

eazao

Ceramic 3D Printer Instruction Manual

陶瓷 3D 打印机使用说明书



Contents/ 目录

I Machine introduction/ 设备介绍	4
1. Machine parameters/ 设备参数	4
2. Machine Parts List/ 设备配件表	5
3. Parts of the machine/ 设备各部分	6
4.Screen interface description/ 屏幕界面说明	7
5. Microwave kiln/ 微波窑炉	10
6. Print material/ 打印材料	10
7. Glaze/ 釉料	11
II Unpacking and assembly of the machine/ 设备的拆箱和组装	12
1. Assembly of electric putter./ 电动推杆的组装	12
2.Cable connection./ 线束连接	13
III 3D printing process/3D 打印流程	14
1.Level bed/ 调平打印平台	15
2. Install the cartridge and pre-extrusion clay/ 安装料管和预挤出泥料	19
3.Prepare Files/ 准备文件	21
4. Generate G-code/ 生成 G-code	21
5. Model printing/ 模型打印	33
6. Printing complete/ 打印完成	34

IV .Post-processing: glazing and sintering/ 后处理：上釉和烧结	35
1. Glazing/ 上釉.....	35
2. Sintering/ 烧结.....	36
V . Equipment maintenance / 设备维护	37
1. Extruder maintenance/ 挤出机维护	37
2. Cartridge maintenance/ 料筒维护.....	38
3. Feeding tube maintenance/ 送料管维护	38
VI . Frequently Asked Questions/ 常见问题	39
1. Machine failure/ 整机故障.....	39
2. Malfunction of the electric putter/ 电动推杆故障	39
3. Extruder failure/ 挤出机故障	40
4. Matters needing attention/ 注意事项	41
VII . After-sales service terms/ 售后服务条款	42
1. What is the scope of the warranty?/ 保修范围是什么？	42
2. What is not covered by the warranty?/ 什么不在保修范围内？	42
3. When will the warranty start?/ 什么时候开始保修？	42
4. How to get a 180-day free warranty?/ 如何获得 180 天免费保修？	42

I Machine introduction/ 设备介绍

1. Machine parameters/ 设备参数

Technical Principle/ 技术原理	DIW / 陶瓷无模直写
Molding size/ 成型空间	150 x 150 x 240 mm (L x W x H)/(长 x 宽 x 高)
Layer thickness/ 层厚	0.4 -1mm
Feeding method/ 送料方式	Electric putter+screw extrusion/ 电动推杆 + 螺杆挤出
Nozzle diameter/ 喷嘴直径	1.6mm
Printing speed/ 打印速度	10mm/s - 40mm/s
Supporting materials/ 支持材料	Pottery or porcelain clay, Viscous fluid/ 陶泥、瓷泥等粘滞流体
Operating system/ 支持操作系统	Windows, Mac, Linux
Slicing software/ 切片软件	Cura, Slic3r, Simplify3D etc
Support file format/ 支持文件格式	.STL, .Gcode, .OBJ etc
Interactive mode/ 交互方式	Full color touch screen, SD card, USB connection/ 全彩触摸屏, SD 卡, USB 联机
Input voltage/ 输入电压	DC 12 V 10A
Adapter voltage/ 适配器电压	AC 100-240V~50/60Hz
Machine size/ 机器尺寸	350 x 300 x 500 mm(L x W x H)/(长 x 宽 x 高)
Package dimensions/ 包装尺寸	550 x 440 x 320 mm(L x W x H)/(长 x 宽 x 高)
Package weight/ 包装重量	15KG

2. Machine Parts List/ 设备配件表

1 x Eazao Zero Printer/ 打印机
1 x Electric putter/ 电动推杆
1 x Nozzle/ 喷嘴
1 x USB cable/USB 线
1 x Cartridge/ 料筒
1 x Feed tube/ 料管
1 x Tool kit/ 工具套件
1 x Printed bed/ 打印木板
2 x Clip/ 夹子
1 x Power adapter/ 电源适配器 *
1 x SD card (gift)/ SD 卡 (赠品)
1 x Microwave kiln (optional)/ 微波窑炉 (可选)
1 x Glaze set (optional)/ 釉料套装 (可选)
1 x Manual (not shown)/ 说明书 (未展示)
1 x Quick Start Manual (not shown)/ 快速入门手册 (未展示)



*The power adapter is a gift, please use the correct and standardized power adapter product according to your country and region

*Optional parts need to be ordered separately according to your needs, not in the equipment.

*This manual is compiled based on the Eazao Zero standard 3D printer. Software and hardware upgrades and device models are different, and products are slightly different. This is a normal phenomenon, and the actual product received shall prevail.

* 电源适配器为赠品，请根据所在国家和地区使用正确规范的电源适配器产品

* 可选件需要根据您的需要单独订购，不在设备中。

* 本说明书按照 Eazao Zero 标准型 3D 打印机编制而成。软硬件升级和设备型号不同，产品略有不同，属正常现象，以实际收到的产品为准。

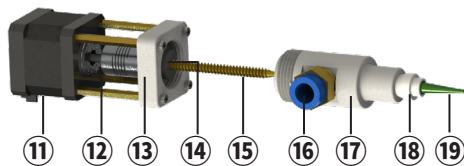
3. Parts of the machine/ 设备各部分

Front/ 前面



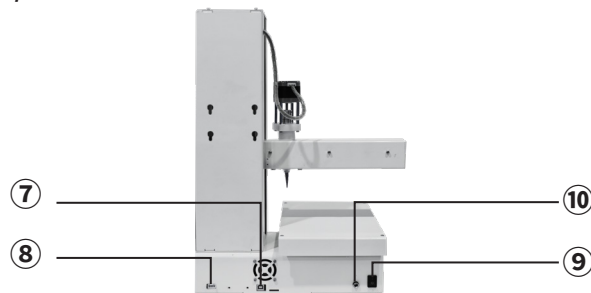
- ① Extruder/ 挤出机 ② X axis beam/X 轴横梁 ③ Y-axis printing platform/Y 轴打印平台 ④ Full color touch screen/ 全彩触摸屏
⑤ SD card slot/SD 卡槽 ⑥ Z axis column/Z 轴立柱

Extruder/ 挤出机



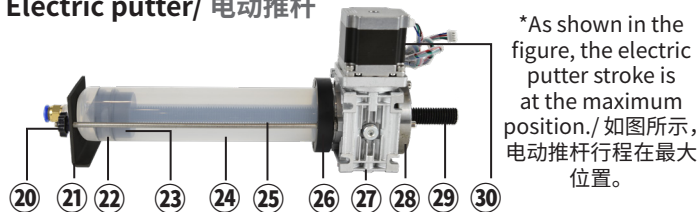
- ⑪ Extruder motor/ 挤出电机 ⑫ Coupling/ 联轴器 ⑬ Extruder tailstock/ 挤出机尾座 ⑭ Seal ring/ 密封圈 ⑮ Extruder screw/ 挤出螺杆 ⑯ G 1/2 tube quick connection/G 1/2 管快接 ⑰ Extruder housing/ 挤出机外壳 ⑱ Nozzle adapter/ 喷嘴适配器 ⑲ Nozzle/ 喷嘴

Back/ 背面



- ⑦ USB port/USB 端口 ⑧ Electric putter cable/ 电动推杆连接线
⑨ Power switch/ 电源开关 ⑩ Power socket/ 电源插口

Electric putter/ 电动推杆



- ⑳ Finger nut/ 手拧螺母 ㉑ Front stop/ 前挡块 ㉒ Rubber piston/ 橡胶活塞 ㉓ Thrust block/ 推力块 ㉔ Cartridge/ 料筒 ㉕ fixed screw rod/ 固定丝杆 ㉖ cartridge fixing ring/ 料筒固定环 ㉗ reducer/ 减速机 ㉘ anti-rotation flange/ 防旋法兰 ㉙ threaded push rod/ 螺纹推杆 ㉚ Stepping motor/ 步进电机

*As shown in the figure, the electric putter stroke is at the maximum position./ 如图所示, 电动推杆行程在最大位置。

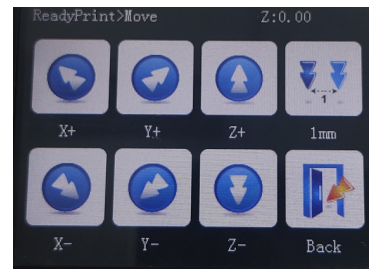
4.Screen interface description/ 屏幕界面说明



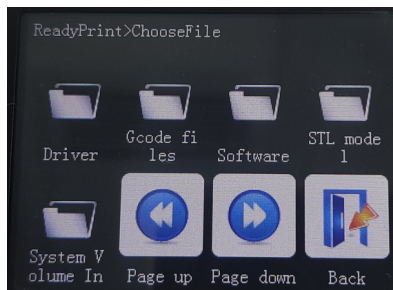
Main interface/ 主界面



Home/ 回零



Move/ 移动



Printing/ 打印

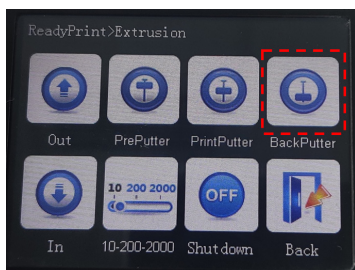


Leveling/ 调平



Setting/ 设置

Select "Language" to choose the display language./ 选择 "Language" 可以选择显示语言。



BackPutter/ 推杆回退

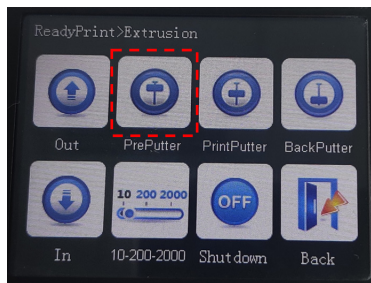
1.BackPutter- Electric putter back function/ 电动推杆回退功能

This function retracts the thrust block of the electric putter to the side of the electric push rod motor./ 此功能将电动推杆推力块回退到电动推杆电机侧。

- ① . For range selection, click the "10-200-2000" button twice to make the pointer stay at "2000"./ 范围选择，点击“10-200-2000”按钮两次，使指针停留在“2000”。
- ② . Mode selection, click the "BackPutter" button to put the electric push rod in the back mode./ 模式选择，点击“BackPutter”按钮，使电动推杆处于回退模式。
- ③ . To select the direction, click the "Out" button once to make the electric stroke push rod back to 2000./ 方向选择，点击“Out”按钮一次，使电动行程推杆回2000。
- ④ . Click the "Out" button 5-6 times, the thrust block of the electric push rod can return from the maximum position to the minimum position./ 点击“Out”按钮5-6次，电动推杆的推力块可以从最大位置返回到最小位置。

Note: The electric push rod has no automatic stop function and needs to be stopped manually. When you need to stop the operation of the electric push rod, click the button "Shut down", and the electric push rod will stop working immediately.

