



**QUBEa**  
3D printer QD-1

# User Manual

Many thanks for your selection of Qubea QD-1 3D printer, and services, and also for your trust and support to us. We hope that you can enjoy this 3D printing on your DIY dream comes true. Let's start this imaginary trip.

#### Notes:

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You can familiar with Qubea QD-1 in this manual quickly. Please read this manual carefully, even you have known 3D printing before, because it includes using tips and some maintenance skills.

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# 1、Qubea QD-1 Instruction

## 1.1 Specifications

### Printing

**Print Tech:** Fused Deposition Modeling

**Build Volume:** 200mm diameter circle \*  
height 380mm

**Speed:** Average 80mm/s  
Max 200mm/s

**Accuracy:** High 0.1mm  
Default 0.2mm

**Filament Diameter:** 1.75mm

**Nozzle Diameter:** 0.4mm

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### Software

**Software Bundle:** Qubeware

**File Type:** stl

**System:** Windows XP, 7+

### Physical Dimension

**Machine Size:** 410mm × 360mm × 820mm

**Shipping Box:** 490mm × 440mm × 890mm

**Net Weight:** 15KG

**Package Weight:** 24KG

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### Temperature

**Nozzle:** 160 ~ 250 °C

**Heat Bed:** 60 ~ 115 °C

**Ambient:** 15 - 32 °C

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### Electrical

**AC Input:** 200 - 220V, 50Hz

**Power:** 400W

**Connectivity:** SD Card

## Shipping List

- Qubea 3D Printer
- QUBEa ABS Filament (1kg)
- Filament Holder
- Filament Spool
- Power Line
- SD Card (4G memory)

- Tool Box
- Adjusting Heat Bed Wrench
- Art Spatula
- Spare (Spring, Kapton Tape, LED)

## 1.2 Working Theory

The nozzle is heated to melt the material. The thermoplastics are heated past their glass transition temperature and are then deposited by an extrusion head.

The nozzle can move in both horizontal and vertical directions by a numerically controlled mechanism. The nozzle follows a tool-path controlled by a computer-aided manufacturing (CAM) software package, and the part is built from the bottom up, one layer at a time. Stepper motors or servo motors are typically employed to move the extrusion head.

Using Qubeware to transfer 3D image (STL format) to QD-1 identify Gcode file. Copy it to SD card, QD-1 will print this model layer by layer.

## 1.3 Working Environment

1. Ensure put QD-1 on stable flat.
2. Adjust heat bed before using.
3. Working temperature: 15°C - 32°C
4. Working humidity: 30% - 80%
5. Air flow rate < level 2

## 1.4 Notice

■ During QD-1 process, nozzle can rise to 250°C, even heat bed can rise to 115°C. In order to avoid burning or model deformation, do NOT touch model/nozzle/heat bed by hand, or any other part of body, while the printer is working or immediately after it has finished printing.

■ Do NOT start QD-1 printing while no one is around.

■ Protective glasses should always be worn when removing support material, especially PLA.

■ There is a slight smell from ABS when it is being extruded. The smell is, however, not too un-pleasant. Operate in a well-ventilated room but draught free. Draughts can affect warping of ABS prints. When ABS is burnt it releases toxic fumes.

■ The printer must not be exposed to water or rain, or damage may occur.

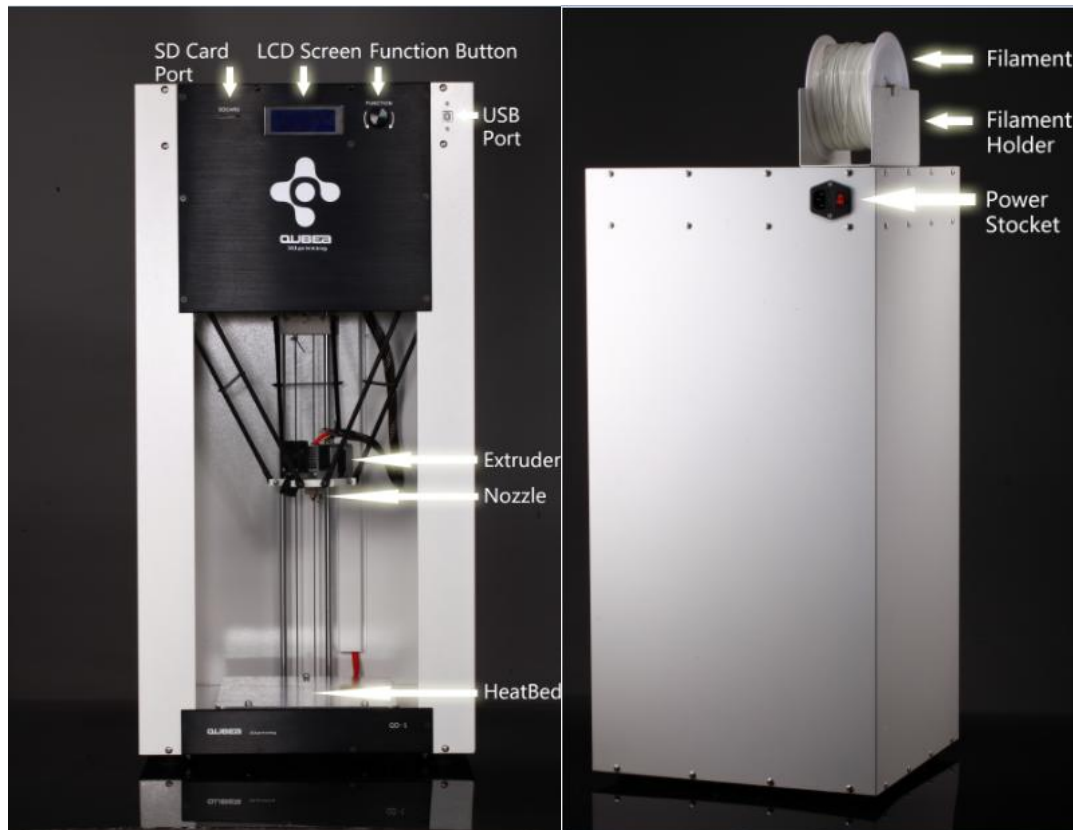
■ Do not shut down QD-1 or pull out SD Card while printing model, otherwise the model data may be lost and printing will be failed.

■ Do NOT open QD-1 shell for maintaining except professional staff.

■ Always have adult supervision when children are present. Please keep all small printed parts away from young children, choking hazards! There are several safety issues, small tools, sharp tools and HOT objects and most parts used in connection with the 3D Printer. Tie back long hair and loose clothing. Keep fingers away from moving parts.

