MINGDA
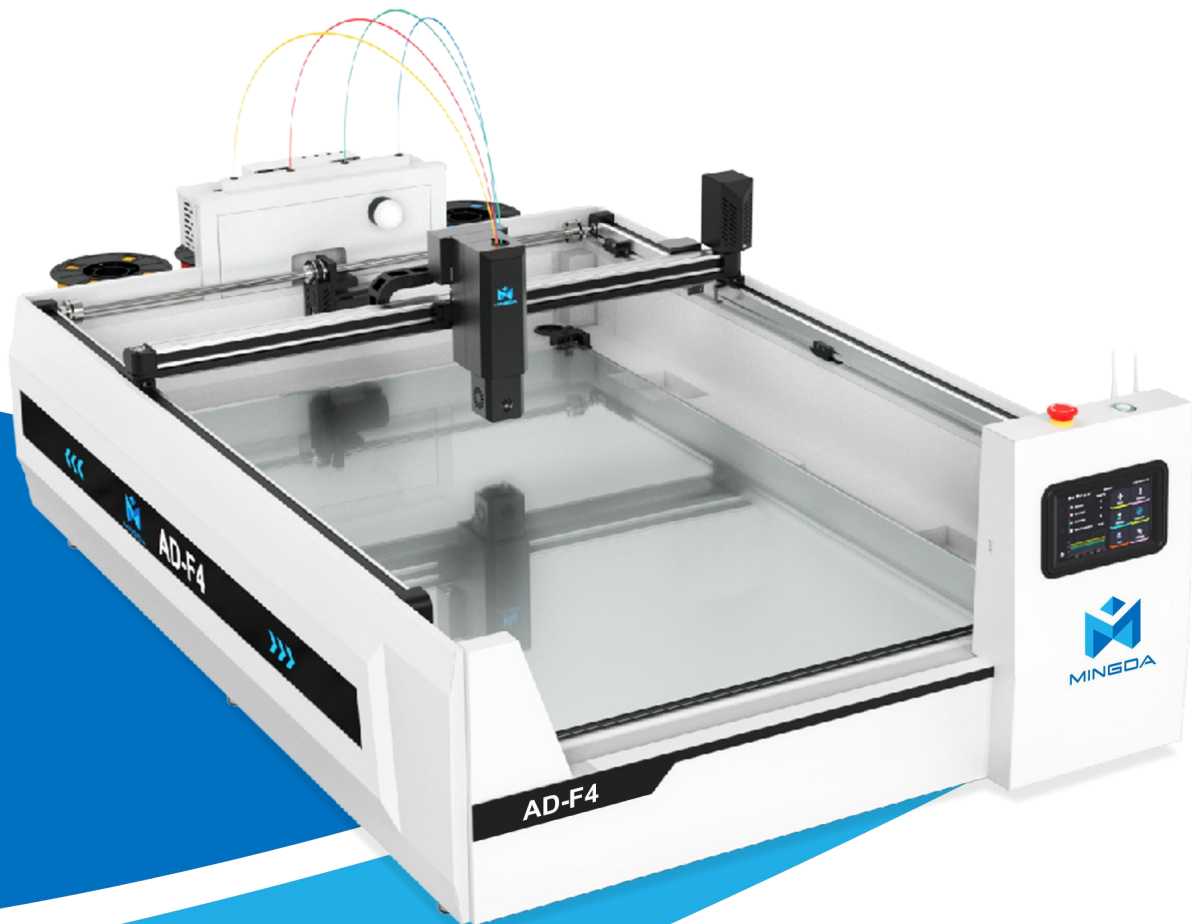
User Manual

AD-F4 3D Printer

*Please read this guide carefully before using this printer

Shenzhen MINGDA Technology Co., Ltd.

V1.0

Contents

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	AD-F4
Machine dimensions	1110*1730*515mm
Max. build dimensions	800*1200*100mm
Technical principle	FFF (Fuse Manufacturing Technology)
Layer thickness	0.1-0.5mm
Printing nozzle	4 in 1 out
Number of trays	4 (Max 1KG/Pcs)
Filament diameter	1.75mm
Printing speed	Max.350mm/s
Nozzle diameter	0.8mm (optional: 0.4mm, 0.6mm, 1.0mm)
Leveling method	3Dtouch
Filament types	PLA,PETG,PDS
Nozzle temperature	Max 350 °C
Hot bed temperature	Max 60 °C
Intelligent design	Filament break detection, power-off resume printing
Maximum power	220V/2700W
Firmware	Klipper
Data connection	USB, SD card
Operation screen	Glass platform
Filament tray design	Folding filaments tray
Moving speed	Max XY 500mm/s,Max.Z 15mm/s
Safety design	Three color warning light

