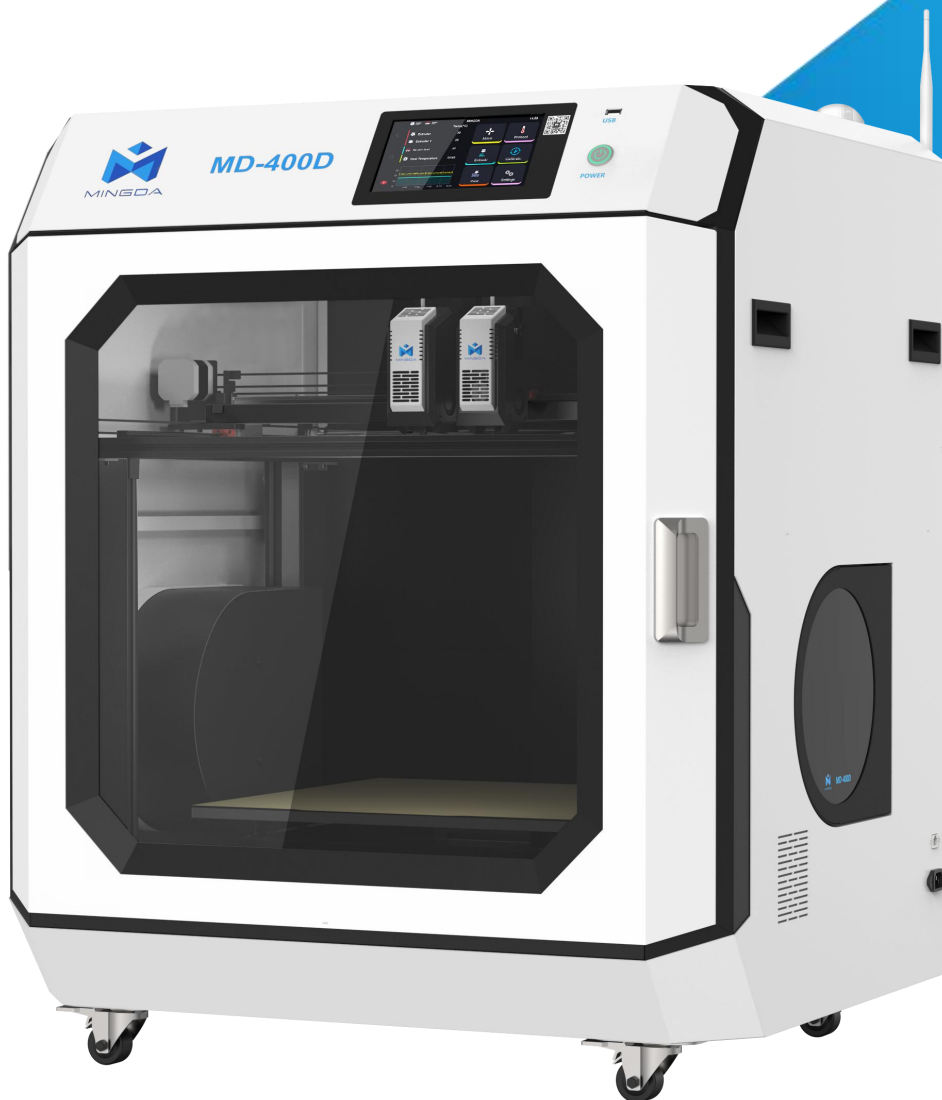




User Manual

[MD-400D 3D Printer]

*Please read this guide carefully before using this printer



Shenzhen MINGDA Technology Co.,Ltd

V1.3

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Thank you for choosing MINGDA Technology's products!

For the best experience, please read this user manual carefully and follow the instructions to operate the printer. If you encounter any issues with the printer, please contact us using the contact information provided at the end of this user manual. Our team is always ready to provide you with high-quality service.

To enhance your usage of our product, you can also learn how to use the printer through the following means:

1. User Manual: Relevant instructions and videos can be found on the included USB drive.
2. You can also visit our official website (www.3dmingda.com) for information on software, hardware, contact details, device instructions, device specifications, and warranty information, among other things.

Cautionary Notes

1. Please do not place the printer in environments with significant vibrations or instability, as machine shaking can affect the print quality.
2. Avoid touching the nozzle and heated bed while the printer is in operation to prevent potential burns from high temperatures, resulting in personal injury.
3. Refrain from moving the device during the printing process to prevent accidents and injuries.
4. Do not dismantle the equipment or alter circuit settings without authorization.
5. Avoid using the device in high-temperature or humid environments to prevent compromising device performance or creating safety hazards.
6. In case of an emergency, immediately cease using the device and power it off.

1. Overview

This manual provides instructions on the usage of the 3D printer, covering aspects such as an overall introduction to the device, operational procedures, maintenance, and care. The aim of this manual is to assist you in correctly using and maintaining the 3D printer, ensuring device performance and safety, extending the lifespan of the equipment, and enhancing print quality. We hope that you follow the requirements and recommendations outlined in this manual during usage, and maintain attention to and care for the equipment. Thank you for choosing our product, and we wish you a pleasant experience!

2. Device Introduction

Device Parameters

Basic Parameters	
Product Model	MD-400D
Machine Dimensions	690*790*910mm
Max. Build Dimensions	400*400*400mm
Duplicate Mode	400(2*200)*400*400 mm
Mirror Mode	320(2*160)*400*400 mm
Print Technology	Fused Deposition Modeling (FDM)
Rated Voltage	100-240V, 50/60Hz
Rated Power	800W
Ambient temperature	10°C-30°C / 50°F-86°F
Extruders	Two
Max. Nozzle Temperature	350°C
Max. Bed Temperature	110°C
Screen	7inch touch screen
Printing Method	USB Flash Disk / LAN Printing
Connection	USB Flash Disk / WIFI / Ethernet
Power Loss Recovery	Yes
Filament Detection	Yes
Fast Auto leveling	Yes
Camera	Yes
Fast Calibrate Offset	Yes
Supported Filament	Common filament: PLA, TPU, PETG; Engineering filament: PET-CF/GF, HtPA-CF/GF, ABS-GF25/CF20, HtPA-GF25/CF25; Support filament: S-Mulit, S-HtPA, PVA, etc

Packing List



Tool List



U-disk



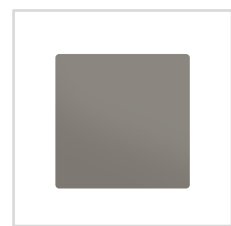
Nozzle*2



Diagonal pliers



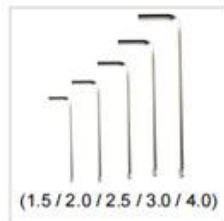
7mm Sleeve



Auxiliary
calibration board



Power cable



Allen wrench



Warning lights



Antenna

Note: The 400D is equipped with a hardened steel nozzle. If you frequently print high-temperature materials, long-term printing will cause wear to the nozzle. We recommend replacing the nozzle every 500 printing hours.

3. Operational Steps

Part assembly

1. Install the warning light.



Green light: Indicates that the printer is working properly.

Red light: Indicates that the printer is in an emergency stop or fault state, requiring immediate attention or repair by the user. For example, overload, short circuit, or error message on the screen.

Yellow light: Indicates that the printer is in a warning or abnormal state, requiring user attention or intervention. For example, insufficient filament or paused printing.

2. Install the antenna.



3. Power on



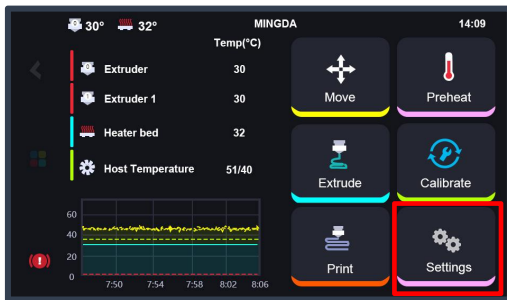
Insert a power socket, Press the switch



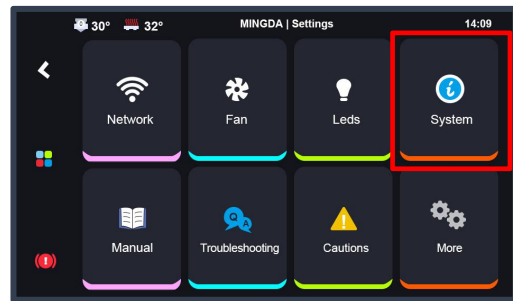
Press the power to turn on the printer

4. Power off

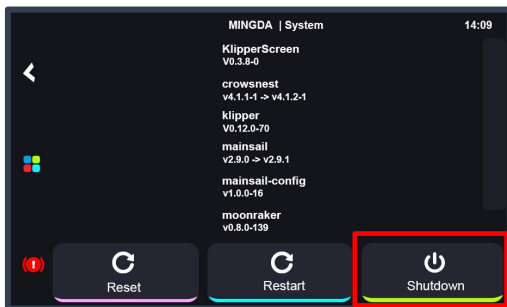
**When you turn off the printer, please don't press the power directly!
Click "Settings-System-Shutdown-Printer" to turn off the printer**



Click the "Settings"



Click the "System"

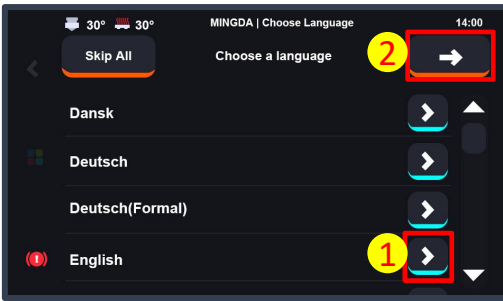


Click the "Shutdown"

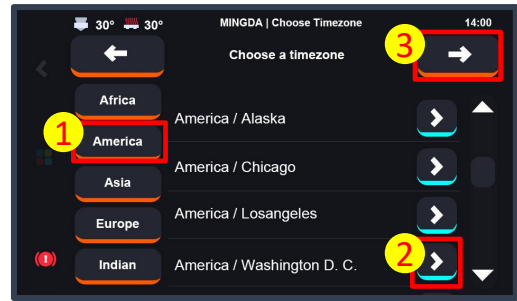


Startup Configuration

1. Select Language and Time Zone



Click to choose the language, and click to proceed to the next step.



Select timezone, click to confirm, and click to next step.
[Time zone settings will take effect after connecting to Wi-Fi and restarting the system.]

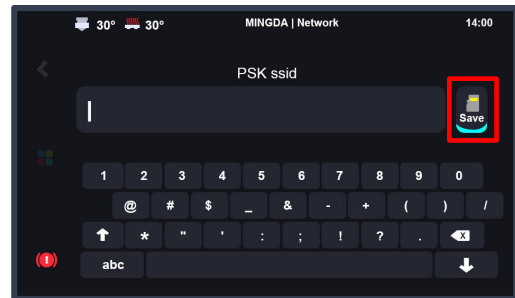
2. Wi-Fi



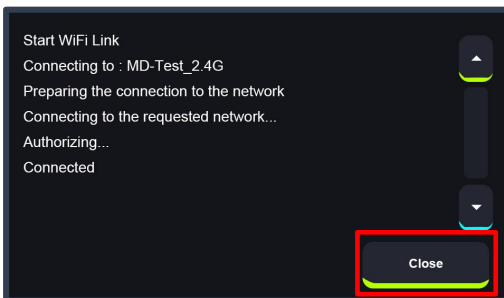
Note: If printer can't detect your WiFi, you can click to skip this step. After finishing the startup wizard, move the printer to a position which have stronger WiFi signal, connect it again.



