HISTORY	
	Guide	

* indicates factory set value.

1.1 CARTRIDGE

CARTRIDGE	LOAD
	UNLOAD
	UNLOCK

LOAD

This function automatically loads filament to the Nozzle.

1 From the home screen, press **[CARTRIDGE]**.
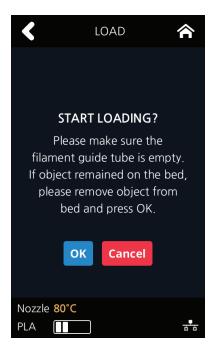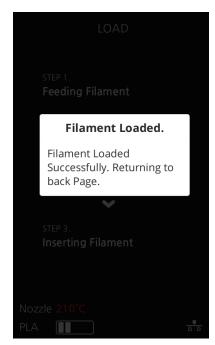
2 Press **[LOAD]** to activate Cartridge load.

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 loads filament to the Nozzle.

1 From the home screen, press **[CARTRIDGE]**.
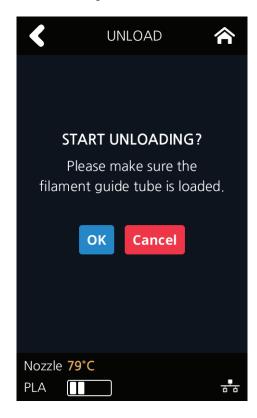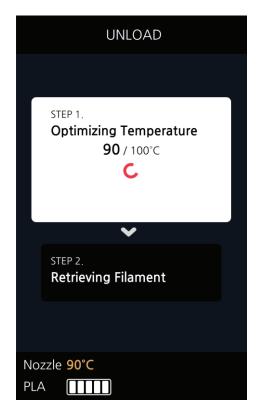
2 Press **[UNLOAD]** to activate Cartridge unloading.

3 When **[OK]** is pressed at the cartridge unload confirming message, Cartridge unloading will automatically procceed. 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.
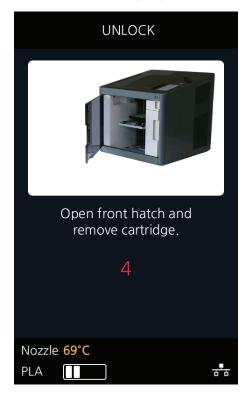
UNLOCK

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]** states will be deactivated, 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]** states, and **[UNLOCK]** appears.

❖ **To manually unlock later.**

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

2 Press **[UNLOCK]** to activate UNLOCK function.

3   For 10 seconds **[LOCK]** states 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		
		X, Y, Z		
	EXTRUDER			
	BED LEVELING			
	Z OFFSET	Move		
		Save		
	NOZZLE CLEANING			
	CLEANING CASE			
	NETWORK	Wifi	(Options)	
			*ALWAYS	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	STOP/RESTART
				CANCEL
	POWER SAVING MODE	(Options)		
		0~100 min		
	BEEP SOUND	(Options)		
		Low		
		Middle		
		High		
	NOZZLE SETTING			
	LANGUAGE	*Korean		
		Chinese		
		English		

* indicates factory set value.

EMAIL SETTING	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 SETTING		
WEB		
SECURITY	On	
	*Off	
CLOUD	*On	
	Off	
S/W UPDATE		

* indicates factory set value.

X, Y, Z

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

`1` From the home screen, press **[SETTING]**.
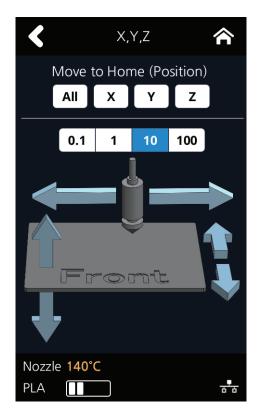
2 Press the **[X,Y,Z]** button to enter X, Y, Z.

3 Press **[0.1]**, **[1]**, **[10]**, **[100]** to select the distance user to move.
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.
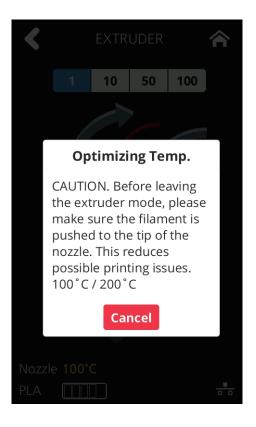
1 From the home screen, press **[SETTING]**.

2 Press the **[EXTRUDER]** to enter EXTRUDER settings.

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

4 Press (1, 10, 50, 100) to select 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.
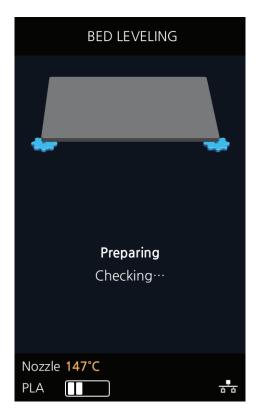
1 From the home screen, press **[SETTING]**.

2 Press the **[BED LEVELING]** button to enter BED LEVELING settings.
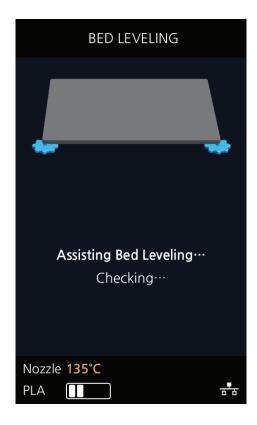
3 On the SETTING page, user is able to perform bed leveling. The bed leveling process consists of 3 steps.
From the center, the top side is measured first, and then both sides of the bottom level are measured.
If the height of the bed is perfect then levelling process will be finished but if the height of the bed and
nozzle does not match, screws will appear informing user the direction and the number of clicks(angle) of
screw rotation.
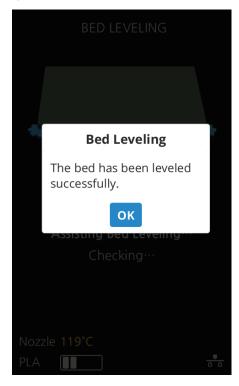
4 Turn the screw and press **[OK]**. The measuring is performed and the value to fix appears again.

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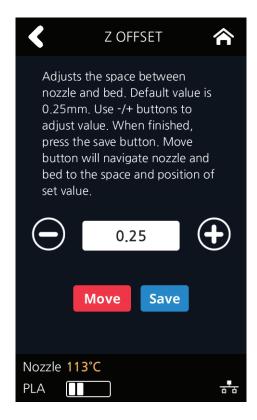
※ For higher adhesive strength between the print output and the bed, shorten the distance of the z-offset.
For less adhesive strength, widen the distance of the z-offset.

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

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

SETTING (1/4)

X,Y,Z

EXTRUDER

BED LEVELING

Z OFFSET

NOZZLE CLEANING

CLEANING CASE

NETWORK

Next

Nozzle **55°C**

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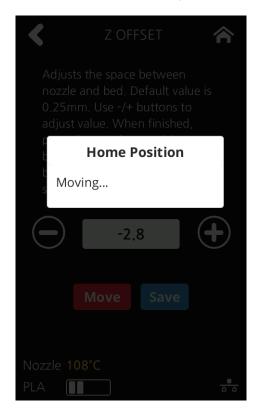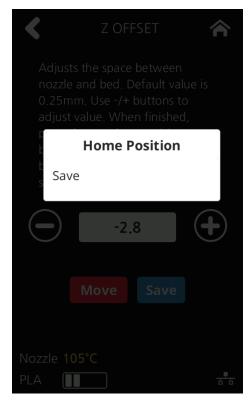
3 Default value is 0.25mm, Use **[+]**, **[-]** buttons to move in 0.05 mm unit.