Packing List

Tool List

U-disk
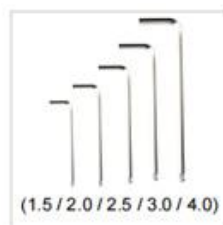
Allen wrench

Antenna

3. Operational Steps

1. Warning light function

**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. Fixed filaments tray
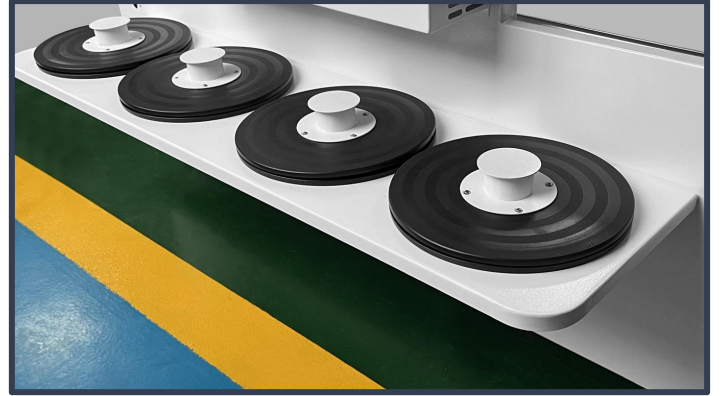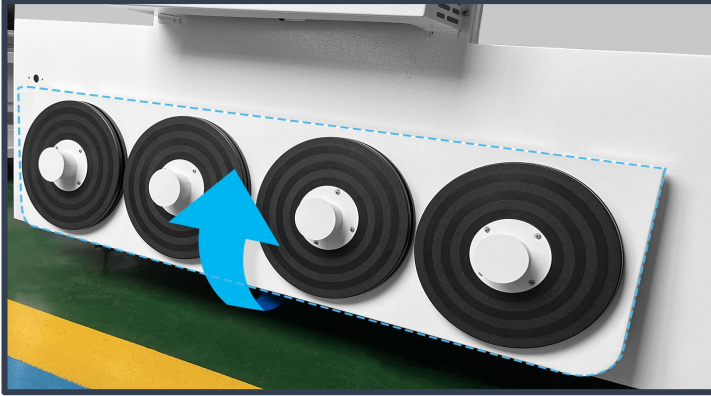
Lift the tray from the bottom and secure it in place.

4. Insert into power socket

Locate the power cord at the back of the printer and plug it into the power outlet.

5. Power on

Push air switch
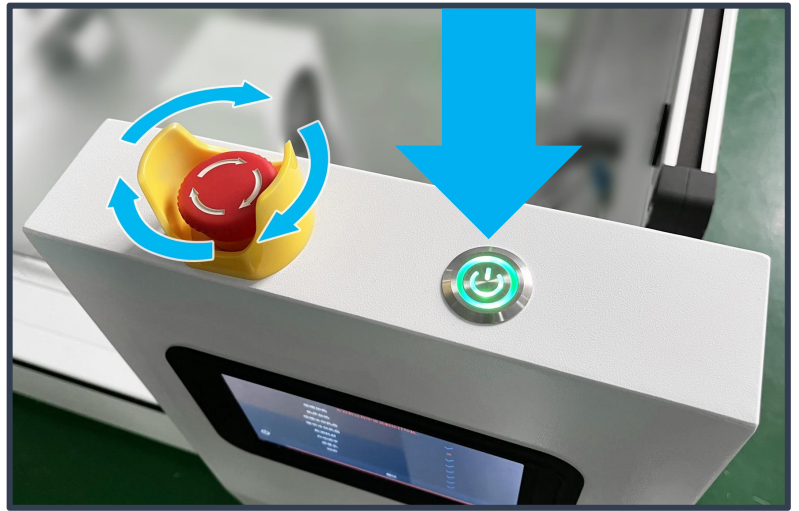
Turn on the emergency stop switch, press the button to start

6. Power off

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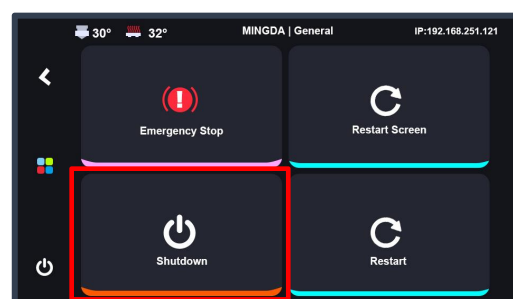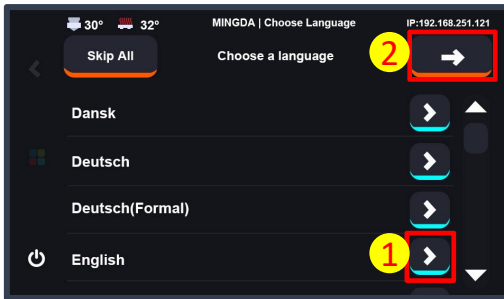

Click the "**Shutdown**"