Select the WiFi and click
(If your WiFi cannot be displayed for more than 20s, please click to refresh)



Enter the WiFi password and click

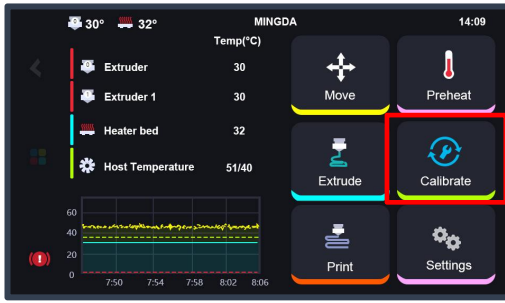


When 'connected' appears on the screen, please click



After connection, please remember the IP address and check the page 20 to connect the printer with the PC or laptop. Click to enter the main interface. Wait for printer to restart.

Printer Calibration



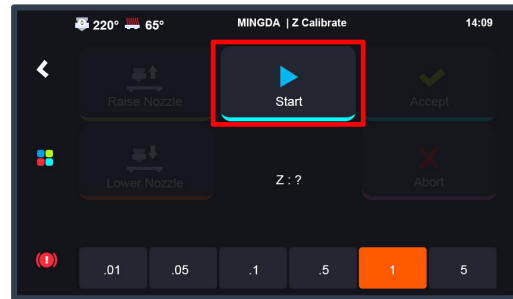
Tip: Please follow the sequence shown in the diagram to calibrate step by step.

Z Calibrate → Leveling → XY Offset → Z Offset → Input Shaper

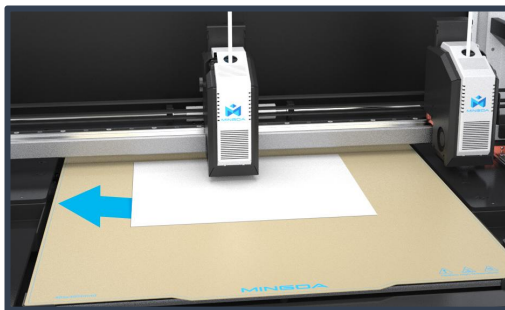
1. Z Calibrate



Click "Z Calibrate"



Click "Start" , wait Z axis calibrating and click "Accept" and confirm

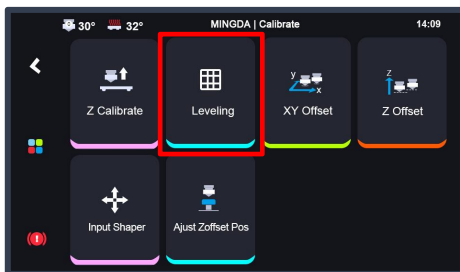


Put an A4 paper between the nozzle and heated bed.

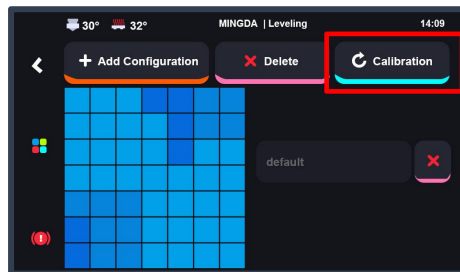


While moving the A4 paper back and forth, adjust and . When you feel slight resistance as the paper moves, you can click the to save.

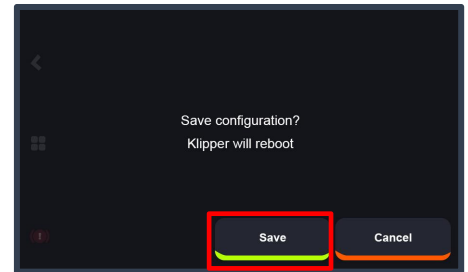
2. Auto Bed Leveling



Click "Leveling"

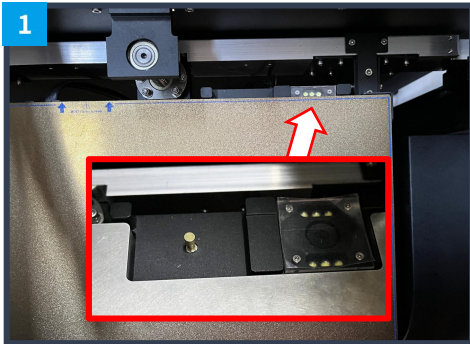


Click to start auto-leveling, which will take approximately 3 minutes

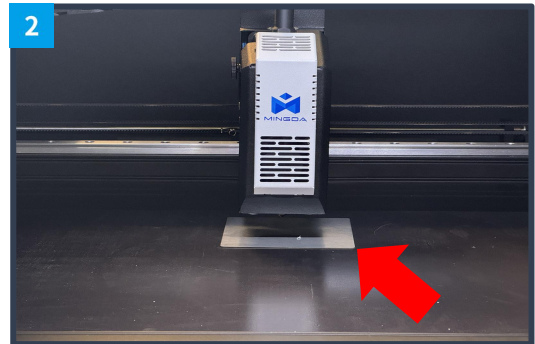


Click to save the value, the printer will reboot automatically.

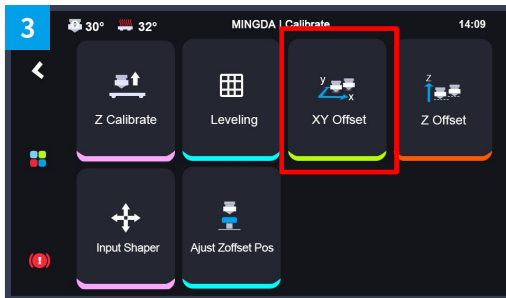
3. XY Axis Offset Calibration



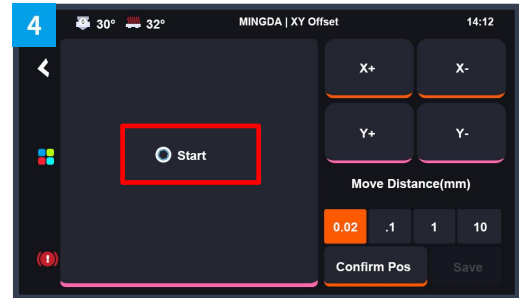
The camera was covered with the PEI, remove the PEI at first.



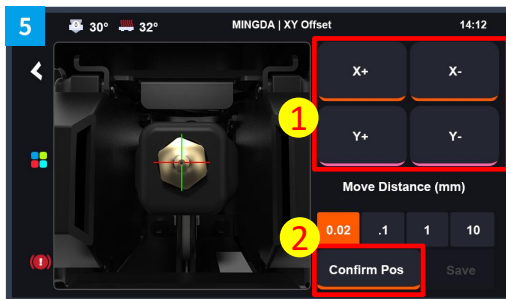
Put the Auxiliary calibration board on the center of platform



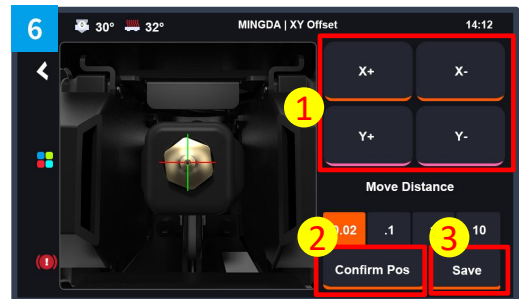
Click "XY Offset"



After the camera Led light up, Click "Start", and the left extruder will move to the calibration camera's position.



Adjust the left extruder nozzle to align with the crosshairs of the screen and click "Confirm Pos"




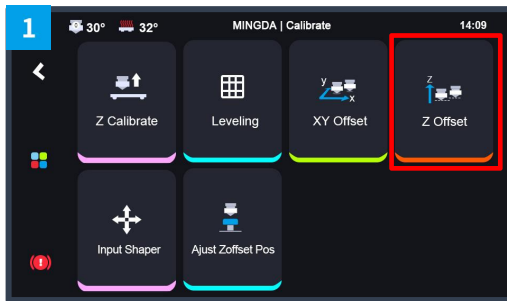
Adjust the right extruder nozzle to align with the crosshairs of the screen click " " and click " "



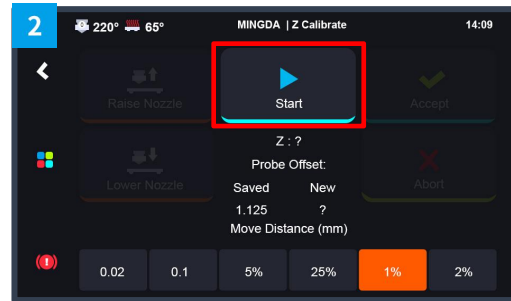
Tips: Wipe the nozzle clean before calibration to avoid any interference during the process.


4. Z Axis Offset Calibration

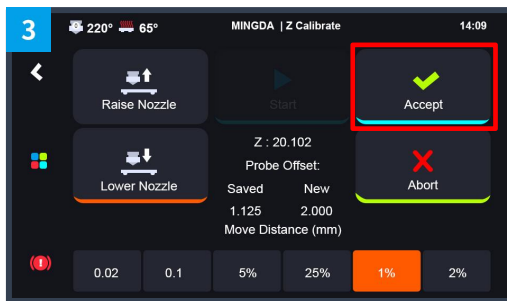
Safety Reminder: To ensure that the nozzle correctly lands on the sensor, please calibrate the XY axis before calibrating the Z axis. While the extruder is moving downward, pay close attention to its movement. If there is excessive deviation or signs of extreme extrusion pressure, click the return in the top left corner of the screen or the emergency stop  in the bottom left corner to stop the calibration. Contact customer support or refer to official videos for troubleshooting solutions.



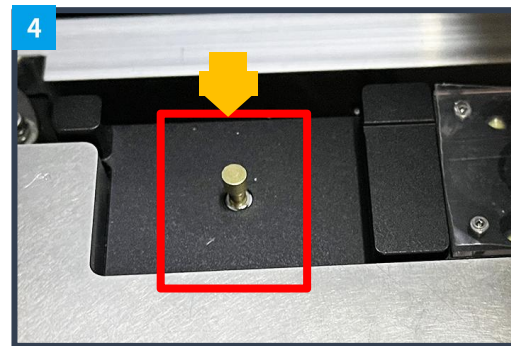
Click "Z Offset" 




Click "Start"  to start Z offset automatically



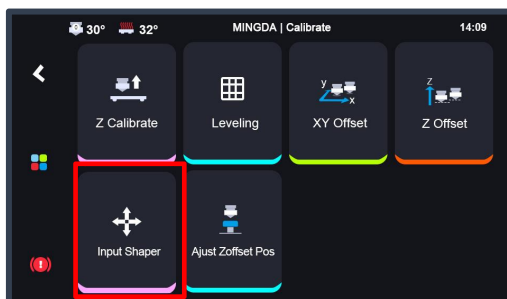
After finishing, click "Accept"  and confirm



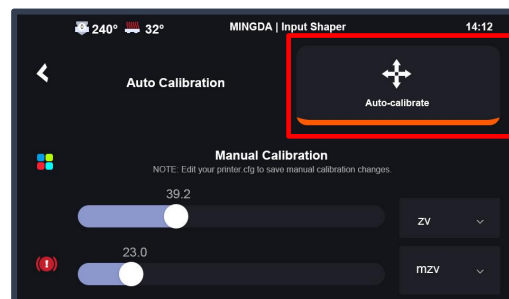
Before Z-axis calibration, please finish the XY-axis calibration first. During the Z-axis calibration, if you notice that the extruder is making a loud noise or the nozzle is not aligned with the sensor when pressing down, press  button to halt all operations and consult our customer service.

(Take out the Auxiliary calibration board, put the PEI sheet back to the heated bed.)