注意：电动推杆没有自动停止功能，需要手动停止。当您需要停止电动推杆工作时，点击按钮“Shutdown”，则电动推杆立即停止工作。



PrePutter/ 推杆预挤

2. PrePutter- Electric putter pre-extrusion function/ 电动推杆预挤出功能

When printing is started and there is no clay in the feeding tube and extruder, it is necessary to use the electric putter pre-extrusion function./ 当开始打印，送料管和挤出机中没有陶泥时，需要使用电动推杆预挤出功能。

- ① . For range selection, click the "10-200-2000" button to keep the pointer at "2000"./ 范围选择，点击“10-200-2000”按钮，使指针停留在“2000”。
- ② . Mode selection, click the "PrePutter" button to put the electric putter in the pre-extrusion mode./ 模式选择，点击“PrePutter”按钮，使电动推杆处于预挤出模式。
- ③ . Select the direction, click the "In" button, and push the electric putter forward to push the clay into the feeding tube and extruder./ 方向选择，点击“In”按钮，向前推动电动推杆，将粘土推入送料管和挤出机中。
- ④ . After the clay is extruded from the nozzle of the extruder, click the "Shutdown" button, and the electric putter will immediately stop feeding./ 当挤出机喷嘴中挤出陶泥后，点击“Shutdown”按钮，电动推杆将立即停止进料。



PrintPutter/ 推杆打印

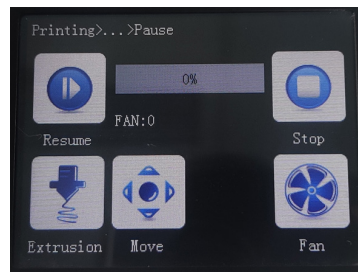
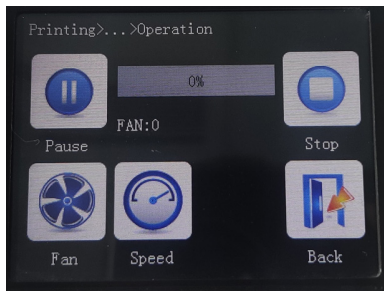
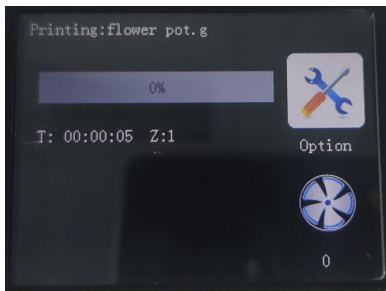
3. PrintPutter- Printing mode of the electric putter/ 电动推杆打印模式

When you are ready to print and need to confirm whether the amount of clay extruded is normal, you can use the printing mode of the electric push rod./ 当您准备打印，需要确认陶泥挤出量是否正常时，可以使用电动推杆的打印模式。

- ① . Range selection, click the "10-200-2000" button, the pointer selects "200"./ 范围选择，点击“10-200-2000”按钮，是指针选择的“200”。
- ② . Mode selection, click the "PrintPutter" button to make the electric push rod in the printing mode./ 模式选择，点击“PrintPutter”按钮，使电动推杆处于打印模式。
- ③ Select the direction, click the "In" button once, the nozzle extrudes the clay./ 方向选择，点击“In”按钮一次，喷嘴挤出粘土。
- ④ . When the amount of clay extruded by the nozzle is normal, click the button "Shutdown" to stop extruding the clay./ 当喷嘴挤出的陶泥量正常时，点击按钮“Shutdown”以停止挤出陶泥。

Note: PrintPutter-You need to perform the "PrintPutter" operation before each formal printing, which cannot be omitted, otherwise the printing will fail./ 注意：PrintPutter- 您需要在每次正式打印前进行“PrintPutter”操作，不能省略，否则会导致打印失败。

During Printing Settings.



When printing, you can modify some settings using "Option./ 打印时，可以通过“Option”修改一些设置。

1. Pause: Pause printing after the last Gcode command is completed (will not stop immediately, please wait patiently). Click "Resume" to continue printing./ 暂停：在最后一行 Gcode 指令完成后暂停打印（不会立即停止，请耐心等待）。点击“Resume”以继续打印。
2. Stop: stop the current printing./ 停止：停止当前打印。
3. Power off and restart: If the power is interrupted or shut down during printing, this interface appears after restart, please select "default", you can choose to continue printing or stop, please do not force shutdown./ 断电重启：如果打印过程中断电或关机，重启后出现此界面，请选择“默认”，您可以选择继续打印或停止，请不要强制关机。

5. Microwave kiln/ 微波窑炉

Microwave kiln is a ceramic sintering equipment specially developed for ceramic 3D printing. Its advantage is that the sintering speed is fast, and it only takes 15 minutes to complete the sintering. But you can also use electric kiln or gas kiln for sintering. Electric kiln and gas kiln need to meet the requirement of sintering temperature above 800°C. / 微波窑炉是 Eazao 专门为陶瓷 3D 打印开发的陶瓷烧结设备，它的优点是烧结速度快，只需要 15 分钟即可完成烧结。但是您也可以使用电 kiln 或者气窑炉进行烧结，电窑炉和气窑炉需满足烧结温度达到 800°C 以上的要求。

Note: The microwave kiln must be operated under the supervision of personnel, and equipped with protective glasses and gloves. At the same time, ensure that the environment is ventilated and dry without flammable materials.
注意：微波窑炉使用时必须在人员监视下进行操作，并配有防护镜和手套，同时保证环境通风干燥无易燃物品。

6. Print material/ 打印材料

Eazao ceramic 3D printing is a new type of clay molding method. The 3D printing process does not change the nature of the clay. Therefore, Eazao has no restrictions on the types of clay. You can buy clay for pottery by yourself from local pottery studios or online stores. However, we recommend that you use our recommended clay as printing materials. You can download it on Eazao's official website: www.eazao.com. Find the parameters and production methods of the clay./Eazao 陶瓷 3D 打印是一种新型的陶泥成型方式，3D 打印过程并不会改变泥料的性质。因此，Eazao 对陶泥种类不限制，你可以从当地陶艺工作室或在线商城等渠道自行购买陶艺用陶泥即可，但是我们推荐您使用我们建议的陶泥作为打印材料，您可在 Eazao 官网找到陶泥的参数和制作方法：www.eazao.com。

The Eazao ceramic 3D printer can use clay as a printing material. There is no need to heat during the printing process. The clay can be recycled and is an environmentally friendly material. Pottery clay is made from natural minerals and contains organic matter and some microorganisms. It should be placed in a cool, damp and dark place to slow down its deterioration. If there is mold inside, it is normal and does not affect the use. If you purchase Eazao's clay, you will receive vacuum-packed clay. The optimal use time for the clay we provide to you is within 14 days after receiving the goods. If it is not used up at one time, be sure to seal the package and place it in a cool and humid place./Eazao 陶瓷 3D 打印机可以使用陶泥作为打印材料，打印过程中无需加热，陶泥可以回收，是一种环境友好材料。陶泥为天然矿物炼制而成，内含有机物和部分微生物，需放置阴凉潮湿避光的地方，减缓其变质过程。如果内部出现发霉为正常现象，不影响使用。如果您购置了 Eazao 的陶泥，您将收到真空包装的泥料，我们提供给您的泥料最优使用时间为收到货后 14 天内用完。如果一次没有用完，请务必将其密封包装处理后并放置在阴凉潮湿处。

In addition, Eazao ceramic printers can also print a variety of viscous fluids. For details, please contact: hello@eazao.com.
除此外，Eazao 陶瓷打印机还可以打印多种黏滞流体，详情请咨询：hello@eazao.com。

7. Glaze/ 釉料

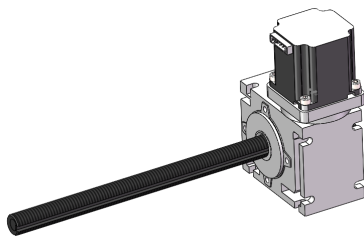
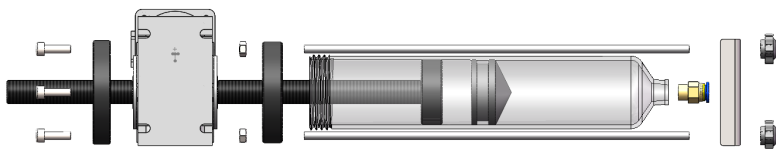
Eazao ceramic 3D printer does not limit the glaze, you can purchase the glaze yourself for post-processing. The remaining steps after printing are exactly the same as traditional pottery./Eazao 陶瓷 3D 打印机对釉料不限制，您可以自行购买釉料进行后处理。打印完成后的剩余步骤与传统的陶艺完全一致。

If you have purchased our microwave kiln, we recommend that you use our microwave kiln glaze. Eazao' s microwave kiln glaze is a kind of micro-mineral raw materials, which will precipitate if it is left standing for a long time. If you receive the glaze and find that the upper layer of the glaze has a lot of water after precipitation, it is normal that the proportion of water will account for half. The bottled glaze we sell has a capacity of 300ml, and the normal capacity of the glaze after precipitation is between 100-150ml. In addition, you can also buy other low-temperature glazes yourself./ 如果您购买了 Eazao 的微波窑炉，我们推荐您使用我们提供的微波窑炉釉料。Eazao 的微波窑炉釉料属于微矿物原料，长时间静置会沉淀，如果您收到釉料发现，釉料经沉淀后上层的水份很多，水的比例会占到一半属于正常现象。我们出售的瓶装釉料容量为 300ml，沉淀后釉料正常容量在 100-150ml 之间。除此外，您也可以自己购买其它低温釉料。

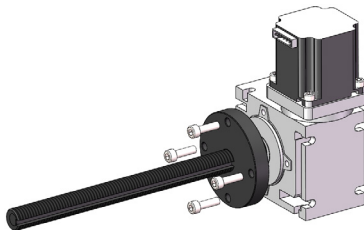
II Unpacking and assembly of the machine/ 设备的拆箱和组装

Take the printer out of the package, and cut off the cable tie that secures the extruder and the printing platform./ 将打印机从包装中取出，剪断固定挤出机和打印平台的扎带。

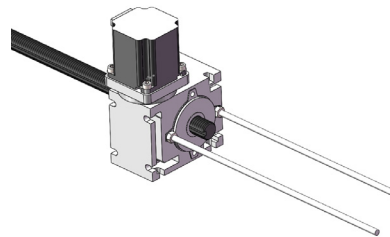
1. Assembly of electric putter./ 电动推杆的组装



1.1 Install the screw rod/ 安装推杆

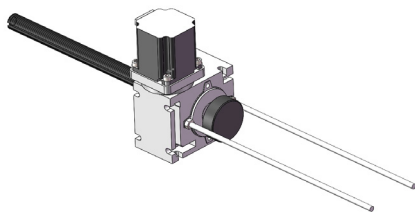


1.2 Install the Anti - swivel groove flange & Install the Anti - swivel groove flange screw (M6×20, Four screws) / 安装防转槽法兰 & 安装防转槽法兰螺丝 (M6×20, 四颗螺丝)



1.3 Screwing the M6 screw rod & Tighten with nuts/ 拧紧 M6 螺杆并用螺母拧紧

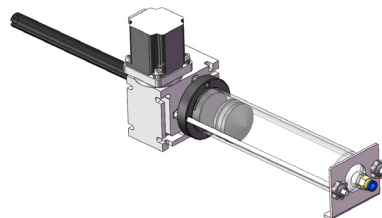
Note: Motor terminal block and Anti - swivel groove flange should be on the same side./ 注意：电机接线端子和防转槽法兰应在同一侧。



1.4 Install the thrust block on the front end of the screw/ 在丝杆前端安装推力块



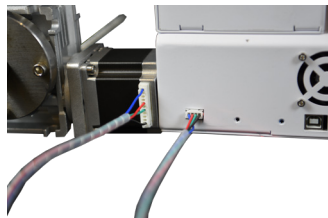
1.5 Put the rubber piston into the cartridge & The cartridge fixing seat is rotated and installed on the cartridge./ 将橡胶活塞放入料筒中，料筒固定座旋转安装在料筒上。



1.6 Thread the cartridge assembly into the M6 screw rod & Install the front fixed flange and tighten the hand nut & Install the quick joint of the cartridge./ 将料筒组件旋入 M6 丝杆中 & 安装前固定法兰并拧紧螺母 & 安装料筒的快接头。

2.Cable connection./ 线束连接 .