Z OFFSET

Adjusts the space between nozzle and bed. Default value is 0.25mm. Use -/+ buttons to adjust value. When finished, press the save button. Move button will navigate nozzle and bed to the space and position of set value.

0.25

Move   Save

Nozzle **113°C**

PLA

4 Use the **[MOVE]** and **[SAVE]** button 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.
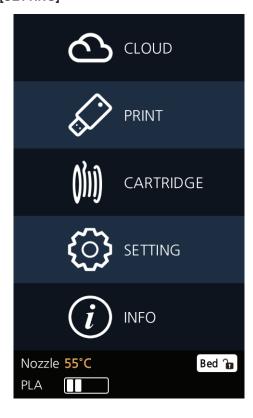
NOZZLE CLEANING

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

1 From the home screen, press **[SETTING]**.
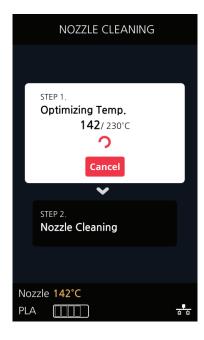
2 Press the **[NOZZLE CLEANING]** button to access NOZZLE CLEANING.
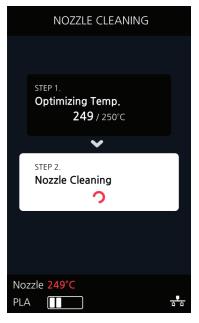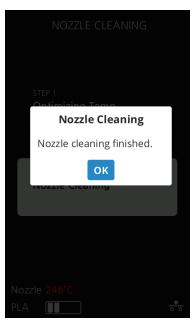
3 In order to get rid of all left over filament residue, the nozzle needs to be heated.

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.
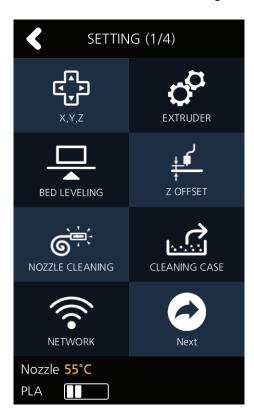
CLEANING CASE

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

1 From the home screen, press **[SETTING]**.
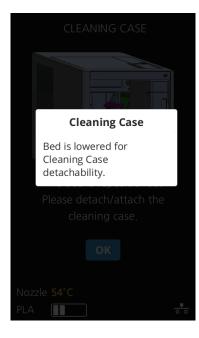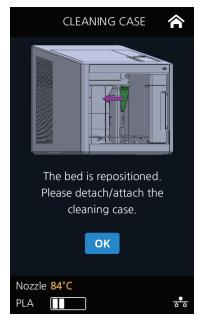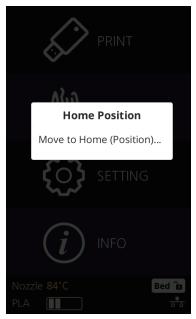
2 Press the **[CLEANING CASE]** button to enter CLEANING CASE settings.

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 the home screen, press **[SETTING]**.
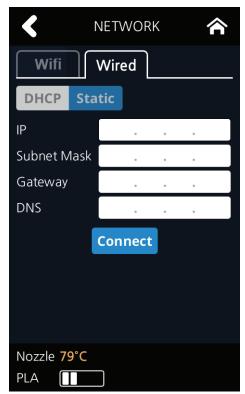
2 Press the **[NETWORK]** button to access network configuration screen.

SETTING (1/4)

X,Y,Z

EXTRUDER

BED LEVELING

Z OFFSET

NOZZLE CLEANING

CLEANING CASE

NETWORK

Next

Nozzle **55°C**

PLA

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.

NETWORK

Wifi | Wired

DHCP | Static

IP 010.015.022.008

Connect

Nozzle **79°C**

PLA

NETWORK

Wifi | Wired

DHCP | Static

IP

Subnet Mask

Gateway

DNS

Connect

Nozzle **79°C**

PLA

4　In any case to use Wifi press the **[Wifi]** tab.

Wifi setting can be turned **[ON]** or **[OFF]**.
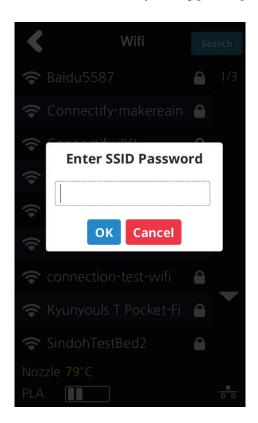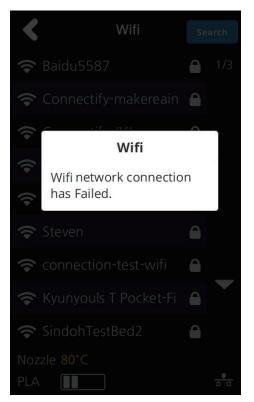
5　To select a Wifi network, click **[Choose a network…]** and the printer shows all available Wifi connections.

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 the home screen, press **[SETTING]**.
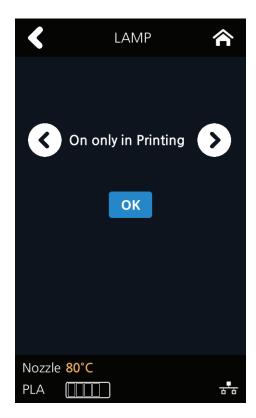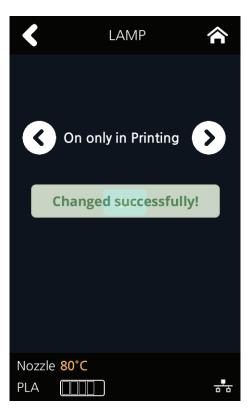
2 Press **[Next]** button to move to the next page and select **[LAMP]**.

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]**.
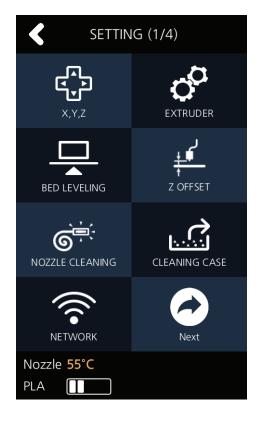
BED LOWERING

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 From the home screen, press **[SETTING]**.
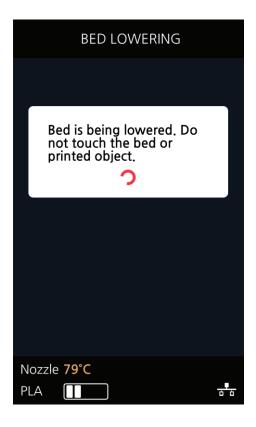
2 Press **[Next]** button to move to the next page and select **[BED LOWERING]**.
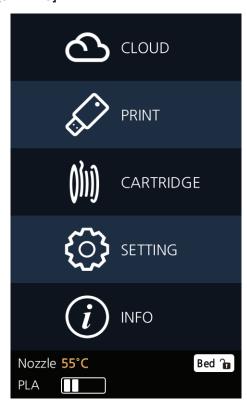
3 Upon selection, the bed will automatically be lowered.

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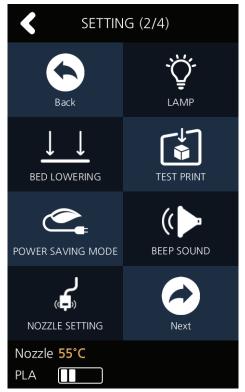
This function allows the user to test print a sample model already saved in the printer.