5. Input Shaper



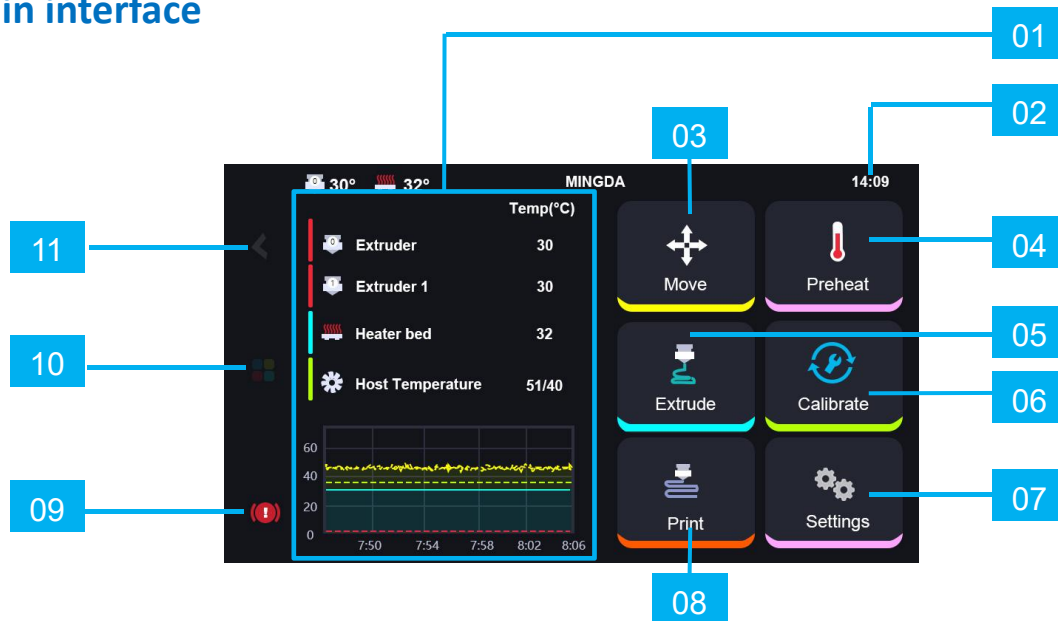
Click "Input Shaper" 



Click "Auto-calibrate", After calibration is complete, click the save button.

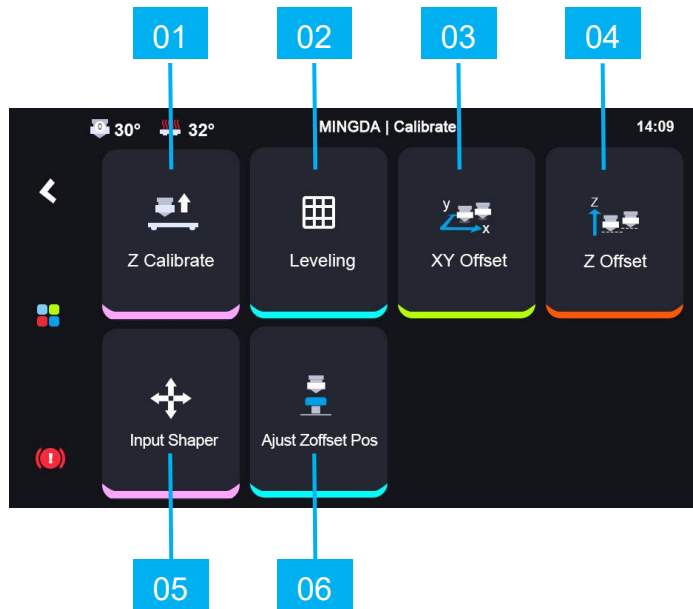
4. Operating interface introduction

Main interface



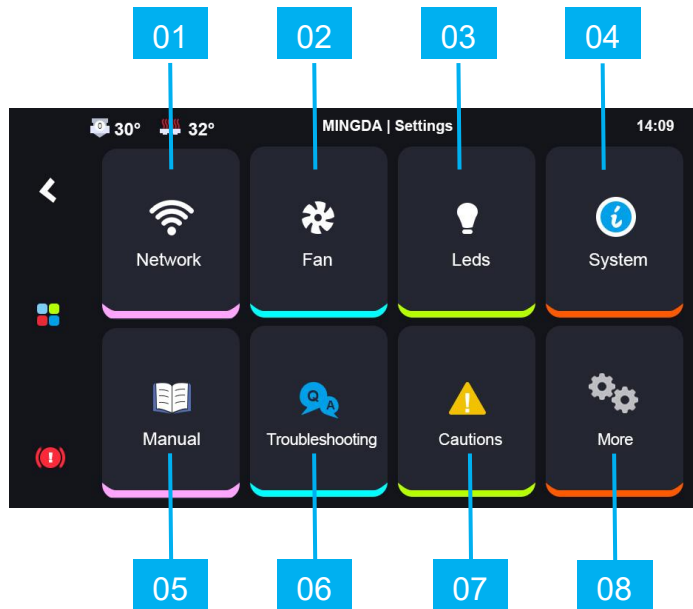
	Primary interface	Explain
01	Temperature	Temperature display area.
02	Time	Time display.
03	Move	Adjust the value of the XYZ axis.
04	Preheat	Pre-set nozzle & hotbed's temperature.
05	Extrude	To unload or load filament.
06	Calibrate	Printer Calibration
07	Settings	Printer's printing value adjustment.
08	Print	Start printing.
09	Stop	Emergency stop .
10	Homepage	Return to the main page.
11	Return	Return to the previous page.

Calibrate:



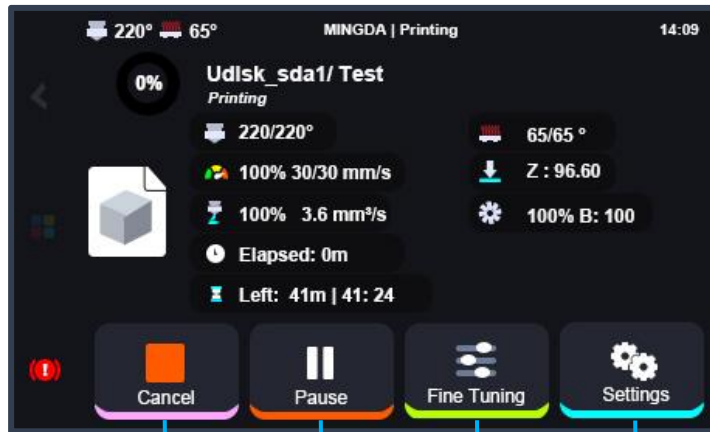
	Secondary interface	Explain
01	Z Calibrate	Calibrate Z offset
02	Leveling	Auto-leveling
03	XY Offset	Calibrate XY axis
04	Z Offset	Calibrate Z axis
05	Input Shaper	Test the resonance compensation value.
06	Ajust Z offset Pos	Ajust Z offset Pos

Settings:



	Secondary interface	Explain
01	Network	To connect Wi-Fi
02	Fan	Cooling fan adjustment
03	Leds	Turn on/off Light
04	System	Machine shutdown, restart, reset function
05	Manual	Manual
06	Troubleshooting	Troubleshooting
07	Cautions	Cautions
08	More	Includes some basic settings such as time, language, screen timeout, notification sound toggle, and automatic shutdown after printing completion.

Printing Interface:



01

02

03

04



Figure 1

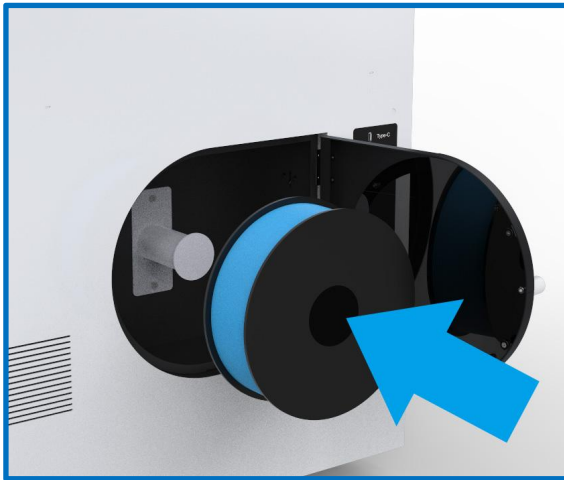


Figure 2

	Secondary interface	Explain
01	Cancel	Stop printing
02	Pause	Pause printing
03	Fine Tuning	Adjust Z-offset, Printing Speed, Printing Flow [Please refer to Figure 1.]
04	Settings	Basic setting, browse camera, adjust cooling fan, light and Exclude object. [Please refer to Figure 2.]

5. Insert filament

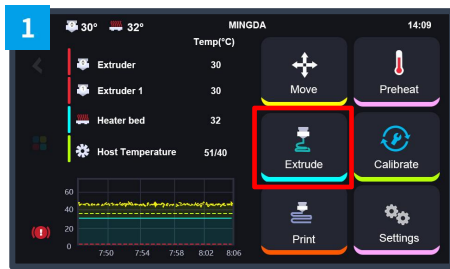
1. Put the filament on the holder (Pay attention to the direction of feeding filament)



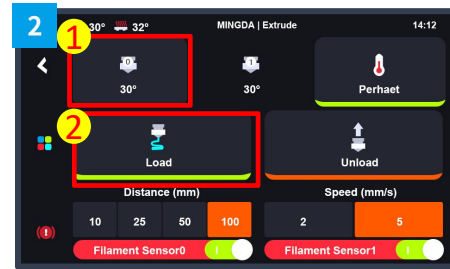
2. Pull the filament out from the other end of the tube, insert it in the extruder.





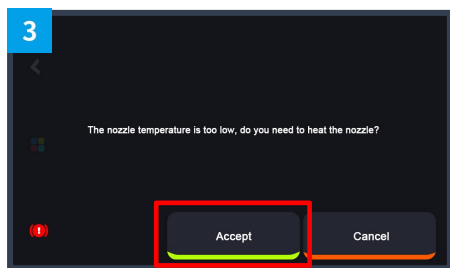
3. Feed out the filament




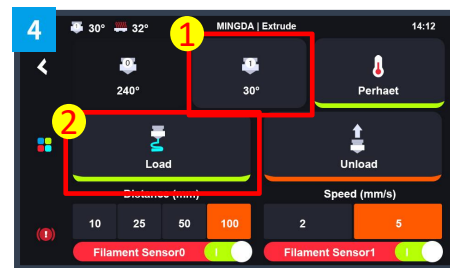
Click the "Extrude" 




Click Extruder "T0" , select Distance "100mm" and Speed "5", click Load 



Click Accept , hot end will be heated up automatically.

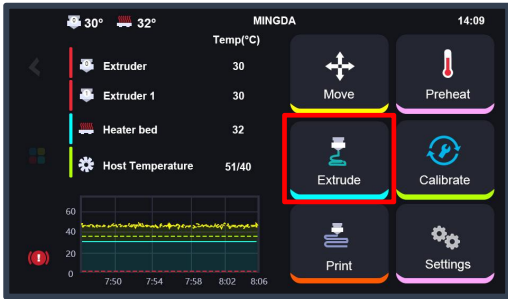



Click Extruder "T1" , repeat the step 2 and 3 again.