7. Startup Configuration

Select Language

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

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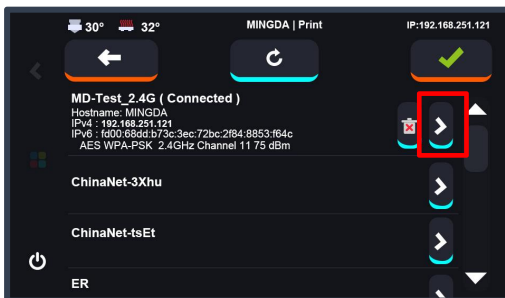
Select the WiFi and click
(If your WiFi cannot be displayed for more than 20s, please click to refresh)
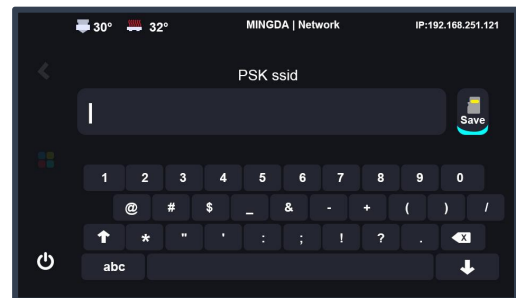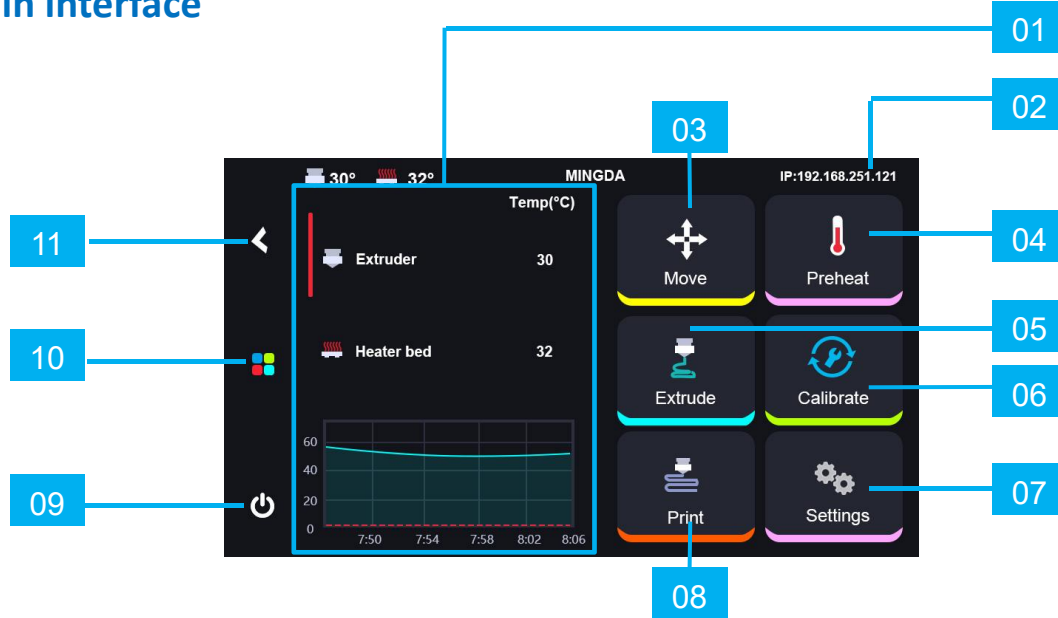

Enter the WiFi password and click
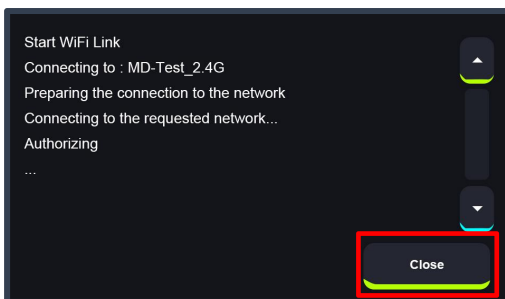
Once the connection is successful, click

Upon successful connection, click the in the upper right corner to enter the main interface of the machine. If you do not need to connect to the network, you can also click the to skip this step.

4. Operating interface introduction

Main interface

	Primary interface	Explain
01	**Temperature**	Temperature display area.
02	**IP**	Network IP address.
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	**Shutdown**	Shutdown interface.
10	**Homepage**	Return to the main page.
11	**Return**	Return to the previous page.

