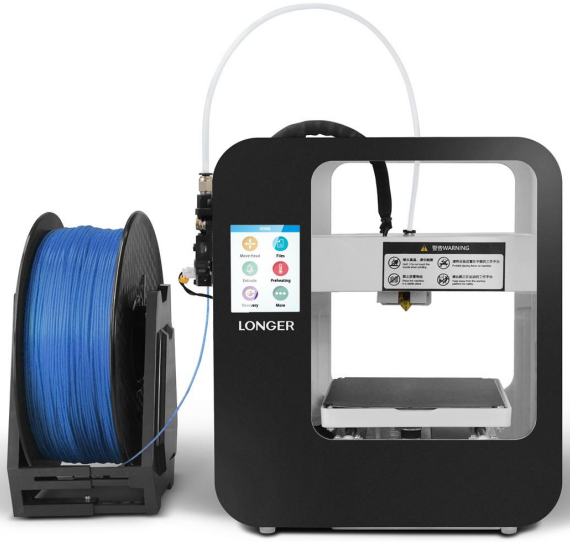
Cube2 Operating Instruction

LONGER Cube2



目录

A. Product information....3
(1) Model parameter....3
(2) Machine introduction....4
(3) Nozzle module exploded view....4
(4) Install filament bracket....5
(5)leveling method....6
B. Machine operation....7
（1）Machine control....7
（2）Main interface....8
C. Cura installation and operation software....9
（1）Slice software offline printing instructions....12
（2）Software parameter setting....15
D. Operation for online printing....18
E. Resume printing and filament run-out detection function....21
（1）Power outage recovery....21
（2）Filament run-out detection....21
F. FAQ manual....23
Question1: How to update the firmware?....23
Question 2:What if the filament does not discharge from the machine?....23
Question 3: When the machine returns the filament, it can't be returned. What should I do when stuck in the pneumatic joint?....24
Question 4: What should I do if I cannot resume printing after power shutdown?....24
Question 5:After the machine heats up, the filament is discharged normally. However, when the printing is performed for the first time, the curling occurs on the platform. After printing several layers, the filaments get out of the platform. What can I do？.25

Safety Precautions

1) The temperature of the nozzle parts can reach 250 °C during the operation of the machine. To ensure your safety, it is forbidden to touch the model and nozzle directly with your hand while the printer is printing or cooling.

2) During the operation of the machine, it is forbidden to reach into the machine to prevent pinching.

3) The working voltage is 110~220V AC voltage 50HZ/60HZ AC. The three-pin socket should be grounded. Do not use other power sources to avoid damage to components or fire, electric shock and other accidents. Note: Before powering on, please check whether the input voltage value of the switching power supply meets the voltage standard of the country or region.

4) When the machine is working continuously for ≥ 96 hours, it should be stopped for 1-3 hours.

Consumables

The consumables are not used after unpacking or for a long period of time after the print model is completed. The consumables should be taken out of the printer and sealed to prevent the consumables from being exposed to the air for a long time, causing moisture and affecting the print quality. At the same time, when the consumables are removed

The front end of the consumable should be fixed on the tray to avoid consumables and affect the next print.

To use this printer, it is recommended to use the supplies provided by the company. At present, the quality of consumables sold in the retail market is uneven, and printing is prone to breakage.

Staggering and clogging the printer nozzle, etc., and irreversible damage to the heating components of the nozzle, the extrusion motor and the extrusion gear. The company will not guarantee the printer due to the use of consumables other than our company.

Environmental requirements

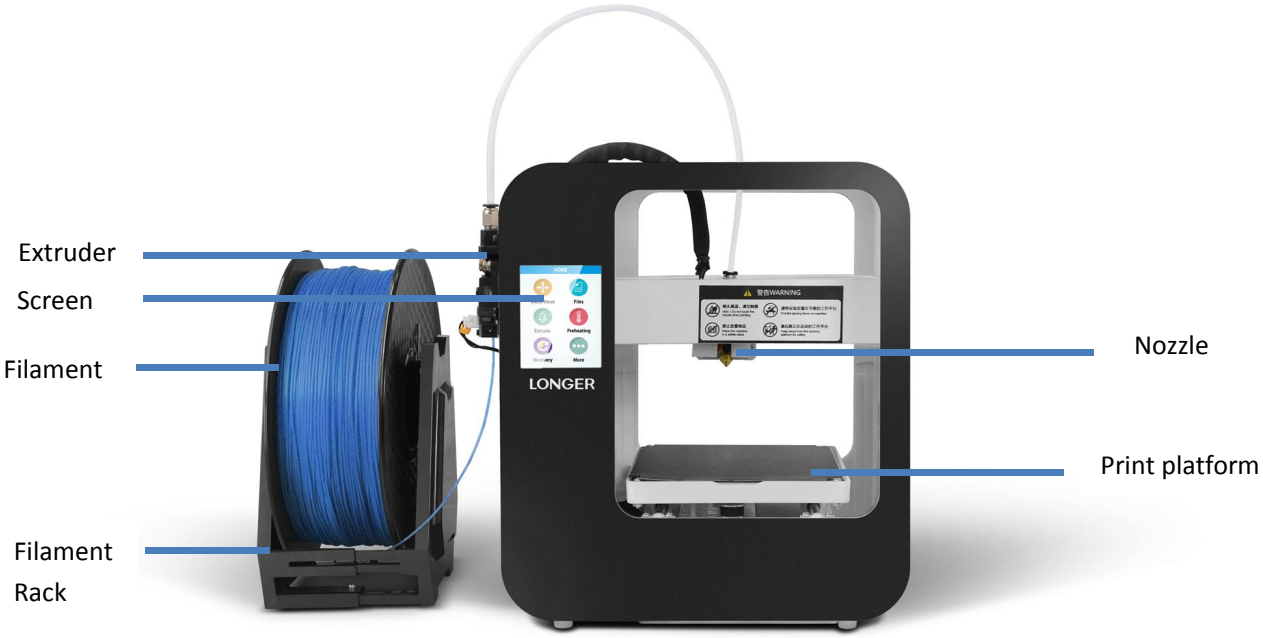
Temperature requirement: 10°C~30°C, humidity requirement: 20%~50%, this 3D printer can work normally within this range; beyond this range, this 3D printer will unable to achieve the best print results.

A. Product information

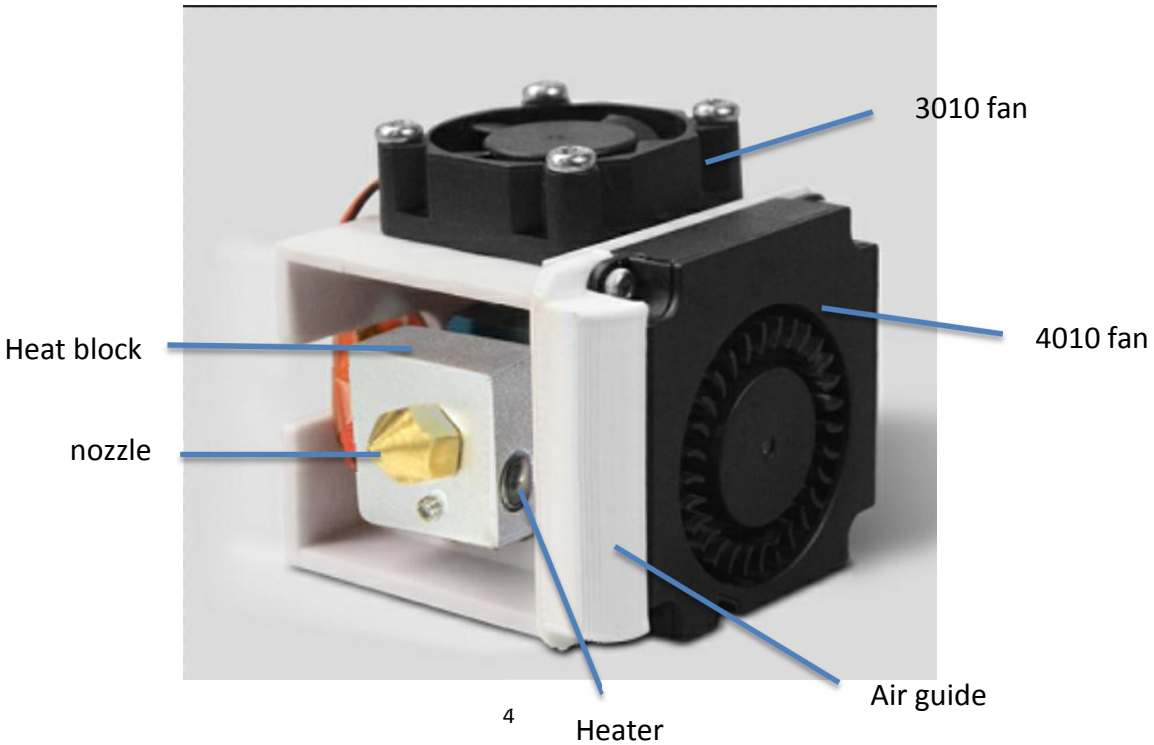
(1) Model parameter

model	Cube2	Machine size	238X228X266.5mm
frame	ABS Plastic Shell	Machine weight	3.5KG
Molding	FDM (hot melt production)	Package dimensions	320X310X375mm
Number of nozzles	1	Consumable color	Multi-color optional
Molding size	120*140*105mm	Power requirement	Output 24V
Layer thickness	0.1-0.4mm	operating system	Windows,Linux,MAC
Memory card offline printing	Support TF card	Interface language	English
LCD screen	YES	Environmental requirements	Temperature 10-30 ° C Humidity 20-50%
printing speed	Not more than 120mm/s	Nozzle temperature	Room temperature to 250 ° C
Nozzle diameter	0.4mm	Hot bed	NO
Slicing software	Cura,repetier-host	Support consumables	PLA etc.
file format	STL,G-Code,OBJ	Consumable diameter	1.75mm