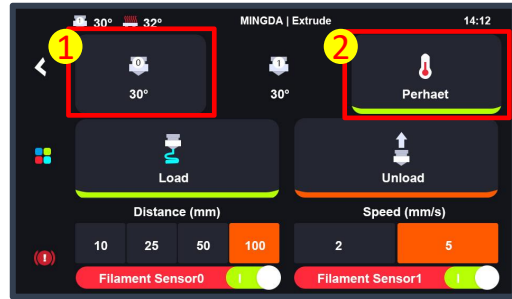
4. When the filament feeding is finished, insert the tube into the extruder



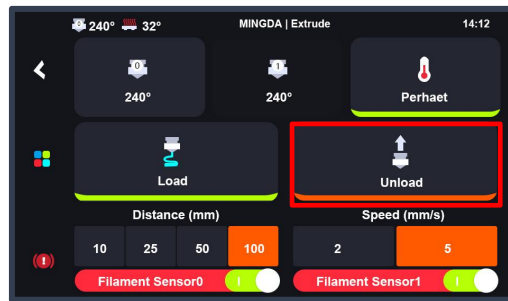
6. Unload Filament




Click the "Extrude" 



Select the extruder you want to unload filament and heat it up to 240°C.



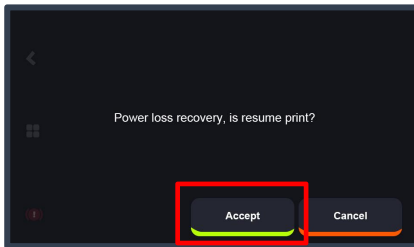
Click "unload"  and wait for the extruder to unload the filament automatically.



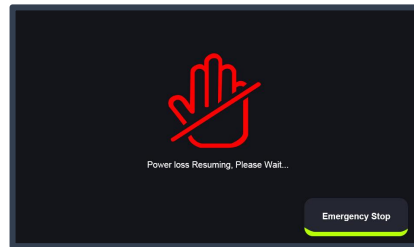
7. Resume Printing

400D is equipped with a resume printing function to assist you in resuming the print from the point of interruption.

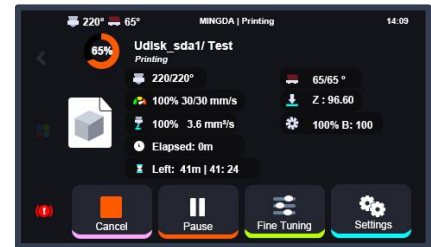
1. After power failure



After power restored, turn on the printer, click **“Accept”**



Please wait the printer resuming.

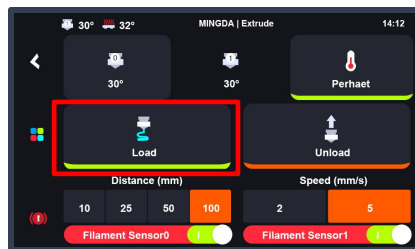


After reaching the specified temperature, the printer will automatically transition to the printing interface.

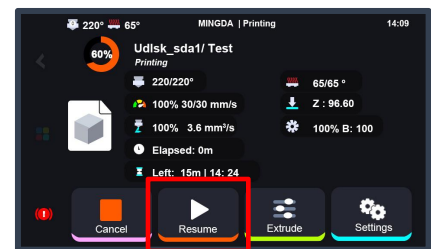
2. After filament run out




Printer will stop working, and yellow light up.



Replace new filament into the extruder, click load till the filament was feed out.



Click **“Resume”**  , continue to print from the point of interruption.

8. Slicing Software Installation and Usage

Installation:

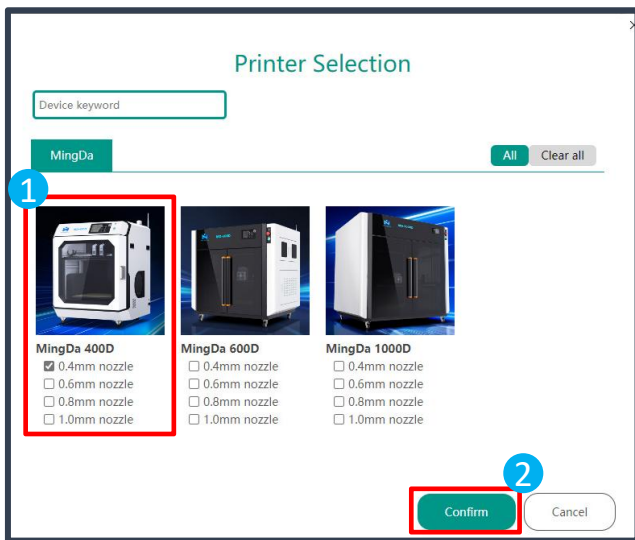
Search "www.3dmingda.com/download" in any Browser.

Download "MINGDA OrcaSlicer"

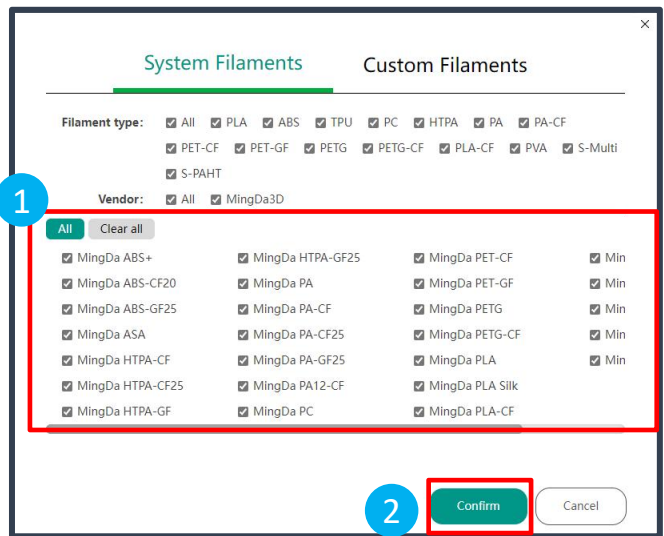
Configuration:



If you are the first time to use MingDa OrcaSlicer, you will enter the configuration wizard.



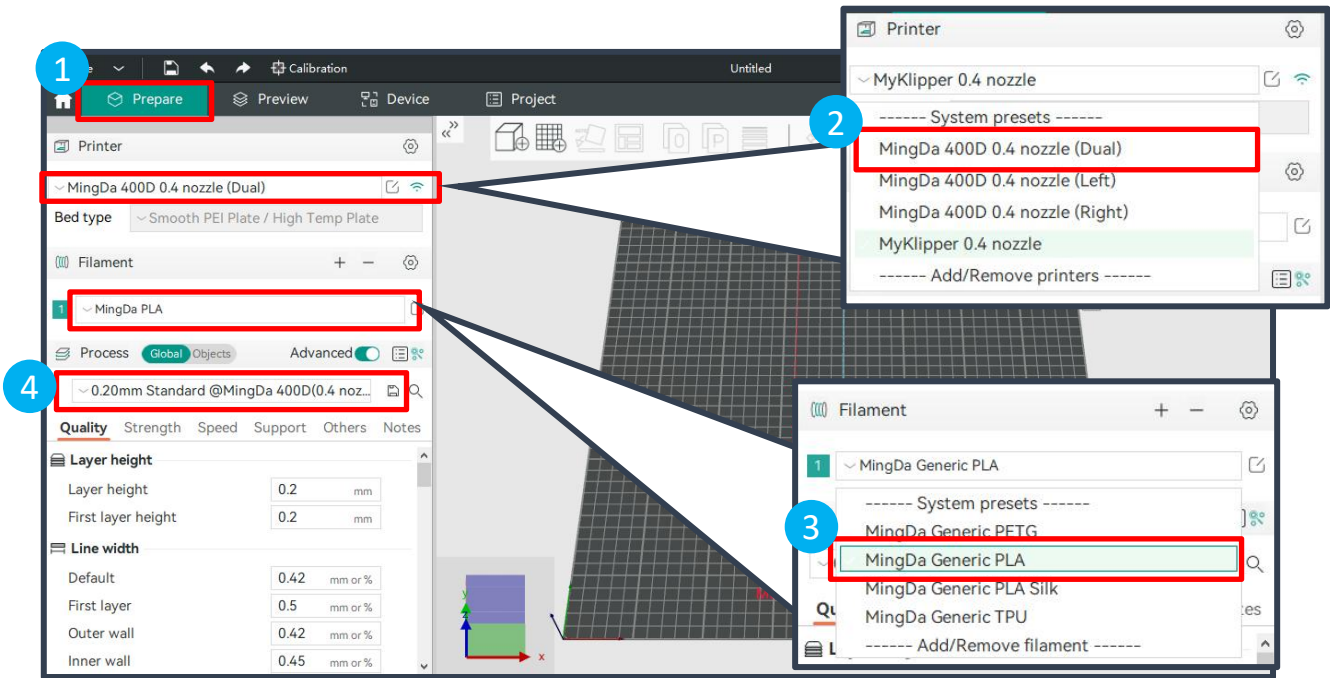
Select MingDa MD-400D, Click "Confirm".



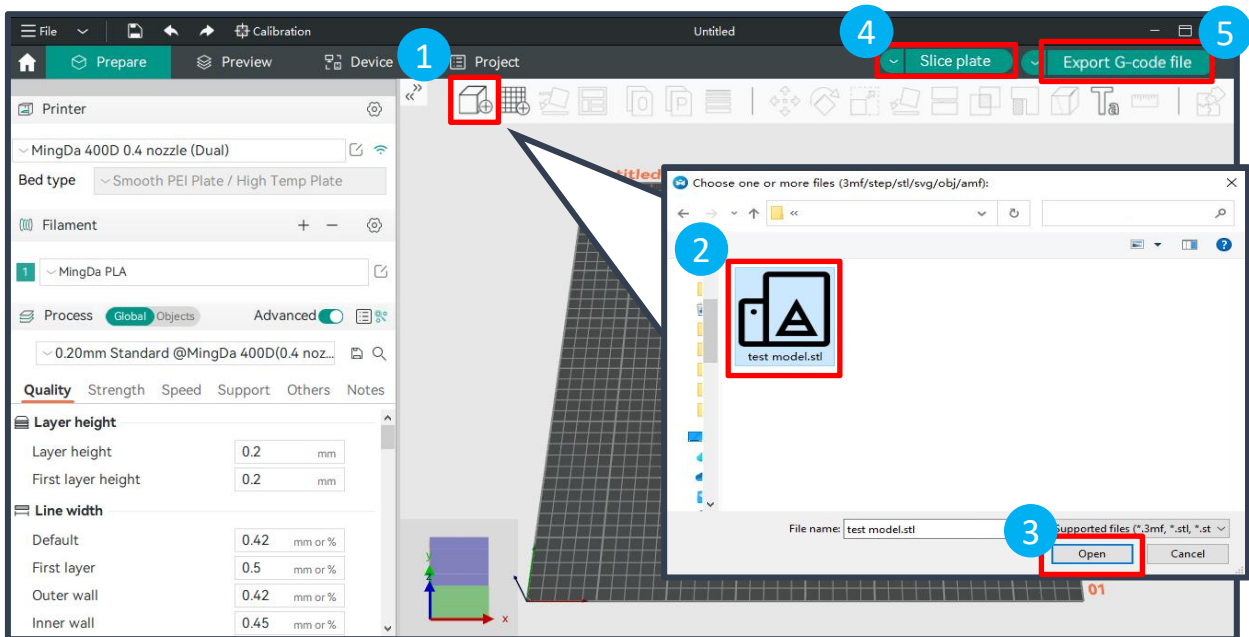
Select the desired filament type.


Usage

Click "Prepare".



Select the printer model, filament type and printing parameter.



Click , upload your STL in your slicer, adjust your model parameter, after finishing, click "Slice plate" to create the Gcode file.