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

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

SETTING (1/4)	
X,Y,Z	EXTRUDER
BED LEVELING	Z OFFSET
NOZZLE CLEANING	CLEANING CASE
NETWORK	Next

Nozzle 55°C
PLA

SETTING (2/4)	
Back	LAMP
BED LOWERING	TEST PRINT
POWER SAVING MODE	BEEP SOUND
NOZZLE SETTING	Next

Nozzle 55°C
PLA

3 Select the test file to print.

Test Print ⌂

.g line test_PLA.gcode   1/1

Nozzle 148°C
PLA

PREVIEW ⌂

line test_PLA.gcode
⊘ 0 hours23min

W20, D20, H10

Nozzle 146°C
PLA

POWER SAVING MODE
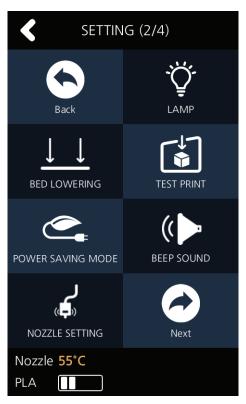
Function to set timer for printer energy saver mode.

1 From the home screen, press **[SETTING]**.
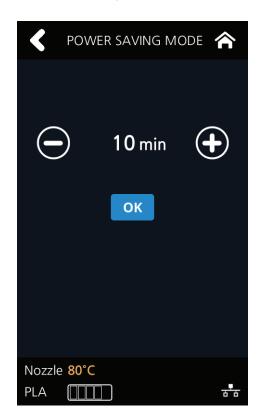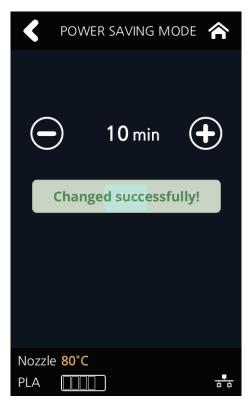
2 Press **[Next]** button to move to the next page and select **[POWER SAVING MODE]**.

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.
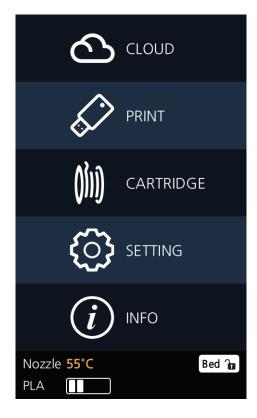
BEEP SOUND

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

1 From the home screen, press **[SETTING]**.
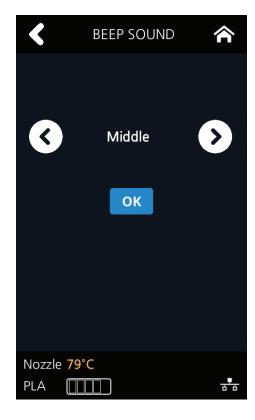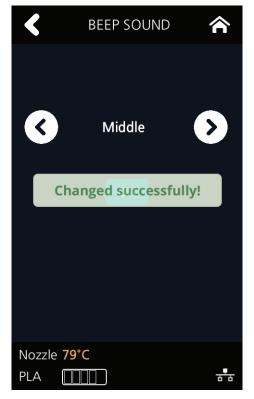
2 Press **[Next]** button to move to the next page and select **[BEEP SOUND]**.

SETTING (1/4)

X,Y,Z EXTRUDER

BED LEVELING Z OFFSET

NOZZLE CLEANING CLEANING CASE

NETWORK Next

Nozzle **55°C**
PLA

SETTING (2/4)

Back LAMP

BED LOWERING TEST PRINT

POWER SAVING MODE BEEP SOUND

NOZZLE SETTING Next

Nozzle **55°C**
PLA

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

BEEP SOUND

Middle

OK

Nozzle **79°C**
PLA

BEEP SOUND

Middle

Changed successfully!

Nozzle **79°C**
PLA
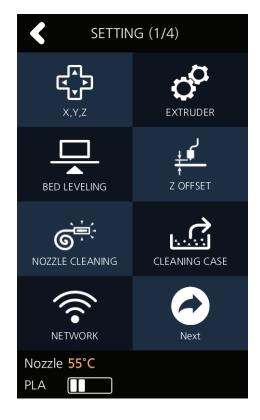
NOZZLE SETTING

Use this menu only when the nozzle has been replaced. (Refer to **P.5-9 「4.3 Nozzle Replacement」**)

1 From the home screen, press **[SETTING]**.
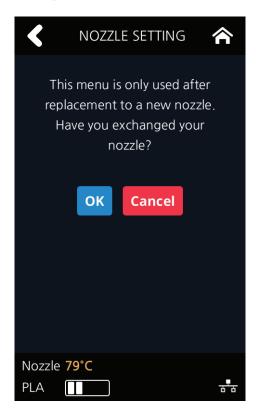
2 Press **[Next]** button to move to the next page and select **[NOZZLE SETTING]**.
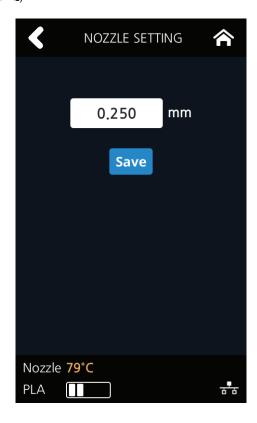
3 **"NOZZLE SETTING"** menu is a function that should be used after replacement to a new nozzle.

Entering the menu, a notification message will pop up. Press the **[OK]** button to move on to the next menu.

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「4.3 Nozzle Replacement」**)

LANGUAGE

Menu to set language for machine.

1 From the home screen, press **[SETTING]**.
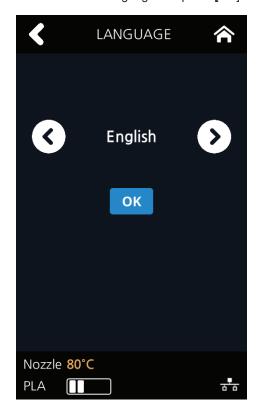
2 Press **[Next]** 2 times and select **[LANGUAGE]**.
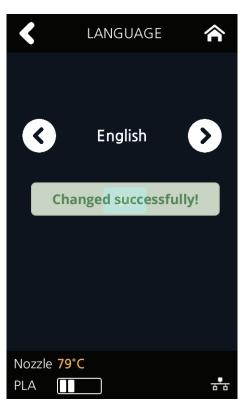
3 Currently supported languages are **[Korean, Chinese, English]**.
Using the arrows select a language and press **[OK]**.
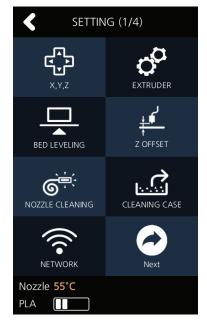
E-MAIL
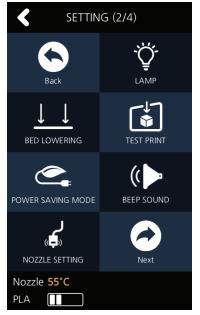
The printer takes an image of the current printing status and sends the information to the email address specified. Printer will send information of completion (%) based on the PC program standard settings. Maximum of 10 emails can be sent.

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

1 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.