(2) Machine introduction



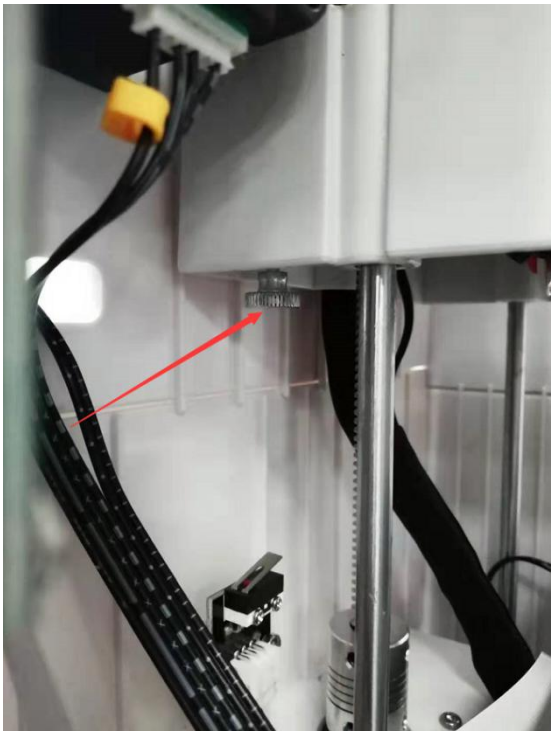
(3) Nozzle module exploded view



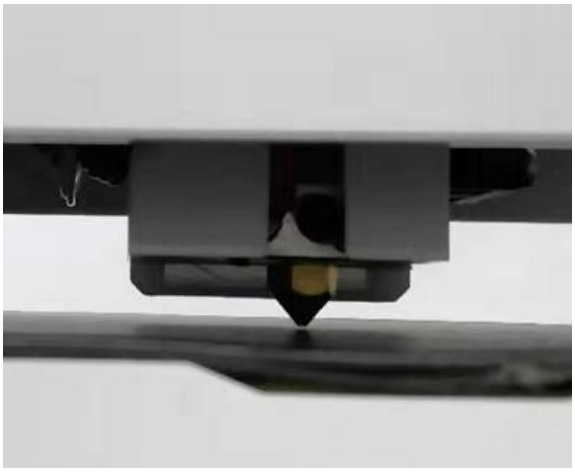
(4) Install filament bracket

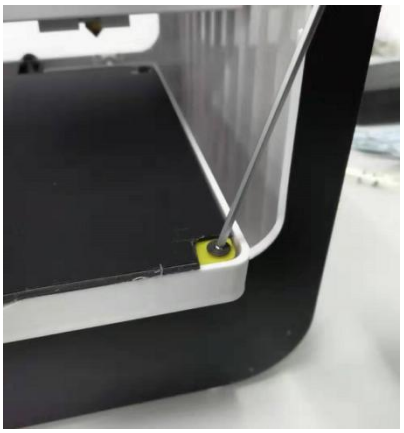
（5）leveling method

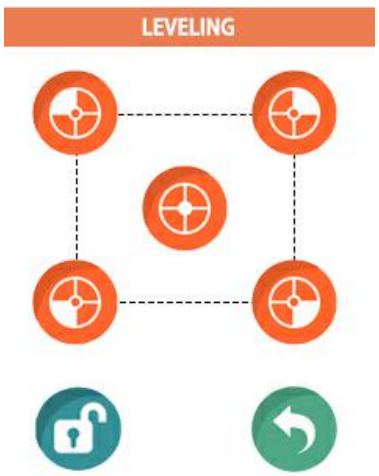
Turn on the machine and manually move the nozzle to the middle of the printing platform. Then let the z-axis go back to zero. If the copper nozzle is far from the platform or close to the platform or even press down the platform, raise the z-axis. Then rotate the big head screw pointed by the red arrow in the right picture. Then let the z-axis go back to zero and repeat the above actions until the copper nozzle is adjusted to the distance of about one A4 paper from the platform as shown in the right picture.

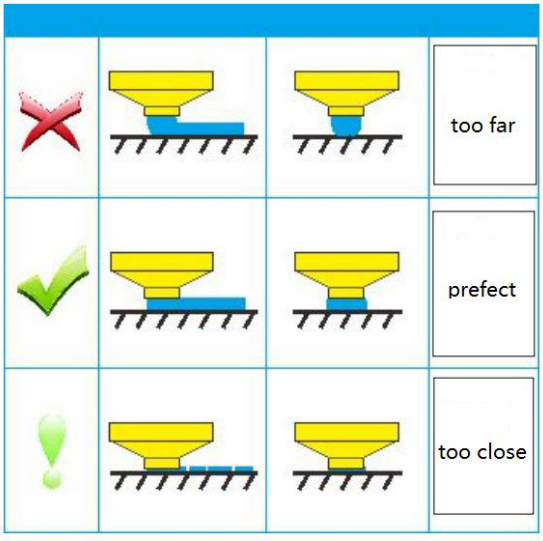


Click on the levelling button on the screen and enter the levelling interface as shown below. Click on five icons in turn to verify that the distance between the sprinkler and the platform is the same.If the distance is not the same, use L-shaped inner hexagonal wrench to rotate the four corners of the platform screw as shown in the figure until the requirements are met.