Printing



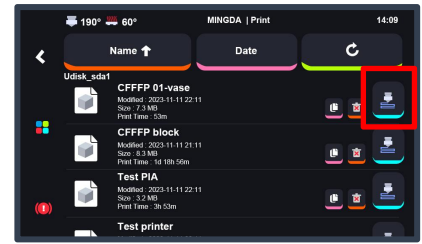
Local Printing



Insert the U-disk, then click the "Print"



Find the folder and Click the arrow

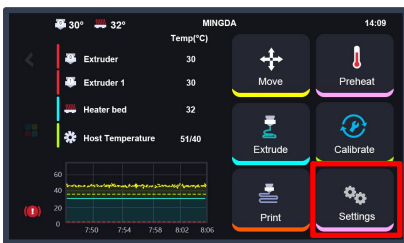


Select the test gcode which was preset in the U-disk.

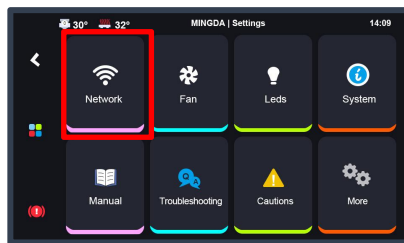


LAN Printing

Ensure that the printer and the computer host are on the same local network.



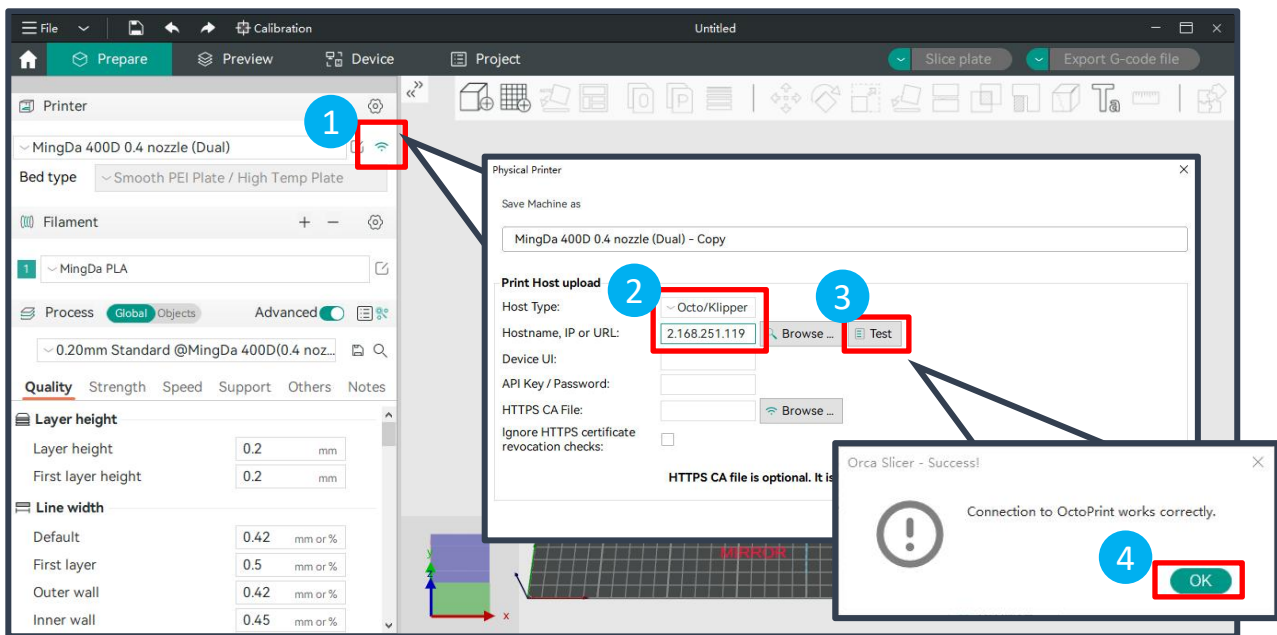
Click "Settings" to enter the settings page.



Click "Network" to enter the network page.

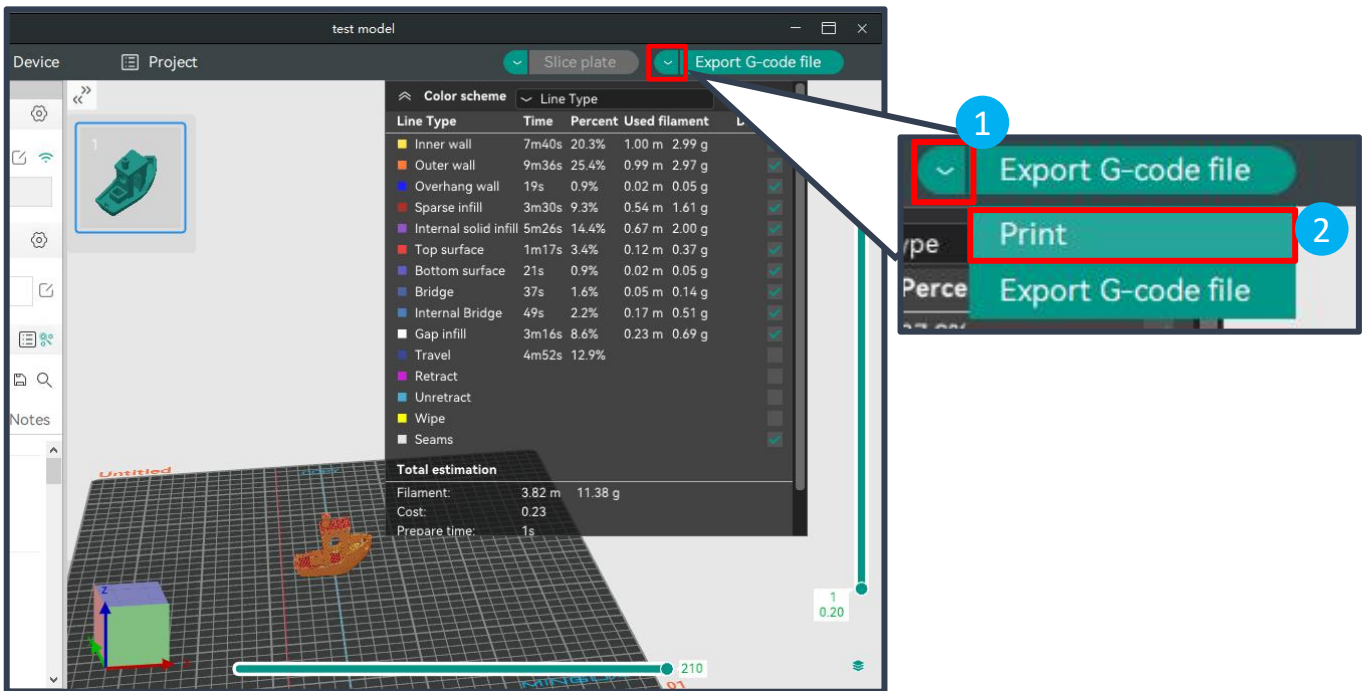



Check the printer's IP address.

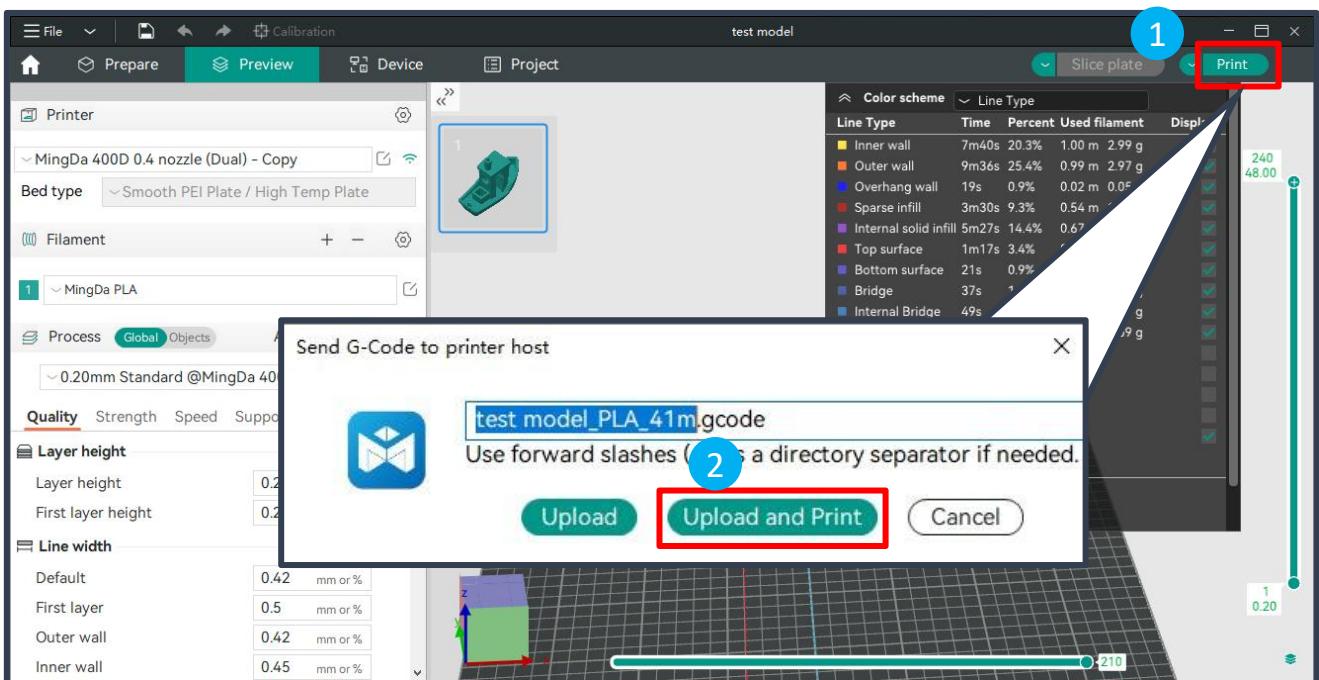


Click WIFI , select Host type as Octo/Klipper, enter the printer's IP address, and click "Test" and "OK"

File Transfer:



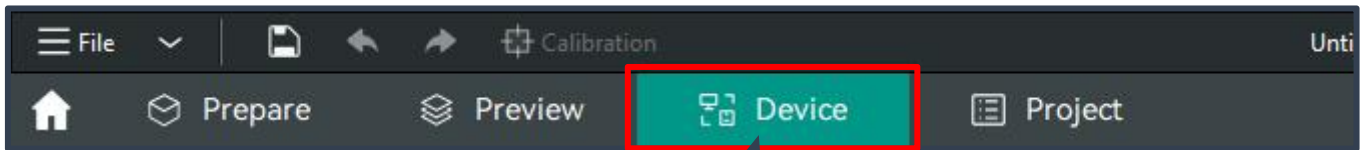
Click the dropdown icon  in the top right corner , select "Print."