Catergory	Details
Email Address	The sender info to be seen by the recipient (ex> sender@domain.com) The recipient can reply to this email address
Address	SMTP server address (ex> smtp.domain.com) - This is the server address of the email service (xxxx@gmail.com)
Prot	SMTP Server Port (ex> 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 does not work, please use 25, 587 or the port number that the service provider recommends.
ID	SMTP server login ID (ex> sender) - Enter the ID for your email. - Depending on the service provider, a full email address may be requested.
PW	SMTP server login password (ex>********) - Enter the password for your email
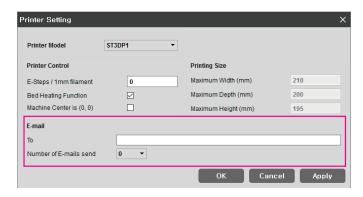
Inquire your email server administrator or services provider for detailed information of the input information on each category. Especially for SMTP server log in ID, it may be needed to enter the entire email address which includes the domain name.

This set up is for the outgoing notificaion email. The outgoing email function uses the SMTP (Simple Main Transfer Protocol) service. Therefore, you may have to go in to your email service provider's settings and set the SMTP usage active.

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 from 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 slicer program.

Under 'email', 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 ;
ex> recipient1@test.com; recipient2@test.com; recipient3@test.com

The maximum number of notification emails that can be sent is 10.
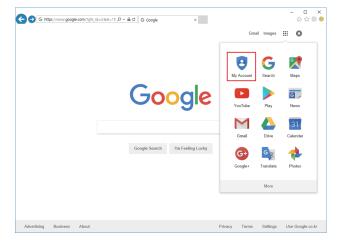
Regardless of the number entered for the email notification, an email will be sent out for the user to see if the initial email notification is working properly by default. email will be sent out one more time than the number that the user entered. However, the number of email that is sent will not exceed 10 times.
(When user selects 10 times, the notification email will be sent out 10 times)
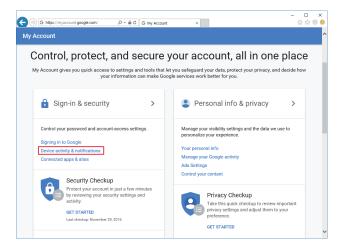
❖ **In the case of using a Google email account.**

According to Gmail policies, the following settings have to be met.
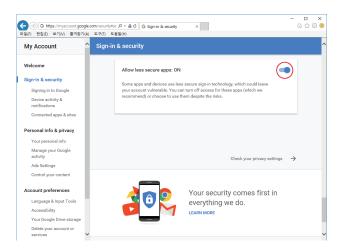
- **Google account setting**

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&Secruity"** click **"Device activity & notifications"**

4 Scroll down and there is a **"Allow less scure apps"** criteria. Set it to **"On"** and you will be enble for use.

- **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 measurments 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.
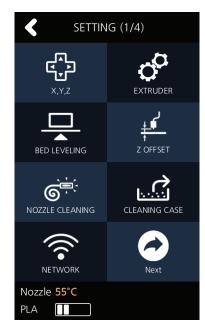
TIME SETTING
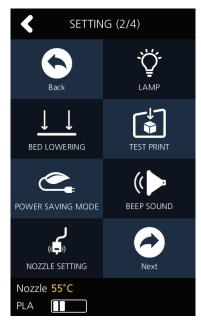
You can view or change the time setting.

1 From the home screen, press **[SETTING]**.
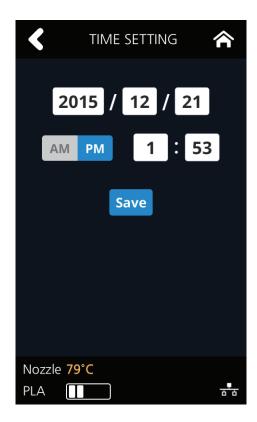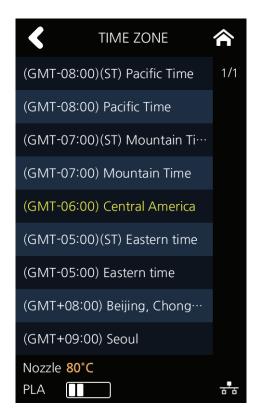
2 Press **[Next]** 2 times and select **[TIME SETTING]**.

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]**.

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, press **[SETTING]**.

2 Press **[Next]** 2 times and select **[WEB]**.

SETTING (1/4)	SETTING (2/4)	SETTING (3/4)
X,Y,Z · EXTRUDER	Back · LAMP	Back · LANGUAGE
BED LEVELING · Z OFFSET	BED LOWERING · TEST PRINT	E-MAIL · UNIT
NOZZLE CLEANING · CLEANING CASE	POWER SAVING MODE · BEEP SOUND	TIME SETTING · TIME ZONE
NETWORK · Next	NOZZLE SETTING · Next	WEB · Next
Nozzle 55°C PLA	Nozzle 55°C PLA	Nozzle 55°C PLA

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/

Sindoh

3DWOX
A Million possibilities at the push of a Button

Safety & Convenience
Easy to use but so much to offer and with the integration of
everyday technology, reliability?
See for yourself

SECURITY

Asks for the printer's password, so that only the authorized personnel can print. (Correct password has to be typed in order to switch the Security settings from **"Yes"** to **"No"**)

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

2 Press **[Next]** 3 times and select **[SECURITY]**.
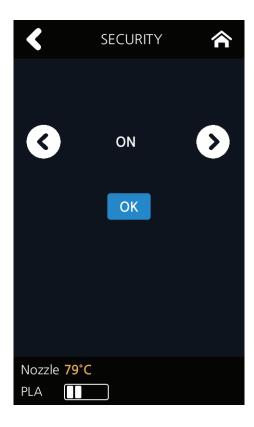
3 Press the arrow to switch the options for the Security settings and press **[OK]** to save.

CLOUD

The user can use Apps for Kids to add or remove the Cloud Print function on the first page of the user interface. The machine will automatically reboot once the Cloud function setting is changed.

1 From the home screen, press **[SETTING]**.
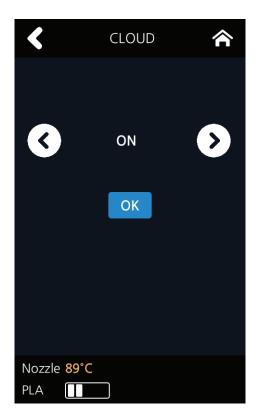
2 Press **[Next]** 3 times and select **[CLOUD]**.

3 Select whether to add or remove the function by using the arrow key and then press **[OK]** to save.

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]**.
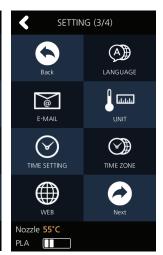
2 Press **[Next]** 3 times and select **[S/W UPDATE]**.
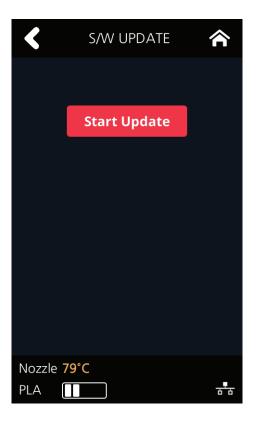
3 Press the **[Start Update]** button, and printer will start updating. After it has finished, restart the printer and updates will be applied.

1.3   Information

INFORMATION	Name		
	PW		
	Change PW & Name	Name	
		PW	
		Confirm PW	
		Cancel	
		OK	
	Model Name		
	Serial No.		
	Version		
	IP		
	MAC		
	Company		
	Website		
	HISTORY		
	Guide		

In this menu user is able to view the detail information of the printer, and is able to set name and PW. Moreover in the **[HISTORY]** menu user is able to view all the records of past works.
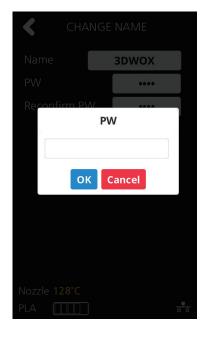
1 From the home screen, press **[INFO]**.