Extrude:
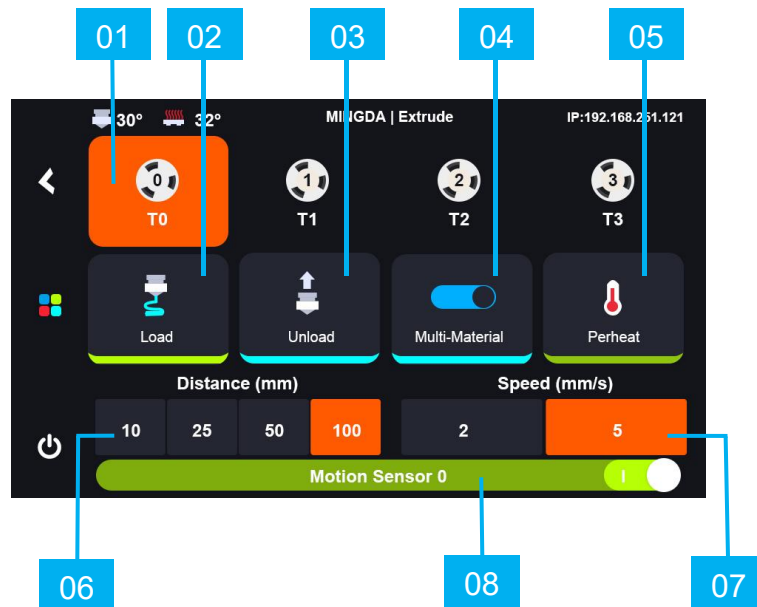
	Secondary interface	Explain
01	**Filament**	[T0,T1,T2,T3]; Click to switch to the specified filament operation interface
02	**Load**	Load filament
03	**Unload**	Unload filament
04	**Multi-Material**	Click Multi-Material to switch to external feeder.
05	**Perheat**	Pre-set nozzle & hotbed's temperature.
06	**Distance**	Set the conveying distance for load or unload
07	**Speed**	Set the conveying speed for load or unload
08	**Motion Sensor**	Filament detection

Calibrate:
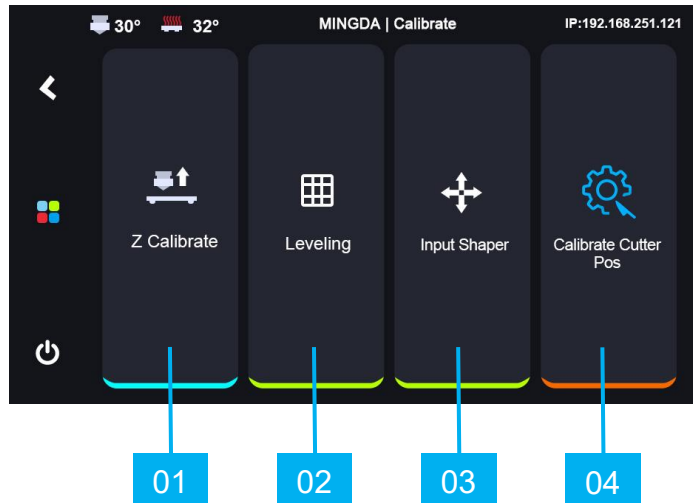
	Secondary interface	Explain
01	**Z Calibrate**	Calibrate Z offset
02	**Leveling**	Auto-leveling
03	**Input Shaper**	Test the resonance compensation value.
04	**Calibrate Cutter Pos**	Calibrate Cutter Pos

Settings:
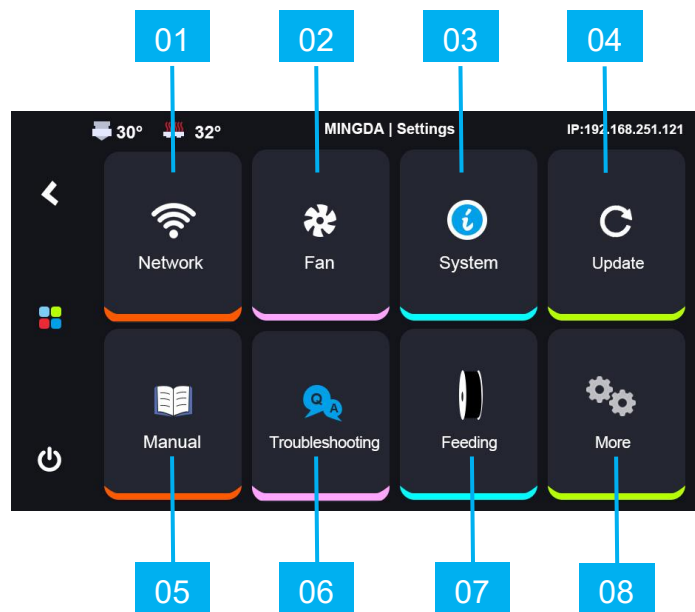
	Secondary interface	Explain
01	**Network**	To connect Wi-Fi
02	**Fan**	Cooling fan adjustment
03	**System**	Machine shutdown, restart, reset function
04	**Update**	Update
05	**Manual**	Manual
06	**Troubleshooting**	Troubleshooting
07	**Feeding**	Perform filament parameter settings.
08	**More**	Includes some basic settings such as time, language, screen timeout, notification sound toggle, and automatic shutdown after printing completion.