1) Connect the electric push rod to the printer/
将电动推杆与打印机连接



2) The switch in this figure shows that the device switch is in the off state at this time, and the power adapter is connected to the device./ 此图开关显示，此时设备开关处于关闭状态，将电源适配器接入设备中。



III 3D printing process/3D 打印流程

Safety guidelines/ 安全指引：

Before you begin, please read these important safety instructions./ 在开始之前，请阅读这些重要的安全说明。

(I) General safety information:/ 一般安全信息：

- a) Always operate the machine on a sturdy horizontal table or workbench in the room./ 始终在室内坚固的水平桌子或工作台上操作本机器。
- b) Do not expose the machine to rain or humid environment./ 请勿将本机暴露在雨中或潮湿环境中。
- c) When operating this machine, please keep children and bystanders away. Children need adult supervision and assistance when using this machine./ 操作本机器时，请让儿童和旁观者远离。儿童使用本机器时需要成人的监督和协助。
- d) Be vigilant when operating this machine, pay attention to what you are doing and use common sense. Do not use this machine when you are tired or under the influence of drugs, alcohol or drugs./ 在操作这台机器时保持警惕，注意你在做什么并使用常识。请勿在疲倦或受药物、酒精或药物影响时使用本机器。
- e) When the machine is still running, do not reach out into the machine or touch moving parts. Its moving parts may cause injury./ 机器仍在运行时，请勿伸手到机器内部或接触运动部件。其运动部件可能会导致受伤。
- f) Do not leave the machine unattended when it is turned on./ 请勿在机器处于开启状态时无人看管。

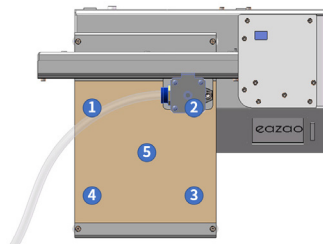
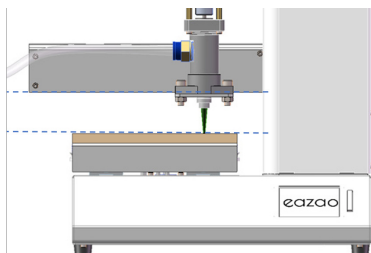
(II) Equipment safety/ 设备使用安全：

- a) The Eazao 3D printer contains moving parts and electric push rods. Please do not touch the inside and electric putter when the Eazao 3D printer is printing./Eazao 3D 打印机包含运动部件和电动推杆，请不要在 Eazao 3D 打印机打印时触碰其内部和电动推杆。
- b) If you have purchased a microwave kiln, the internal temperature of the microwave kiln can reach 1000 °C during operation. Please operate the microwave kiln after 2 hours after the sintering of the microwave kiln or its internal temperature drops below 100°C ./ 如果您购买了微波窑炉，微波窑炉在工作时内部温度可以达到 1000°C，请在微波窑炉完成烧结 2 小时后或者其内部温度降至 100°C 以下，再对微波窑炉进行操作。
- c) Before performing maintenance or modification, be sure to unplug the machine's power plug./ 在进行维护或改装之前，务必拔掉机器的电源插头。

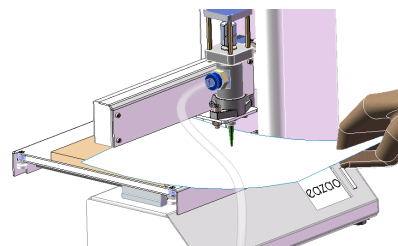
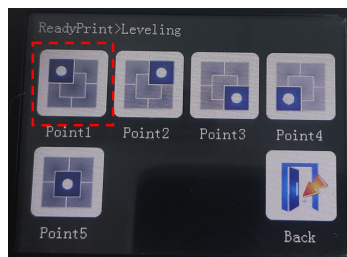
1.Level bed/ 调平打印平台

Make sure that all cables are connected correctly, turn on the machine, and clamp the printing bed on the printing platform with the supplied clip. Level the bed to ensure that the print is stuck on the printing bed./确保所有线缆连接正确,开启机器,用附赠的夹子将打印木板夹在打印平台上。调平打印平台可确保打印件粘在打印平台上。

1)Select the "Leveling" option on the main page, and level 5 points in sequence. Note: These points correspond to the numbers on the touch screen./ 选择主页面的“调平”选项,按顺序调平5个点。注意:这些点对应于触摸屏上的数字。



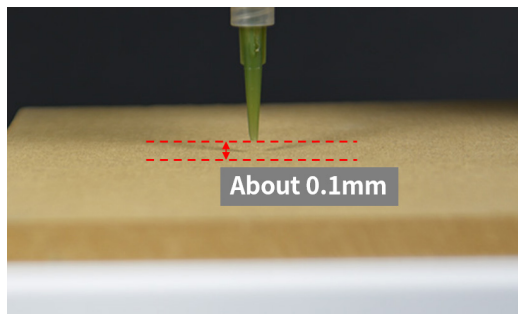
2) Level the first point and place a piece of A4 paper between the printing bed and the nozzle./ 调平第一个点,将一张A4纸放在打印木板和喷嘴之间。



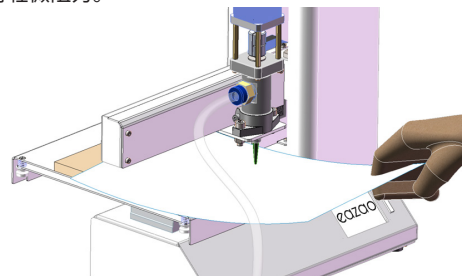
3) Adjust the distance between the printing bed and the nozzle by rotating the leveling nut at the bottom of the printing platform./ 通过旋转打印平台底部的调平螺母，调整打印木板和喷嘴之间的距离。



5) Click on the second point, and level the second point according to the above steps. Use the same method to level the third, fourth, and fifth points. When all points are leveled, go to the next step./ 点击第二点，并按照上述步骤调平第二个点。使用相同的方法调平第三、第四和第五个点。当所有点都调平后，进入下一步骤。



4) Keep adjusting until the nozzle on the A4 paper (0.1mm) has a slight resistance./ 不断调整，直到 A4 纸 (0.1mm) 上的喷嘴有轻微阻力。



6) About the leveling distance/ 关于调平距离

Due to the particularity of the printing material clay, the clay can be deformed, and the distance between the nozzle and the printed board can be appropriately widened. It is not necessary to meet the distance of A4 paper. The leveling distance is not necessary to be 0.1mm. When the line of sight is level with the printed board, and the nozzle is observed to be close to the board, it is considered leveling at this time.

由于打印材料 clay 的特殊性，clay 可以形变，喷嘴与打印木板的距离可以适当放宽，不必要满足 A4 纸的距离，调平距离非必要为 0.1mm。当视线与打印木板水平时，观察到喷嘴与木板距离基本接近，此时即认为调平。



7) Extreme leveling/ 极限调平：

A. When replacing printing bed with different thicknesses or replacing nozzles with different lengths, you need to adjust the printing bed again for leveling./ 当更换厚度不一样的打印木板或者更换长度不同的喷嘴时，需要再次调整打印平台进行调平。

B. When adjusting the leveling nut can not meet the requirements of the distance between the nozzle and the printed bed, you can adjust it through the Z-axis limit bolt on the side of the Z-axis. When adjusting the Z-axis limit bolt, you need to loosen the locking nut of the limit bolt. / 当调整调平螺母也无法满足喷嘴与打印木板距离要求时，可以通过 Z 轴侧面的 Z 轴限位螺栓进行调节，调整 Z 轴限位螺栓时需先松开限位螺栓的锁紧螺母。

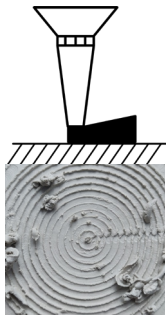
a) When the distance between the nozzle and the printing bed is too large, you can turn the Z-axis limit bolt counterclockwise and move the Z-axis limit bolt upward. The distance between the nozzle and the printing bed can be greatly shortened when leveling./ 当喷嘴与打印木板距离过大，可以将 Z 轴限位螺栓逆时针转动，Z 轴限位螺栓向上移动，调平时可大幅度缩短喷嘴与打印平台距离。

b) When the distance between the nozzle and the printing bed is too small, you can turn the Z-axis limit bolt clockwise and move the Z-axis limit bolt down. The distance between the nozzle and the printing bed can be greatly increased when leveling./ 当喷嘴与打印平台距离过小，可以将 Z 轴限位螺栓顺时针转动，Z 轴限位螺栓向下移动，调平时可大幅度增加喷嘴与打印平台距离。

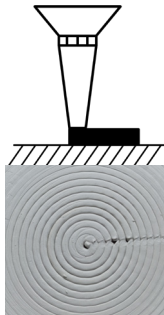
C. When the limit bolts cannot meet the requirements of the distance between the nozzle and the printed bed, the Z-axis reset state can be adjusted by adjusting the position of the Z-axis limit switch fixing bolt./ 当限位螺栓也无法满足喷嘴与打印木板距离要求时，可以通过调整 Z 轴限位开关固定螺栓位置调整 Z 轴归零状态。

9) Leveling verification/ 调平验证

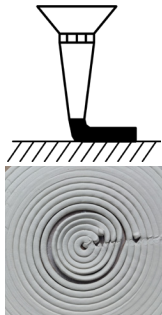
When you finish the leveling and start to print the model in the SD card, you can judge whether the leveling status is normal from the following figure, and make corrections. The printing effect of the first layer is very important and needs to meet the normal state in the figure./ 当您完成调平, 并且开始打印 SD 卡中模型时, 可以通过下面图示判断调平状态是否正常, 并进行改正。首层的打印效果至关重要, 需要满足图中正常状态。



A. The distance between the nozzle and the printing bed is too small, or the clay is too soft, or the pre-extrusion is too much, which will cause this over-extrusion./ 喷嘴与打印平台距离过小, 或陶泥太软, 或预挤出过多, 会导致这种过度挤出。



B. Normal/ 正常



C. The distance between the nozzle and the printing bed is too large, or the clay is too hard, or the pre-extrusion is insufficient, which will result in too little extrusion./ 喷嘴与打印平台距离过大, 或陶泥太硬, 或预挤出不足, 会导致这种挤出过少。

A. The first layer of clay has not been compacted, and the clay appears to be warped./ 第一层陶泥未被压实, 陶泥出现翘起。

[1] The distance between the nozzle and the printing platform is too large. At this time, it needs to be leveled again to reduce the distance between the nozzle and the printing platform when the nozzle is reset to zero./ 喷嘴与打印平台距离过大, 此时需重新调平, 缩小喷嘴归零时与打印平台的距离。

[2] If the pressure in the barrel is not enough, re-select the pre-extrusion, increase the pre-extrusion movement stroke, and ensure the smooth extrusion of the pre-extrusion slurry./ 料管中压力不够, 重新选择预挤出, 增加预挤出移动行程, 保证预挤出泥料粗细均匀挤出流畅。

[3] The clay is too hard. At this time, the push rod motor may produce a clicking sound at the same time. At this time, the clay should be reconfigured to make the clay soft./ 陶泥过硬, 此时推杆电机可能同时会产生咔咔的响声, 这时应重新配置装填陶泥, 使陶泥变软。

C. The first layer of clay has been squeezed out too much and the clay has overflowed./ 第一层陶泥挤出过多, 陶泥出现溢出。

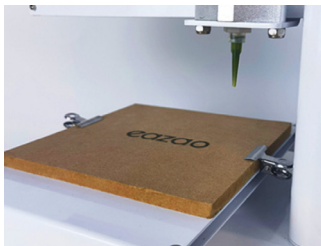
[1] The distance between the needle and the printing platform is too small. At this time, it needs to be leveled again to increase the distance between the nozzle and the printing platform when the nozzle returns to zero./ 针头与打印平台的距离过小, 此时需重新调平, 增大喷嘴归零时与打印平台的距离。

[2] The pressure in the feed tube is too high, pull the feed tube out of the side of the extruder, and after the clay is extruded, perform the pre-extrusion setting again./ 料管中压力过大, 将送料管从挤出机一侧拔出, 陶泥挤出后, 重新进行预挤出设置。

[3] The clay is too soft. At this time, the filling clay should be reconfigured to increase the hardness of the clay./ 陶泥过软, 这时应重新配置装填陶泥, 增大陶泥硬度。

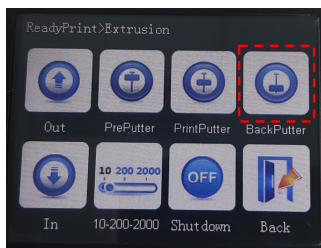
2. Install the cartridge and pre-extrusion clay/ 安装料管和预挤出泥料

1) In the "Move" option, move the extruder to the position shown in the figure./ 在“移动”选项中将挤出机移动到图示位置。



2) Install the cartridge on the electric putter./ 将料筒安装在电动推杆上。

Select "Extrusion" → "BackPutter" → "10-20-2000" → "Out". The motor returns to the last position. The cartridge is fixed on the push rod motor. Tighten the thumb nut of the front stop of the electric putter./ 选择“挤出”→“推杆回退”→“10-20-2000”→“退料”。电机退回至最后处。料筒固定在推杆电机上。拧紧电动推杆前端挡块的手拧螺母。



3) Backputter note/ 回退注意：

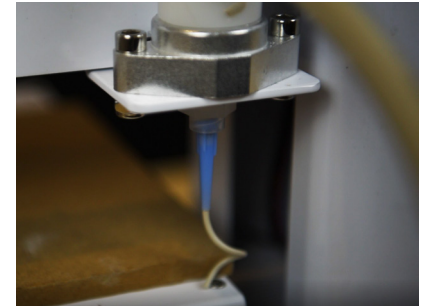
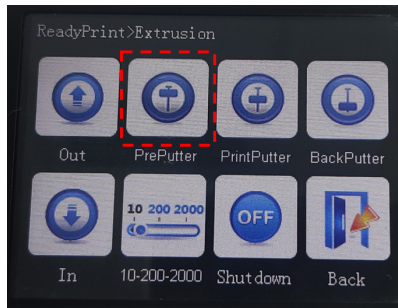
Click "10-20-2000" to select the moving stroke of the electric putter. When using for the first time, the electric putter may need to retract slightly. It is recommended to choose a smaller stroke. When a cartridge of clay is used up, the thrust block is at the farthest distance from the motor, and you can choose to retreat with a large stroke. Pay attention to when retreating, when the electric putter retreats to the end (a clicking sound will be emitted), before that, click the "Shutdown" option to manually stop in time.