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
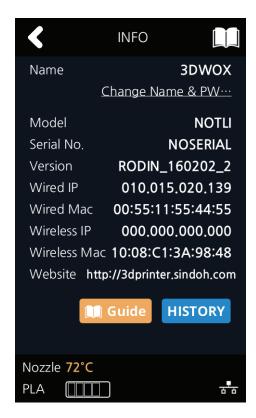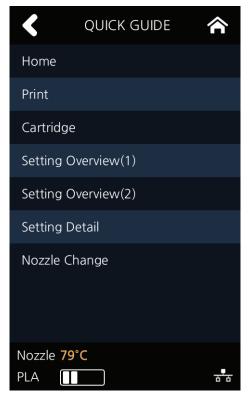
– *Initial password is '0000'.

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

INFO	QUICK GUIDE
Name **3DWOX**	Home
Change Name & PW···	Print
Model **NOTLI**	Cartridge
Serial No. **NOSERIAL**	Setting Overview(1)
Version **RODIN_160202_2**	Setting Overview(2)
Wired IP **010.015.020.139**	Setting Detail
Wired Mac **00:55:11:55:44:55**	Nozzle Change
Wireless IP **000.000.000.000**	
Wireless Mac **10:08:C1:3A:98:48**	
Website **http://3dprinter.sindoh.com**	
Guide **HISTORY**	
Nozzle **72°C**	Nozzle **79°C**
PLA	PLA

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

DP201 Series
USER MANUAL

Printing

3

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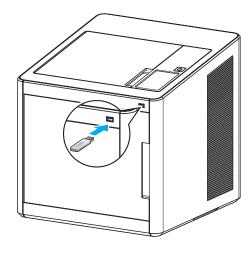
User can print printables via USB flash drive, USB cable, or over the network.

The following on the printer means it is ready to start print.
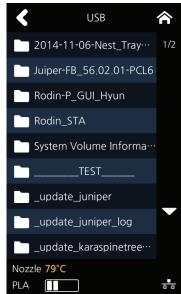
1.1 Printing with USB Flash Drive
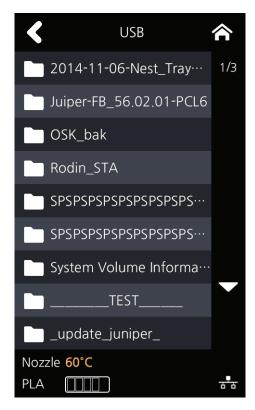
1 Connecting USB flash drive to machine.
In order to print using an USB flash drive, insert the flash drive into the USB port.
When the USB flash drive is connected while in the home screen, a list of files in the USB appears.
When **[PRINT]** is selected without the USB flash drive connected, a message requesting for USB connection will pop up and once USB flash drive is connected a list of the USB files will emerge.

2 Printing Files

Select a file to print in the USB list.
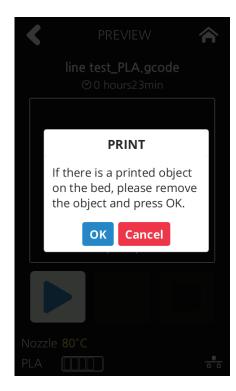
3 Print Preview
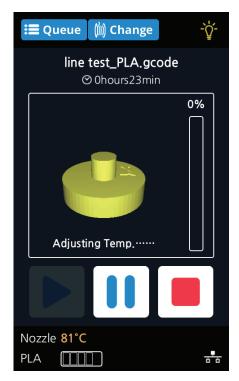
Once selected, a preview of the model appears on the screen.

4 Printing

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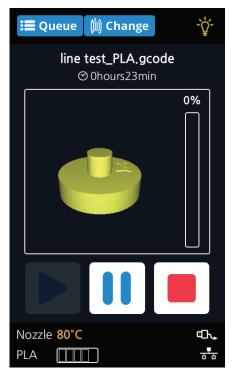
5 Pausing Print

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

Press [▶] again and nozzle is heated again, and the printer will continue printing.
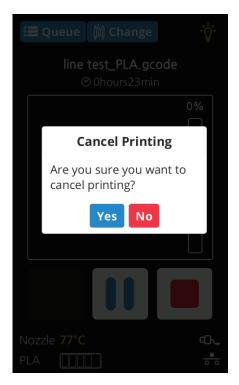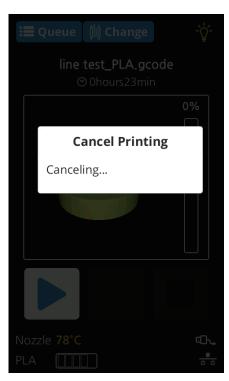
6 Exchanging Cartridge during print

While printing, press the **[change]** button to replace with a new cartridge.

7 Print Cancelation

During print pressing [■] button a message pops up and asks for confirmation on the print canceling.

When confirmed, the rest printing job is canceled.
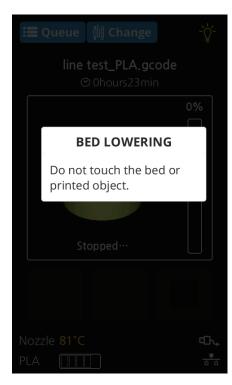
Another message requesting the removable of left print will popup press **[OK]** and screen will return to home screen.
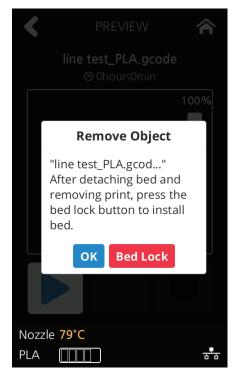
8 Printing Completion

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 concurrent network of the printer.

2 Run PC printing program.

3 Press the **"Print"** button.

4 Following Steps (Same as steps 3~7 of printing via USB)

📎 **Note**

– For fan speed configuration, Pause, operation termination, please refer to **"USB printing"** section.

1.3 CLOUD Print

The printer communicates with the Apps for Kids server to perform Cloud print.

If this is the first time using the Cloud function, the user's printer needs to be registered on the server before using this function.
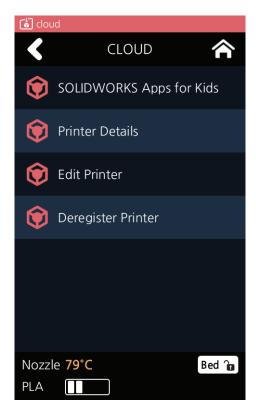
1 Select **[CLOUD]** on the first page of the user interface.
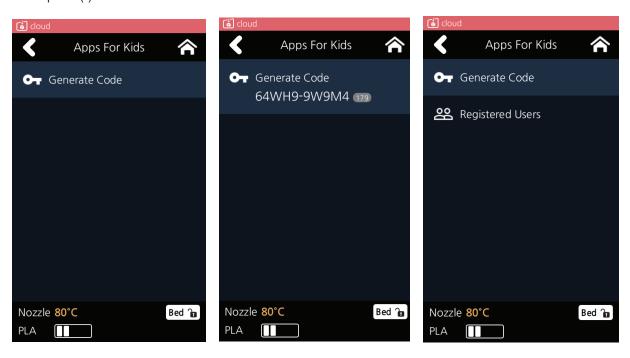
2 If this is the first time using the **[CLOUD]** function, the printer needs to be registered first.
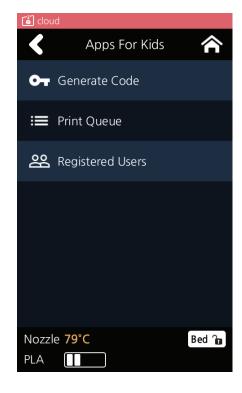(If the printer is already registered, please see the details on step" 3 ")