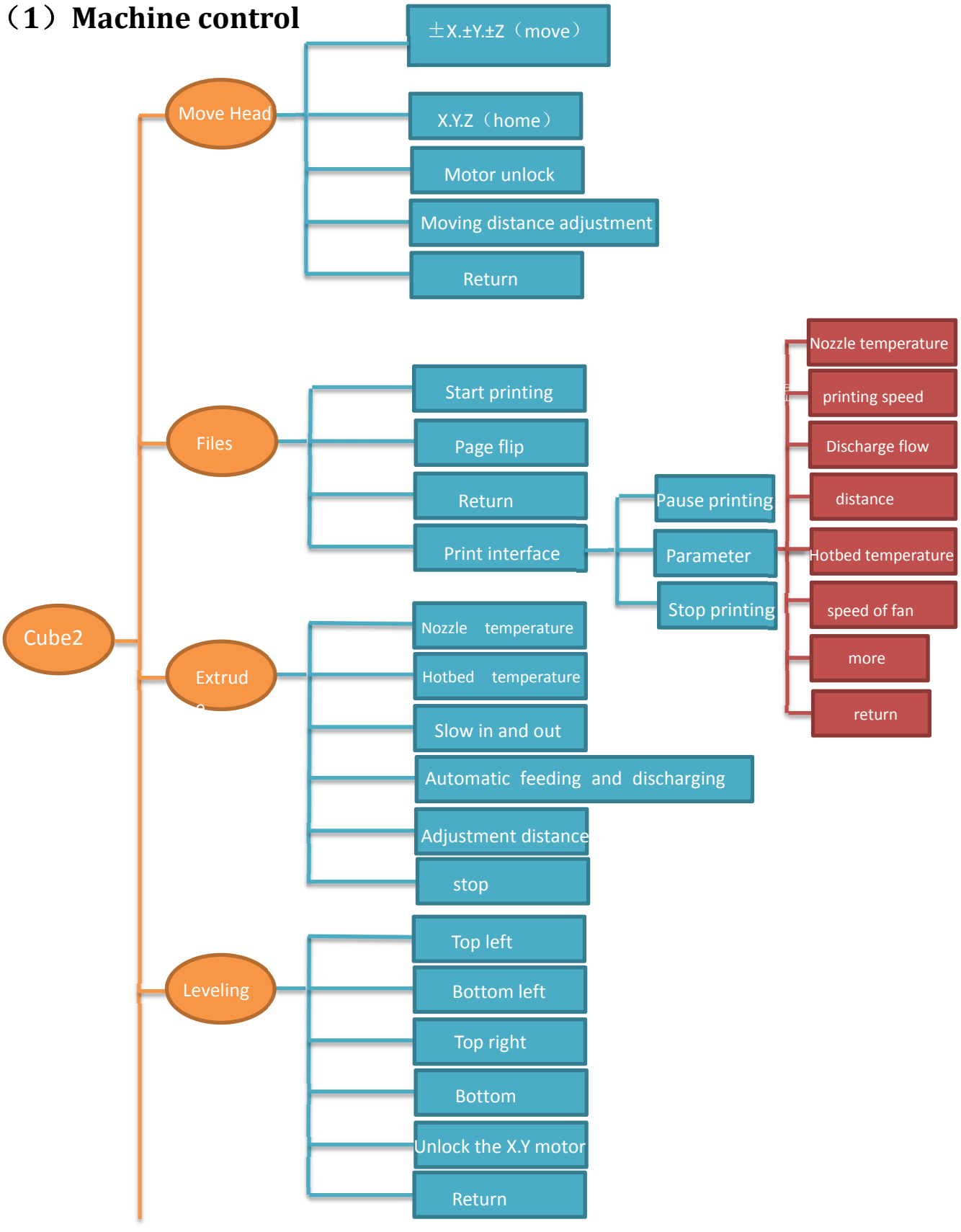


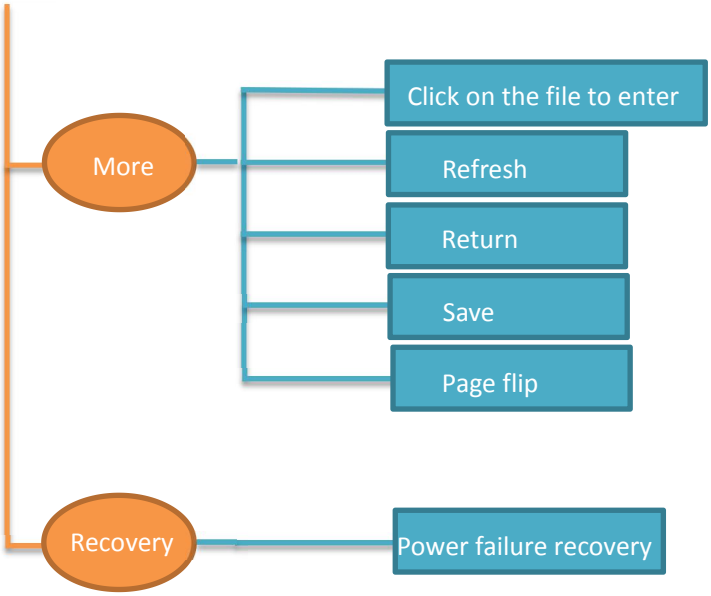




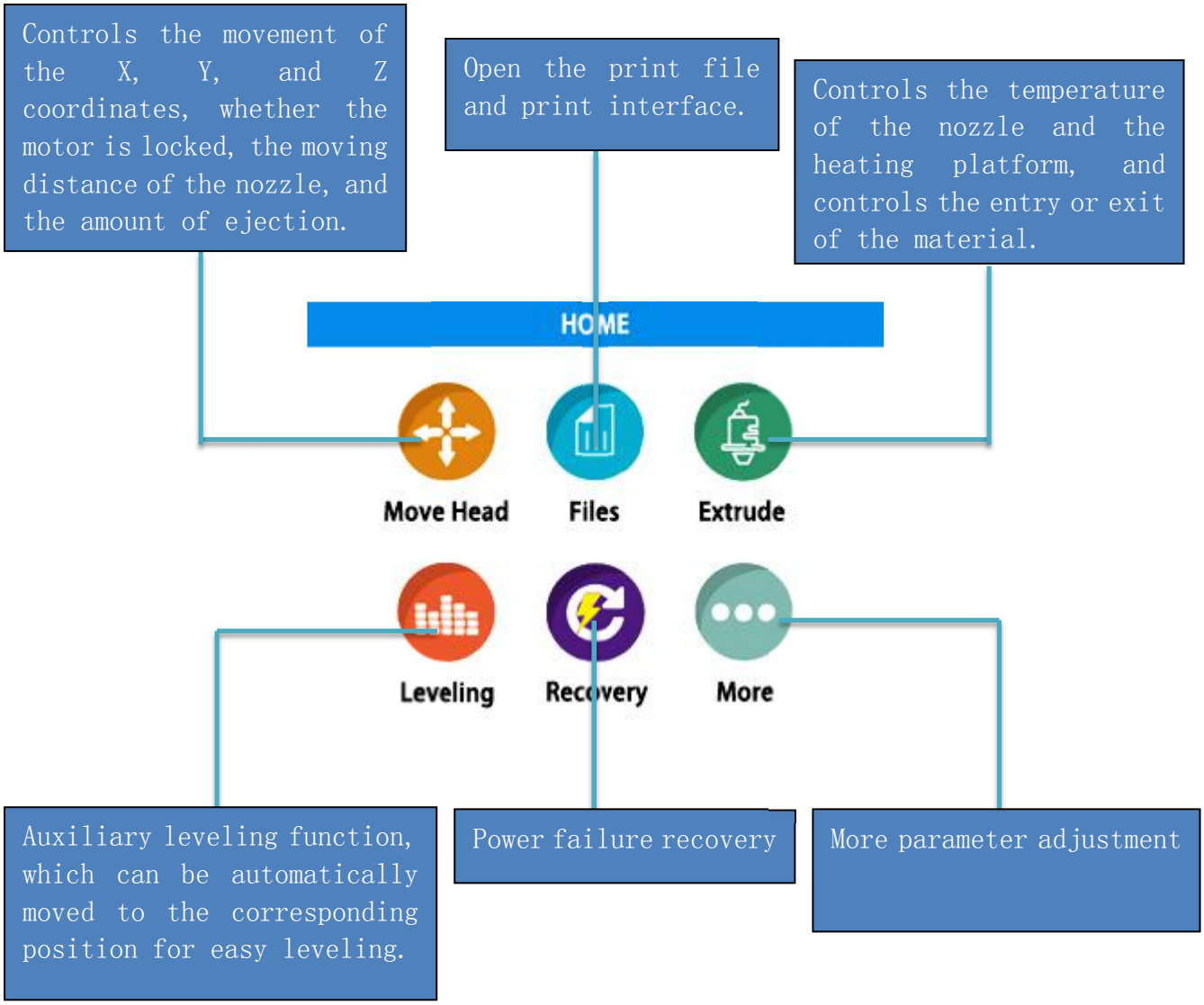
B. Machine operation

（1）Machine control

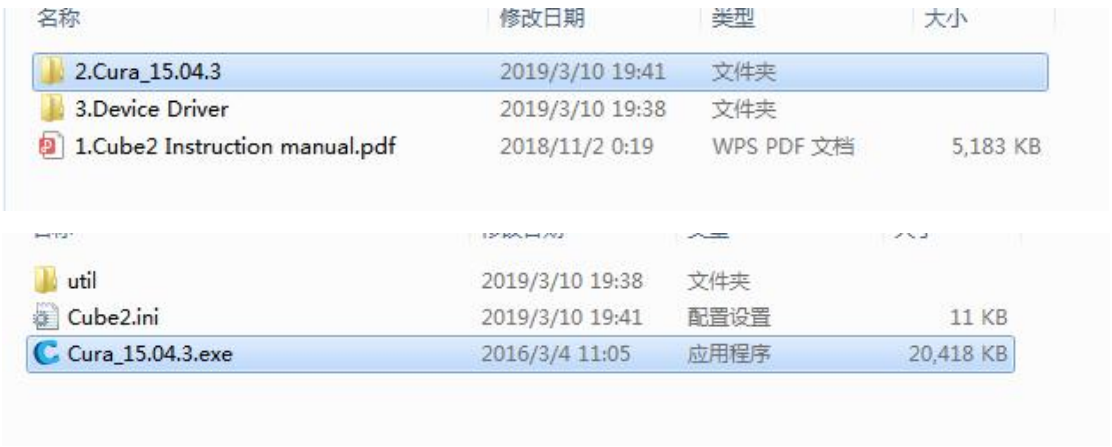


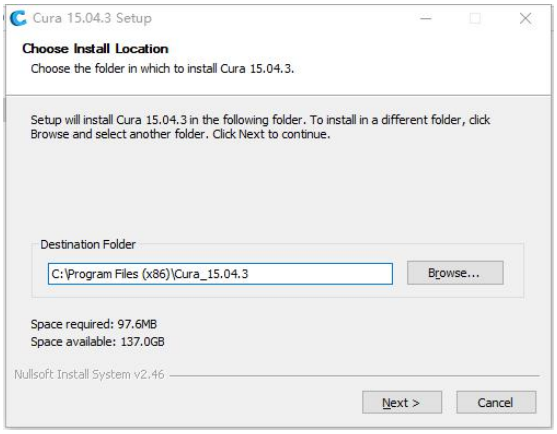


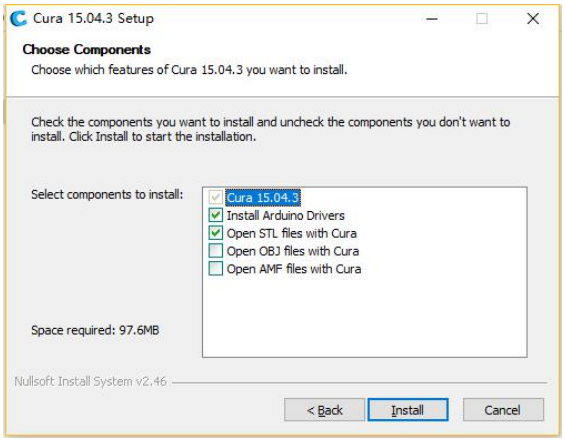
（2）Main interface

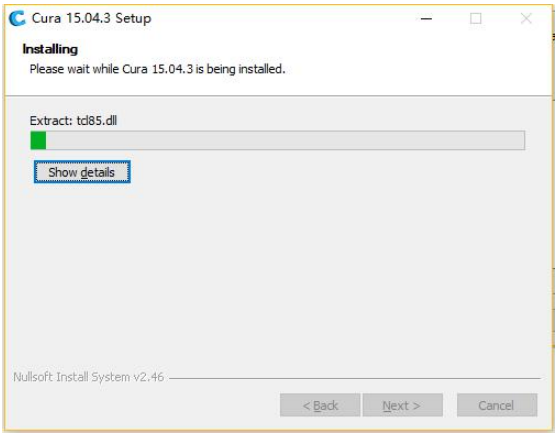


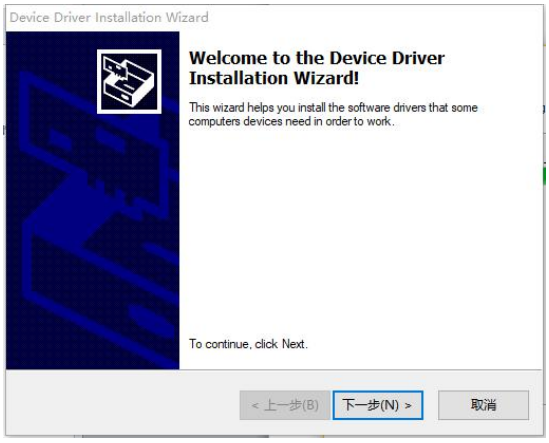
C. Cura installation and operation software