点击“10-20-2000”为电动推杆选择移动行程。第一次使用时，电动推杆可能需要轻微回退，建议选择较小的行程。当一管陶泥用完时，此时推力块在距离电机最远处，可以选择大行程回退。回退时要注意，当电动推杆退到尽头时（会发出咔咔的响声），在此之前，要点击“紧急停机”选项，及时手动停止。



4) Use the feeding tube to connect the clay cartridge and the extruder to pre-extrude the clay./ 使用送料管将陶泥墨盒和挤出机连接，进行陶泥预挤出。

Select "Extrusion" → "Pre-extrusion" → "10-20-2000" → "Feeding". When the extruder can smoothly squeeze the clay and the flow of the clay is uniform and without disconnection, select "emergency stop", clean the nozzle and click back./ 选择“挤出”→“预挤出”→“10-20-2000”→“进料”。当挤出机可以顺利挤出陶泥，并且陶泥的流量均匀不断线，选择“紧急停机”，清洁喷嘴并点击返回。



5) PrePutter note/ 预挤出注意：

Excessive PrePutter will cause too much pressure in the cartridge, and the motor will not move, making a clicking sound. At this time, click "Shutdown"./ 预挤出过多会导致管内存在的压力太大，电机推不动，发出咔咔的响声，此时点击“紧急停机”。

3.Prepare Files/ 准备文件

Design: You can design a 3D model using TinkerCAD, SketchUp, Fusion 360, or other 3D modeling software.

设计：您可以使用 TinkerCAD、SketchUp、Fusion 360 或其它 3D 建模软件设计 3D 模型。

3D Scan: You can get a 3D model of a physical object with a 3D scanner.

3D 扫描：您可以使用 3D 扫描仪获取物理对象的 3D 模型。

Download: You can find various free and high-quality 3D models online. For example, on thingiverse.com and myminifactory.com.

下载：您可以在线找到各种免费且高质量的 3D 模型。例如，在 thingiverse.com 和 myminifactory.com 上。



4. Generate G-code/ 生成 G-code

Before 3D printing, we first need to slice the 3D model to generate a G-code file. Among them, G-code is a programming language recognized by 3D printers. It is a series of commands that control the movement position and movement speed of the printer. Eazao supports most third-party slicing software, such as: Cura, Slic3r and Simplify3D, etc. Below we take Cura as an example to introduce the installation and use of slicing software. With Cura, you can generate G-code files from 3D model files.

在进行 3D 打印前，我们首先需要将 3D 模型切片生成 G-code 文件。其中 G-code 是 3D 打印机识别的一种编程语言，它是一系列命令，控制打印机的运动位置和运动速度。Eazao 支持大多数第三方切片软件，例如：Cura、Slic3r 和 Simplify3D 等，以下我们以 Cura 为例介绍切片软件的安装与使用。通过 Cura，您可以将 3D 模型文件生成 G-code 文件。

4.1. Software download/ 软件下载

According to the computer operating system, it is recommended to download the latest version of Cura software:

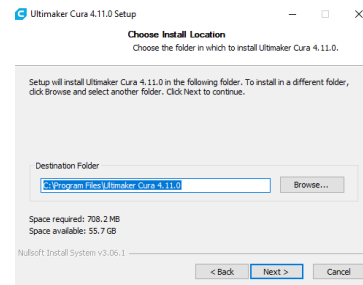
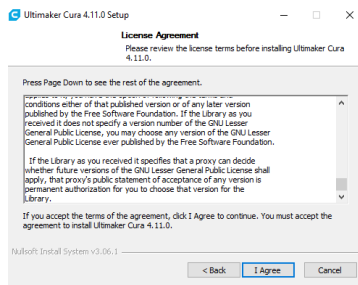
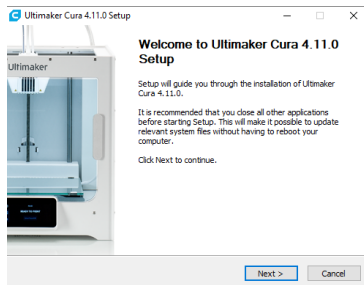
<https://ultimaker.com/software/ultimaker-cura/>

根据电脑的操作系统，下载 Cura 软件最新版本：<https://ultimaker.com/software/ultimaker-cura/>

4.2 Software installation/ 软件安装

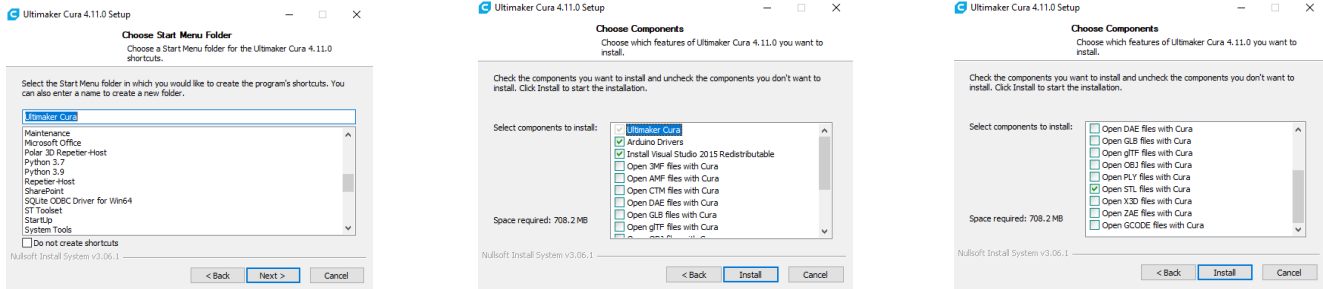
The following takes Windows, 64 bit operating system, and Ultimaker Cura 4.11.0 version as an example to introduce the installation and use of the software./ 下面以 Windows, 64 bit 操作系统, Ultimaker Cura 4.11.0 版本为例, 介绍软件的安装使用。

1. Find the Cura software installation package under the download path:  **Ultimaker_Cura-4.11.0-amd64.exe** , and double-click to install it.
找到下载路径下的 Cura 软件安装包:  **Ultimaker_Cura-4.11.0-amd64.exe** , 双击安装。

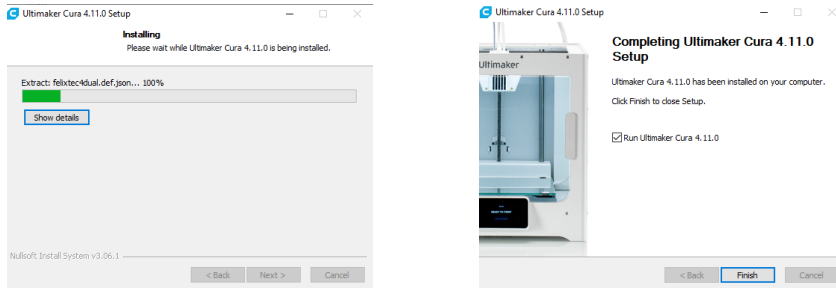


2. As shown in the figure above, select “Next >” on the welcome interface, and then select “I Agree” to accept the license agreement./ 如图, 在欢迎界面选择”Next >”, 之后选择 “I Agree” 接受许可协议。

3. As shown in the figure above, select the default installation path C:\Program FileUltimaker Cura 4.11.0 in the “Choose Install location” interface, or select other suitable installation paths in “Browse”, and click “Next >” to enter “After the “Choose Start Menu Folder” interface, continue to click “Next >” .
如图, ” Choose Install location” 界面选择默认的安装路径 C:\Program File\Ultimaker Cura 4.11.0, 或者在” Browse” 中选择其他合适的安装路径, 并点击” Next >”, 进入” Choose Start Menu Folder” 界面后, 继续点击” Next >” 。



4. In the “Choose Components” interface, check the default components in the figure above, and click “Install” . / 在选择组件 “Choose Components” 界面, 勾选图中默认的组件, 并点击” Install” 。

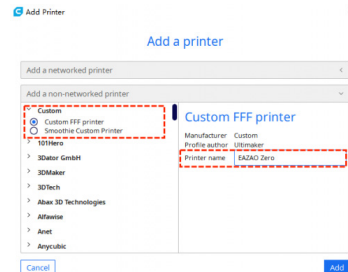
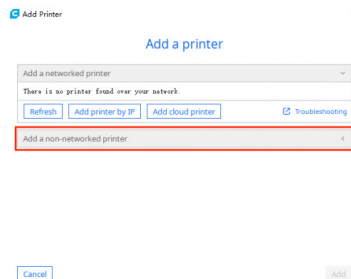
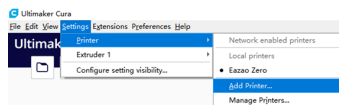


5. Wait for the software and components to be installed. The picture on the right shows that the software installation is complete. (Note: the installation process will pop up a window to install the arduino driver, keep the default installation, follow the prompts)
等待软件 and 组件安装, 出现右侧图片即表示软件安装完成。(注意: 安装过程会弹出安装 arduino 驱动窗口, 保持默认安装, 按照提示操作)

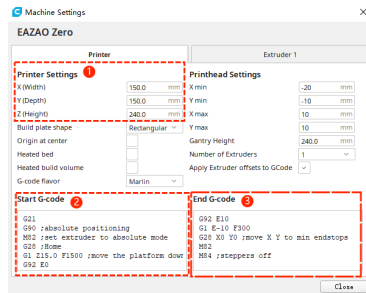
4.3 Software use/ 软件使用

1. Add Eazao printer/ 添加 Eazao 打印机

(1) Run Cura, click Settings> Printer> Add Printer, the Add printer interface appears, select “Add a non-networked printer” .
运行 Cura，点击 Settings> Printer> Add Printer，出现 Add printer 界面，选择 “Add a non-networked printer”



(2) Select Custom> Custom FFF printer in the printer list, and modify the Printer name to “Eazao Zero” .
在打印机列表中选择 Custom > Custom FFF printer，修改 Printer name 为” Eazao Zero”

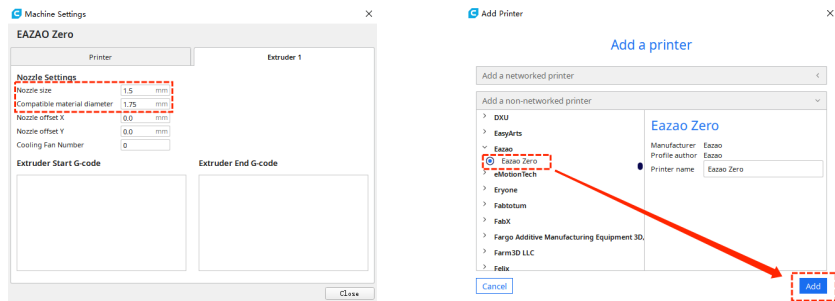


G21
G90 ;absolute positioning
M82 ;set extruder to absolute mode
G28 ;Home
G1 Z15.0 F1500 ;move the platform down 15mm
G92 E0
G1 F300 E10
G92 E0
M302
M163 S0 P0.9; Set Mix Factor
M163 S1 P0.1; Set Mix Factor
M164 S0