3 Once the printer name is registered on the server, the new page will appear and you will have access to different menus.
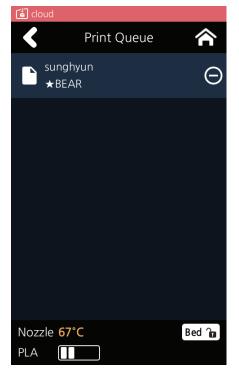
4 Press **[SOLIDWORKS Apps for Kids]** and press **[Generate Code]** to connect to the printer with the account created on **"Apps for kids"**. If there are other users registered to the printer, **[Registered Users]** will appear and this menu will show the list of registered users to this printer. If you would like to remove any users, you can press (-) to delete them.
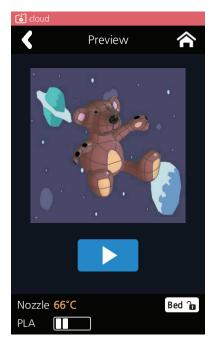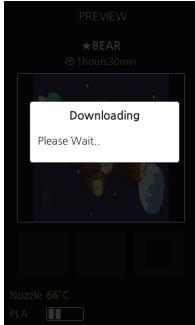

5 Once the print file is sent from **"Apps for kids"**, the **[Print Queue]** menu will appear and this will show the name of the print file and the name of the user who sent the print file. The print files on the list can be deleted by pressing (-).
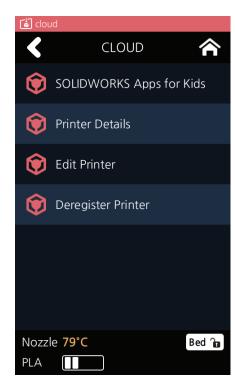
6 Once the print file is selected, the preview image will appear. Pressing [▶] will start the download of the selected file from the cloud server and then it will start the print automatically.
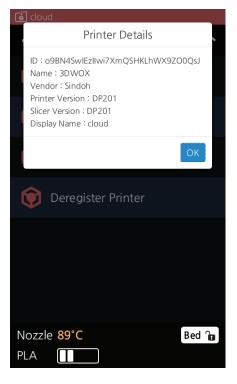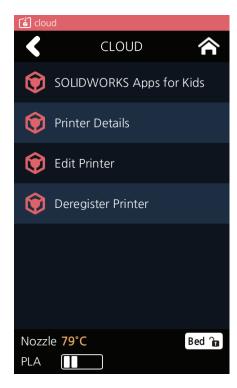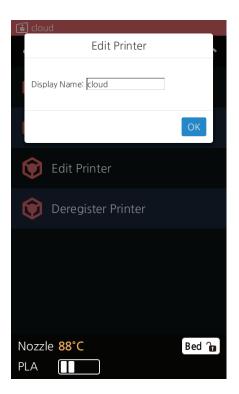

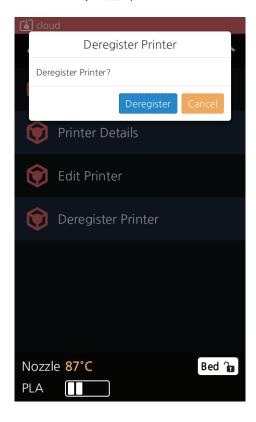7 The detail of the printer can be seen from the **[Print Detail]** under the **[CLOUD]** menu.

8 The **[Display Name]** can be changed on the **[Edit Printer]** under the **[CLOUD]** menu.
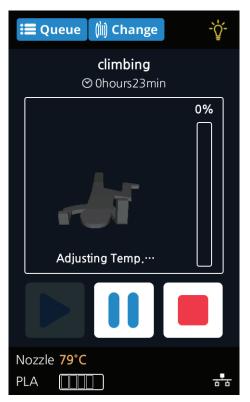

9 The registered printer on the server can be deregistered by selecting the **[Deregister Printer]** under the **[CLOUD]** menu. Once the printer is deregistered, the **"Apps for Kids"** user list and the **[Print Queue]** list will be reset. In order to reuse the **[CLOUD]** function after deregistering the printer, the printer will have to be reregistered on the server. (Please refer to step " 2 ")
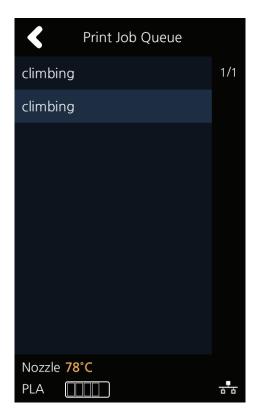
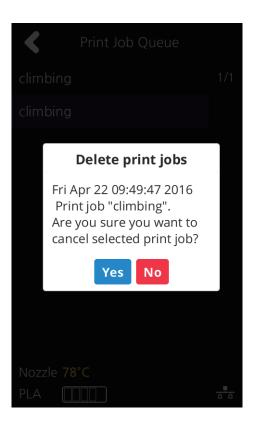## 1.4   Print Job Management

You can manage print jobs in queue.

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

2 The print jobs in queue are listed.

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

Print Job Queue

climbing   1/1

climbing

Delete print jobs

Fri Apr 22 09:49:47 2016
Print job "climbing".
Are you sure you want to
cancel selected print job?

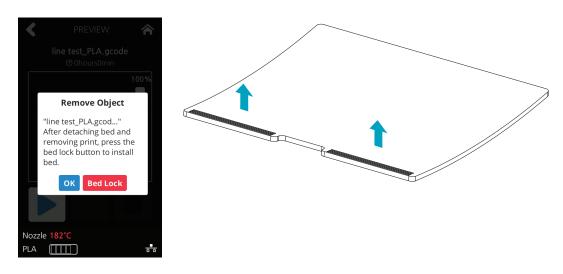Yes   No

Nozzle **78°C**
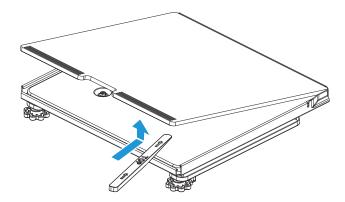PLA

DP201 Series
USER MANUAL

Printed Output Check

4

1. Printed Output Check

1.1 Detaching Printed Output

1 Lowering the Bed

After printing is finished, wait until the bed is lowered to the bottom of the printer.

2 Detaching Bed

The Flexible Bed is detached if you hold the bed handle and lift it.

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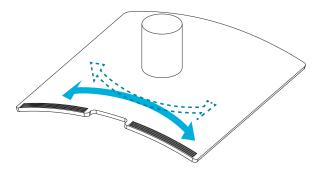

⚠ Caution

– **When you have printed the large object, be careful when removing the bed so that the object does not touch the interior of the printer.**

3 Detaching Printed

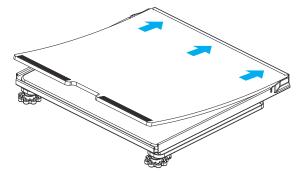Detach the object from the Flexible Bed. The object can be easily detached by bending the Flexible Bed up and down.

⚠ **Caution**
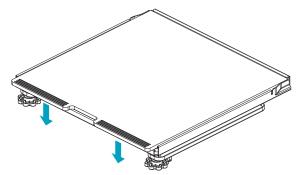
  – **Please do not use any tools with sharp edges as those can damage the surface of the bed.**

4 Bed Installation

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

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

② Place Flexible Bed fix to position.