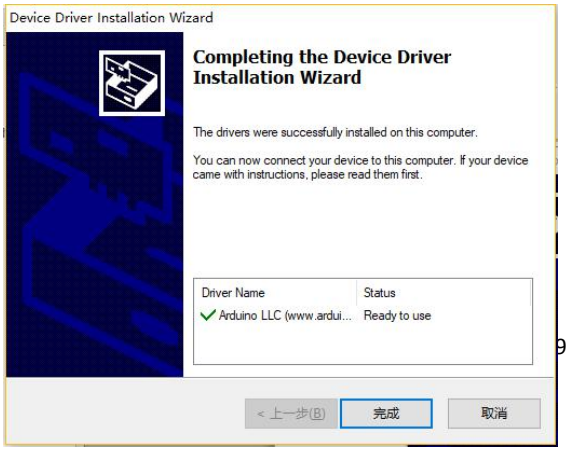


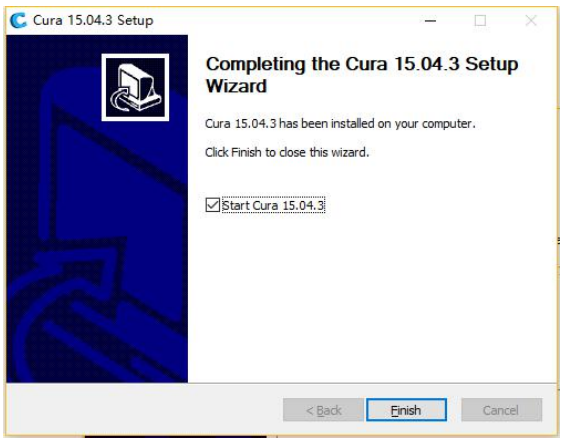


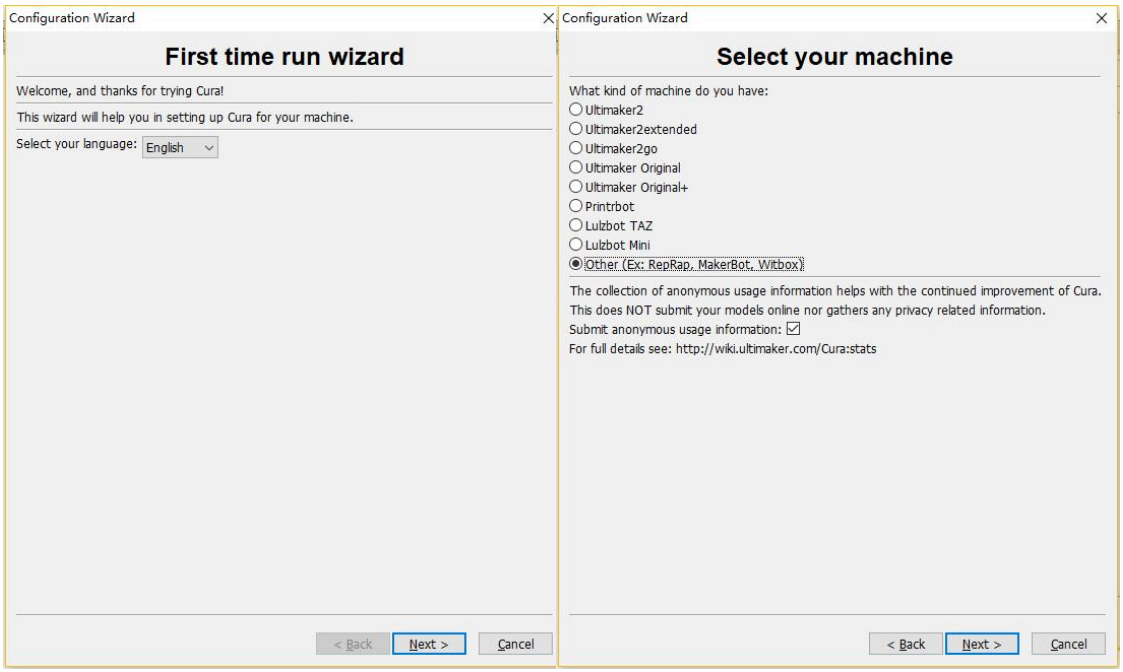


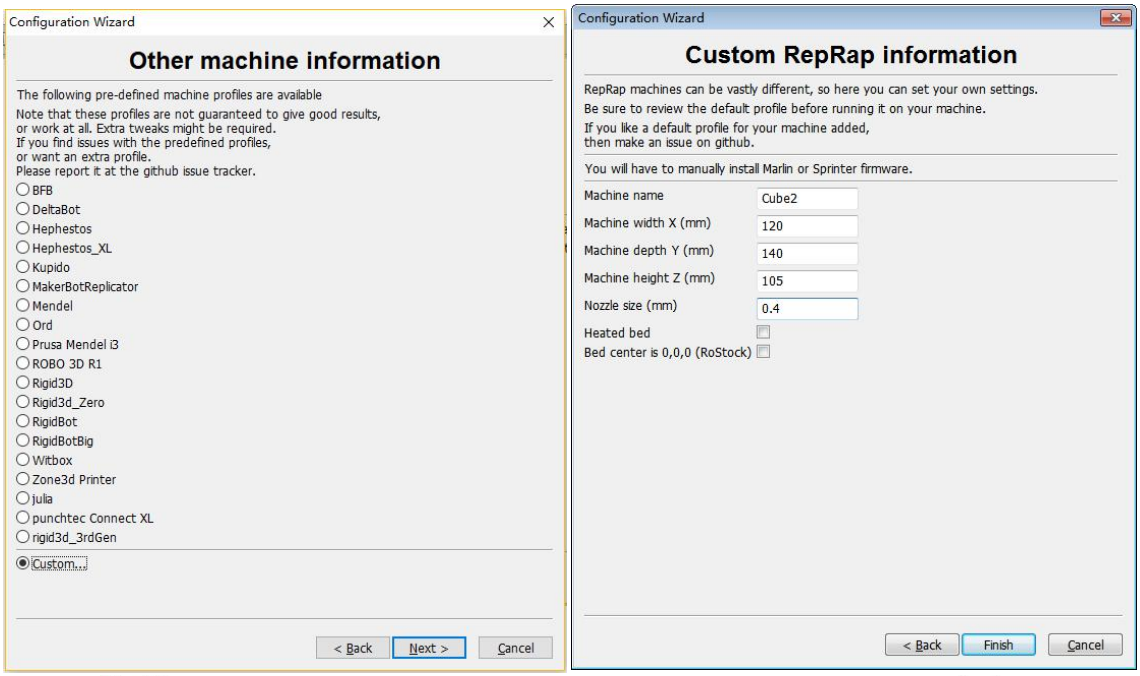


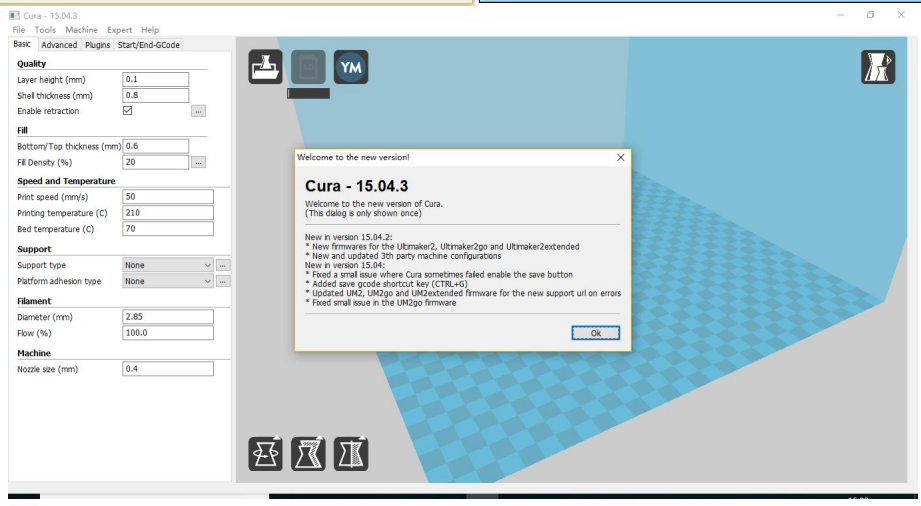


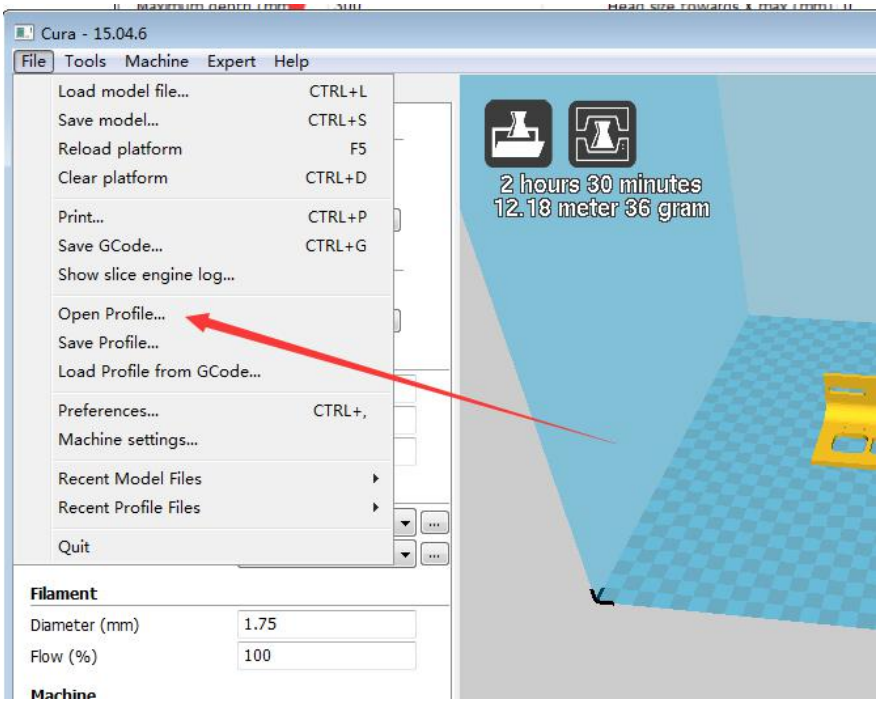




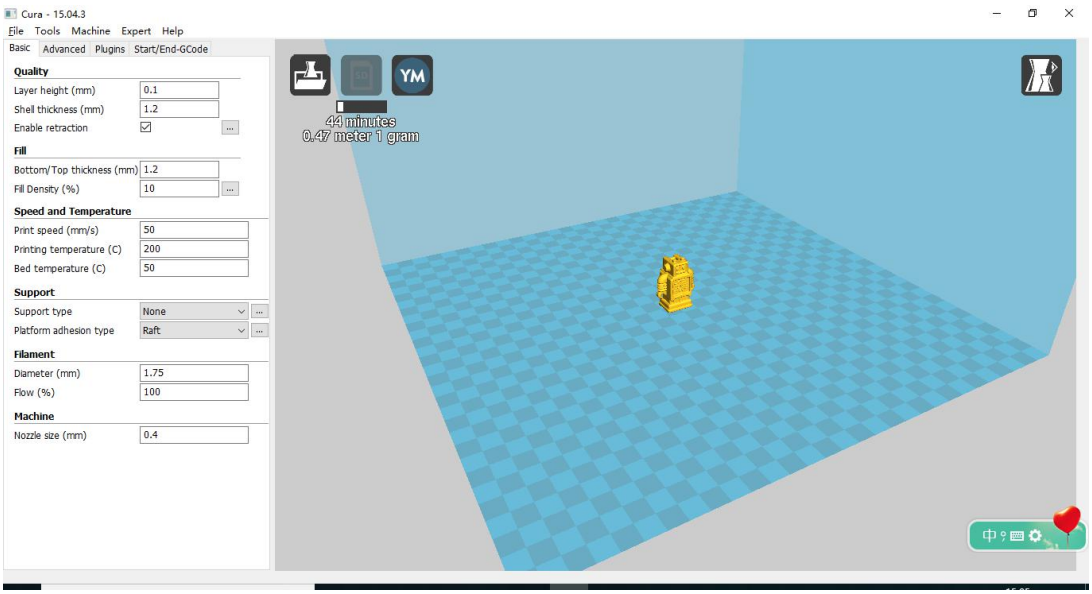

Configuration Wizard
First time run wizard
Welcome, and thanks for trying Cura!
This wizard will help you in setting up Cura for your machine.
Select your language: English
< Back
Next >
Cancel
Configuration Wizard
Select your machine
What kind of machine do you have:
Ultimaker2
Ultimaker2extended
Ultimaker2go
Ultimaker Original
Ultimaker Original+
Printrbot
Lulzbot TAZ
Lulzbot Mini
Other (Ex: RepRap, MakerBot, Witbox)
The collection of anonymous usage information helps with the continued improvement of Cura.
This does NOT submit your models online nor gathers any privacy related information.
Submit anonymous usage information:
For full details see: http://wiki.ultimaker.com/Cura:stats
< Back
Next >
Cancel


Configuration Wizard
Other machine information
The following pre-defined machine profiles are available
Note that these profiles are not guaranteed to give good results,
or work at all. Extra tweaks might be required.
If you find issues with the predefined profiles,
or want an extra profile.
Please report it at the github issue tracker.
BFB
DeltaBot
Hephestos
Hephestos_XL
Kupido
MakerBotReplicator
Mendel
Ord
Prusa Mendel i3
ROBO 3D R1
Rigid3D
Rigid3d_Zero
RigidBot
RigidBotBig
Witbox
Zone3d Printer
julia
punchtec Connect XL
rigid3d_3rdGen
Custom...
< Back
Next >
Cancel
Configuration Wizard
Custom RepRap information
RepRap machines can be vastly different, so here you can set your own settings.
Be sure to review the default profile before running it on your machine.