G92 E10
G1 E-10 F300
G28 X0 Y0 ;move X Y to min endstops
M82
M84 ;steppers off

(3) Refer to frame ①, ② and ③ to set the printer molding space parameters, Start G-code and End G-code.
参照图框①、②和③，设置打印机成型空间参数，Start G-code 和 End G-code。

(4) Refer to the figure below to set the extruder parameters of Eazao Zero. (Note: “Nozzle size” refers to the inner diameter of the extruder used. The dark green extruder that comes with Eazao Zero has an inner diameter of 1.5mm. If you change your own extruder, you need to change this parameter)/ 比照下图，设置 Eazao Zero 的挤出机参数。（注意：“Nozzle size”指的是使用挤出头的内径，Eazao Zero 自带的墨绿色挤出头内径为 1.5mm，若是更换自己的挤出头，需要更改该参数）



The second way to add printers will be in the latest version of Cura in the future./ 第二种添加打印机打方式，在未来最新版本的 Cura 中。

- (1) Run Cura, click Settings> Printer> Add Printer, the Add printer interface appears, select “Add a non-networked printer” .
运行 Cura，点击 Settings > Printer > Add Printer，出现 Add printer 界面，选择 “Add a non-networked printer”
- (2) Drag the vertical scroll bar to find the Eazao brand, select the Eazao Zero printer in the drop-down menu, and click the “Add” button in the lower right corner. There is no need to set the machine parameters later.
(2) 拖动 竖向滚动条，找到 Eazao 品牌，下拉菜单中选中 Eazao Zero 打印机，点击右下角的” Add” 按钮即可，无需后续再设置机器参数。

Note: For the use of M163 command, please refer to: <https://marlinfw.org/docs/gcode/M163.html>.

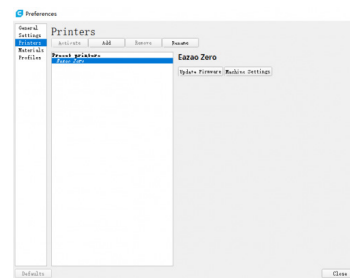
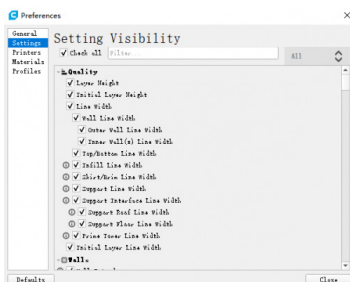
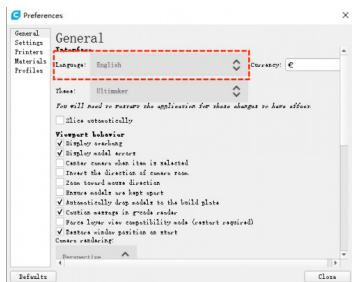
By modifying the mixing ratio, the amount of clay output from the printer can be changed as a whole. S0: S1=0.9:0.1, the ratio The larger the push rod, the less mud output, and the smaller the more clay output. When the ratio is 0.99:0.01, the moving speed of the electric push rod is less than the moving speed of the electric push rod when the ratio is 0.9:0.1. The distribution ratio must meet the condition (0.99+0.01=1, 0.9+0.1=1). **This ratio is suitable for fine-tuning, and it cannot be changed too much, otherwise the drive or other components will be easily damaged.**

注意 :M163 指令的使用可以参照: <https://marlinfw.org/docs/gcode/M163.html>。通过修改混合比例可以整体改变打印机出泥量的多少。S0: S1=0.9:0.1，该比例越大推杆出泥量越少，越小出泥量越多。比例为 0.99:0.01 时电动推杆的移动速度小于比例为 0.9:0.1 时电动推杆的移动速度，分配比例需满足条件 (0.99+0.01=1, 0.9+0.1=1)。该比例适合微调，不能变动太大，否则容易损坏驱动器或其他部件。

2. Preferences/ 偏好设置

(1) Set software language/ 设置软件语言

Click Preferences> Configure Cura... to enter the General interface as follows, and select the appropriate display language in the Language option./ 点击 Preferences > Configure Cura..., 进入如下 General 界面, 在 Language 选项中选择合适的显示语言。



(2) Setting Visibility/ 设置可见性

The visibility of the slice parameters can be set under the “Settings” option. By checking the relevant parameters, these parameters can be displayed and set during slicing. Here we choose to display “All” ./

“Settings” 选项下可以设置切片参数的可见性, 通过勾选相关参数, 可以在切片时显示并且设置这些参数, 在这里我们选择全部显示 “All” 。

(3) Printer/ 打印机

The printer can be activated (Activate), added (Add), removed (remove), rename (Rename) and other operations on this interface. After activating the printer, you can change the printer's machine settings (Machine Settings) on the right side.

可以在这个界面对打印机进行激活 (Activate)、添加 (Add)、移除 (remove)、重命名 (Rename) 等操作, 在激活打印机后可以在右侧更改打印机的机器设置 (Machine Settings) 。

(4) Material/ 材料

You can select the printing material in this interface. The core parameter is the diameter of the material (Diameter), which should be compatible with the compatible material diameter of the extruder of Eazao Zero.

可以在该界面选择打印材料, 核心参数是材料直径 (Diameter), 要和 Eazao Zero 的挤出机参数兼容材料直径 (compatible material diameter) 相适应。

It is recommended to use the Import function to import materials applicable to Eazao Zero:  EAZAO Zero_profile.xml.fdm_material

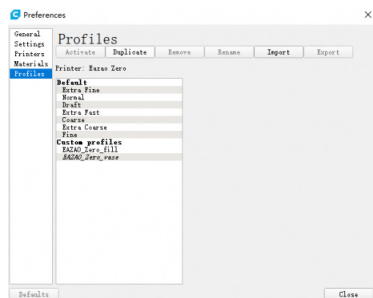
Material files can be downloaded from here: <https://www.eazao.com/downloads/>

推荐使用导入 (Import) 功能导入 Eazao Zero 适用的材料. 材料文件可以从 EAZAO 官方网站下载: <https://www.eazao.com/downloads/>

(5) Configuration file/ 配置文件

In this interface, you can select a configuration file. The Eazao Zero ceramic 3D printer does not use the default configuration file provided by Cura. You need to customize the configuration file or import the Eazao Zero configuration file. In the figure below, there are two types of custom configuration files. The **EAZAO_Zero_fill** file is suitable for printing models that require internal filling, and the **EAZAO_Zero_vase** file is suitable for printing models with hollow interiors such as vases.

在该界面可以选择配置文件, Eazao Zero 陶瓷 3D 打印机不适用 Cura 提供的默认的配置文件的, 需要自定义配置文件或者导入 Eazao Zero 的配置文件。下图中, 自定义配置文件有两种, **EAZAO_Zero_fill** 文件适合打印需要内部填充的模型, **EAZAO_Zero_vase** 文件适合打印花瓶这种内部中空



You can choose the Import function in the upper right corner of the figure above to import EAZAO configuration files:

- ☐ EAZAO_Zero_fill.curaprofile
- ☐ EAZAO_Zero_vase.curaprofile

The configuration file can be downloaded from here: <https://www.eazao.com/downloads/> 可选择上图中右上角的导入 (Import) 功能导入 EAZAO 的配置文件:

- ☐ EAZAO_Zero_fill.curaprofile
- ☐ EAZAO_Zero_vase.curaprofile

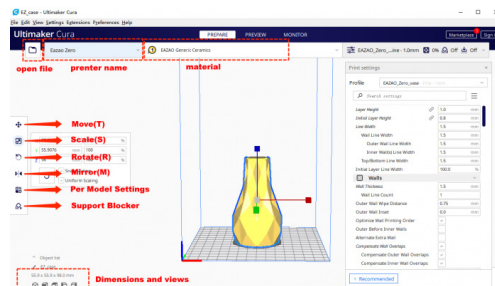
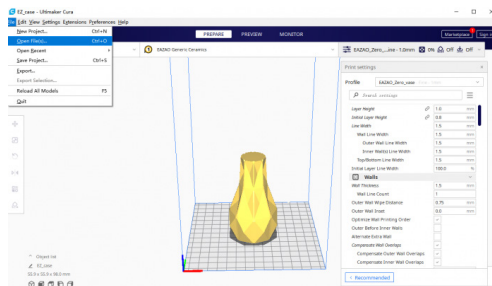
配置文件可以从 EAZAO 官方网站下载: <https://www.eazao.com/downloads/>

If you can't import it, please update and install Cura 4.11.0 or check the configuration parameter picture behind./ 如果无法导入请更新安装 Cura 4.11.0 或者查看后面的配置参数图片。

3. Import model file slices/ 导入模型文件切片

(1) Click "File" > "Open File(s)..." to select the model that needs to be sliced. Cura supports models in the STL/OBJ/AMF format.

点击“文件”>“打开文件(s)...”选择需要切片的模型。Cura 支持 STL/OBJ/AMF 格式的模型。



(2) Adjust the size and position of the model on the left menu bar./ 左侧菜单栏调整模型大小及位置

Left mouse button/ 鼠标左键 : click to select the model./ 单击选中模型。

Right mouse button/ 鼠标右键 : click on the menu bar, right click and hold and slide the mouse to rotate the angle of view./ 单击是菜单栏，右键按住不动滑动鼠标可以任意旋转视角

Mouse wheel/ 鼠标滚轮 : zoom in and zoom out./ 可以放大缩小视角。

Move/ 移动 : adjust the position of the model on the printing platform./ 调节模型在打印平台上的位置。

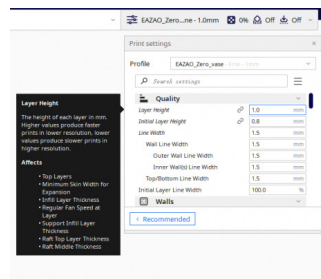
Scale/ 比例 : There are two modes of “Snap Scaling” and “Uniform Scaling” to adjust the zoom in or out of the model./ 有” Snap Scaling” 和” Uniform Scaling” 两种模式调节放大或者缩小模型。

Rotate/ 选择 : Rotate by 90 degrees on the XYZ axis, and also have the functions of “Reset” , “Lay flat” and “Select face to align to the build plate” /XYZ 轴方向上进行 90 度旋转，同时还有” Reset” 、” Lay flat” 和” Select face to align to the build plate” 功能。

Mirror/ 镜像 : The model can be mirrored in three directions, XYZ./ 模型可以在 XYZ 三个方向镜像。

The remaining two functions are not commonly used, so I won't introduce them. If you are interested, you can try it yourself.
剩下两个功能的不常用，就不介绍了，感兴趣的话可以自己尝试。

(3) The meaning and function of the slice parameters of common configuration files on the right/ 右侧常用配置文件切片参数含义及功能：



There are many slice parameters in the configuration file on the right side of Cura, and the functions are very rich. The following only introduces some relevant parameters and recommended settings. More functions need to be explored slowly.

Cura 右侧配置文件的切片参数很多，功能十分丰富，下文只介绍部分相关参数及推荐设置，更多功能还需要个人慢慢探索。

Taking Quality-Layer Height as an example, after the mouse stays on the relevant parameter options for a while, the corresponding setting prompt will pop up automatically, this is of great help to understanding the meaning and function of each parameter.