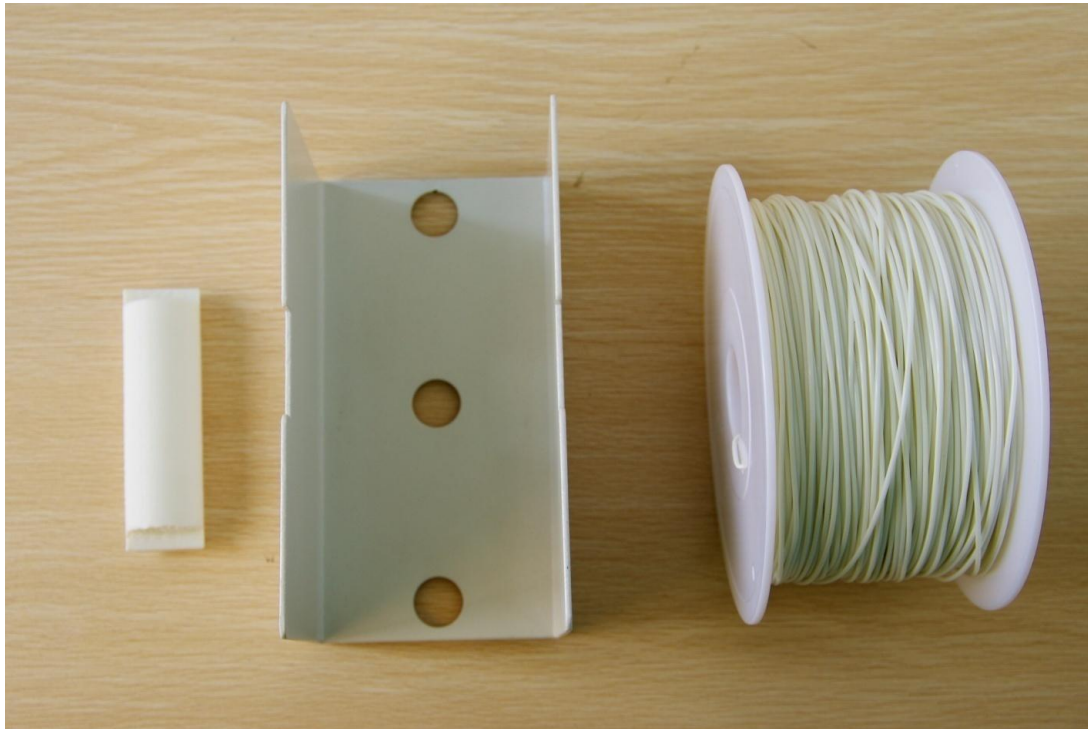
## 2、Qubea QD-1 Setup

### 2.1 Appearance



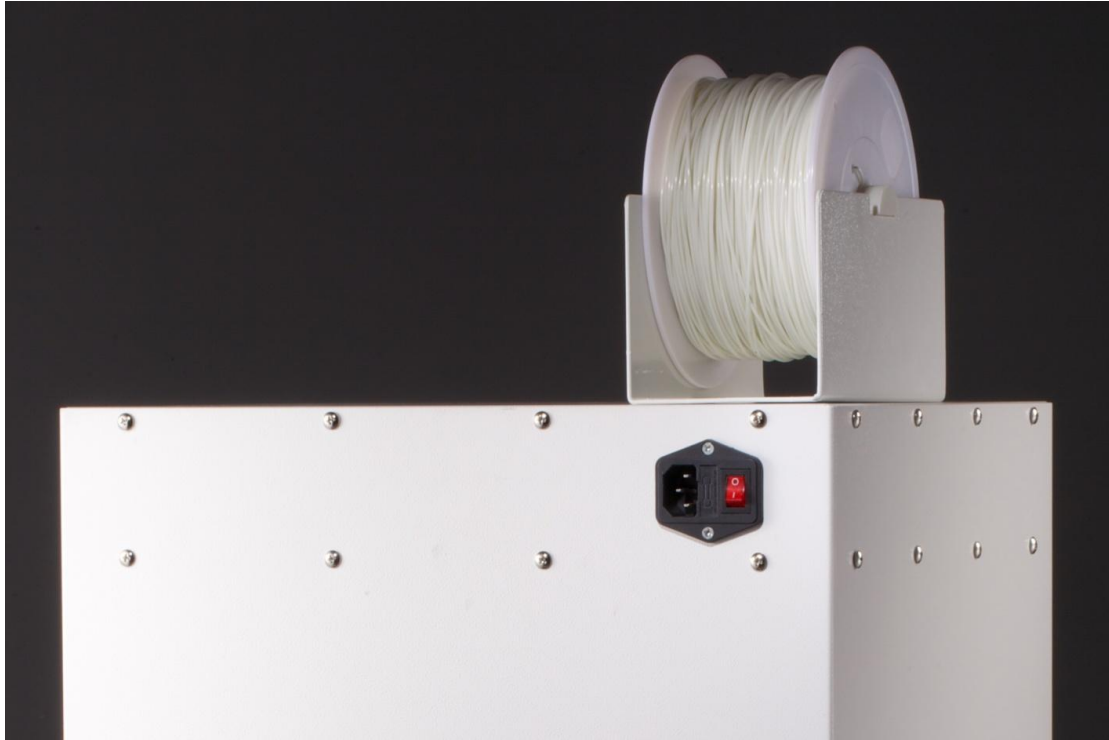
## 2.2 Filament Holder Setup





## 2.3 Start QD-1

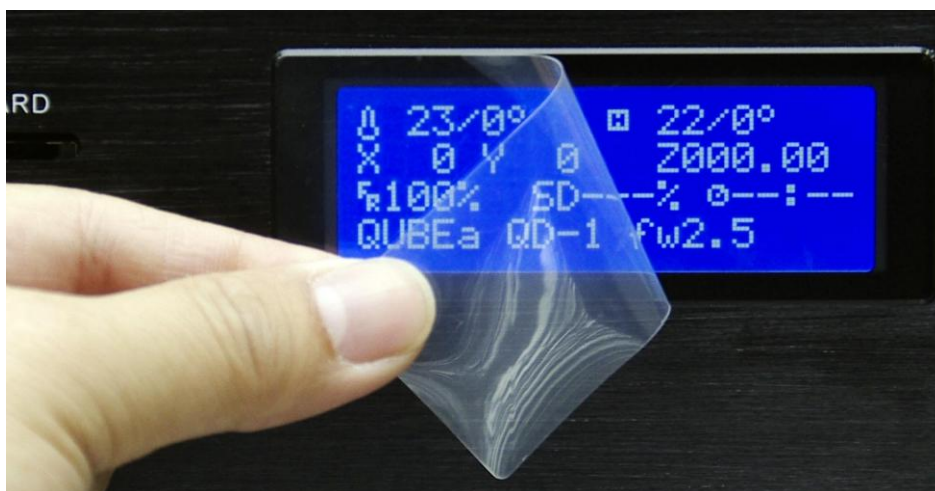
■ Please use supplement power cable connecting to 220V/110V AC, and switch on QD-1 red button.



### 3、Prepare and Operation

### 3.1 Operation

- Rip off screen protector from LED



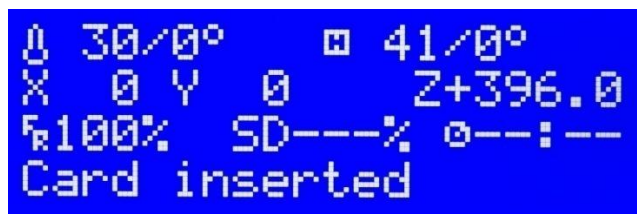
- The status of QD-1 can be revealed on control panel.
- SD Card port is on the left. LED screen is in the middle, 'Function' button is on the right. User can rotate function button and display its operation result on LED.



■ While you start QD-1, you will see the following screen - Main Screen. Rotate function button can adjust printing speed directly. Push button can enter into QD-1 menu.



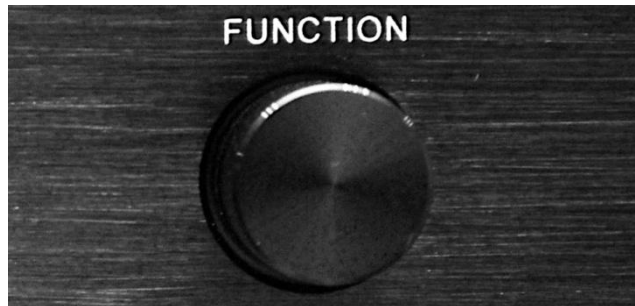
■ The Main Screen when inserted SD Card



■ The Main Screen when removed SD Card



■ All kinds of operations are based on this ‘Function’ button. It can be rotated for selecting and push for confirming.

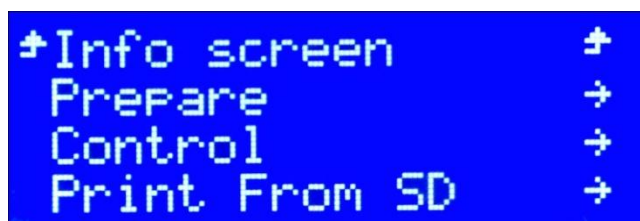


If you push function button, it can be entered into level 2 menu

■ The level 2 menu when inserted SD Card.



■ The level 2 menu when insert SD Card



■ Rotate function button to left, pointer will move down. To be opposite, rotate function button to right, the pointer will move up. Push the button will be seen as ‘enter’. In this level 2 menu, ‘Info screen’ means as return to main screen. If there is a ‘→’ label on the right, that means there exists a secondary menu in it.



■ Instruction of ‘Prepare’ and its sub operation

- Selected ‘Prepare’ into its sub menu.

```
Info screen      ↗
>Prepare        →
Control         →
Print From SD   →
```

- ‘Main’ : return upper menu.

```
↗Main           ↗
Auto Home
Preheat ABS
Disable Steppers
```

- ‘Auto Home’ : reset Extruder to default position.

```
Main           ↗
>Auto Home
Preheat ABS
Disable Steppers
```

- “Preheat ABS” : Heat bed preheats for ABS (115°C)

```
Main           ↗
Auto Home
>Preheat ABS
Disable Steppers
```

- “Disable Steppers” : Release stepper drivers, then you can shift the extruder easily.

```
Main          ↗
Auto Home
Preheat ABS
>Disable Steppers
```

- “Cooldown” : Stop heating on nozzle and heat bed

```
Auto Home
Preheat ABS
Disable Steppers
>Cooldown
```

- Instruction of “Control” and its sub options’

```
Info screen    ↗
Prepare        →
>Control       →
Print From SD  →
```

- “Main” : return upper menu (level 2 menu)

```
↗Main          ↗
Preheat ABS Conf →
Restore Failsafe
```

- “Preheat ABS Conf” : preheat ABS config setting.

```
Main          ↗
>Preheat ABS Conf →
Restore Failsafe
```

■ Select ‘Preheat ABS Conf’ for entering into its sub menu

- “Control” : return to upper menu( ‘Control’ )

```
*Control          *
Fan speed:        0
Nozzle:           0
Bed:              115
```

- “Fan speed” : Fan speed while preheating (default 0)

```
Control          *
>Fan speed:      0
Nozzle:          0
Bed:              115
```

- “Nozzle” : nozzle preheat temperature (default 0°C)

```
Control          *
Fan speed:        0
>Nozzle:          0
Bed:              115
```

- “Bed” : heat bed preheat temperature (default 115°C)

```
Control          *
Fan speed:        0
Nozzle:           0
>Bed:             115
```




- “Restore Failsafe” : restore to original setting




```
Main          ↗
Preheat ABS Conf →
>Restore Failsafe
```

- “Print From SD” : read SD card files



```
Info screen    ↗
Prepare        →
Control        →
>Print From SD →
```

- Select ‘Print From SD ’ for entering into its sub menu



```
*Main          ↗
▢Calibration
▢Manual
▢Software
```

### 3.2 Setup Filament

Load filament into extruder.