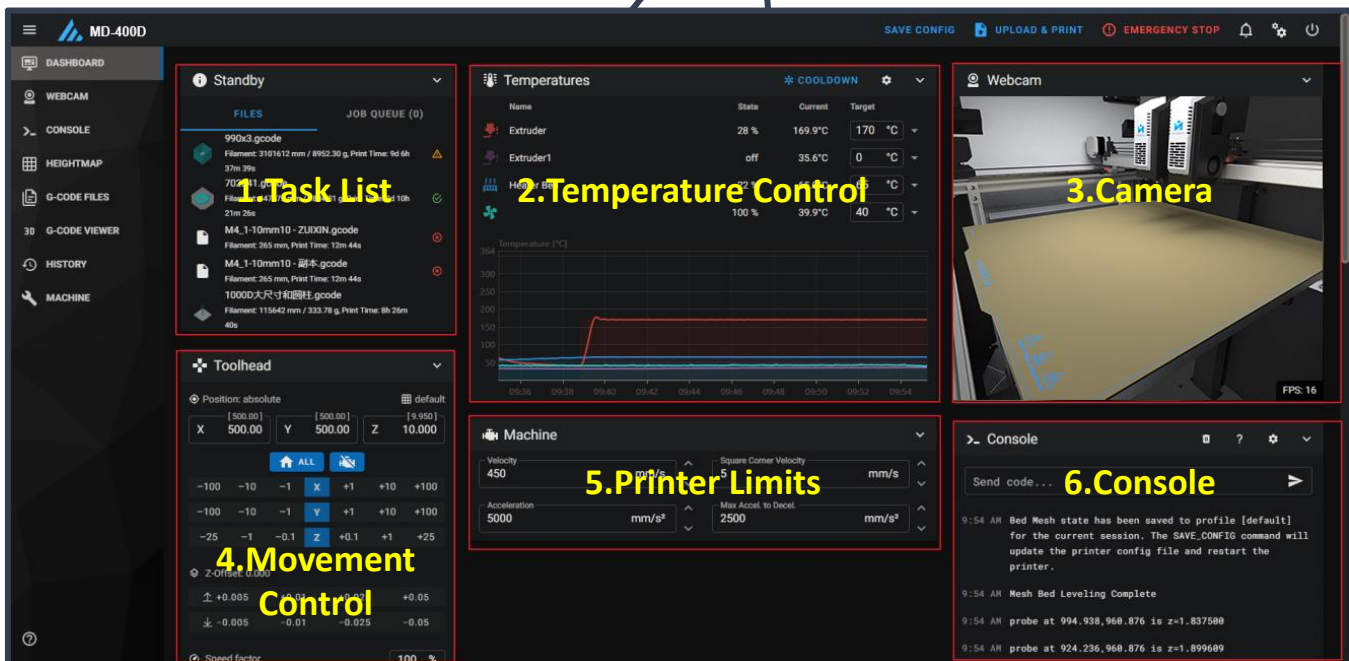
Click "Print" and choose "Upload and Print."

Device Connection

After successful connection, click on "Device"



Enter the control interface below the diagram



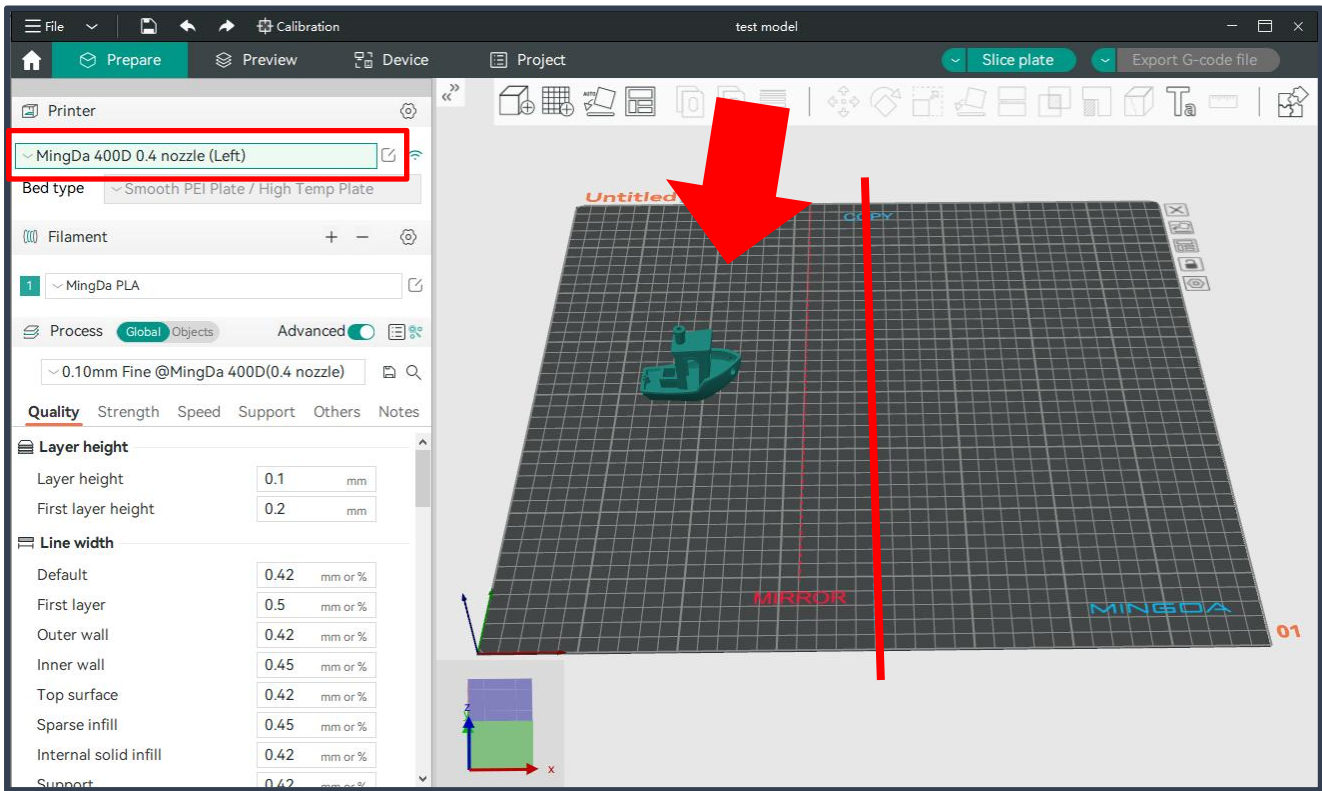
1. **Task List:** Drag G-code files to this task list for printing.
2. **Temperature Control:** Displays machine temperature changes and allows pre-setting nozzle and bed temperatures.
3. **Camera:** Monitors the printing status.
4. **Movement Control:** Controls the movement of each axis and allows compensation settings after leveling.
5. **Printer Limits:** Controls the maximum acceleration of the printer, usually doesn't need to be changed.
6. **Console:** Sends G-code commands to run the machine and displays error output.

Print Mode

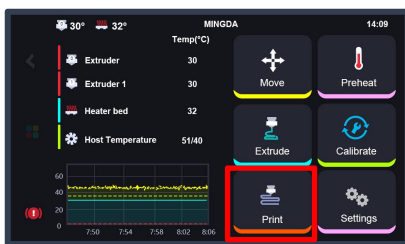
Copy Mode

Print Size: X * Y * Z: (2*200) * 400 * 400mm

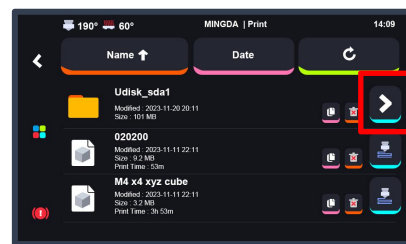
In duplication mode, select the **MingDa 400D 0.4mm nozzle (Left)** for slicing. The models should be placed on the left side and not exceed the centerline of the platform, as shown in the image.



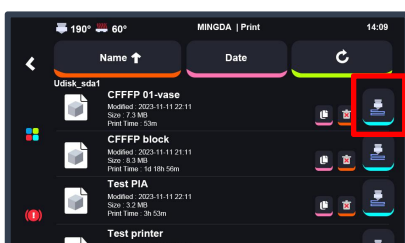
In the printer interface:



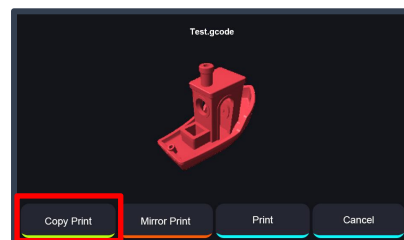
Select "Print."



Insert the U-disk.



Choose the print file for printing.

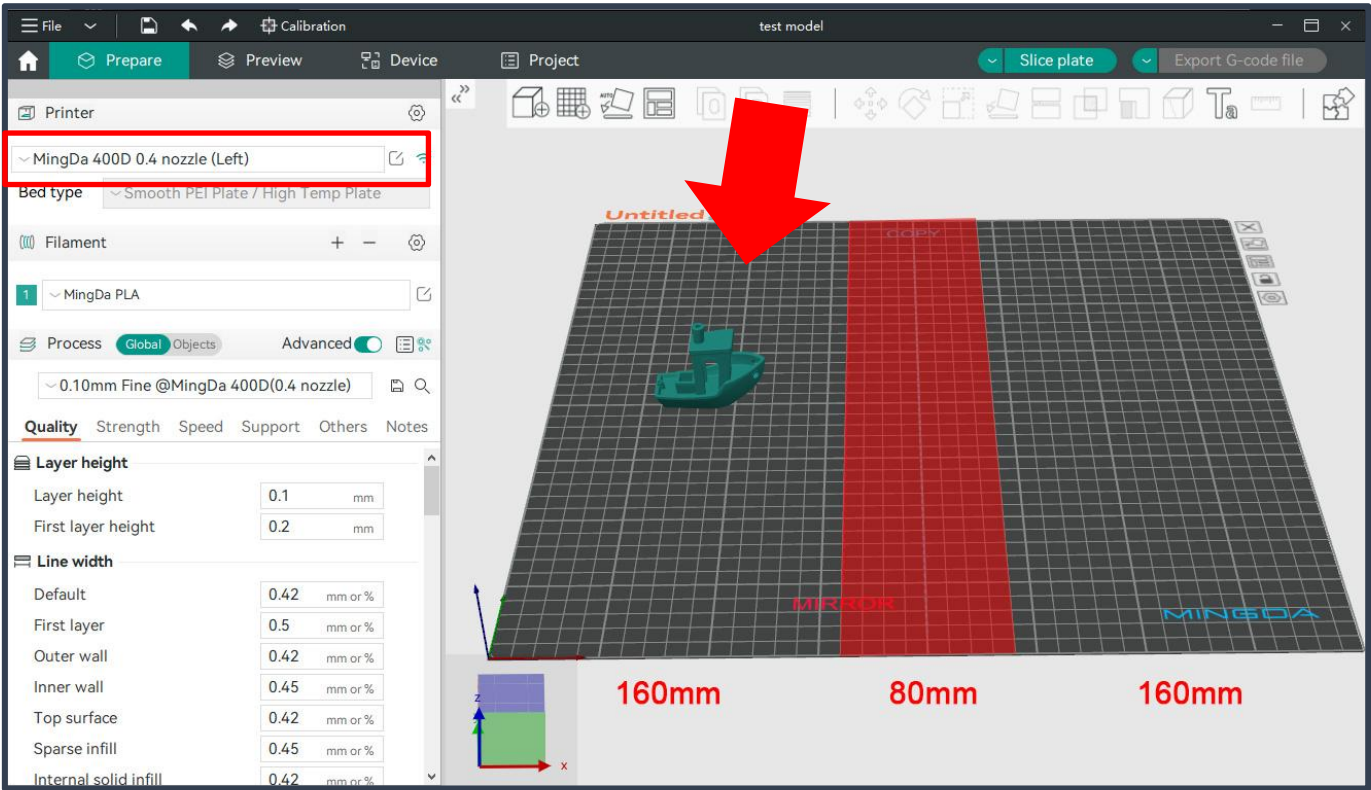


Choose "Copy Print".