If you like a default profile for your machine added,
then make an issue on github.
You will have to manually install Marlin or Sprinter firmware.
Machine name
Cube2
Machine width X (mm)
120
Machine depth Y (mm)
140
Machine height Z (mm)
105
Nozzle size (mm)
0.4
Heated bed
Bed center is 0,0,0 (RoStock)
< Back
Finish
Cancel

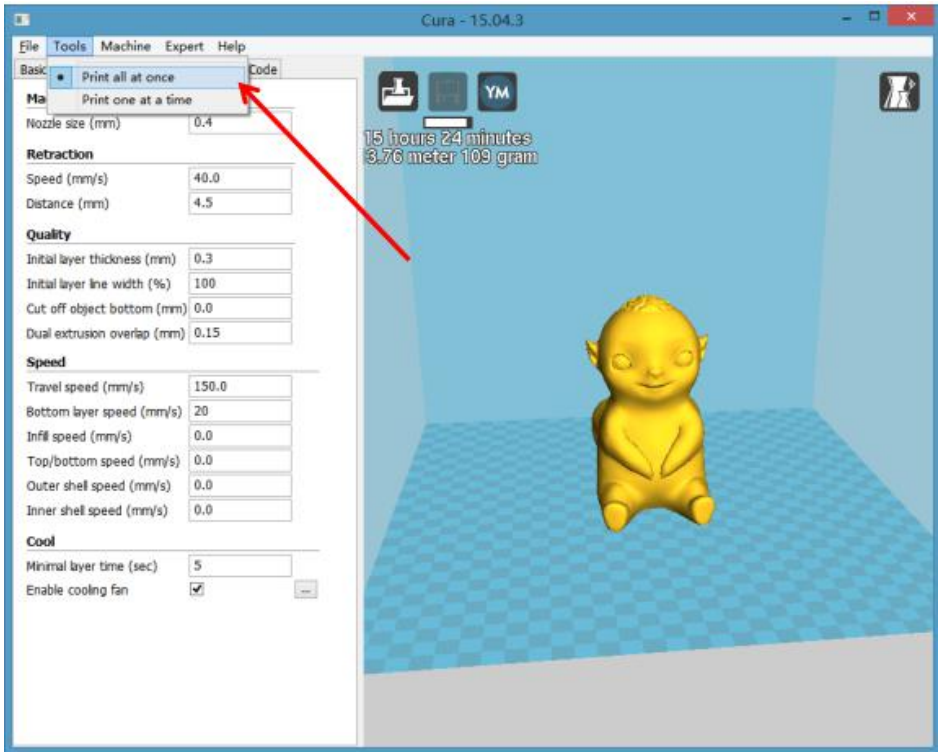

Cura - 15.04.3
File Tools Machine Expert Help
Basic Advanced Plugins Start/End-GCode
Quality
Layer height (mm) 0.1
Shell thickness (mm) 0.8
Enable retraction
Fill
Bottom/Top thickness (mm) 0.6
Fill Density (%) 20
Speed and Temperature
Print speed (mm/s) 50
Printing temperature (C) 210
Bed temperature (C) 70
Support
Support type None
Platform adhesion type None
Filament
Diameter (mm) 2.85
Flow (%) 100.0
Machine
Nozzle size (mm) 0.4
Welcome to the new version!
Cura - 15.04.3
Welcome to the new version of Cura.
(This dialog is only shown once)
New in version 15.04.2:
* New firmwares for the Ultimaker2, Ultimaker2go and Ultimaker2extended
* New and updated 3th party machine configurations
New in version 15.04:
* Fixed a small issue where Cura sometimes failed enable the save button
* Added save gcode shortcut key (CTRL+G)
* Updated UM2, UM2go and UM2extended firmware for the new support url on errors
* Fixed small issue in the UM2go firmware
Ok

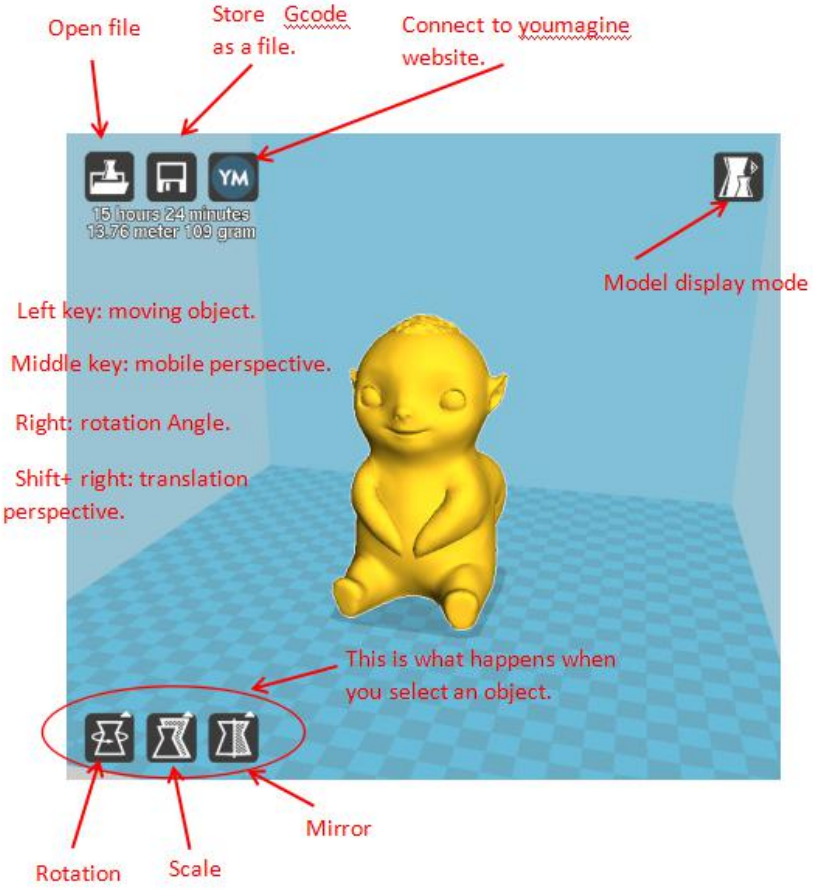

Cura - 15.04.6
File Tools Machine Expert Help
Load model file... CTRL+L
Save model... CTRL+S
Reload platform F5
Clear platform CTRL+D
Print... CTRL+P
Save GCode... CTRL+G
Show slice engine log...
Open Profile...
Save Profile...
Load Profile from GCode...
Preferences... CTRL+,
Machine settings...
Recent Model Files
Recent Profile Files
Quit
Filament
Diameter (mm) 1.75
Flow (%) 100
Machine
2 hours 30 minutes
12.18 meter 36 gram