■ Insert supplement SD Card, then push function button and rotate it to left. When the pointer mark floats on 'Print From SD', push function button to display SD Cards content.

```
Info screen      ↗  
Prepare         →  
Control         →  
>Print From SD  →
```

```
*Main           ↗  
▢Calibration  
▢Manual  
▢Software
```

■ Select 'Calibration'.

```
Main           ↗  
>▢Calibration  
▢Manual  
▢Software
```

```
*Main           ↗  
▢..  
1_Load_Filament.gco  
2_Unload_Filament.g
```

■ Select '1\_Load\_Filament.gcode'.

```

Main                                     ↗
□..
>1_Load_Filament.gco
2_Unload_Filament.g

```

■ It will take about 1 minute for heating nozzle.

```

0 86/230° □ 11/0°
X 0 Y 0 Z+396.0
%100% SD 40% 000:00
Heating...

```

(Preheat temperature is setting as 230°C by default. This value can be reset by push function button, and enter into 'Tune' option.)

```

Watch                                     ↗
>Tune                                    →
Control                                  →
Pause Print

```

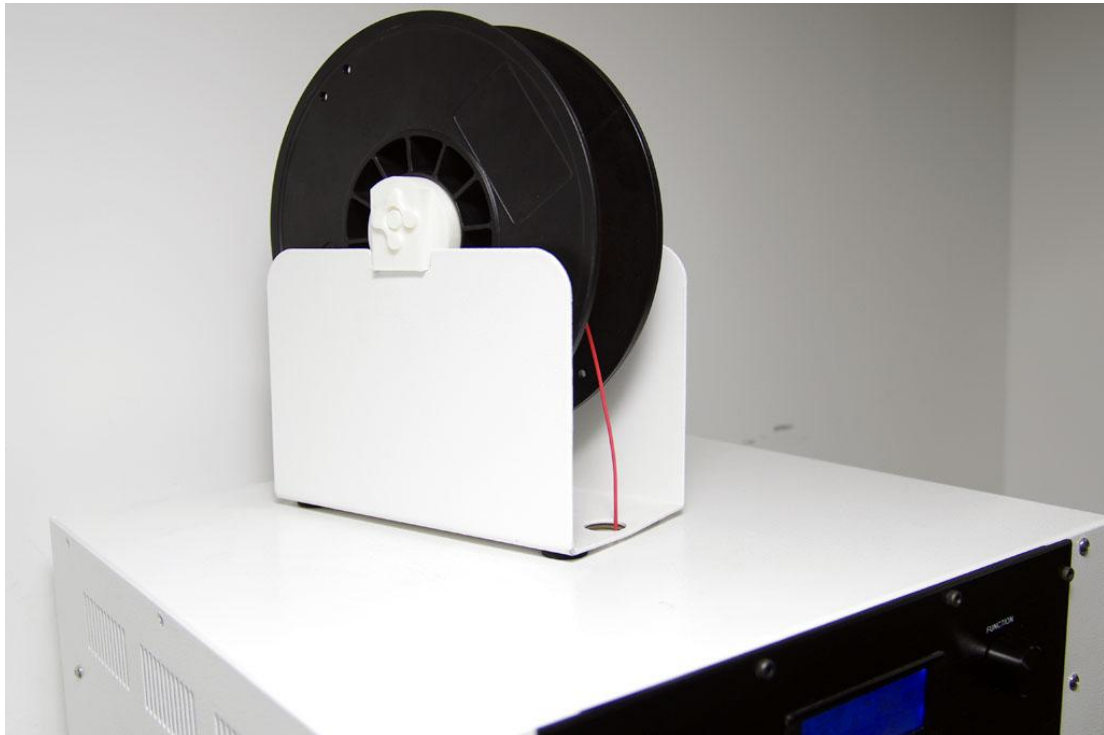
```

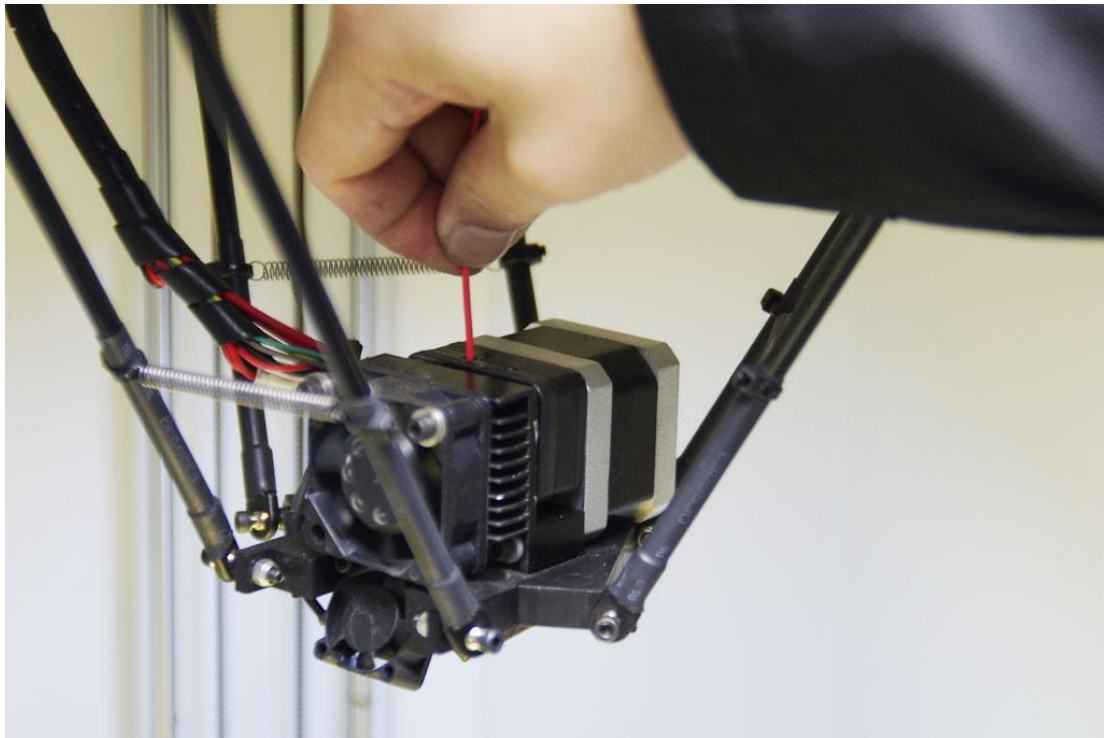
↗Main                                     ↗
Speed:                                  100
Nozzle:                                 230
Bed:                                    0

```

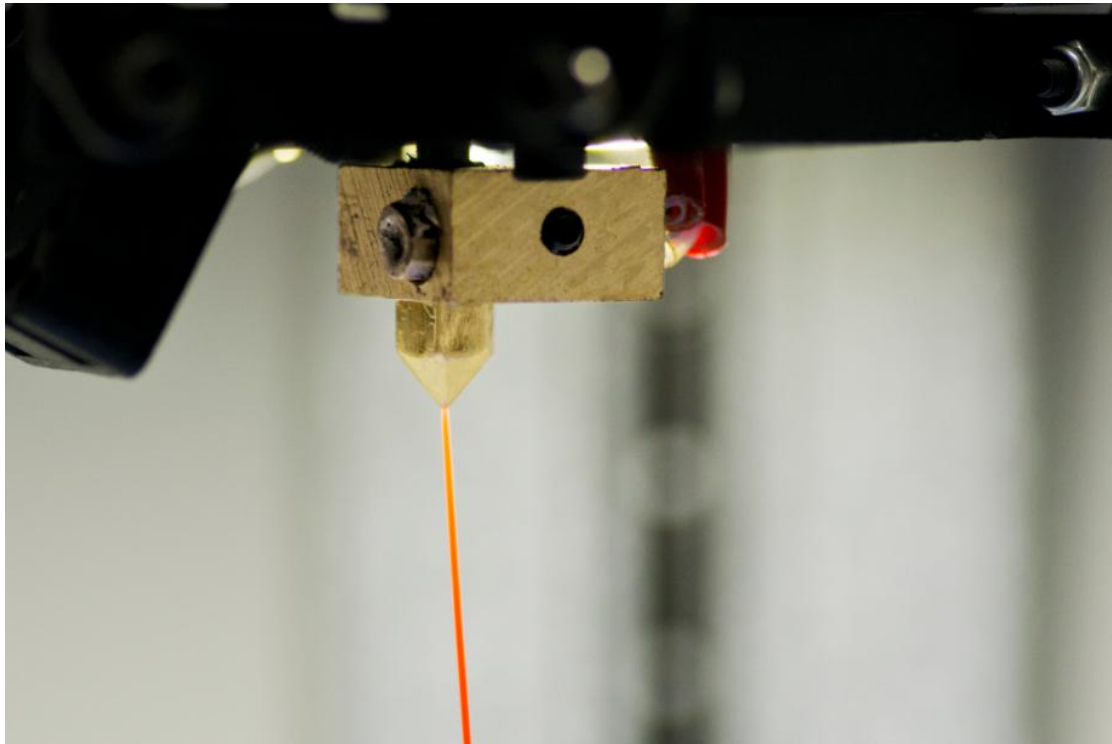
■ The extruder will descend to the middle of 3D printer for changing filament after preheat. And then, insert filament into a hole at the top left of the extruder. Push the filament in with some gentle pressure until the extruder motor grabs it and starts pulling it through the extrusion head. The filament can be released if you feel it is sucked by extruder.