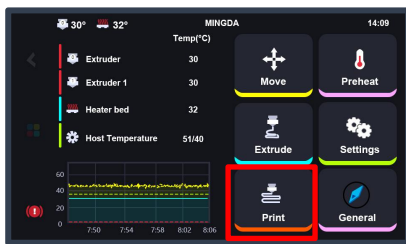
Mirror Mode

Print Size: X * Y * Z: (2*160) * 400 * 400mm

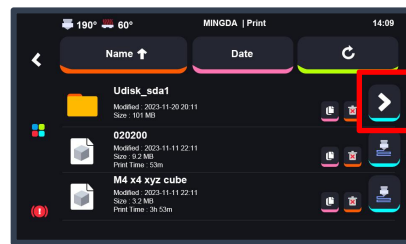
In mirror mode, select the **MingDa 400D 0.4mm nozzle (Left)** for slicing. Place the models on the left side, ensuring they do not exceed the red area on the platform in the image to prevent nozzle collisions.



In the printer interface:



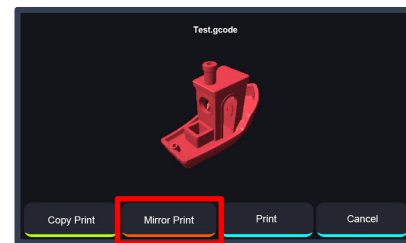
Select "Print."



Insert the U-disk.



Choose the print file for printing.

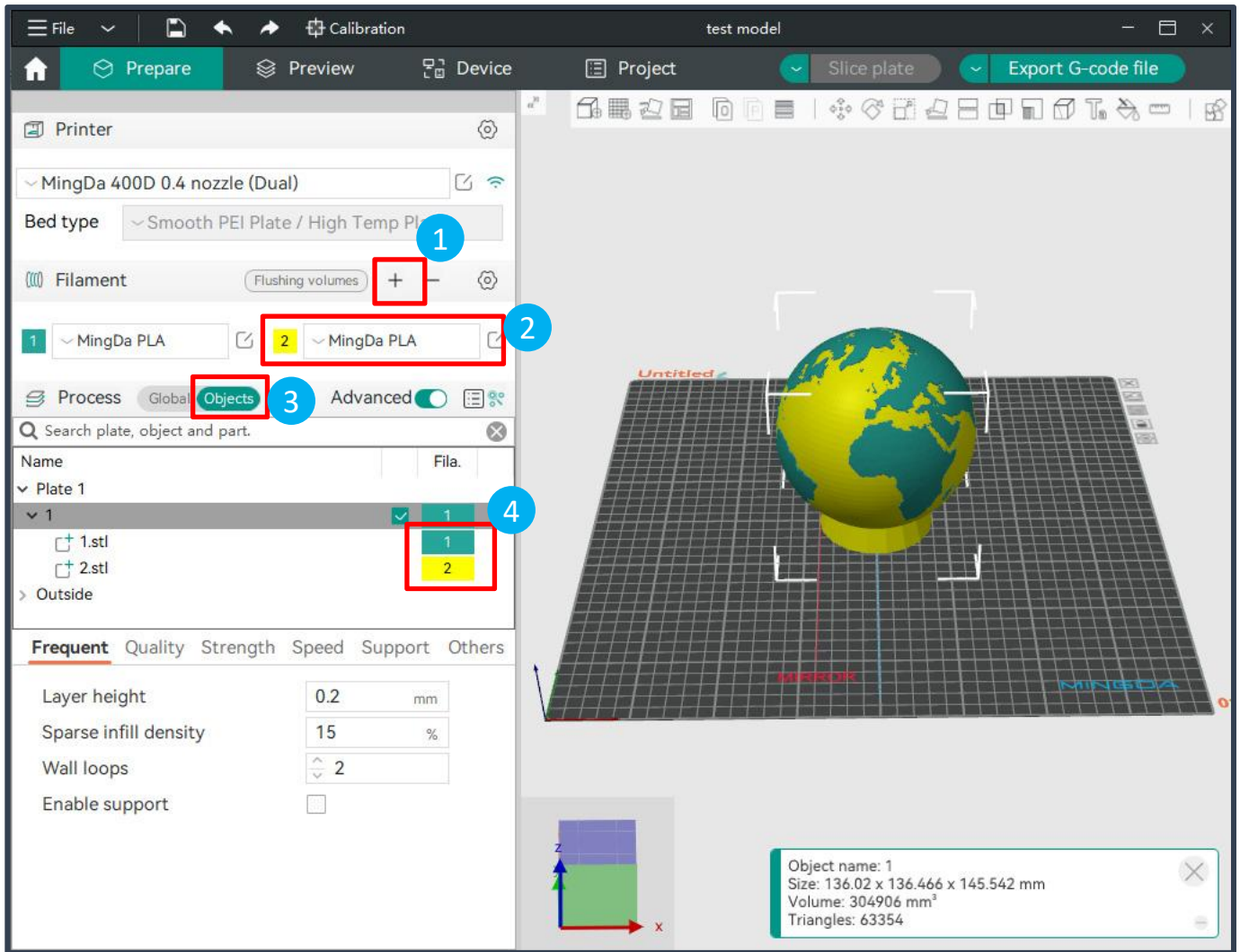


Choose "Mirror Print".

Print Two Colors

Printing size: 400 * 400 * 400mm

Selecting the [MingDa 400D 0.4 nozzle \(Dual\)](#)



1. In the filaments column on the left side of the interface, click "+" to add another filament.
2. Choose and modify the filament information.
3. In the Process section, click to switch to the "Objects" option.
4. Click on the color box next to the STL file to select the desired filament.

In the printer interface:



Select "Print", Insert the U-disk.

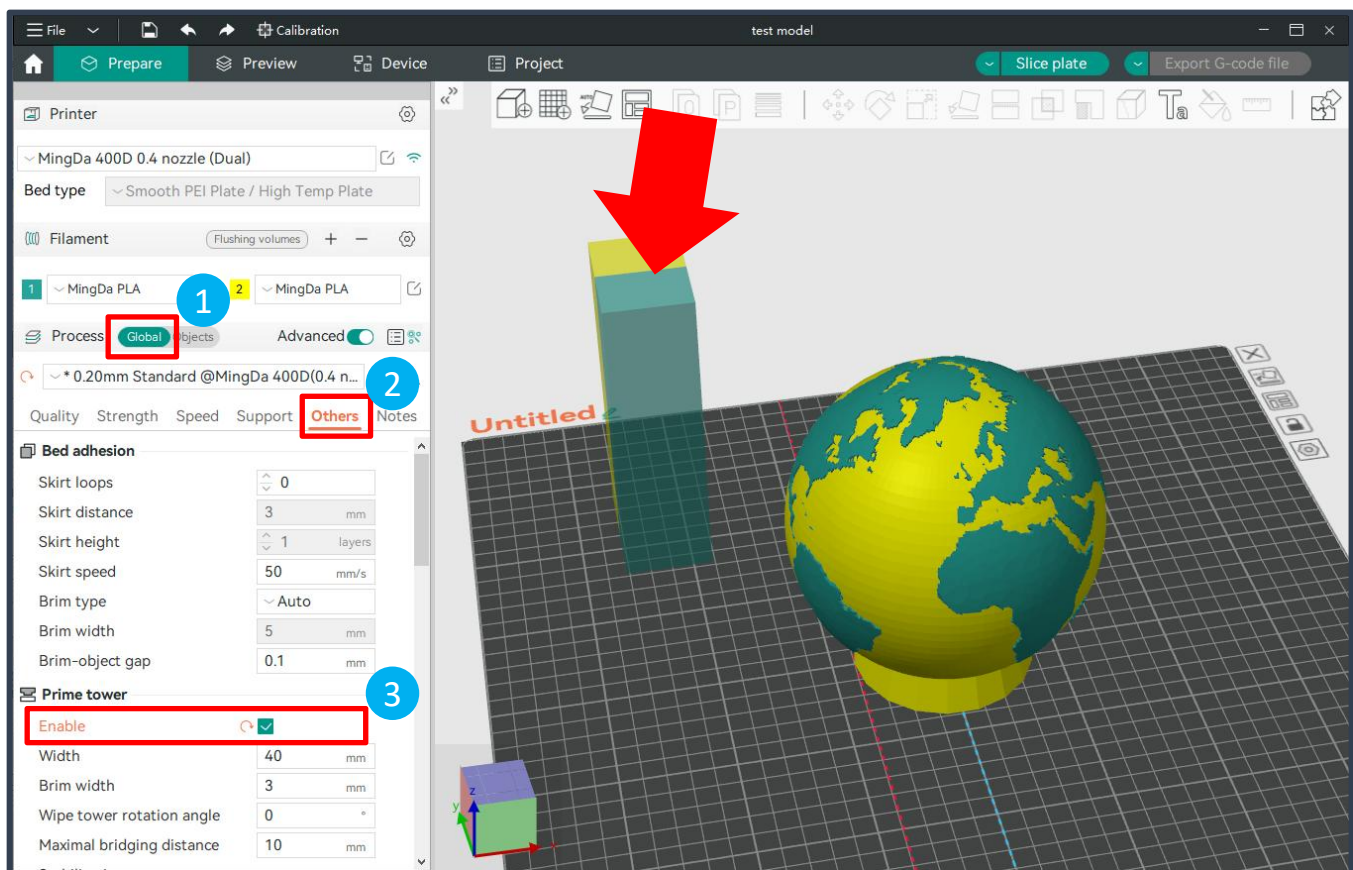
Choose the print file for printing.

Choose "Print".

Double extrusion: Start the Prime tower

Because there is always one printer in standby mode during the printing process, it is easy to cause defects such as wire drawing and material leakage. Prime tower can solve this problem, the extruder will print a prime tower before each layer printing. Any material leakage will be printed on the tower, effectively avoiding the phenomenon of material leakage when replacing the extruder.

If you want to print the following two modes, we recommend adding this option to your Gcode.



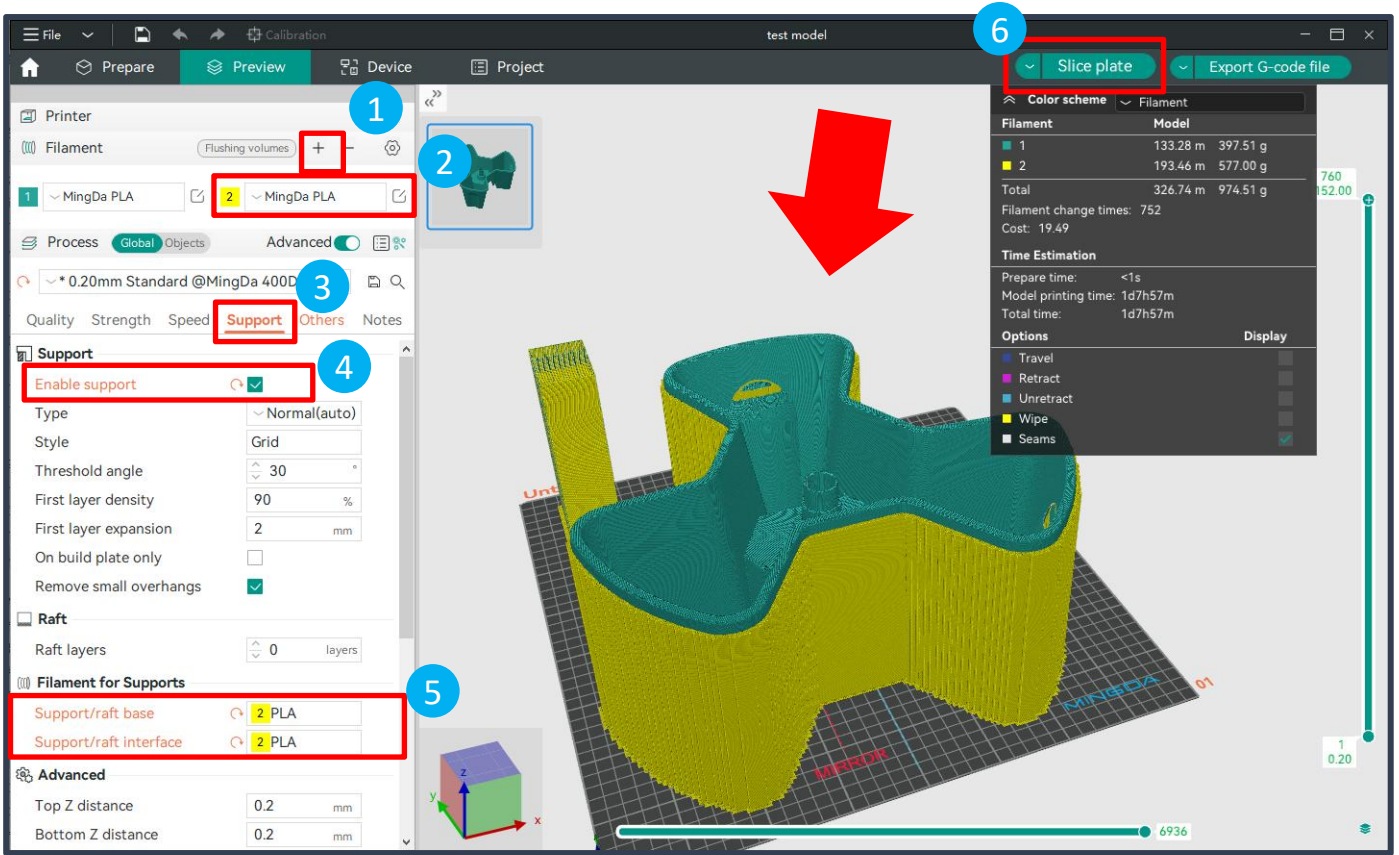
1. Select the "Global" section.
2. Select the "Others" section.
3. Check the "Enable" option in the "Prime tower" settings.