⚠ **Caution**

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

1.2 Improving Printing Quality

1 Nozzle, Bed temperature

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 is the only process.

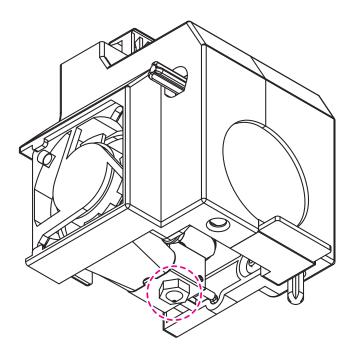| Material	Nozzle Optimum Temperature
PLA	190℃ ~ 210℃

2 Support

For higher printing quality, minimize the use of supports.

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

3 If there is a burn mark on an output

Any filament left near the nozzle jet can be be burned at high temperature and leave a mark on a printed model.

In order to prevent this from happening, please remove the filament remainder near the nozzle jet.
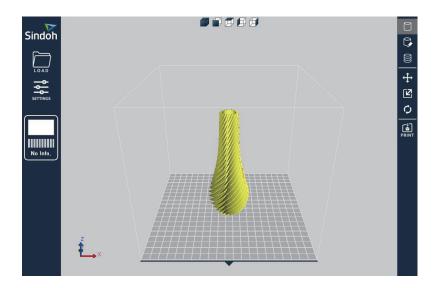

4 Articular shaped part

An articular shaped part of 3D model could fall apart from the model in middle of printing.

Please reinforce the part.

5 If there is a steep sloped surface or a thin layered surface on the right side of the model, printing quality may not be guaranteed. In this case, you can improve the printing quality of the parts by rotating the model in Y axis.

6 When printing a model with thin leaves on its surface

When printing a model with a thin rib shaped part as shown in the picture below, go to **[Advanced Mode]** → **[Advanced Mode (3)]** and then activate **[Print Only Follow Mesh Surface]** option to improve the printing quality.

Since this method can consume more filaments than the usual amount, we suggest you to deactivate the **[Print Only Follow Mesh Surface]** option when printing other models.
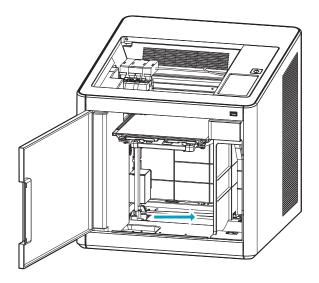

7 When printing a model with flat upper surface

In order to improve the printing quality, please go to **[Advanced Mode]** → **[Settings]** and increase the value of **[Fill Density]**.

Since this method can consume more filaments than the usual amount, we suggest you to change the default value to '15' when printing other models.

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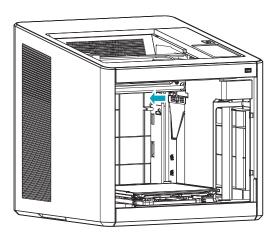
1   Please visit http://3dprinter.sindoh.com

DP201 Series
USER MANUAL

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 debris 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	Message definition	Solution
Booting Waiting for Booting this machine.	Message means on the first boot user must wait until booting as finished.	Once the boot up process is over and machine is ready, this message disappears automatically.
EC301~308 (Nozzle)	Malfunction of temperature sensor of nozzle and bed heater.	Reboot the printer, if problem presist then request A/S.
EC311, EC312, EC313	Error related with leveling sensor operation.	Please check and remove and 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.
EC322	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.
ERROR EC 5XX. Reboot This Machine	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 remove and reboot printer.
EC401	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.
Filament End Filament exhaustion. Please replace cartridge.	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.
Filament End Detect Filament disconnetion. Removal is required.	Message appears when there is remaining filament but somewhere a part of the filament has disconnected.	Following the instructions on the LCD, first clean any filament debris, then install and load a new cartridge.
Filament Loaded Filament is already loaded. Please check machine states	Message appears when filament is loaded already but the load button was pushed again.	Automatically return to normal state.
Filament Loaded Filament has already unloaded. Please check machine states	Message appears when filament has unloaded already but the unload button was pushed again.	Automatically return to normal state.
EC 431 Can't recognize the cartridge. Please remove the cartridge and check the direction of the smart chip.	Occurs when printer is unable to detect cartridge.	Automatically UNLOCK screen will be activated. Reinstall cartridge.

| Message	Message definition	Solution
EC 432 **Unable to read SMART CHIP.** **Unload cartridge and reinstall**	Occurs when printer is able to sense filament inside but is unable to detect cartridge.	**[OK]** button will appear press the button to merge to UNLOAD screen. Reinstall cartridge.
EC 471 **Detect cartridge load** **incomplete. Use Extruder Jog** **mode to move Filament to the** **end of Nozzle.**	Message appears when during booting Load was incomplete.	Pressing **[OK]** displays EXTRUDER screen. Feed the filament to the end of Nozzle.
EC 481 **Detect cartridge unload is** **incomplete. Restart Unload** **process**	Message appears when unload was incomplete.	Pressing **[OK]** printer will reactivate unload.
EC 433 **problem with cartridge level** **detection. Please replace** **cartridge**	Message will appear if there are more than 5% difference between the cartridge quantity and recorded usage levels.	Replace Cartridge.
EC 472, 473, 476, 482, 483, **484, 487, 488** **Please remove cartridge.** **Please check if there is any** **filament left in the tube or on** **the mouth of the extruder.**	Problem has occurred during the load/unload process, remaining filament must be removed.	Follow the on-screen instructions and remove all remaining filament. (**P. 5-6** Image reference)
EC 411 **Remove cartridge, check** **status of filament, after** **reinsert cartridge and activate** **LOAD**	Occurs when filament is not correctly inserted during LOAD.	Follow the on-screen instructions and remove cartridge, cut filament, reinstall and run again.
EC 412 **After removing cartridge,** **cut away any sticking out** **filament and re-run the LOAD** **process.**	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.
EC 422, EC 423 **Filament is not coming out.** **Press the UNLOCK key below** **and remove the cartridge,** **after use the EXTRUDER JOG** **mode to manually take out the** **filament.**	Occurs when filament does not come out during UNLOAD.	Follow the on-screen instructions and remove cartridge, and any filament debris.
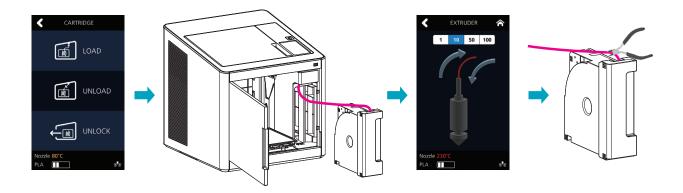
Message	Message definition	Solution

EC 1001
  Model has exceeded the minimum print range of the "X" axis.
EC 1003
  Model has exceeded the minimum print range of the "Y" axis.
EC 1005
  Model has exceeded the minimum print range of the "Z" axis.
	This error code will appear if the printing model has exceeded the minimum print range.	Press the **[OK]** button, and the pop up message will disappear.

EC 1002
  Model has exceeded the maximum print range of the "X" axis
EC 1004
  Model has exceeded the maximum print range of the "Y" axis
EC 1006
  Model has exceeded the maximum print range of the "Z" axis
	This error code will appear if the printing model has exceeded the maximum printing range.	Press the **[OK]** button, and the pop up message will disappear.