Filament and its holder is setting as below

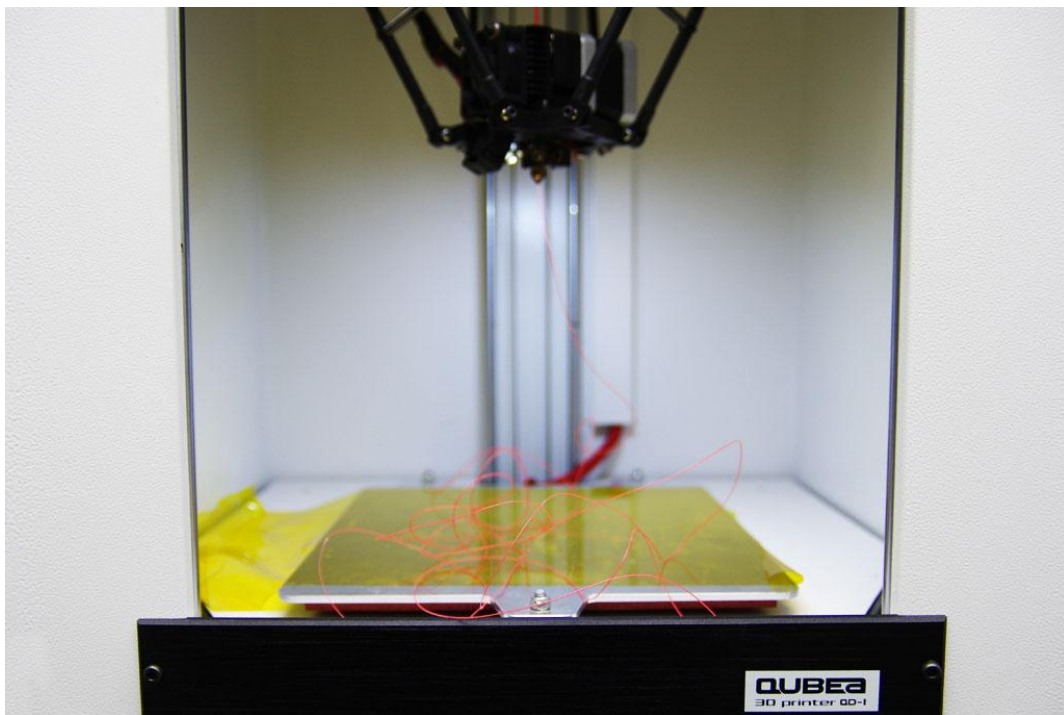




■ The filament setup will be seen as success if there is some filament extruding from nozzle. (Illustration below). In order to clean nozzle remains, it will keep extruding filament for 10cm by default.



Remember to pull away the piece of extruded plastic before starting printing.

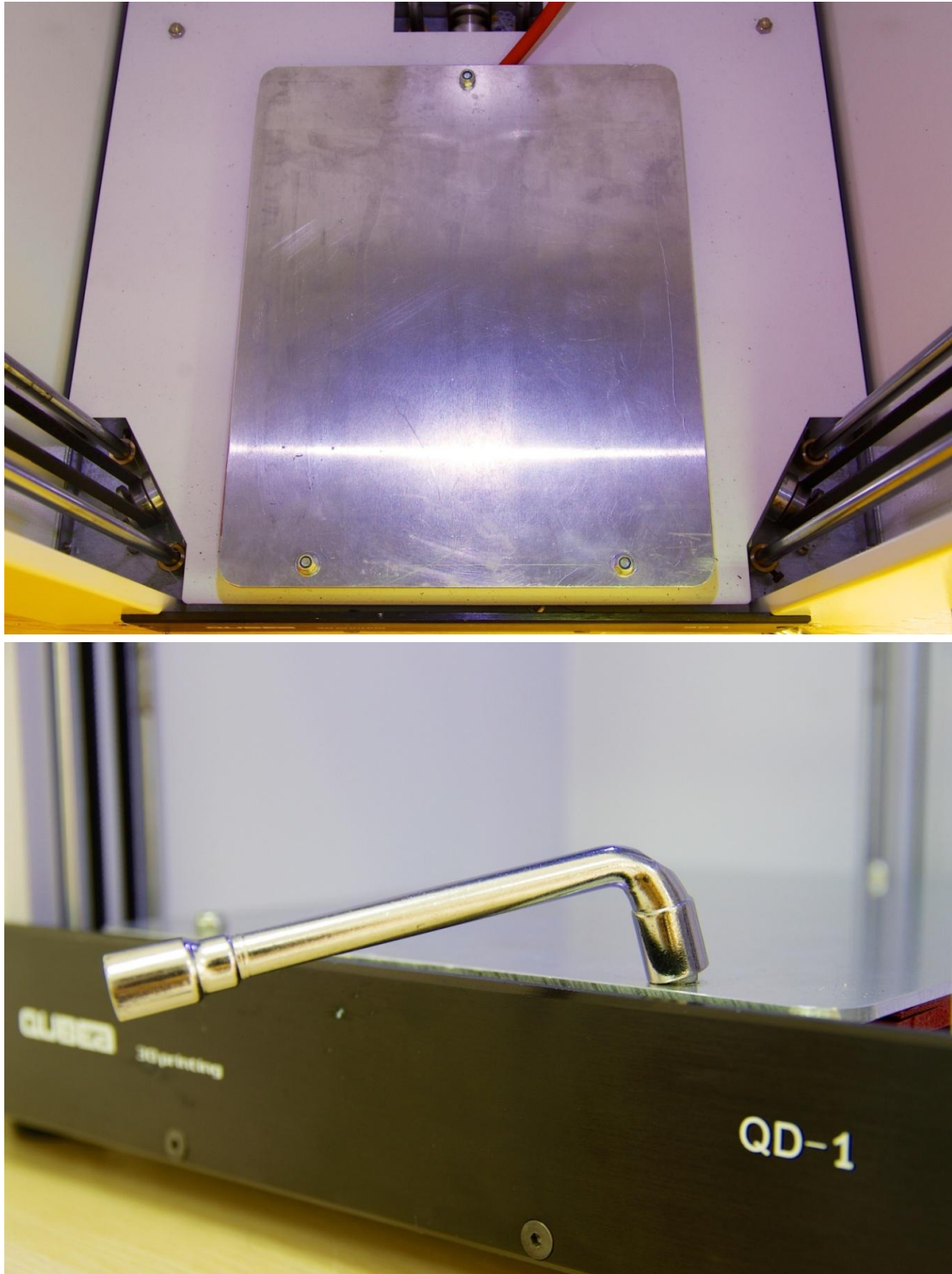


### 3.3 Leveling Heat Bed

Please read this part carefully, because leveling heat bed is a critical point for printing setting. Leveling your heat bed often will help ensure that model adhere well to the heat bed. In order to ensure printing model is tight close to heat bed but not crash on it, you need to have a micro measure on its height. The gap between nozzle and heat bed is perfectly setting as 0.1mm (about a piece of A4 paper).

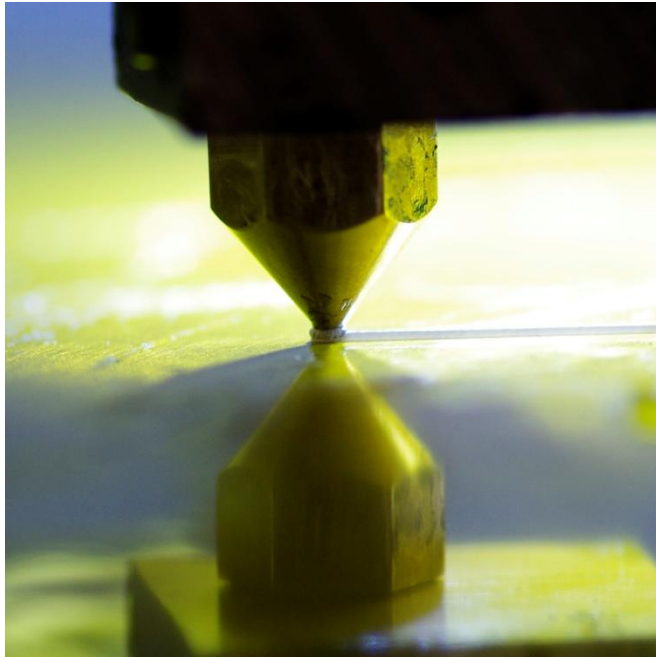
There are three screws on heat bed for adjusting. Please hold wrench prepares for adjusting.