Note: The printing position of the Prime tower cannot coincide with the model

Printing Support

Printing size: 400 * 400 * 400mm

Selecting the [MingDa 400D 0.4 nozzle \(Dual\)](#)

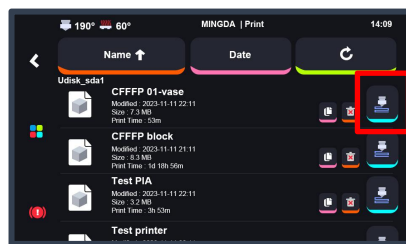


1. On the left side of the interface, in the filaments column, click "+" to add another filament.
2. Choose and modify the filament information.
3. Then, select the "Support" section.
4. Check the "Enable support" option.
5. In the "Filament for Supports" option, choose the filament needed for supports.
6. Click "Slice plate" to preview.

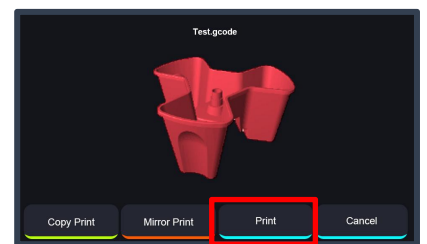
In the printer interface:



Select "Print", Insert the U-disk.

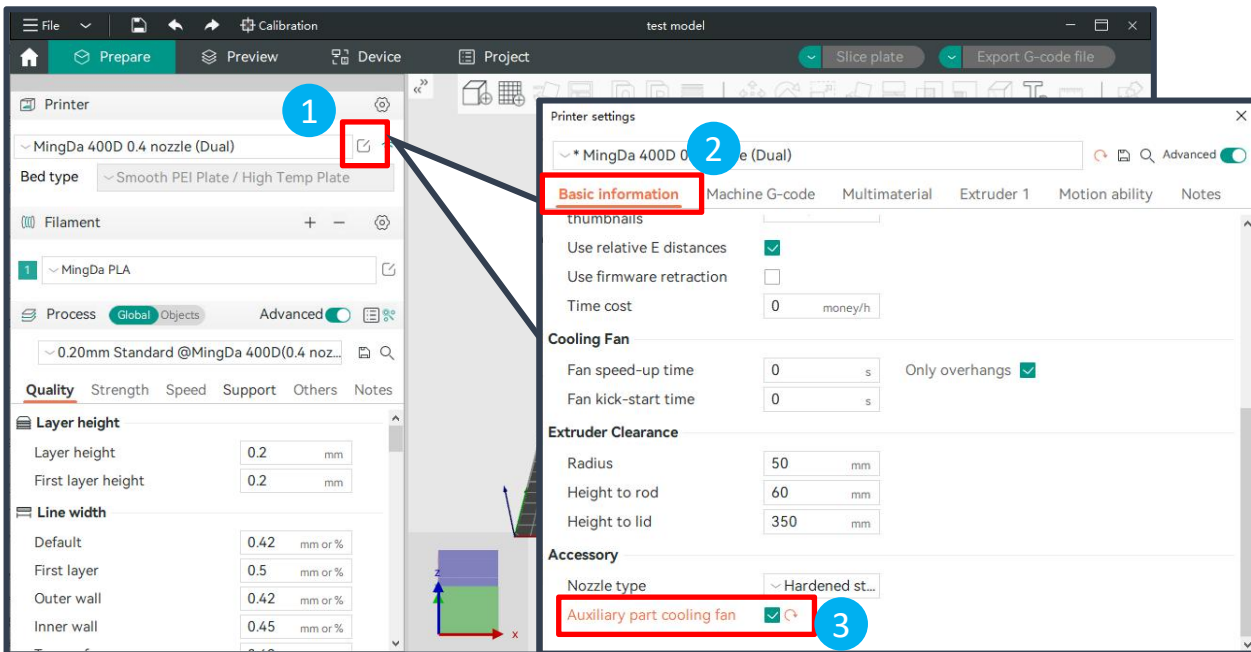


Choose the print file for printing.

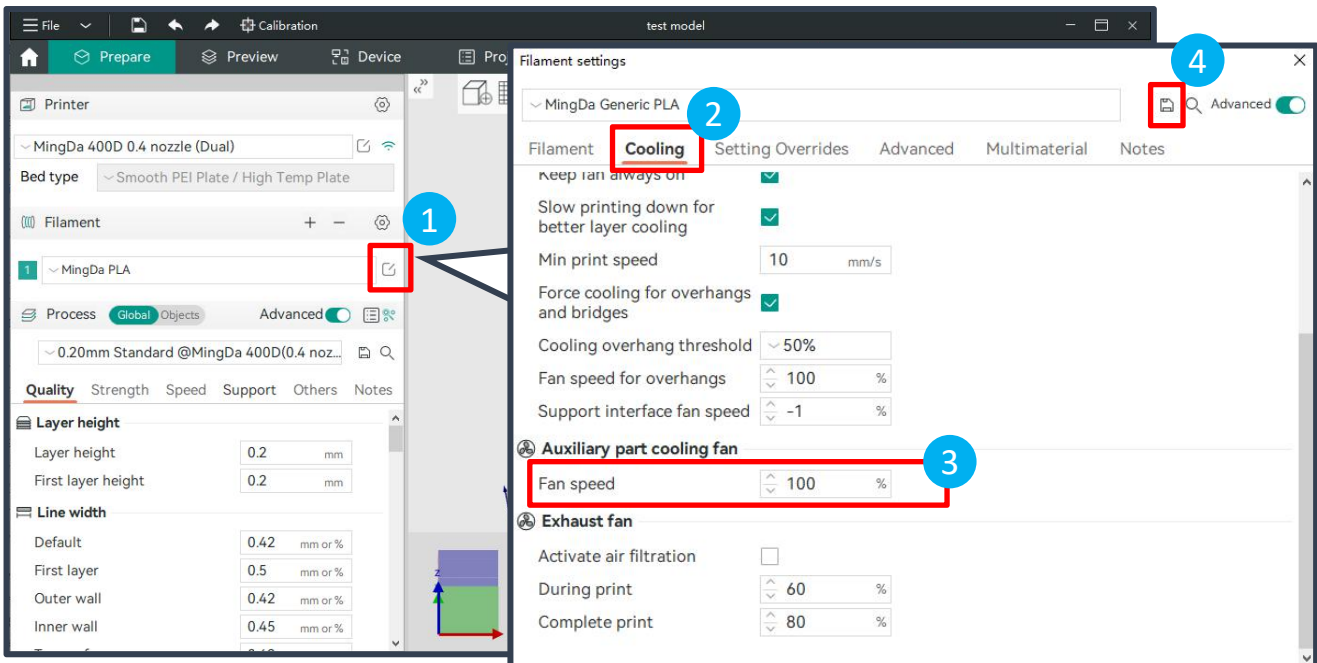


Choose "Print".

Printing



Open the settings interface in the Printer tab, and check 'Auxiliary Part Cooling Fan' under "Basic Information-Accessory".



Due to the different feature of filament, if you do not need an auxiliary fan or need to adjust the fan speed, please go to the Filament tab, open the settings interface, and choose Cooling-Auxiliary Part Cooling Fan. Adjust the Fan Speed as needed.

9. Maintenance and Care

Cleaning the Nozzle: After printing is complete, promptly clean the residue on the nozzle using a tool and taking advantage of the nozzle's residual heat. Avoid touching the nozzle directly with your hands to prevent burns.

Replacing Filaments: Timely replace filaments based on the type and actual usage. It is recommended to use filaments recommended by the manufacturer. Seal filament not in use for an extended period, as excessive exposure to moisture in the air can make the filament brittle.

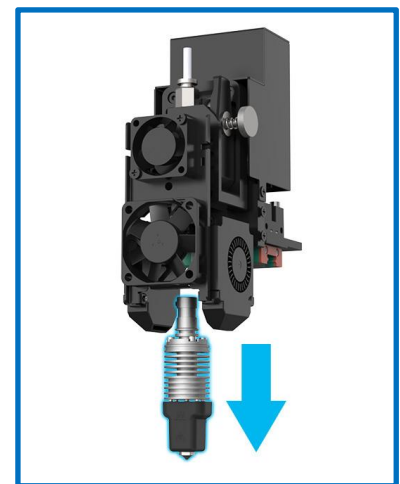
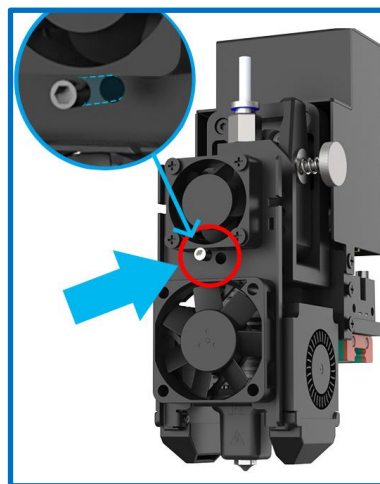
Checking the Platform: Regularly check if the print platform is flat. If there is deformation or damage, contact the manufacturer or dealer for repairs.

Regular Lubrication: Periodically apply lubricating oil to the lead screw and guide rails. During the operation of the printer, friction between various parts occurs. Without proper lubrication, it can lead to wear and damage.

Software Updates: Regularly update the printing software to improve print quality and efficiency.

Replace the hot end

1. Remove the screws on both sides of the print head cover (a total of 4);
2. Unplug the connecting terminal on the hot end and loosen the top wire that fixes the hot end;
3. Remove the entire hot end;
4. Insert the hot end that needs to be replaced, tighten the top screw when it is in place, and then plug in the connecting terminal.
5. Install the print head cover and circuit board protective cover



Note: After replacing the hot end, it is necessary to recheck the deviation values of the left and right heads. If the deviation is too large, it needs to be recalibrated



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