以 Quality-Layer Height 为例，光标置于文字位置会自动出现参数说明，这对理解每项参数的含义和功能有极大的帮助。

① Quality:

Layer Height/ 打印的每一层的高度 :The height of each layer printed. The smaller the print surface is finer, but the slower it is. The recommended parameter range is 0.5-2mm, however, a suitable size nozzle is required. It is recommended that the layer height be within the range of 1/3 to 2/3 of the inner diameter of the nozzle. Eazao Zero printer uses 1.5mm nozzle by default, and the recommended layer height is in the range of 0.5-1mm./ 打印面越小越好，但速度越慢。推荐参数范围为 0.5-2mm，但是需要合适尺寸的喷嘴。建议层高在喷头内径的 1/3 到 2/3 范围内。Eazao Zero 打印机默认使用 1.5mm 喷头，推荐层高在 0.5-1mm 范围。

Line Width/ 单条线的宽度 :Width of a single line. Generally, the width of each line should correspond to the width of the nozzle. However, slightly reducing this value could produce better print.The recommended line width of Eazao Zero printer is 1.5mm./ 一般来说，每条线的宽度应与喷嘴的宽度相对应，但是，稍微降低此值可能会产生更好的打印效果。Eazao Zero 打印机的线宽推荐设置 1.5mm。

② Wall:

Wall Thickness/ 壁在水平方向的厚度 :The thickness of the wall in the horizontal direction.This value divided by the wall line width defines the number of the walls./ 这个值除以线宽就是打印外壁的数量。

Wall line count/ 壁的数量 : The number of walls. When calculated by the wall thickness this value is rounded to a whole number.In general, the default is one wall. To prevent the hollow model from collapsing inside the printing, it can be set to two or more walls.

当按壁厚计算时, 该值四舍五入为整数。一般情况下, 默认是一层壁, 为防止打印内部中空模型坍塌, 可以设置成两层或多层壁。

Compensate wall overlaps : Compensate the flow for parts of a wall being printed where there is already a wall in place.

在已经有壁的地方补偿正在打印部分的流量。默认启用。

Print thin walls : Print pieces of the model which are horizontally thinner than the nozzle size.When the thickness of the wall is smaller than the inner diameter of the nozzle in the model, if this function is not enabled, the part will be blank and the printing path will not be displayed./ 打印薄壁, 默认启用。当模型中出现壁的厚度小于喷嘴的内径, 若不启用该功能, 将在该部分显示为空白, 不会显示打印路径。

Z seam alignment/ 图层中每条路径的起点 : Starting point of each path in a layer. In general, use user-specified or shortest mode. when aligning these near a user specified location,the seam is easiest to remove.when taking the shortest path the print will be quicker.

一般情况下, 采用用户指定或最短模式。当在用户指定位置附近对齐 Z 缝时, 接缝最容易去除; 当采用最短路径时, 打印速度会更快一些。

③ Top/Bottom

Top layers/ 顶层数量 :The number of top layers. To print a model with a top opening, such as a vase, set it to 0; to print a solid model, set it to 2 or more./ 顶层的数量, 打印顶部开口模型, 比如花瓶, 设置为 0; 打印实体模型, 设置为 2 或更多。

Bottom layers/ 底层数量 :Number of bottom layers. Regardless of the model, in order to better adhere to the printing platform, it is recommended to print 2 layers of bottom. When the layer height is relatively small, the number of bottom layers can be increased appropriately./ 无论什么模型, 为了与打印平台更好的粘住, 推荐打印 2 层底, 层高比较小的时候, 可以适当增大底层数量。

Top/Bottom pattern/ 顶层/ 底层的图案 :The pattern of the top/bottom layers. The bottom/top filling pattern has lines, concentric circles and zigzag lines to choose from, the default is lines./ 底部 / 顶部填充图案有直线、同心圆和之字形线可以选择, 默认直线。

④ Infill

Infill density/ 填充密度 :In general, the model that does not need internal filling is set to 0, and the solid model is printed, considering the printing time and model strength, and the filling density is set to 20-30%./ 一般情况下, 不需要内部填充的模型设置为 0, 打印实体模型, 考虑打印时间和模型强度, 填充密度设置为 20-30%。

Infill line distance/ 填充线距离 :Distance between the printed infill lines. This setting is calculated from the filling density and the width of the filling line. Therefore, the filling line distance and filling density can be set to one./ 该设置是根据填充密度和填充线的宽度计算得出的。因此, 填充线距离和填充密度设置一个即可。

Connect infill lines/ 连接填充线 :Enabled by default, this setting allows a better connection between the infill line and the outer wall./ 默认启用, 该设置可以将填充线 and 外壁之间更好的连接。

Infill pattern/ 填充图案 :Filling patterns include straight lines, grids, concentric circles, etc. You can choose a suitable filling pattern according to the model./ 填充图案有直线、网格、同心圆等, 可以根据模型选择合适的填充图案。

⑤ Material

Printing Temperature/打印温度: Since the Eazao Zero printer prints ceramic materials and does not require heating, the default setting is 0°C./ 由于 Eazao Zero 打印机是打印陶瓷材料，不需要加热，默认设置为 0°C。

Printing Temperature Initial layer/ 起始层打印温度: Since the Eazao Zero printer prints ceramic materials and does not require heating, the default setting is 0°C./ 由于 Eazao Zero 打印机是打印陶瓷材料，不需要加热，默认设置为 0°C

⑥ Speed

Print Speed/ 打印速度: The size of the printing speed affects the printing time and the fine effect of printing. Slow printing speed will make the printing better fit, but the printing time will be extended accordingly. Comprehensive printing effect and printing time, the recommended printing speed of Eazao Zero printer is 15-25mm/s./ 打印速度的大小影响打印时间和打印的精细效果。打印速度慢会使打印更好的贴合，但打印时间相应的会延长。综合打印效果和打印时间，Eazao Zero 打印机建议打印速度为 15-25mm/s。

Wall Speed/ 打印壁的速度: The default speed is 15-25mm/s./ 速度默认 15-25mm/s。

Infill Speed/ 填充速度: The speed of printing and filling, the default speed is 15-25mm/s./ 打印填充的速度，速度默认 15-25mm/s。

Travel Speed/ 空驶速度: The speed at which the idling is carried out. The idling speed can be slightly faster than the printing speed, reducing printing time./ 进行空驶的速度。空驶速度可以比打印速度稍快，减少打印时间。

Initial Layer Speed/ 起始层速度: The printing speed of the starting layer should be slightly slower than the printing speed, so that the starting layer and the printing platform fit more closely./ 起始层打印速度应该比打印速度稍慢，使起始层与打印平台更合的贴合。

⑦ Travel

Enable Retraction/ 启用回抽: 当喷嘴移动到非打印区域上方时回抽耗材。一般情况下，默认不启用，当打印非连续的几何模型时，为提高打印效果，会启用回抽功能。/Retract the filament when the nozzle moveing over the non-printed area. In general, it is not enabled by default. When printing non-continuous geometric models, in order to improve the printing effect, the retract function will be enabled.

Avoid Printed Parts When Traveling/ 空驶时避开已打印区域: The nozzle avoids already printed part when traveling.

Retraction Distance/ 回抽距离: The length of the material retracted during a retraction move./ 回抽移动期间回抽的材料长度。

Z Hop When Retracted/ 回抽时 Z 抬升: Prevent the nozzle from hitting the print during travel move.Z Hop When Retracted function can be enabled only after the retraction function is enabled./ 防止喷嘴在空驶时撞到打印品。当在启用回抽功能后，才可以启用回抽时 Z 抬升功能。

⑧ Support

Generate Support/ 生成支撑: Generate structures to support parts of the model which have overhangs. Generally, if you use ceramic materials to print large models or generate thin and tall supports, it is not recommended to use supports. Manual supports may be better./ 一般情况下，使用陶瓷材料打印大模型或者生成的支撑又细又高，则不建议使用支撑，手动支撑可能会更好。

⑨ Mesh Fixes

⑩ Special Mode

Print Sequence/ 打印序列: When you need to print multiple models on the printing platform at the same time, you can choose “All at Once” mode or “One at a Time” mode. It has no effect on the printing of one model, and the default is the “All at Once” mode./

当需要在打印平台上同时打印多个模型时，可以选择同时打印或者排队打印模式。对于一个模型的打印则没有影响，默认是同时打印模式。

Surface Model/ 表面模式 :The normal print mode only prints enclosed volumes. The surface print mode only print the outer surface with no infill and no top/bottom skin./

正常打印模式仅打印封闭的空间。表面模式只打印外表面，没有顶部底部，没有填充物。表面模式不常用，只是打印一层外轮廓

Spiralize Outer Contours/ 螺旋打印外轮廓 :Spiral printing realizes smooth Z movement of the outer edge, eliminating the Z seam, but only one layer of the outer wall can be printed after it is enabled. The model of the printing vase is the most suitable for enabling this function./

螺旋打印实现外部边缘的平滑 Z 移动，消除了 Z 缝，但是启用后只能打印一层外壁，打印花瓶这种模型最适合启用该功能。

Print settings

ProfileEAZAO_Zero_vaseFine · 1mm

Search settings

Quality

Layer Height1.0mm

Initial Layer Height0.8mm

Line Width1.5mm

Walls

Wall Thickness1.5mm

Wall Line Count1

Print Thin Walls

Top/Bottom

Top Thickness0.0mm

Top Layers0

Bottom Thickness0.0mm

Bottom Layers2

Top/Bottom PatternLines

Infill

Infill Density0.0%

Infill Line Distance0.0mm

Material

Printing Temperature0.0°C

Printing Temperature Initial Layer0.0°C

Speed

Print Speed20.0mm/s

Wall Speed20.0mm/s

Travel Speed20.0mm/s

Initial Layer Speed20.0mm/s

Special Modes

Surface ModeNormal

Spiralize Outer Contour

Smooth Spirialized Contours

EAZAO_Zero_vase

Print settings

ProfileEAZAO_Zero_fillFine · 1mm

Search settings

Quality

Layer Height1.0mm

Initial Layer Height0.8mm

Line Width1.5mm

Walls

Wall Thickness1.5mm

Wall Line Count1

Print Thin Walls

Top/Bottom

Top Thickness0.0mm

Top Layers0

Bottom Thickness0.0mm

Bottom Layers2

Top/Bottom PatternLines

Infill

Infill Density20.0%

Infill PatternLines

Material

Printing Temperature0.0°C

Printing Temperature Initial Layer0.0°C

Speed

Print Speed20.0mm/s

Infill Speed20.0mm/s

Wall Speed20.0mm/s

Travel Speed20.0mm/s

Initial Layer Speed20.0mm/s

Special Modes

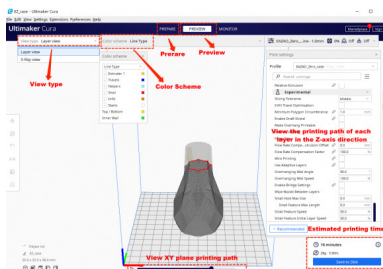
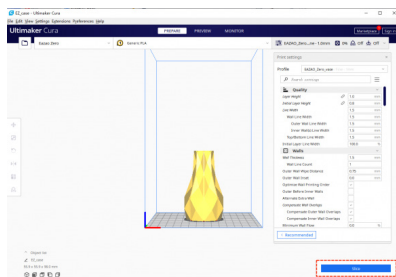
Surface ModeNormal

Spiralize Outer Contour

EAZAO_Zero_fill

4.4 Model slicing/ 模型切片

After the parameter configuration is completed, click the Slice button at the bottom right of the interface to slice the model
参数配置完成后, 点击界面右下方切片 (Slice) 按钮, 对模型进行切片



4.5 Slice model preview/ 切片模型预览

After the slicing is completed, click “Preview” in the picture to enter the preview interface./ 切片完成后, 点击图中 “Preview” 进入预览界面
View type is divided into Layer view and X-Ray view. Selecting the layered view can clearly see the changes that have been seen in the slice model./View type 分为分层视图 (Layer view) 和透视视图 (X-Ray view), 选择分层视图可以清楚地看到切片模型的层间变化。

Color scheme is divided into material color, routing type, speed, etc., which can be viewed as needed. The default is material color. The above figure shows the type of wiring. Different color lines can display the category to which the part belongs, and the parameters can be adjusted in a targeted manner./Color scheme 分为材料颜色、走线类型、速度等, 可以根据需要查看, 默认是材料颜色。上图中是走线类型, 可以通过不同颜色的线条显示该部分所属的类别, 可以有针对性的调节参数。

The two most commonly used parts are the progress bars on the bottom and the right. You can drag the progress bars to view the print path of the print head on the XY plane and the layer distribution of the print path in the Z axis direction./ 最常用的两部分是下方和右侧的进度条, 可以拖动进度条分别查看 XY 平面上喷头的打印路径, 和 Z 轴方向上打印路径的层间分布。

The estimated printing time is displayed at the bottom right, which is basically in line with the actual printing time./ 右下方显示预估打印时间, 与实际打印时间基本符合。

5. Model printing/ 模型打印

(1) Online printing/ 联机打印

A. Use the USB cable to connect the Eazao Zero printer to the computer, turn on the power of the Eazao Zero.

使用 USB 线将 Eazao Zero 打印机和电脑连接起来，打开 Eazao Zero 电源。

B. Start Cura, follow steps 4 and 5 above, import the model file and slice it, click “Print via USB” at the bottom right after completion, it will automatically connect to the printer and start printing.