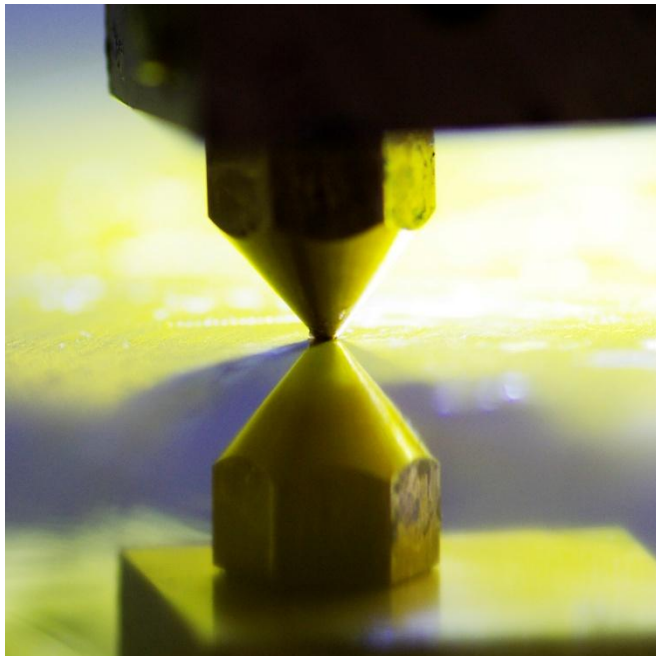


The following graph is standard 0.1mm between nozzle and heat bed.



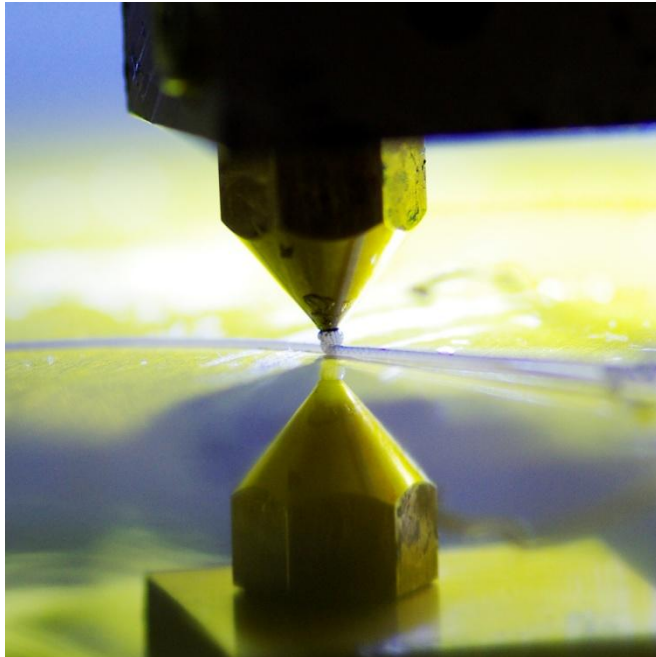


If heat bed is too close to nozzle, the heat bed can block extruding from nozzle. This can also tear Kapton tape and scratch heat bed's aluminum surface. Find the screw which is closer to the over-close point, and then use supplement wrench to rotate it to right for descending the height of heat bed.



If heat bed is too far from nozzle, or if one part of the heat bed is farther away from the nozzle than another part, your model might not stick to the

heat bed. This will cause model printing fail in finally. In this case, use wrench to rotate screw to left, to expend the gap to be a fixable size.

**Notice:**

- Using your G-code printing file for leveling heat bed, until any corner or edge is sticking on heat bed tightly.
- Repeat your G-code leveling heat bed after any adjusting you made. To confirm heat bed setting is perfect.
- Adjusting heat bed is required to process once in generally. In order to confirm the gap is perfect height, we suggest that you check this gap at regular time to prevent any unexpected error occur.
- Adjusting heat bed after any shaking, transport or move, because it might affect the height of heat bed.
- Adjusting heat bed if you find your model is not printing on a reasonable position or having a sticking up edge.

- During processing adjusting heat bed, if any crash happened between nozzle and heat bed, please stop this program immediately, and descend heat bed before any remedy.

### 3.4 SD Card

After setup filament holder and adjusting heat bed, it's time to start printing.

Trigger printing process is similar as loading filament, the only difference is that it is required a Gcode file in SD card.

A. Push function button to enter main menu

```
#Info screen      #
Prepare          →
Control          →
No Card          →
```

B. Insert SD Card and select 'Print From SD'

```
Info screen      #
Prepare          →
Control          →
>Print From SD   →
```

C. Select Gcode file name for printing. (There are three test Gcode files for testing in SD card by default. For example: OwlReDo1\_fixed\_sc.gcode)

```
Software
3D-printable_bottle
Julia_Vase_011_-_He
>OwlReDo1_fixed_sc.g
```

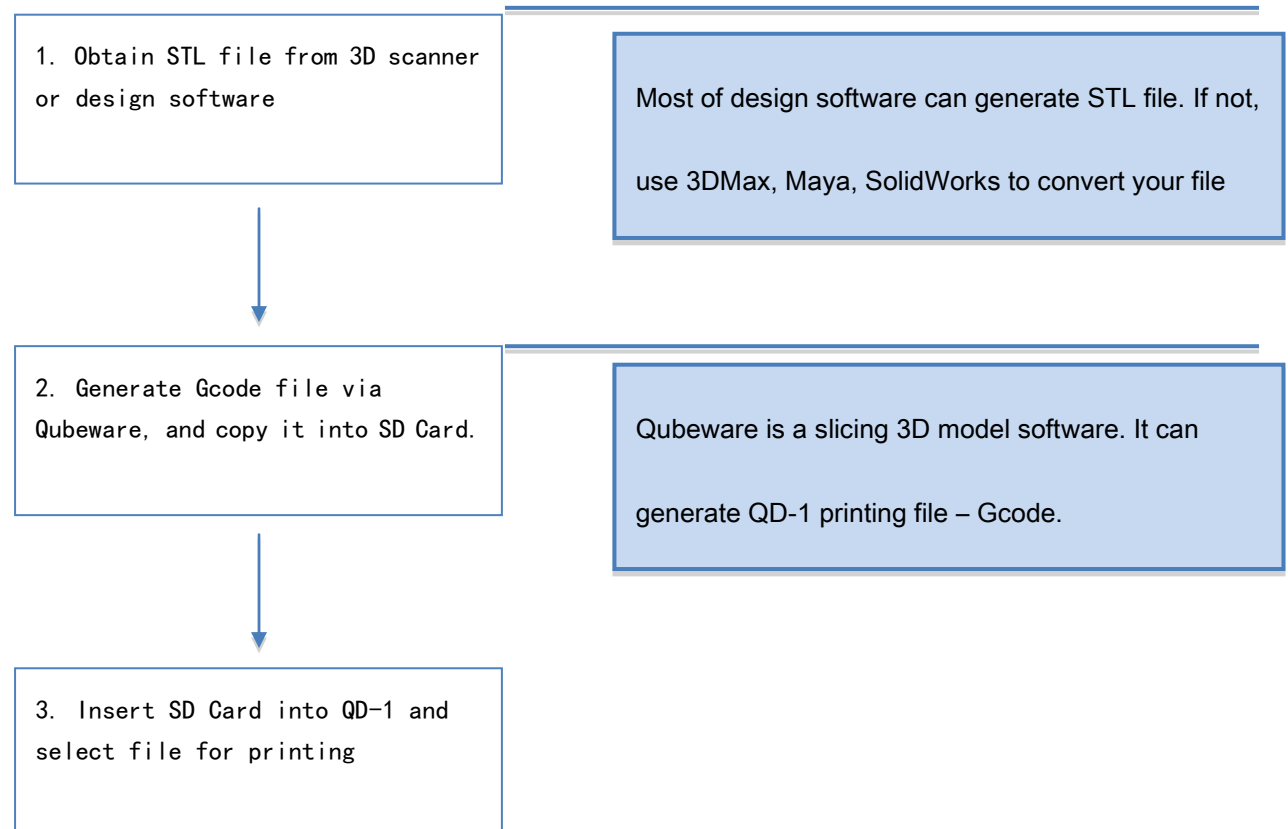
D. Three Gcode instances are illustration as following.



■ QD-1 will start a set of initial process, which includes nozzle home, preheat nozzle and heat bed. After preheat, it will start printing.

### 3.5 Printing Working Flow

I think you have full understood on QD-1 operation. Let' s begin to learn how to print a 3D model. 3 Steps ONLY.