Printing Interface:
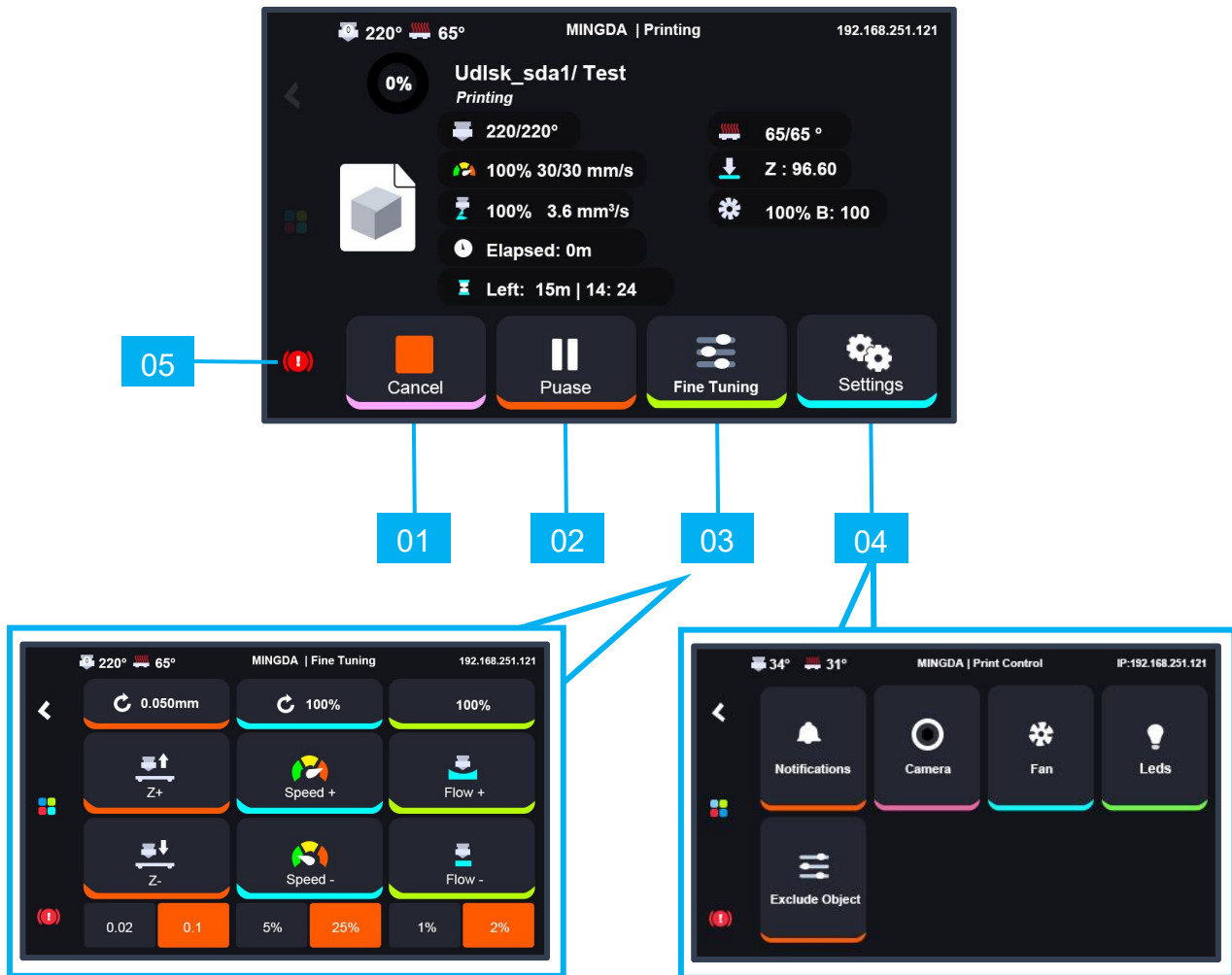
Figure 1

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.]
05	**Stop**	Emergency stop .

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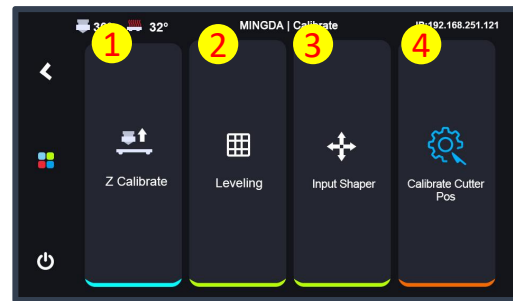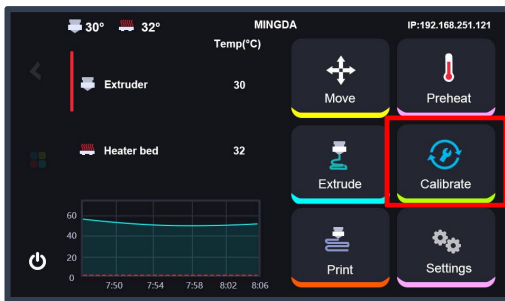
Tip: Please follow the sequence shown in the diagram to calibrate step by step.