启动 Cura，按照以上第 4、5 步，导入模型文件并切片，完成后点击右下方的” Print via USB”，将自动连接打印机开始打印。

Note/ 注意：

① The computer may need to install the driver CH340, the driver download and installation address: <https://www.eazao.com/downloads/>

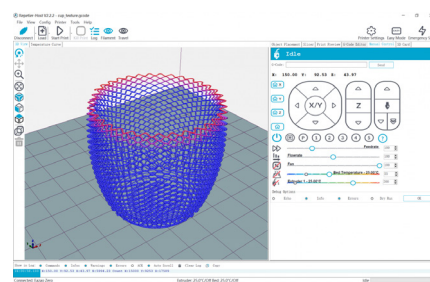
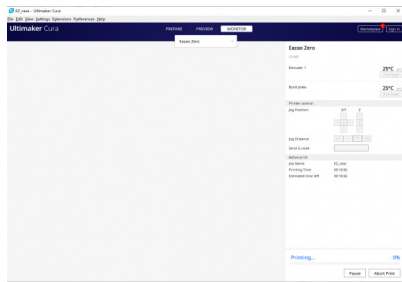
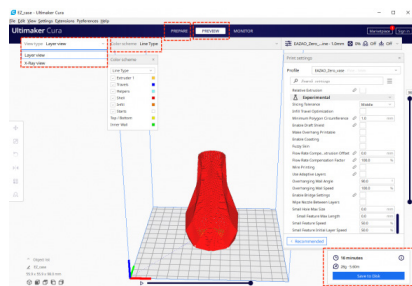
电脑可能需要安装驱动 CH340，驱动下载安装地址：<https://www.eazao.com/downloads/>

② When the computer enters the sleep state during online printing, the printing process will be interrupted. Please confirm the power status of the computer before printing./ 当计算机在联机打印过程中进入睡眠状态时，打印过程将被中断。打印前请确认电脑的电源状态。

The picture below shows the online printing interface./ 下图为 联机打印界面。

③ You can also use Repetier-Host for online printing/ 您也可以使用 Repetier-Host 进行联机打印：

<https://www.eazao.com/blog/eazao-zero-repetier-host-usage-tutorial/>



(2) Offline printing/ 脱机打印

A. Click the Save to Disk button, select the output slice file path, file name, and file type as .gcode.

点击保存到磁盘按钮（Save to Disk），选择输出的切片文件路径，文件命名，文件类型为 .gcode。

B. Copy the slice file to the SD card, the SD card format is FAT32, and the capacity should not exceed 8G.

将切片文件拷贝到 SD 卡中，SD 卡格式为 FAT32，容量最好不要超过 8G。

C. Insert the SD card into the printer's SD card slot, select the Print button on the touch screen, find the file to be printed, and click Confirm to print./ 将 SD 卡插入打印机 SD 卡槽中，选择触摸屏上的 Print 按钮，从中找到需要打印的文件，点击确认打印。

6. Printing complete/ 打印完成

After printing, loosen the clamps on both sides of the printed bed, remove the bed, and place it in a dry place to wait for the printed piece to dry naturally./ 打印完成后，松开打印木板两侧的夹子，取下木板，放在干燥处等待打印件自然风干。

Note/ 注意 : The printed work that has just been completed belongs to the clay. Don't be careful when transferring the bed. The clay is easy to collapse. You can use tools such as a hot air gun to speed up the drying of the clay./ 刚刚完成的打印作品属于泥坯，转移木板时切忌小心，泥坯容易坍塌。可以使用热风枪等工具加快泥坯的干燥。

***Clayon software introduction/Clayon 软件介绍

Eazao and IRC Lab launched the Clayon modeling and slicing software, which can simulate the traditional ceramic drawing method, and the model can be completed by dragging the mouse. At the same time, it is equipped with a rich texture library that can generate textures for the works. Finally, there is no need to carry out complex configuration, through the software can one-click slice to generate G-code files. You can download it here: <https://www.clayontec.com/>

Eazao 联合 IRC Lab 推出了 Clayon 建模切片软件，可以模拟传统陶艺拉坯的方式，通过鼠标的拖拽即可完成模型制作，同时还配有丰富的纹理库，可以给作品生成纹理。最后，无需进行复杂配置，通过软件可以一键切片，生成 G-code 文件。您可以在这里下载：<https://www.clayontec.com/>

IV .Post-processing: glazing and sintering/ 后处理：上釉和烧结

Although ceramic 3D printing can directly print high-quality clay blanks through the machine, the print layer patterns are still visible. If these layer patterns affect the appearance of the work, you can reduce the layer thickness or use a wet sponge to wipe off the layer patterns on the surface of the clay./ 虽然陶瓷 3D 打印能够通过机器打印高质量的泥坯，但是打印层纹依旧可见。如果这些层纹影响作品美观，您可以通过减小层厚或者使用湿海绵擦拭掉泥坯表面的层纹。

1. Make sure to wear safety goggles and masks for protection./ 确保佩戴安全护目镜和口罩以进行保护。
2. First of all, make sure that the mud has been dried. You can spray water on the mud and wipe the dry print with a sponge dipped in water. Be careful not to use force, otherwise the print will be easily broken./ 首先要确保泥坯已经干燥。您可以先在泥坯上喷水，用海绵蘸水擦拭干燥的打印件。注意不要用力，否则打印件很容易破裂。

1. Glazing/ 上釉

Finally, in order to make the printed work more beautiful, you can follow the steps below to glaze the mud. Before glazing, you need to make sure that the mud is dry, and the glaze must be shaken evenly before glazing. Glazing can also remove print layer patterns./

最后，为了使打印作品更漂亮，您可以按照以下步骤给泥坯上釉。上釉前，您需要确保泥坯干燥，上釉前必须将釉料摇匀，上釉也可以去除打印层纹。

- (1). You can apply the glaze on the surface of the mud with a brush./ 您可以用刷子将釉料涂抹在泥坯表面。
- (2). The glaze can be poured directly on the work (the color effect is fuller)./ 可直接将釉倒在作品上（色彩效果更饱满）。
- (3). You can use an air pump to spray the glaze on the work. (Pay attention to protective measures when spraying glaze, wear gloves and a mask to prevent inhalation of dust)./ 您可以使用气泵将釉料喷在作品上。（喷釉时要注意防护措施，戴上手套和口罩，防止吸入灰尘）。

Note/ 注意 : The glaze is poisonous and not edible. Please wear a mask and gloves when using it. A small amount of skin contact is harmless to people. Do not touch it for a long time. The glaze is sintered and vitrified, which can reach food-grade safety (depending on the glaze used). The type of glaze is compatible with clay. Please consult your local glaze supplier to meet your requirements./

釉料有毒，不可食用。使用时请戴上口罩和手套。少量的皮肤接触对人无害。请勿长时间触摸。釉料烧结发生玻璃化，可达到食品级安全（取决于所用釉料）。釉料的类型与粘土存在兼容性，请咨询您当地的釉料供应商，以达到您的使用需求。

The glaze of Eazao microwave kiln is a kind of micro-mineral raw materials, and it will precipitate if it is left standing for a long time. Therefore, when you receive the glaze, you will find that the upper layer of the glaze will have a lot of water after precipitation, and it is normal that the proportion of water will account for half. The bottled glaze sold by Eazao has a capacity of 300ml, and the normal volume of the glaze after precipitation is between 100-150ml./Eazao 微波窑炉釉料属于微矿物原料，长时间静置会沉淀，因此您收到釉料会发现，釉料经沉淀后上层的水份会很多，水的比例会占到一半属于正常现象。Eazao 出售的瓶装釉料容量为 300ml，沉淀后釉料正常容量在 100-150ml 之间。

2. Sintering/ 烧结

You can use our microwave kiln for sintering, or you can use an electric kiln or gas kiln for sintering. The following are the steps to use the microwave kiln./ 您可以使用我们推出的微波窑炉进行烧结，也可以使用电窑炉或者气窑炉进行烧结，下面是微波窑炉的使用步骤。

(1). Place the printed part in a dry place to air dry, and after the printed part is completely dry, it can be sintered./

将打印件置于干燥处自然晾干，待打印件完全干燥后，即可进行烧结。

(2). Put the printed part into the microwave kiln, make sure that the two parts of the microwave kiln are aligned and the air holes of the microwave kiln face up./ 将打印件放入微波窑炉中，确保微波窑炉的两个部分对齐并且微波窑炉的气孔朝上。



(3). Then put the microwave kiln into the microwave oven. The microwave power of the microwave oven needs to be above 700W, select the high-power gear of the microwave furnace, and set the microwave heating time to 10 minutes./ 然后将微波窑炉放入微波炉中。微波炉的微波功率需在 700W 以上，将微波窑炉选择大功率档位，微波加热时间设置为 10 分钟。

(4). After the microwave oven is heated, open the door of the microwave oven to dissipate heat, and wait for 1-2 hours until the temperature of the outer wall of the microwave kiln drops below 100° C, and the microwave kiln can be taken out and opened./ 微波炉加热结束后将微波炉门打开散热，等待 1-2 个小时，微波窑炉外壁温度降到 100°C 以下，可以将微波窑炉取出打开。

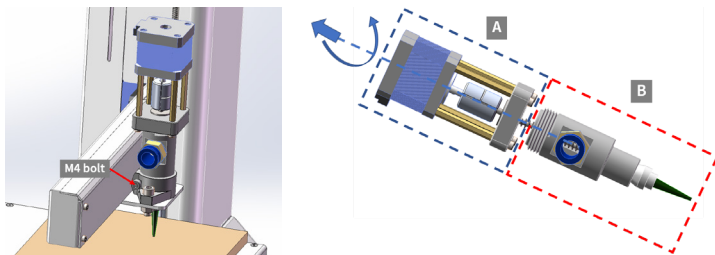
(5). The power of the microwave oven is different, and the heating time is different. The greater the power of the microwave oven under the maximum gear, the shorter the heating time. For safety in use, the heating time should not exceed 15 minutes./ 微波炉的功率不同，加热时间不同。最大档位下微波炉的功率越大，加热时间越短，为了使用安全，加热时间不可超过 15 分钟。

V . Equipment maintenance / 设备维护

Equipment maintenance is a very important part of the use of ceramic 3D printers. After printing, be sure to maintain the cartridge, feeding tube and extruder, otherwise the mud will be solidified and hardened inside, which will affect the next use./ 设备的维护和保养是陶瓷 3D 打印机使用非常重要的一环。打印完成后务必对料筒，送料管和挤出机进行维护，否则泥料会在内部固化变硬，影响下次使用。

1. Extruder maintenance/ 挤出机维护

Loosen the side and rear M4 bolts on the extruder fixing seat, and pull out the extruder from the extruder fixing seat. Hold the motor part of the extruder(A) and the extruder sleeve(B) respectively, and rotate the motor part of the extruder counterclockwise to disassemble the extruder and pull out the extruder sleeve backwards. / 将挤出机固定座上的侧后方 M4 螺栓松开，将挤出机从挤出机固定座上拔出。分别握住挤出机电机部分 (A) 和挤出套筒部分 (B)，逆时针旋转挤出机电机部分，即可将挤出机拆开，向后拔出挤出机套筒。



The sleeve part of the extruder(B) can be directly immersed in water, the tail of the extruder carries the screw, oil seal, and the bearing part with a damp cloth and dried. After cleaning, the extruder needs to be reassembled and installed in place. The printer needs to be leveled the next time it is used./

挤出机套筒部分可以直接放入水中浸泡，挤出机尾部携带螺杆，油封，轴承部分用湿抹布擦拭并且晾干。清洗完毕后的挤出机需要重新组装，安装在原位。下次使用时需要对打印机进行调平。