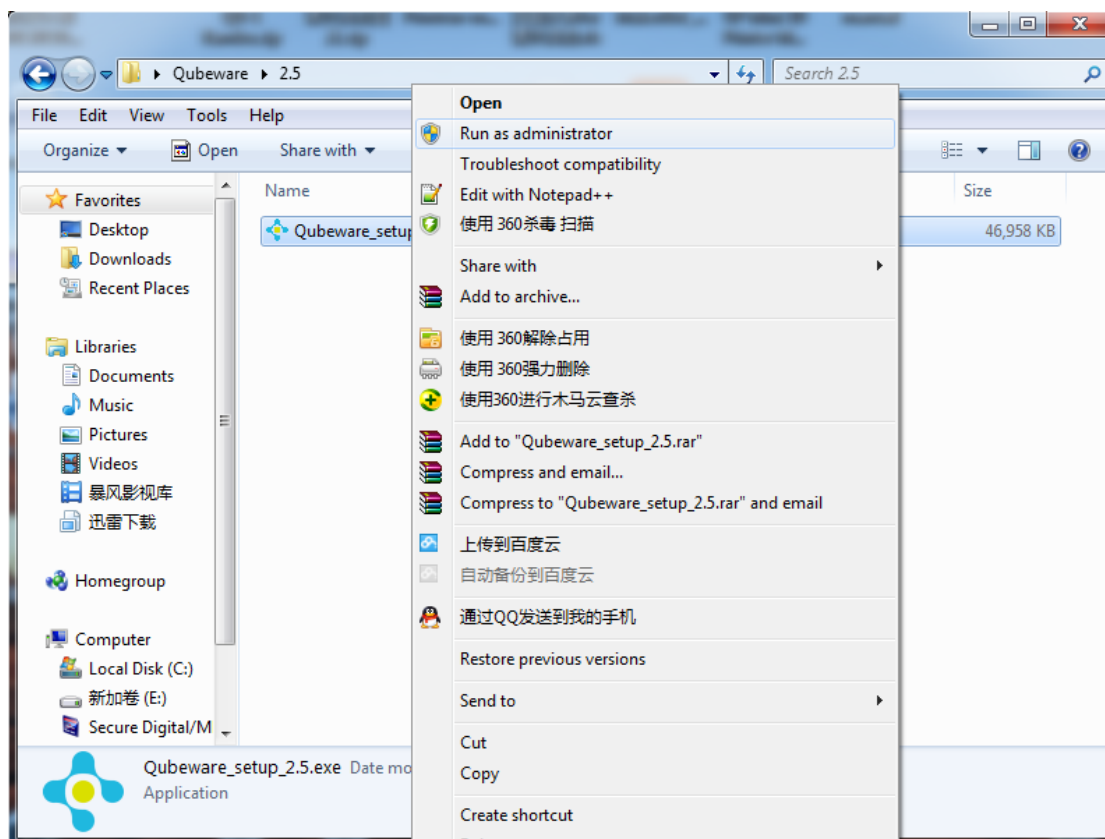
## 4、 Qubeware

Qubeware is 3D slicing application for QD-1. It provides 3D model review, scale, rotate, and reset printing position.

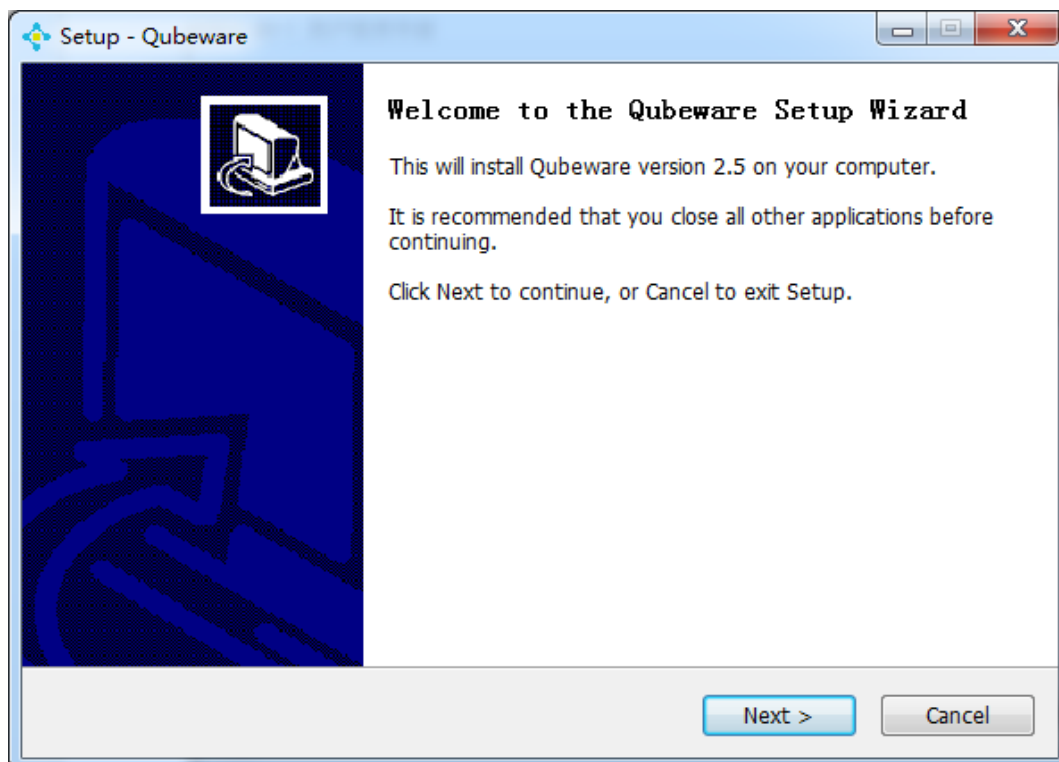
There is a simple configuration model for 3D printer beginner. This setting can satisfy most of printing requirement. Further, there is an expert model for senior player. This setting includes all parameters setting.

## 4.1 Install Qubeware

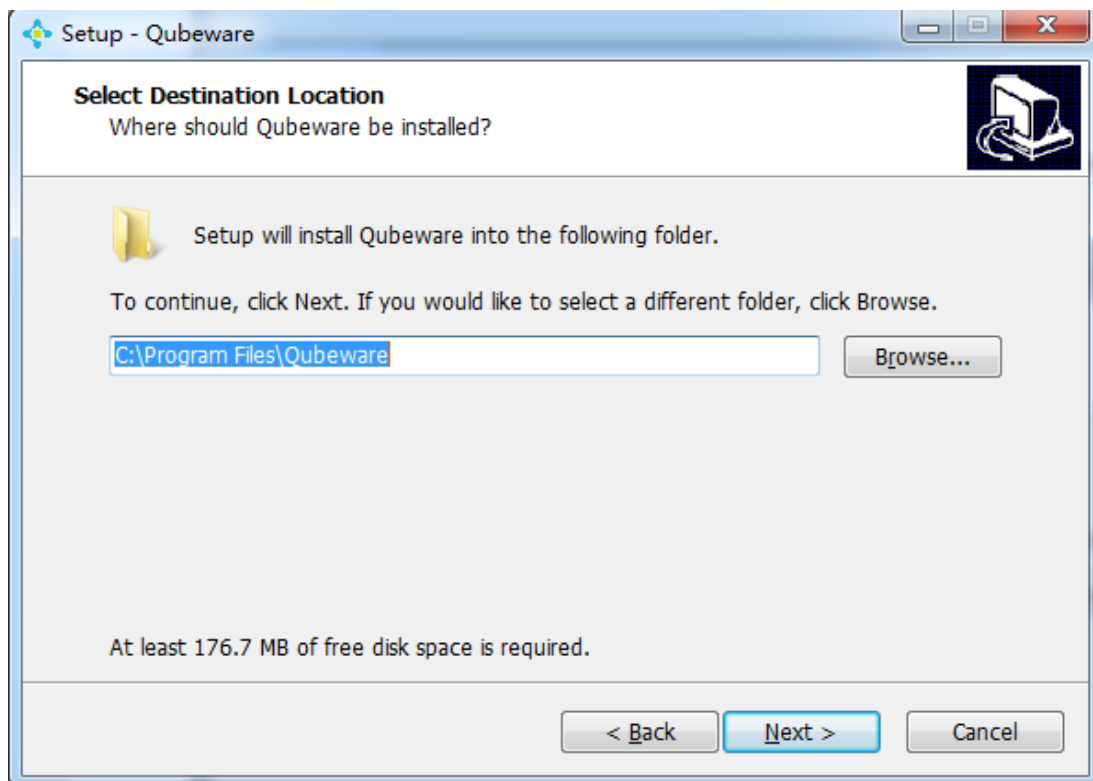
- Right click on Qubeware\_setup.exe and select ‘Run as Administrator(A)’.