名称 修改日期 类型 大小
util 2019/3/10 19:38 文件夹
Cube2.ini 2019/3/10 19:41 配置设置 11 KB

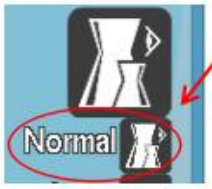

Cura - 15.04.3
File Tools Machine Expert Help
Basic Advanced Plugins Start/End-GCode
Quality
Layer height (mm) 0.1
Shell thickness (mm) 1.2
Enable retraction
Fill
Bottom/Top thickness (mm) 1.2
Fill Density (%) 10
Speed and Temperature
Print speed (mm/s) 50
Printing temperature (C) 200
Bed temperature (C) 50
Support
Support type None
Platform adhesion type Raft
Filament
Diameter (mm) 1.75
Flow (%) 100
Machine
Nozzle size (mm) 0.4
YM
44 minutes
0.47 meter 1 gram

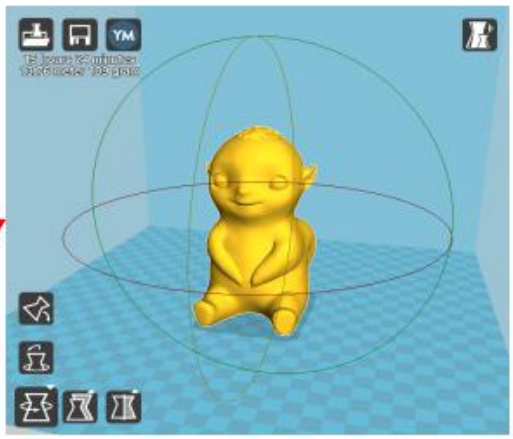
（1）Slice software offline printing instructions





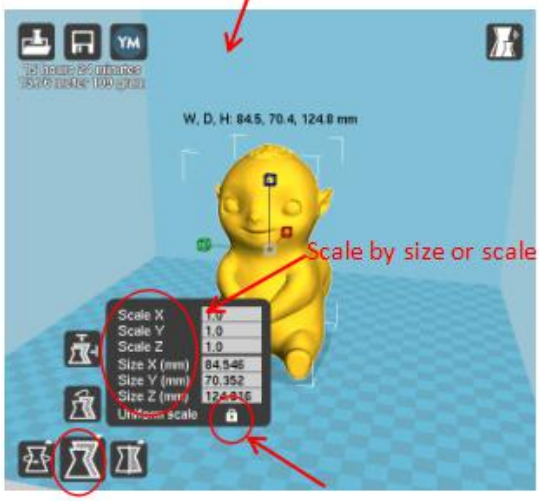
It works under
Normal conditions.





1.Click on the rotating

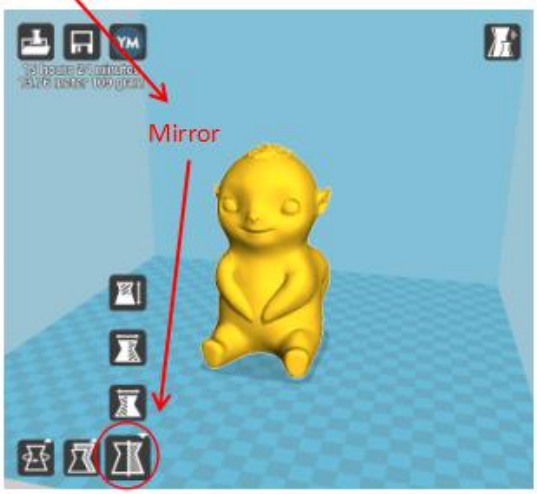
2. Pull the rotation control circle, by default 15 degrees, hold shift and shake the control circle, you can rotate the unit by 1 degree.



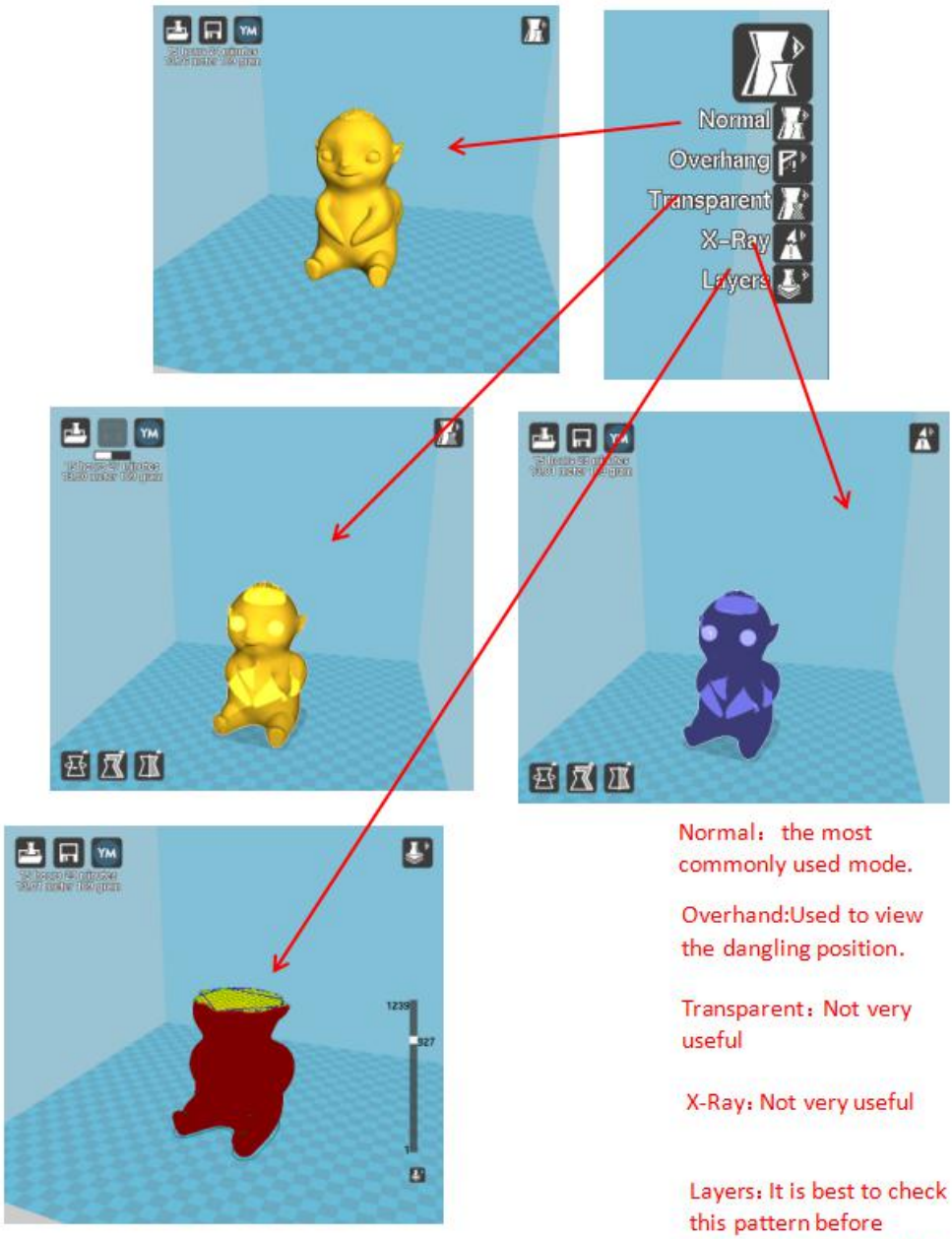
Scale by size or scale

Uniformly scaled size

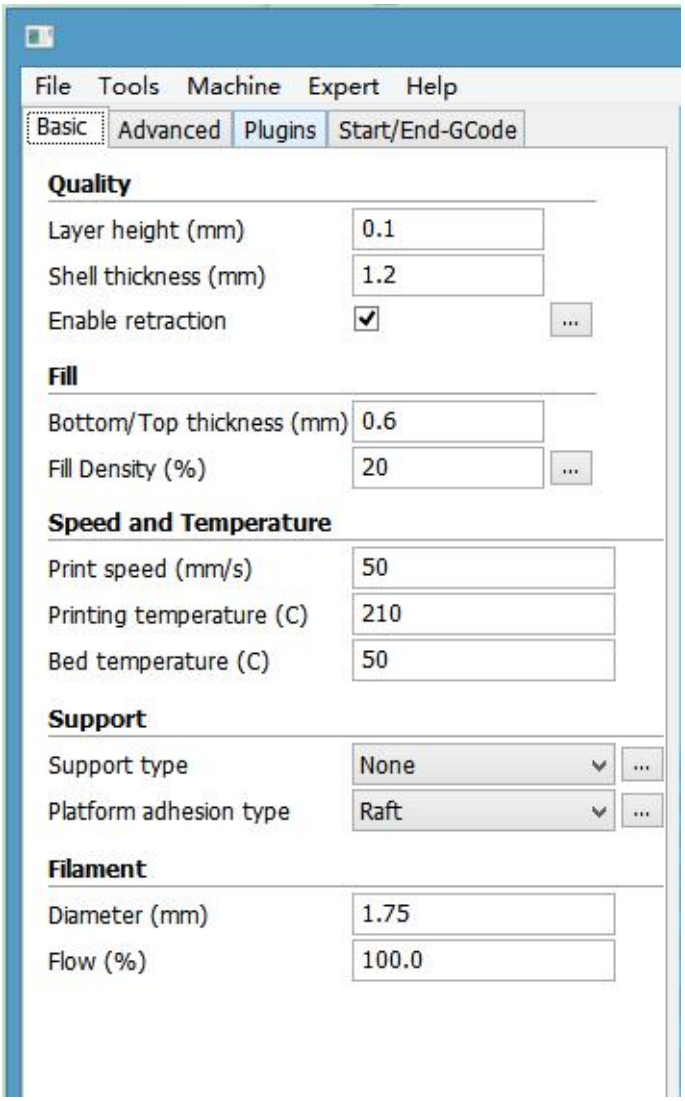
The scale button



By "File" > Save "<filename>.gcode" (filename is a custom file name, the file name should not be too long). The file name must be English or numeric. It cannot be named as Chinese or special characters. The file must be saved on the SD card. Under the root directory. Save the sliced file to the SD card, insert it into the card slot, turn on the power, and print the steps. Select “Folder” in the main menu of the display, then select the “filename.gcode” file you just saved, and confirm the warm-up. And print



（2）Software parameter setting



Layer thickness： 0.1~0.4mm available. 0.1mm high precision but long printing time, 0.4mm low precision but printing time is too short, in general select 0.2mm.