Z Calibrate → Leveling → Input Shaper → Calibrate Cutter Pos

1. Z Calibrate

Click "**Z Calibrate**"
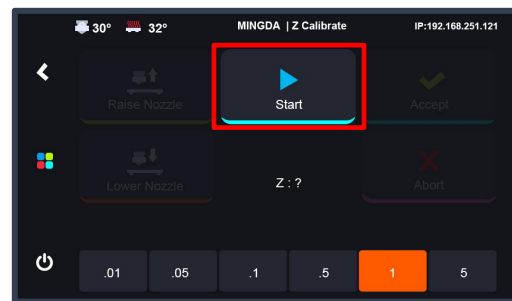
Click "**Start**" , wait Z axis calibrating and click "Accept" and confirm
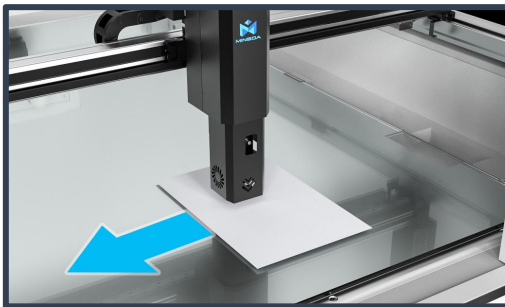
Put an A4 paper between the nozzle and heated bed.

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
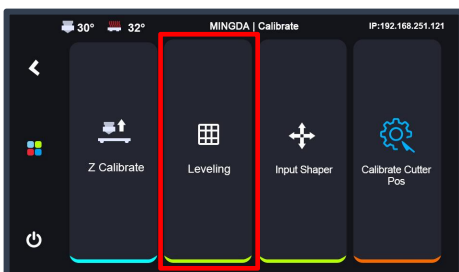
Click "**Leveling**"
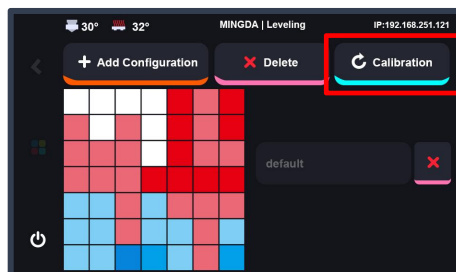
Click Calibrate to start auto-leveling, which will take approximately 3 minutes
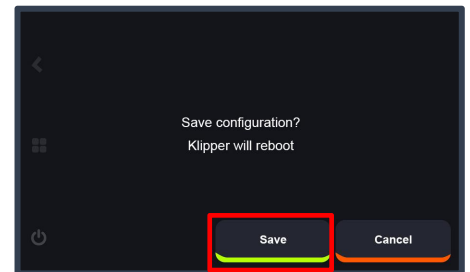
Click Save to save the value, the printer will reboot automatically.

13
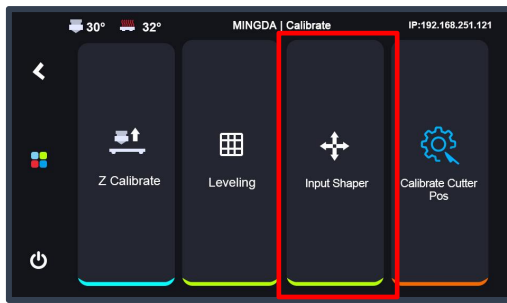
3. Input Shaper

Click "**Input Shaper**"
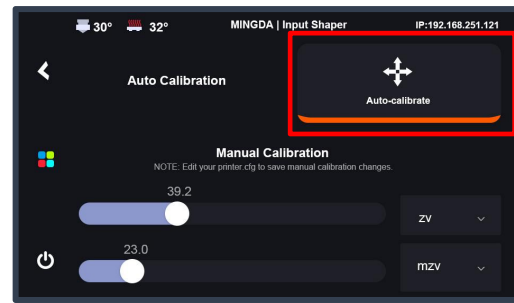
Click "**Auto-calibrate**" , After calibration is complete, click the save button.
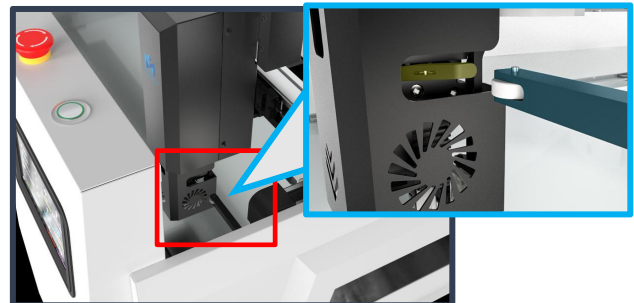
4. Calibrate Cutter Pos
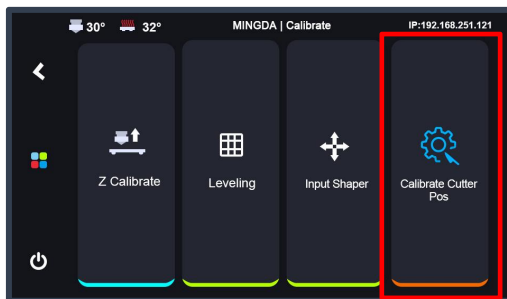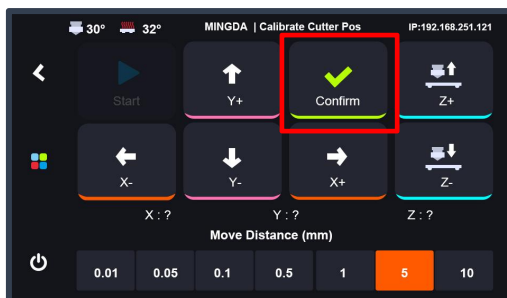