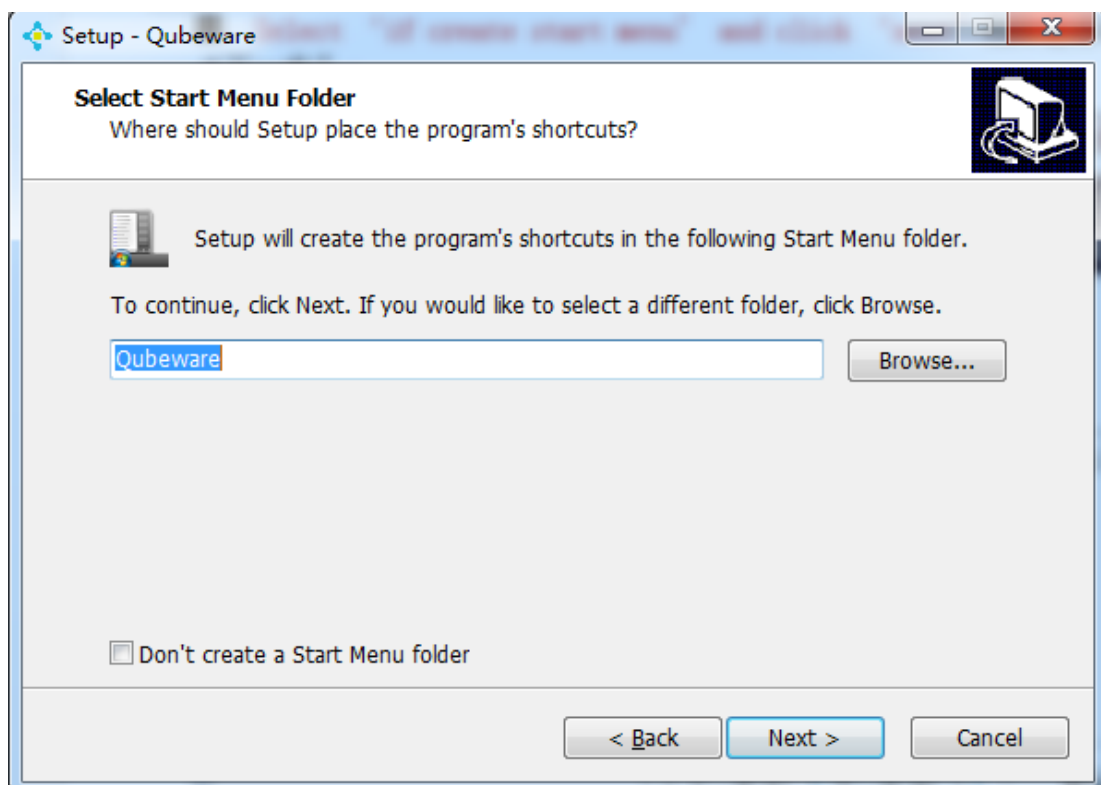
- Start installing Qubeware, and click ‘next’.



- Select Qubeware install path, and click ‘next’.

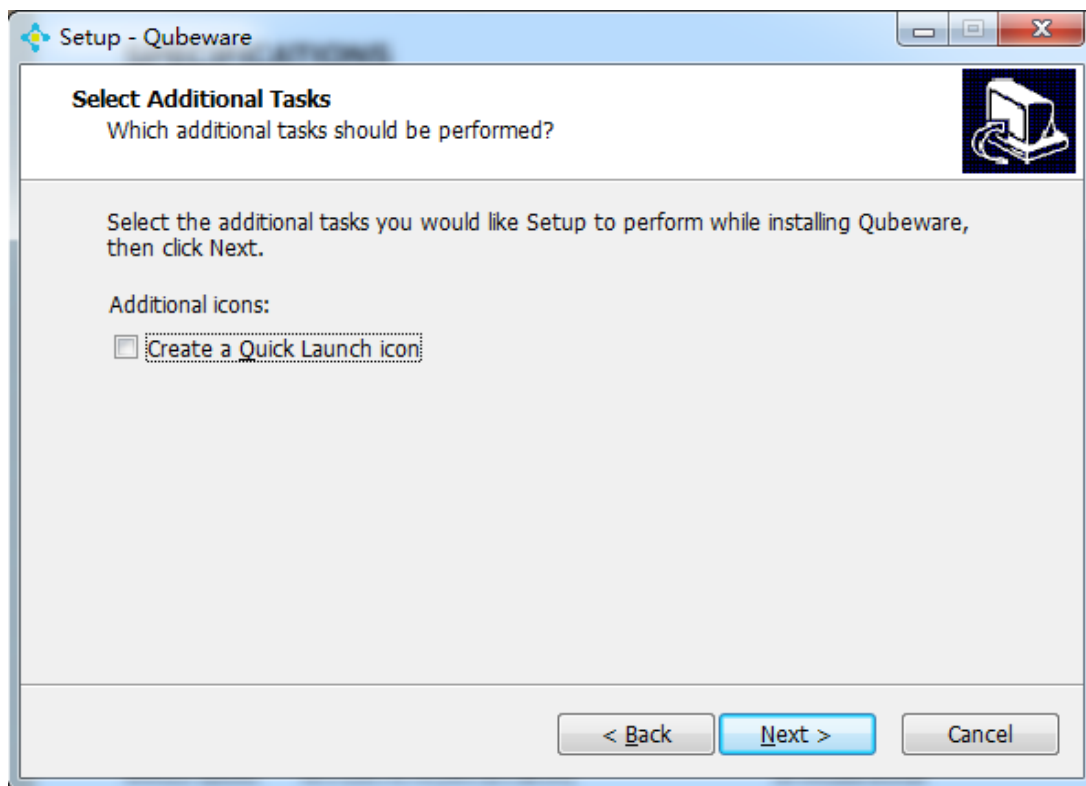


- Select your necessary option and click 'next'

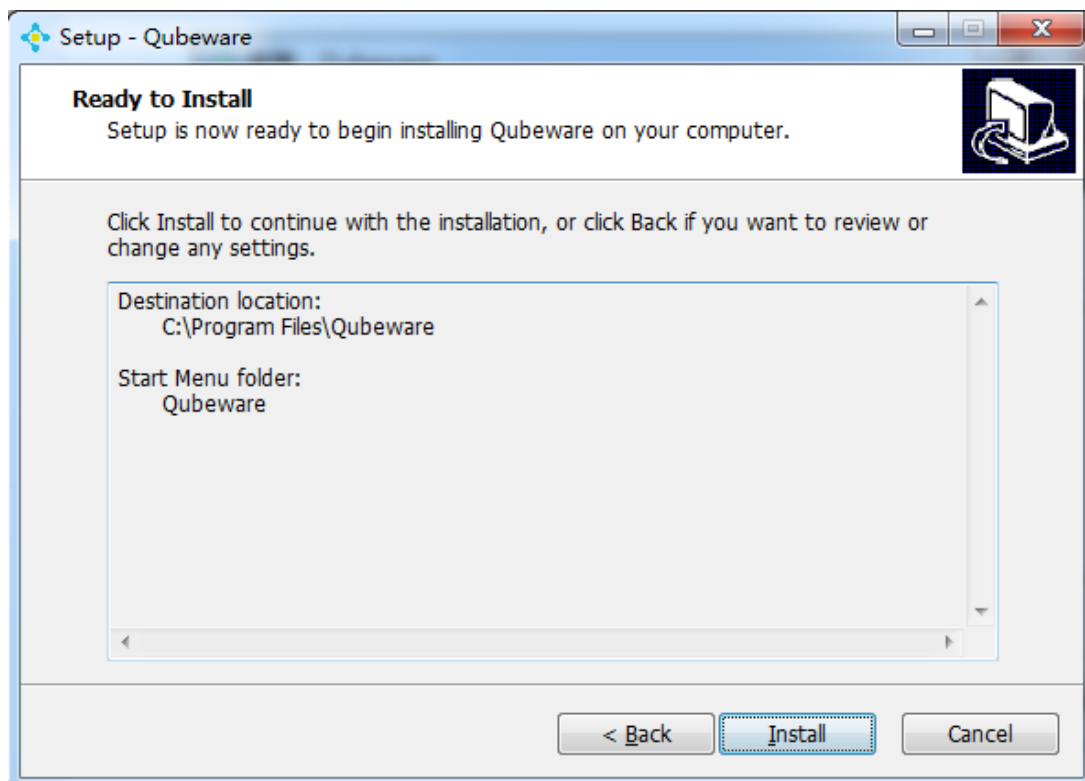




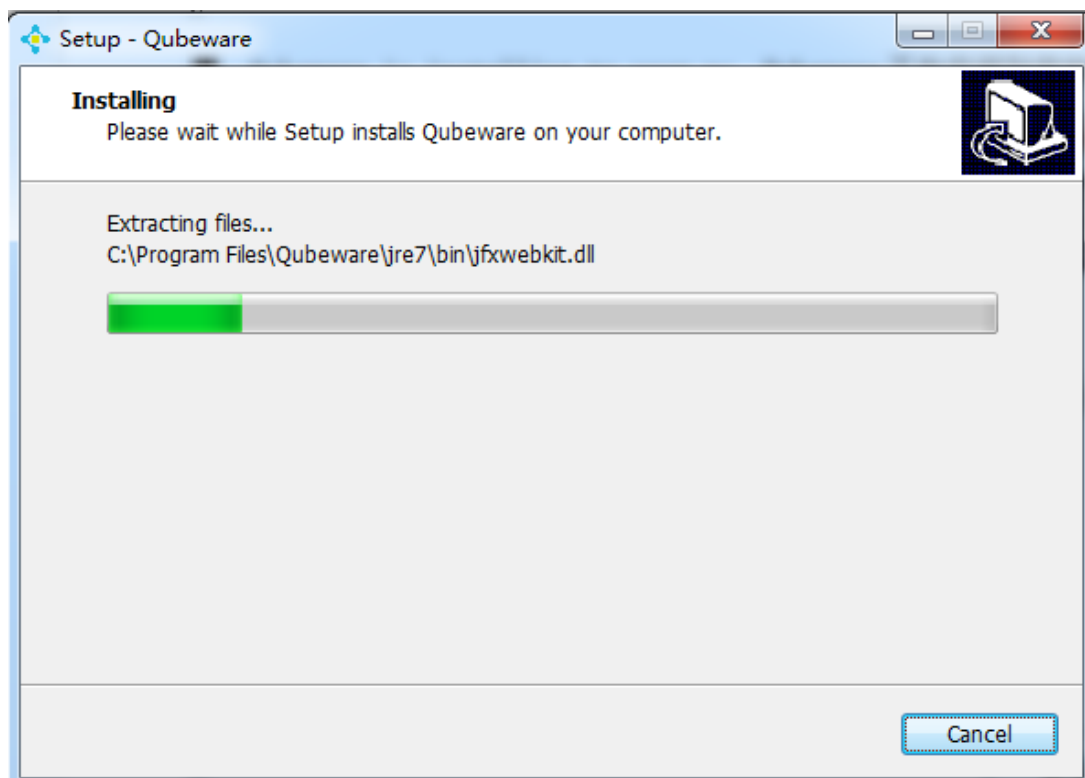
- Option for select ‘Create a Quick Launch icon’ , and click ‘next’