Shell thickness: 0.4mm is very thin, in general select 1.2mm,that will increase printing time.

Enable retraction: To prevent the wire from leaking when printing quickly, otherwise it will affect the appearance.

Bottom/Top thickness: In order to make the top layer print more perfect and flat bottom layer.

Fill density: If the intensity is not high, select 20%. If the intensity is high, increase it and the printing time also will increase.

Print speed: Generally set 30-100, he print speed is higher and the precision is lower.

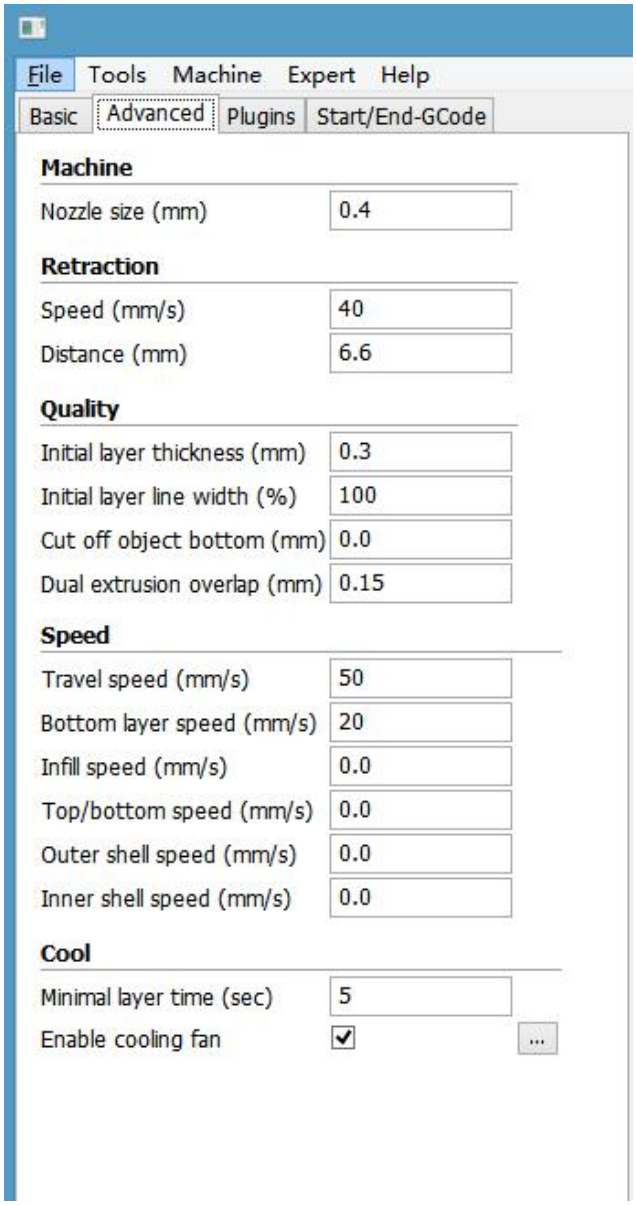
Printing temperature: Depends on the filament, generally select 190 ~ 210 degrees.

Support type: Include half-support and full support. In general the model with suspended structure needs to set support, but surface will be rough after removing support.

Platform adhesion type: "None" means do not set any support, "Brim" increases the bottom area. "Raft" base makes the model more adherent. To make the model better adhere to the base, add a base or edge. But best to increase a base and a edge relative to the small bottom area.

Diameter: 1.75mm

Flow: 100%



Nozzle size: 0.4mm.

Retraction Speed: The speed of retraction when printing.

Retraction distance: The length of material retraction, generally select 4.5~8mm.

Initial layer thickness: The first layer thickness of printing. Select default option.

Initial layer line width: 100% will be thicker and denser, Select default option.

Cut off object bottom: The length of cutting off the bottom of model.

Dual extrusion overlap: 0.15mm. Select default option.

Travel speed: The moving speed when nozzle does not extrude filament.

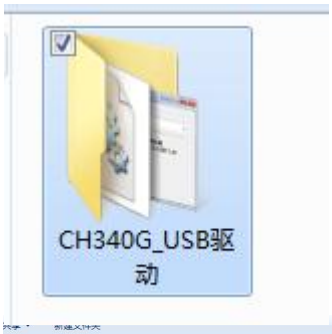
Bottom layer speed: The speed of printing the first layer. Setting a slower speed to make object better attached to base plate.

Infill speed, Top / bottom speed, Outer shell speed, Inner Shell speed: Select default option.

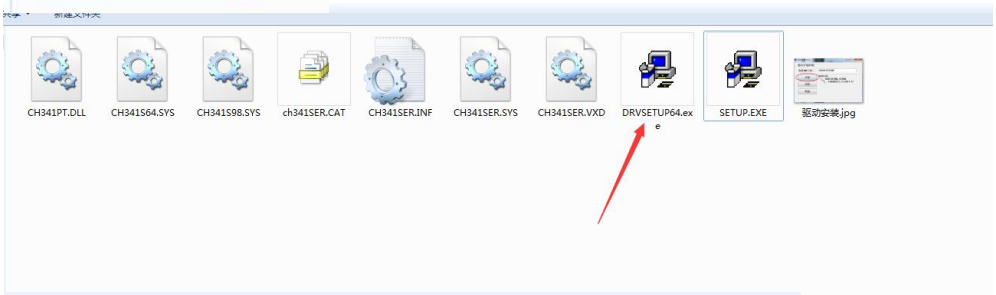
Minimal layer time: Select default option.

Enable cooling fan: To cool the temperature of nozzle.

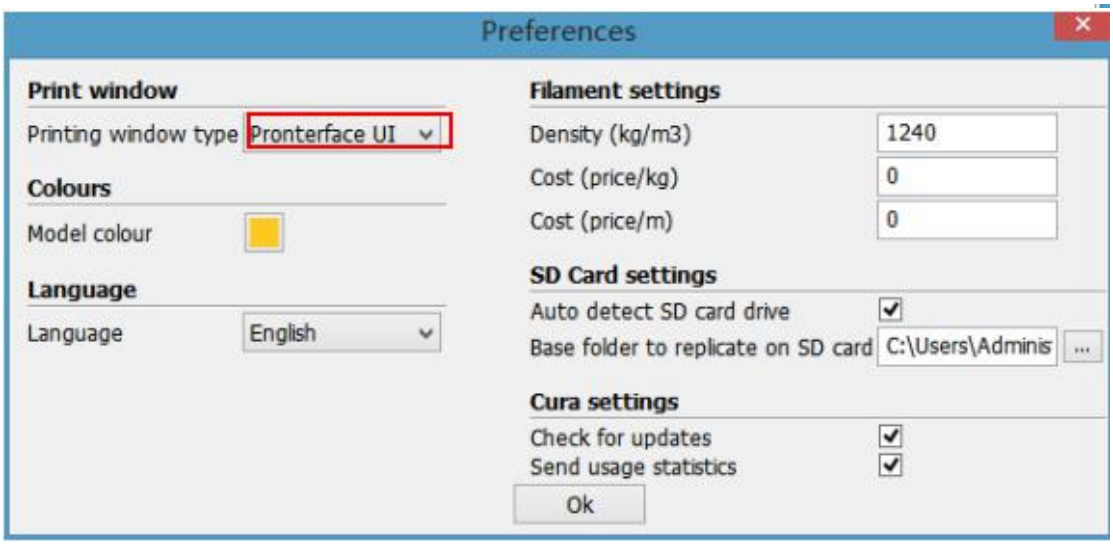
D. Operation for online printing



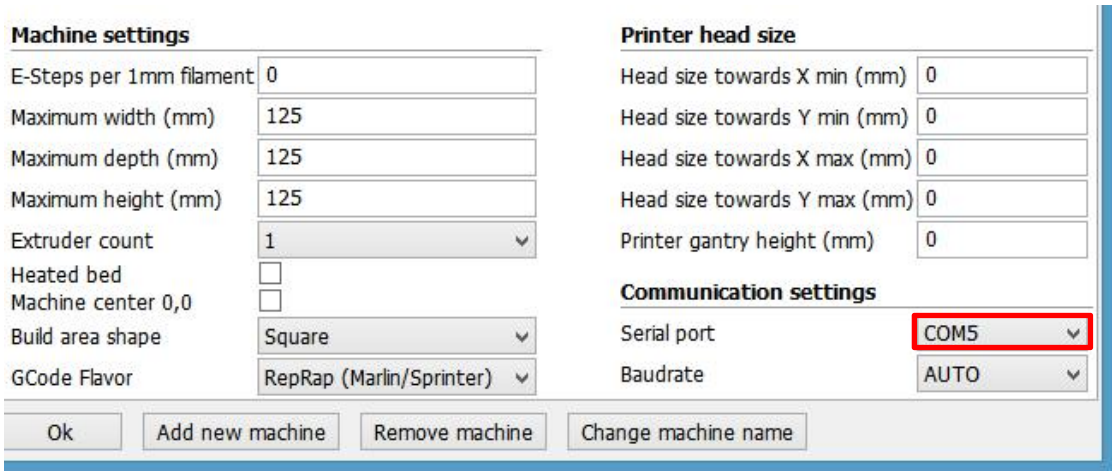
1. **Power on the printer, connect USB to a computer, the driver will be installed automatically. If it doesn't install automatically, find the driver under the driver folder and install it manually.**



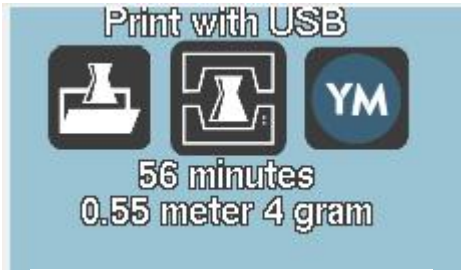
2. Ctrl + "," opens the "Preferences" dialog.