Click "**Calibrate Cutter Pos**"
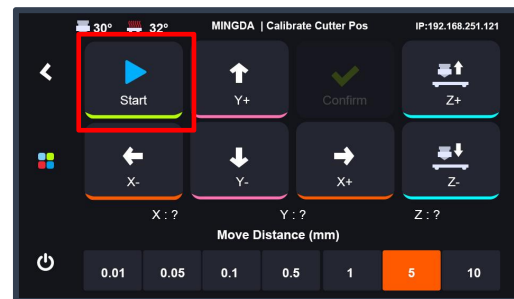
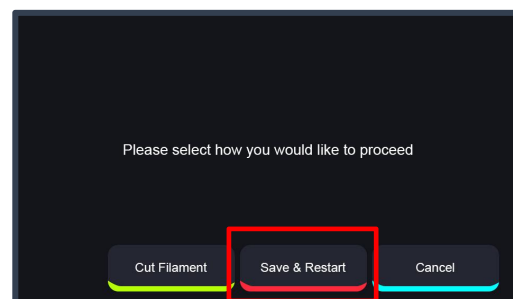Click "**Start**" , after resetting, the extruder will move to the bottom-right corner.
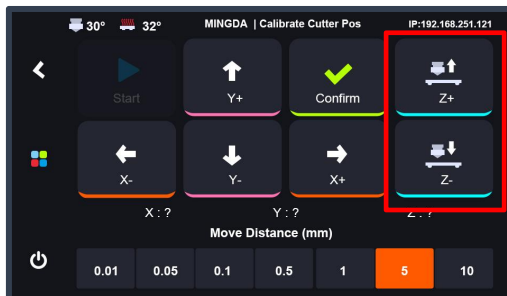
Observe the position of the extruder cutter and click to adjust.

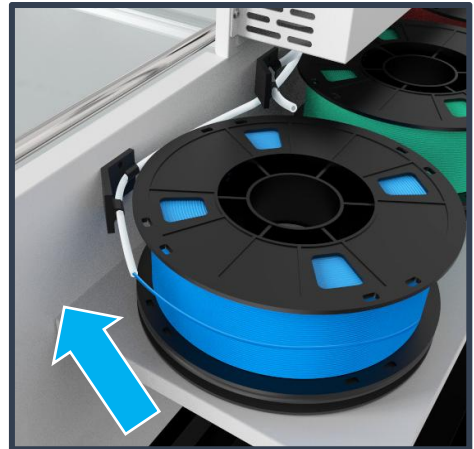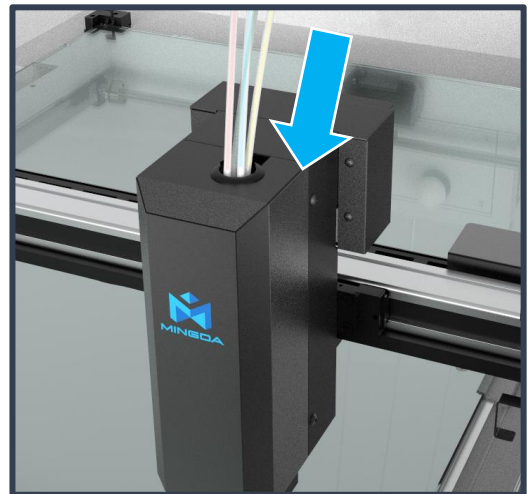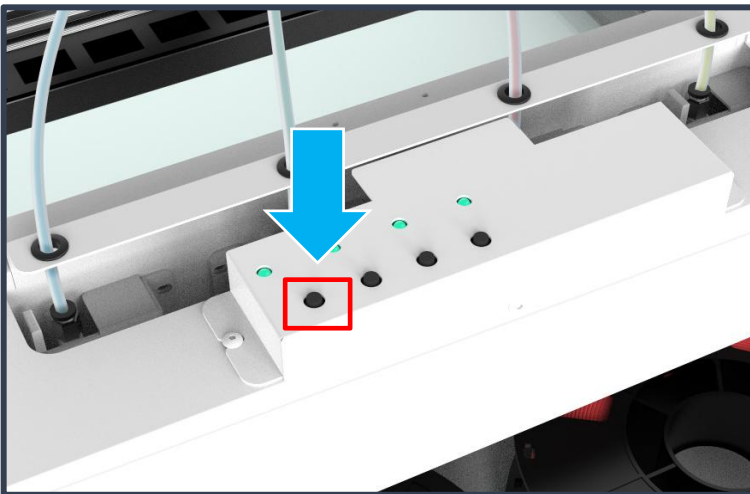Align the cutter with the presser.