If you do not print for a short time, you can take a cup of water, place the cup on the printing platform, and let the nozzle of the extruder immerse in the water, which can slow down the curing of the extruder./

如果只是短时间不进行打印，可以接一杯水，将杯子放在打印平台上，让挤出机喷嘴浸入水中，可减缓挤出机固化。

Note/ 注 意: Due to the particularity of ceramic printing materials, ceramics are abrasives, which will aggravate the abrasion of the equipment feeding and extrusion system. Therefore, nozzles, feeding pipes, extrusion screws, sealing rings, sealed bearings, joints, pistons and barrels are vulnerable parts that are not covered by the warranty. You can buy more as a backup./

38 由于陶瓷打印材料的特殊性，陶瓷为磨料，会加剧设备送料和挤出系统的磨损。因此，喷嘴，送料管，挤出螺杆，密封圈，密封轴承，接头，活塞和料筒等属于易损件，不在质保范围内，可以多买几个作为备份。

2. Cartridge maintenance/ 料筒维护

Return the electric putter through the screen interface. Remove the cartridge, if there is clay inside, seal the end of the cartridge and the end of the clay outlet, cover with a damp cloth, and place the cartridge in a damp and cool place. The piston inside the cartridge can be inserted from the clay outlet through a long stick to push the piston out. Or directly replace the new feeding tube./

通过屏幕界面，将电动推杆退回。将料筒取下，如果内部还有泥料，将料筒尾端和出泥口端密封好，盖上湿抹布将料筒放在潮湿阴凉处。料筒内部的活塞，可通过长棍从出泥口伸入，将活塞顶出。或者直接更换新的送料管。

3. Feeding tube maintenance/ 送料管维护

Remove the feeding tube and soak it in water. If you need to clean the printing material inside the feeding tube, after soaking the feeding tube for a long time, you can use a slender iron wire to dredge the inside of the feeding tube. Or directly replace the new feeding tube./

将送料管拆下放入水中浸泡。如果需要清洗送料管内部打印材料，将送料管经过长时间浸泡后，可以用细长铁丝疏通送料管内部。或者直接更换新的送料管。

VI . Frequently Asked Questions/ 常见问题

1. Machine failure/ 整机故障

1) Unable to read the Gcode file in the SD card/ 无法读取 SD 卡中的 Gcode 文件：

a) Check whether the SD card is in FAT32 format and whether the capacity is less than 8GB/ 检查 SD 卡是否为 FAT32 格式，容量是否小于 8GB.

b) Format the SD card, you can download the files in the SD card from Eazao official website./ 格式化 SD 卡，您可以在 Eazao 官网下载 SD 卡中的文件资料。

c) Check whether the file is placed in the root directory of the SD card./ 检查文件是否放在 SD 卡的根目录。

d) Restart the power of the machine, wipe the SD card and insert it./ 重启机器电源，擦拭 SD 卡并插入。

e) Use a qualified SD card (the random SD card is a gift)./ 使用合格的 SD 卡，（随机的 SD 卡为赠品）。

2). The progress bar on the screen shows that the time is also changing, but the printer does not work./ 屏幕进度条显示，时间也在变化，但是打印机不工作。

Set the printing material and hot bed temperature to 0° C in Cura./ 在 Cura 中将打印材料和热床温度设置为 0°C。

3). The Y axis cannot be controlled through the screen./ 无法通过屏幕控制 Y 轴。

Check whether the Y-axis synchronous belt is off. If the Y-axis synchronization belt is loose, please refer to the tutorial:

<https://www.eazao.com/blog/eazao-zero-y-axis-synchronous-belt-repair-tutorial/> 检查 Y 轴同步带是否脱落。如果 Y 轴同步带松脱，请参见教程：

<https://www.eazao.com/blog/eazao-zero-y-axis-synchronous-belt-repair-tutorial/>

4) There are slight scratches on the equipment casing and electric push rod or slight unevenness on the platform, which is normal if it does not affect normal printing./ 设备外壳和电动推杆有轻微划痕或平台有轻微不平现象，在不影响正常打印的情况下，属于正常现象。

2. Malfunction of the electric putter/ 电动推杆故障

1) The motor in the electric putter does not rotate, and the motor buzzes./ 电动推杆中的电机不旋转，电机发出嗡嗡响。

You can pinch the flange side of the electric putter with your hand to feel whether the electric putter is moving forward and backward. If there is no forward or backward movement, the four bolts that fix the motor of the electric putter need to be rotated counterclockwise to loosen it.

Check here: <https://www.eazao.com/blog/summary-of-eazao-zero-electric-putter-problems/>

可用手捏住电动推杆的法兰侧，感受电动推杆是否前进和后退。如果没有前进或后退，需要将电动推杆的固定电机的四颗螺栓逆时针旋转放松。可参见：<https://www.eazao.com/blog/summary-of-eazao-zero-electric-putter-problems/>

2) The rotation of the motor in the electric putter is stuck, and the motor makes a clicking sound. At the same time, the extruder does not produce clay./ 电动推杆中的电机旋转卡顿，电机发出咔咔的声音。同时挤出机不出泥。

At this time, the extrusion should be stopped immediately. Pull out the feeding tube from the side of the extruder, select the electric putter to pre-extrude the clay, and observe whether there is clay extrusion at the outlet of the feeding tube./ 此时应立即停止挤出。将送料管从挤出机一侧拔出，选择让电动推杆预挤出泥料，观察送料管出口是否有泥料挤出

a) If there is clay extrusion in the feeding tube, it means that the clay inside the extruder is solidified, and the extruder needs to be disassembled and cleaned again. The specific operation depends on the maintenance and maintenance of the equipment./ 如果送料管有泥料挤出, 说明挤出机内部泥料固化, 需要拆开挤出机重新清洗, 具体操作看设备维护和保养。

b) If there is no clay extrusion in the feeding tube, pull the feeding tube out of the clay outlet side of the barrel in the electric putter, and again choose to let the electric putter pre-extrude the clay./ 如果送料管没有泥料挤出, 将送料管从电动推杆中料筒出口一侧拔出, 再次选择让电动推杆预挤出泥料。

i. If there is clay extrusion at the outlet of the electric putter cartridge at this time, it means that the feeding tube is blocked and a new one needs to be replaced./ 如果此时电动推杆料筒的出口有泥料挤出, 说明送料管堵塞, 需要更换新的料管。

ii. If no clay is extruded from the outlet of the cartridge, it means that the clay inside the cartridge is solidified or uneven, and the clay needs to be reprocessed and filled./ 如果没有泥料从料筒出口挤出, 说明料筒内部泥料固化或不均匀, 需要重新处理泥料并装填。

3) The electric putter makes an abnormal sound when the new material tube is installed or not installed./

刚装上新料管或者不装新料管, 电动推杆前进异常响声。

When the thrust block of the electric putter retracted to the side close to the motor, it was stuck due to the too close to the reducer. Need to unscrew the thrust block, then push the electric putter forward, and finally install the thrust block./

当电动推杆推力块回退到靠近电机侧时, 由于与减速机距离太近卡主。需要将推力块旋下, 然后将电动推杆向前推进, 最后将推力块安装。

4) The motor in the electric putter generates severe heat./ 电动推杆中的电机发热严重。

At this time, the printer needs to be stopped. Because the clay is too hard, the torque required by the electric putter is greater, and the motor's output current is too large, which causes the motor to overheat. The clay can be appropriately softened and the entire feeding system is checked for hard clay./ 此时需要停止打印机工作。由于泥料过硬, 电动推杆需要的扭矩更大, 电机输出电流过大导致电机过热, 可以将泥料适当变软, 同时检查整个送料系统中是否有硬泥。

5) The electric putter works normally, but it makes periodic abnormal noises. This is normal wear and tear./ 电动推杆工作正常, 但是发出周期性异响。这是正常的磨损。

3. Extruder failure/ 挤出机故障

The extruder motor rotates and freezes./ 挤出机电机旋转卡顿

Check whether the wiring of the extruder is normal. If it is normal, turn the extruder screw by hand after turning off the power of the equipment. If the rotation resistance is too large, the bearings in the extruder will be seriously rusted. You can drop a few drops of lubricating oil on the bearings or directly replace them with new ones./ 检查挤出机接线是否正常。如果正常, 关闭设备电源后, 用手旋转挤出螺杆, 如果旋转阻力过大, 挤出机中的轴承生锈严重, 可以在轴承处滴上几滴润滑油或者直接更换新的轴承。

4. Matters needing attention/ 注意事项

1) When reusing after a long period of stagnation (more than 1 hour), first remove the feeding tube from the extruder, select the pre-extrusion mode, and extrude the hardened clay from the feeding tube to ensure the printing time. The clay is moderate in hardness. At the same time, clean the clay in the extruder, and make sure that there is no too hard clay to block the extruder or the feeding tube every time it is used./

停滞长时间后（1 小时以上）重新使用时，应先将送料管从挤出机处取下，选择预挤出模式，将变硬的陶泥从送料管中挤出，保证打印时陶泥软硬度适中。同时清理挤出机中的陶泥，每次使用时都要保证没有过硬的陶泥堵住挤出机或送料管。

2) The machine is in a self-locking state (x, y, and z axes will be locked) within a short period of time after the pause (about 30s), and you can change the cartridge or do other actions at this time. The x, y, and z axes will become loose after a long pause. At this time, be careful to touch the machine to ensure that it will not be misaligned./ 暂停后短时间内（30s 左右）机器处于自锁状态（x、y、z 轴会被锁住），此时可以更换料筒或做其他动作。暂停长时间后 x、y、z 轴会松动，此时要小心触碰机器，保证其不会错位。

*In addition to this guide, there is a detailed user manual on our website: www.eazao.com.

* 除了这个指南，在我们的网站上还有一个详细的用户手册：www.eazao.com.

VII . After-sales service terms/ 售后服务条款

Eazao provides a 180-day quality guarantee for the equipment sold. During the warranty period and under normal use and maintenance, we will make repairs, replacements or refunds at our own discretion. Only the original purchaser has the right to claim the warranty. If you buy from an Eazao dealer, your after-sales and warranty are performed by the dealer./Eazao 对销售的设备提供 180 天的质量保证。在保修期内和正常使用及保养的情况下，我们将自行决定修理、更换或退款。只有原始购买者有权要求保修。如果您从 Eazao 经销商处购买，您的售后和保修由经销商负责履行。

1. What is the scope of the warranty?/ 保修范围是什么？

1) The 180-day warranty covers all the functional aspects of the Eazao 3D printer in normal use./

180 天保修涵盖了 Eazao 3D 打印机在正常使用情况下的所有功能方面。

2) Due to the particularity of the printing materials, ceramics are easy to cause wear to the printer, nozzles, feeding tubes, extrusion screws, sealing rings, sealing bearings, joints, pistons and cartridges and other easily worn parts are not within the warranty period./ 由于打印材料的特殊性，陶瓷易对打印机造成磨损，喷嘴，送料管，挤出螺杆，密封圈，密封轴承，接头，活塞和料筒等易磨损部件不在保修期内。

2. What is not covered by the warranty?/ 什么不在保修范围内？

1) Any problems caused by man-made damage or misoperation./ 任何人为损坏或误操作造成的问题。

2) Self-modification and self-disassembly are not covered by the warranty./ 自行改装和自行拆卸不在保修范围内。

3) Normal wear and tear./ 正常磨损。

4) Use parameter settings other than the manual settings./ 使用手册设置以外的参数设置。

5) Printing with materials that do not meet the rheological characteristics of the materials recommended by Eazao will result in immediate loss of warranty./ 使用不满足 Eazao 推荐的材料流变特性要求的材料进行打印，将导致立即失去保修。

3. When will the warranty start?/ 什么时候开始保修？

The warranty is calculated from the date you receive the goods./ 保修从您收到货物之日起计算。

4. How to get a 180-day free warranty?/ 如何获得 180 天免费保修？

Please send an email to support@eazao.com with your order ID./ 请发送电子邮件至 support@eazao.com 并附上您的订单 ID。

*****Due to the particularity of the products sold, returns are not supported once they are sold./**

***** 由于所售商品特殊性，一经售出不支持退货。**

eazao



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