3. Problems and Solutions

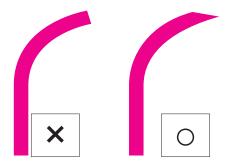## 3.1 If filament does not come out of the nozzle (Fix for EC 401)

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.
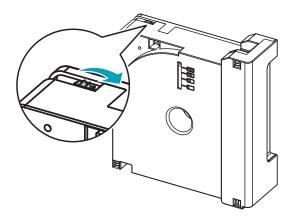

📝 **Note** **Cutting Filament Tip**

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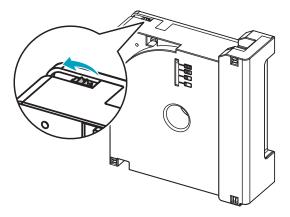
3.2 In Cases where Filament is Cut Between the Extruder and Nozzle

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 bottom of the black indicator is unable to 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

Flexible Bed is consumable.
Although the Flexible Bed's surface has been processed for attachment of an output without using glue or tape,
it can lose adhesive strength due to user's habits or shape of the output or numerous number of printings.
In such cases, please replace the Flexible Bed with a new one.

Removing Flexible Bed

🔍 Reference

– Removing aluminum bed **P. 4-2「1.1 Detaching Printed Output」**.

Installing Flexible Bed

🔍 Reference

– **P. 4-2「1.1 Detaching Printed Output」** please use reference.

✎ Note

– If there is a dirt or other contamination on the surface of the Flexible Bed, a printed output may not be well attached to the bed.
In such a case, please wipe the surface of the Flexible Bed using soft cleaning cloth moistened with neutral detergent.

4.2   Cartridge Replacement

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

1 Initiate Cartridge Unload.

🔍 Reference

- Methods of removing printable please refer to **P. 2-5「UNLOAD」**

2 Initiate Cartridge Load

🔍 Reference

– For details on cartridge load, please refer to **P. 2-4「LOAD」**
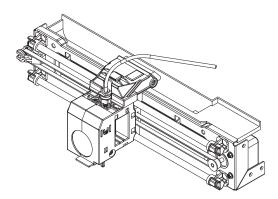
✎ Note

– When changing filament color, user may experience previous used color filament coming out.
If the filament is of same type, this will not effect the print quality but may mix in color.
Difference in material may effect printing quality.
To fix problem, after changing cartridge, please run nozzle cleaning (**P. 2-19「NOZZLE CLEANING」** reference) before printing.
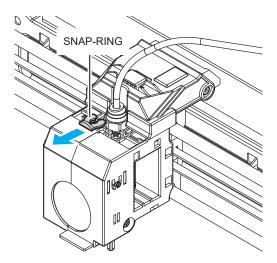
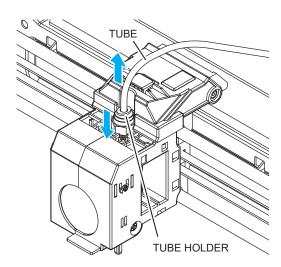## 4.3   Nozzle Replacement

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.
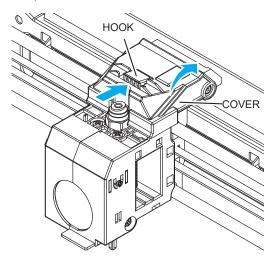

1 Remove Snap-Ring.

SNAP-RING

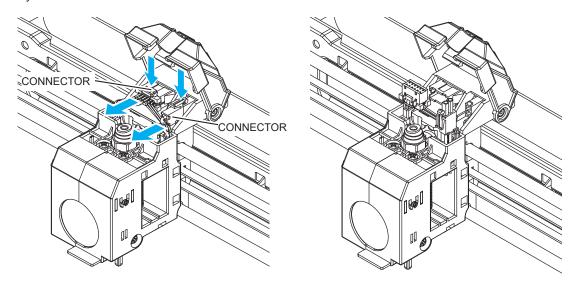**2** Press the tube holder and pull the tube to remove.

TUBE

TUBE HOLDER

3 Push the hook on the top, and lift open the cover.
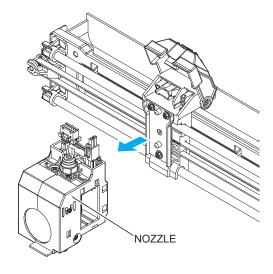
4 Push the 2 hooks on the harness connector to disengage the connector.

To remove the left hand side connector, press on the hook and once you hear a click sound. Then you can safely disconnect.
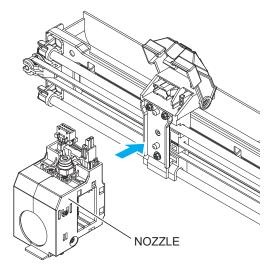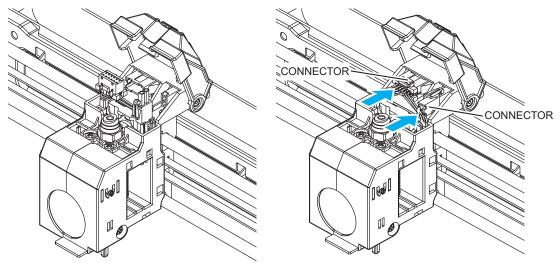

5 Pull the nozzle component to detach.

Assembling the Nozzle

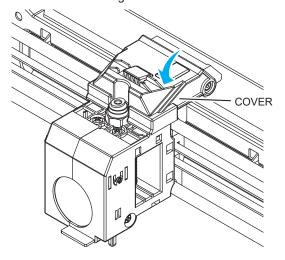Initiate process ONLY after power of machine is turned OFF, and after all power cables are disconnected.

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.

NOZZLE

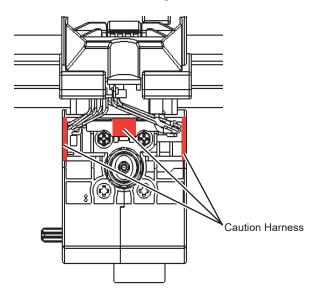2 Insert the 2 connectors and make sure to hear the clicking sound.

CONNECTOR

CONNECTOR

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

COVER

> 📎 **Note**

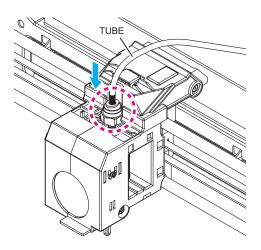– Please be careful not to position the harness near the left, right and center section of the cover.

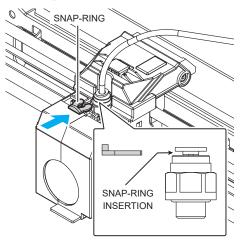 The harness can get caught in between covers when closing.

Caution Harness
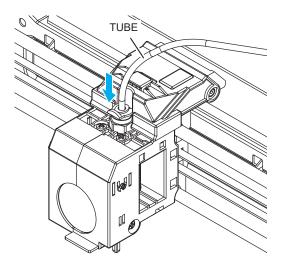
4 Insert Tube.

> 📎 **Note**

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

TUBE

5 Slightly lifting the tube and insert the Snap-Ring.

Insert the Snap-Ring in between the Fitting and Holder.

SNAP-RING

SNAP-RING
INSERTION

6 Finally, push tube in all the way through.

– Approximately 1.5mm can be additionally inserted.

TUBE

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

DP201 Series
USER MANUAL

Appendix

6

1. Type of Consumables (Material, Color)

Material : PLA

Color : White, Black, Gray, Green, Blue, Yellow, Red, Pink, Violet

Notice to Users

Type	Notice
• Class A equipment (commercial telecast equipment)	This equipment is a Class A EMC (electromagnetic compatible) equipment, and should not be used in household locations
• Class B equipment (domestic telecast equipment)	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.

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