Click "**Confirm**"

Click "**Save & Restart**"

14

6. Insert filament

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

2. Push the filament into the PTFE tube until it reaches the feeder.

3. Above the filament tray, there are four black feeding buttons【T0, T1, T2, T3】. Click them to feed the filament until it reaches the extruder.

4. After completing the loading of the filaments, you can set the parameters for each material in the screen settings.
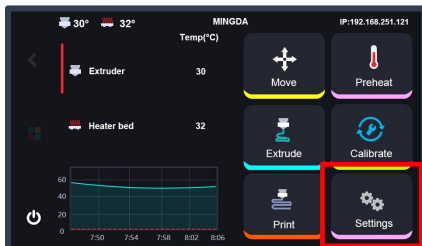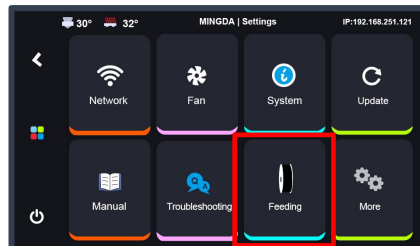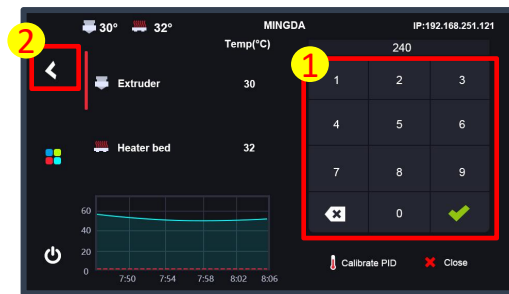

Click "**Settings**"   Click "**Feeding**"   Select filament； Click "**Edit**"

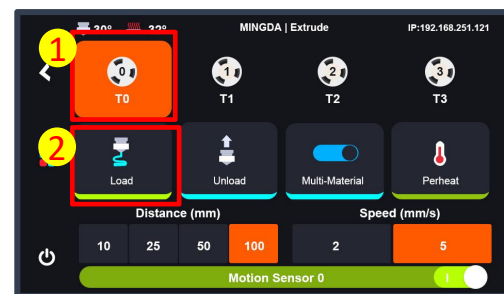## 5. Feed out the filament

Click the temperature setting

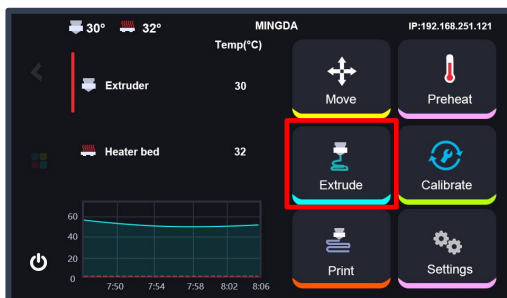Enter the filament recommand temperature value, click ✔ then click ◀
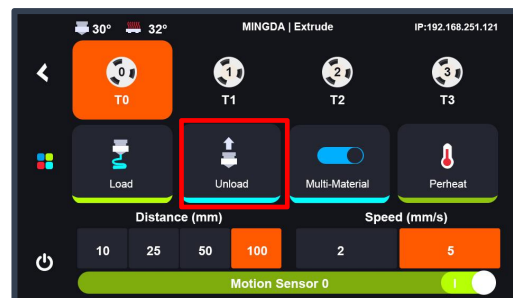

Click the "**Extrude**"

Click Extruder "T0" , select Distance "100mm" and Speed"5", click Load 2-3 times till the filament goes out of the nozzle.
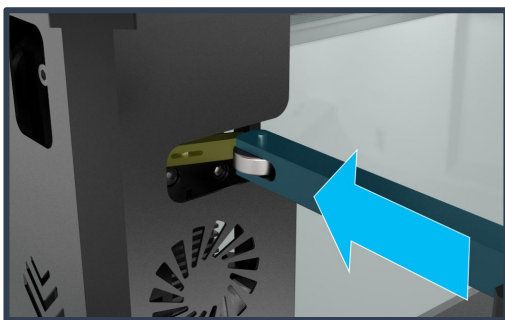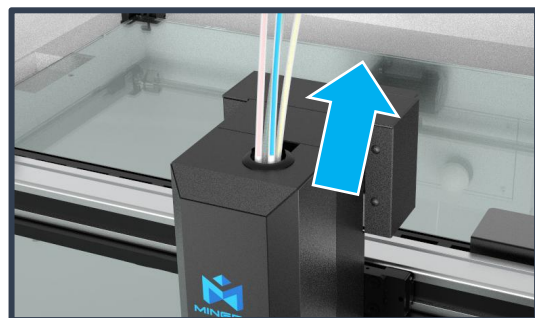
7. Unload Filament

Click the "**Extrude**"

Select the filament in use and click the "**Unload**"

The cutter trims the filament.

The filament retracts to the top of the extruder.