3. Click on the menu "Model" "" Model Settings" to open

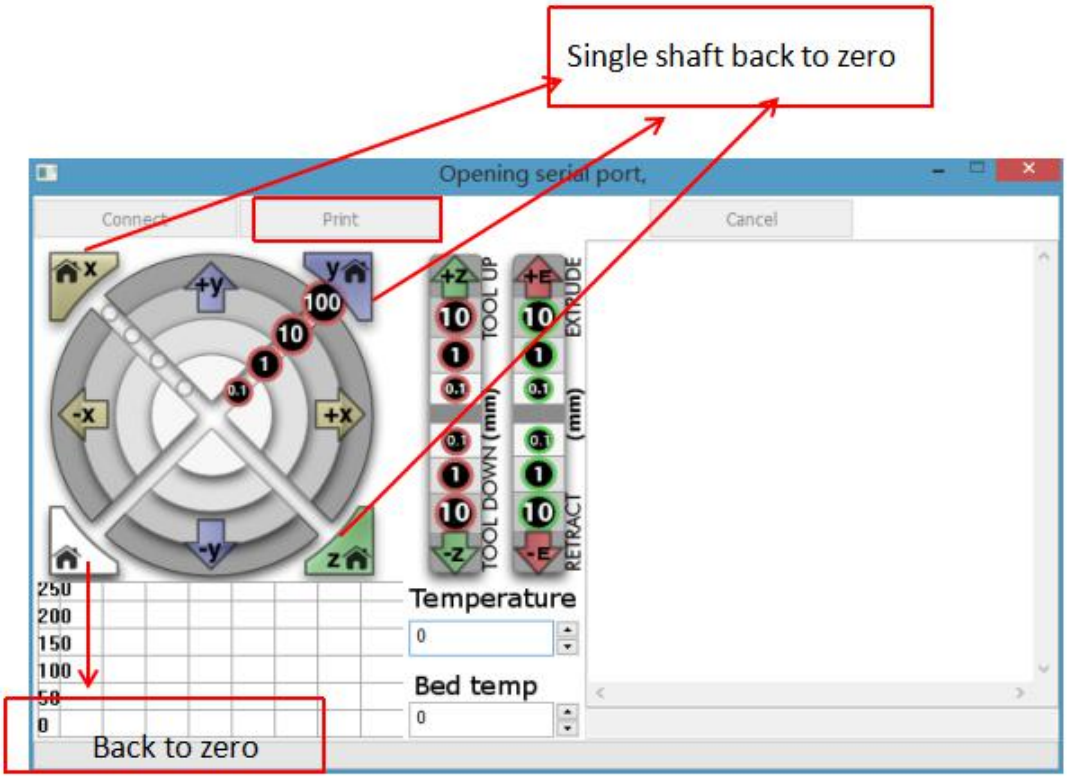


Select the corresponding serial port (different computer serial ports may be different, generally choose the larger one), the baud rate is "AUTO", click "OK".



Status shows that the connection has been

2. After loading a file, click the status icon above or "Ctrl+P" to start printing, and the print window will pop up.



We can click on the gray circle on the window to control the motion of the XYZE axis, respectively, 0.1, 10, 100 means the amount of each movement. The G-code control can be entered in the lower right corner text box. Do not use it if you don't understand it. Click “Print” to start printing. Please be careful during printing to avoid printing failure.

E . Resume printing and filament run-out detection function

（1）Power outage recovery

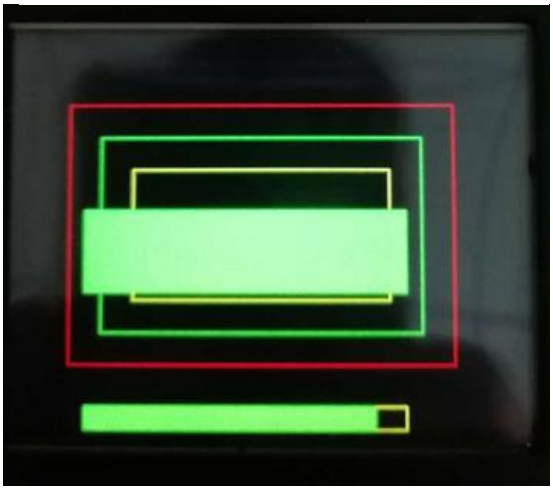
When printing for a period of time and the height of the print exceeds 0.5mm, the power-off icon will be displayed. At this time, the power is turned back on, and the icon can be clicked. After waiting for the temperature to rise, normal printing can be resumed.

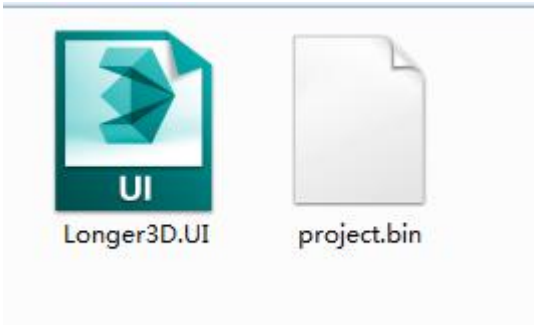
（2）Filament run-out detection

F. FAQ manual

Question1: How to update the firmware?

1. Copy these two files to the SD card



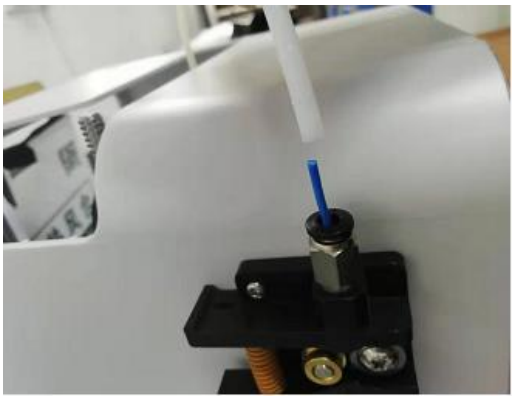


2. Then restart the machine and wait for the machine progress bar to complete before the firmware is refreshed.
3. Then the user needs to delete the two files in the SD card to be used normally, otherwise the firmware will be refreshed every time the phone is turned on

Question 2:What if the filament does not discharge from the machine?

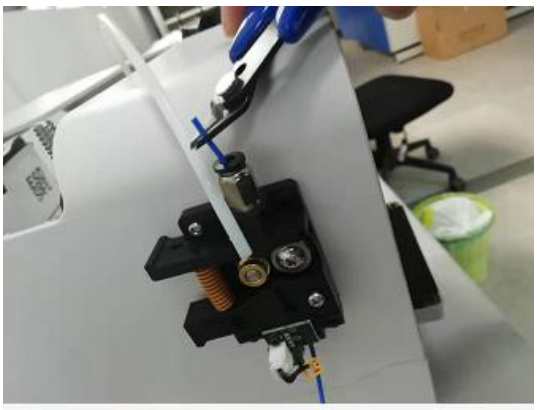
1. After the machine nozzle is heated, the consumables are normally fed into the feeding mechanism by hand, and then passed through the Teflon tube to enter the nozzle.
2. When it is found that the gear of the feeding mechanism emits a "beep" sound, it can first check whether the consumables are wound, causing the extrusion mechanism to pull the material.
3. If this is not the reason mentioned above, please remove the fixed two screws according to the figure, pull out all the cables of the sprinkler assembly, and remove the whole sprinkler assembly for replacement and repair.

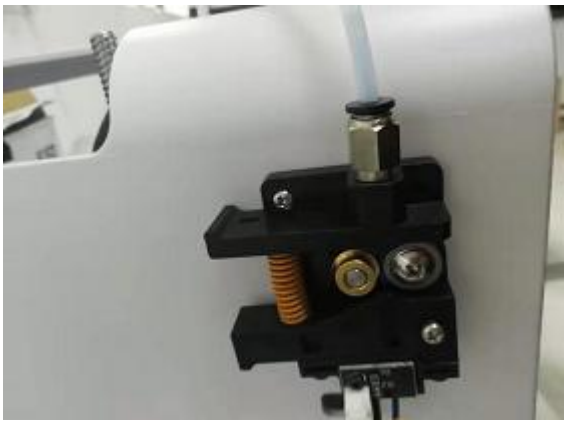
Question 3: When the machine returns the filament, it can't be returned. What should I do when stuck in the pneumatic joint?



1. Before returning the material, please heat the nozzle first, and then withdraw the consumables as soon as possible. If you can't pump it, you can re-feed the material with the advanced material, and melt the extruded block formed at the end of the consumable in the nozzle.

2. When withdrawing the consumables, before the end of the consumables reaches the pneumatic joint, we will usually pull the Teflon directly from the Teflon and cut the end of the consumables.





3. Because the end of the consumables in the nozzle will be deformed by heat, if the end deformed consumables are directly pulled out, it may be stuck to the pneumatic joint or the limit switch for damage detection. (The limit switch for the broken material detection is single. Towards).

Question 4: What should I do if I cannot resume printing after power shutdown?

If the power is suddenly turned off when the part is first printed, the machine will not save the print data. Unless the height of the print exceeds 0.5mm, the power failure will be supported. If the height is less than 0.5mm, it is recommended to reprint directly.

Question 5: After the machine heats up, the filament is discharged normally. However, when the printing is performed for the first time, the curling occurs on the platform. After printing several layers, the filaments get out of the platform. What can I do？

1. After the user gets the 3D printer, if the leveling is found to be curled on the first layer of silk, it feels like it is gently falling on the platform. It can be judged that the leveling is not adjusted, and the nozzle is too high from the hot bed. ,
2. At this point we need to re-level, the quality of the leveling can largely determine the success rate of the part printing.
3. In addition, in order to ensure good contact between the model and the platform, we can set the larger plane of the model face down when slicing, and can also be set in the slicing software to add Raft to the model, which can make the model stick to the platform. Firm.