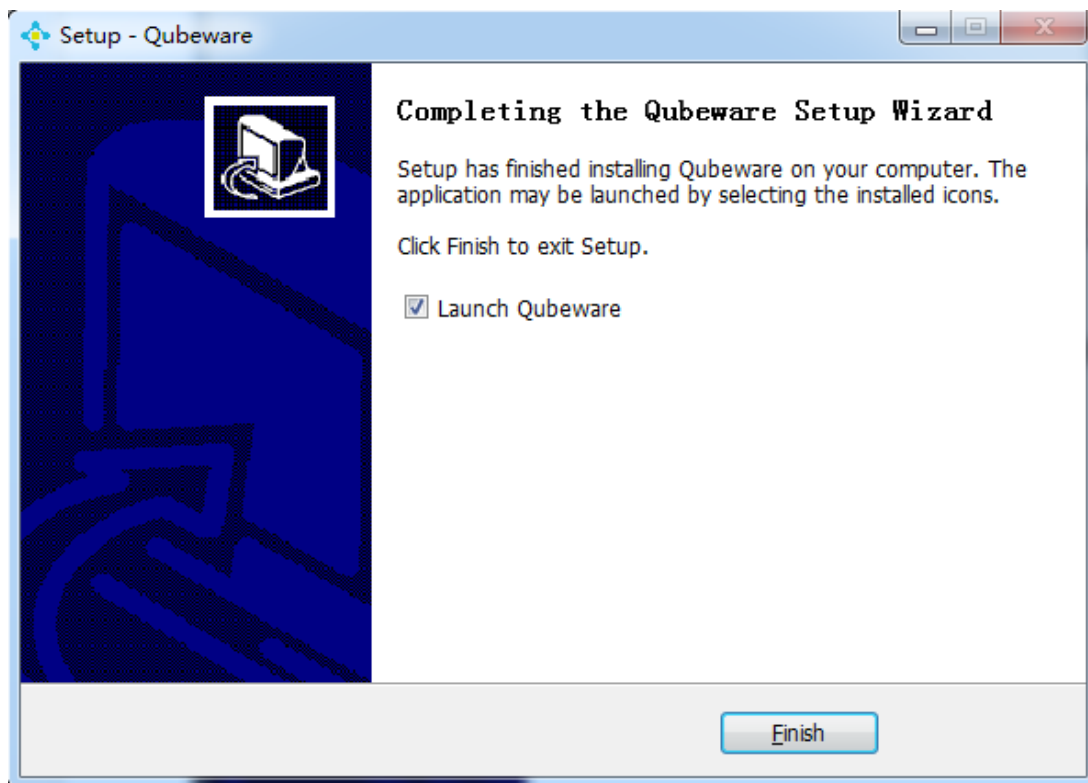
- Confirm install message, and click ‘Install’



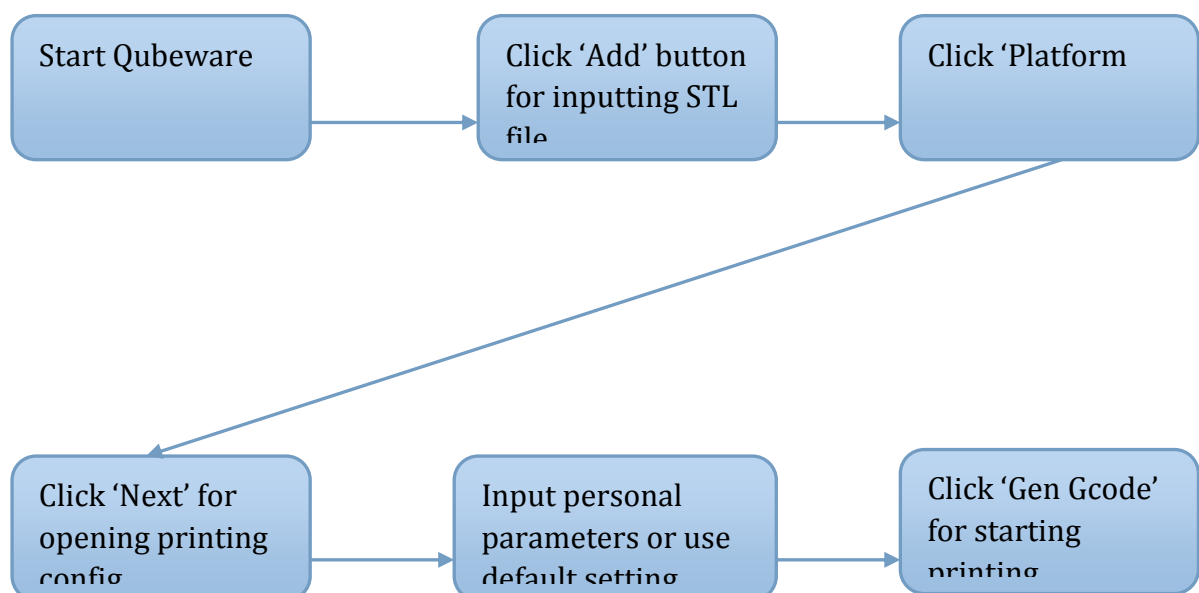
- Qubeware is installing to your pc.



- Click 'Finish' for completed install.



## 4.2 Qubeware Working Flow

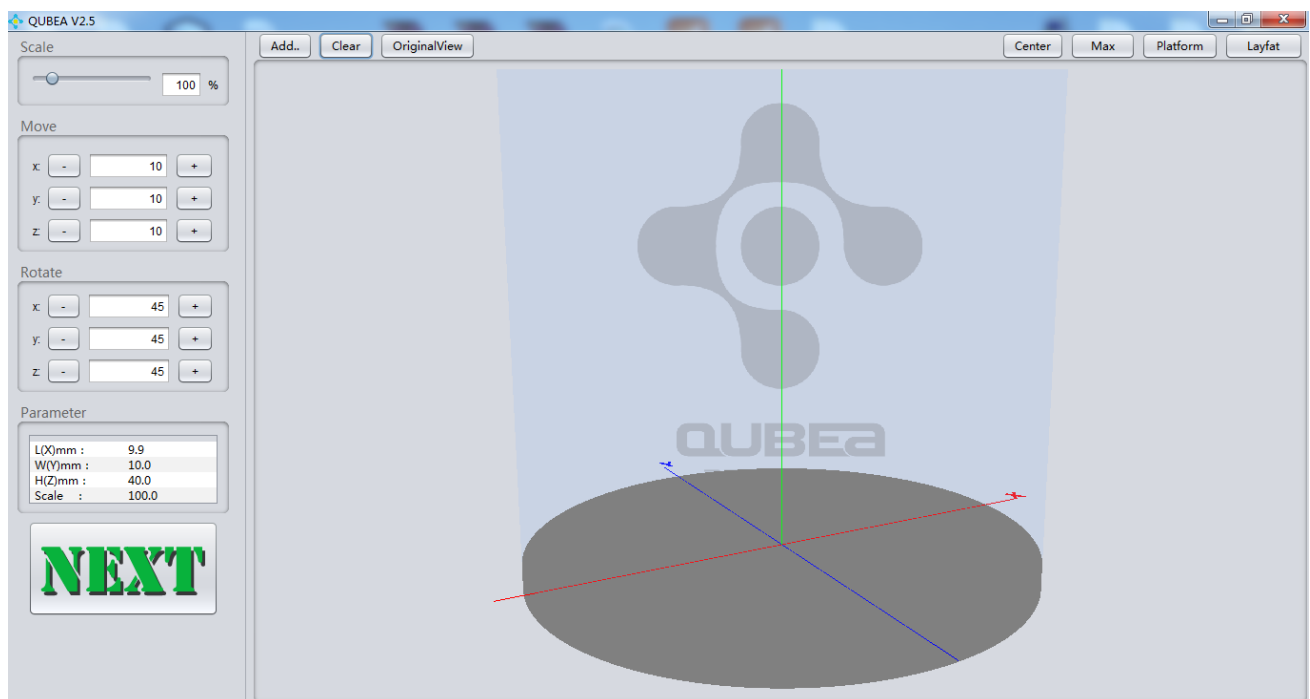


### 4.3 Start Qubeware

- Double click Qubeware shortcut.



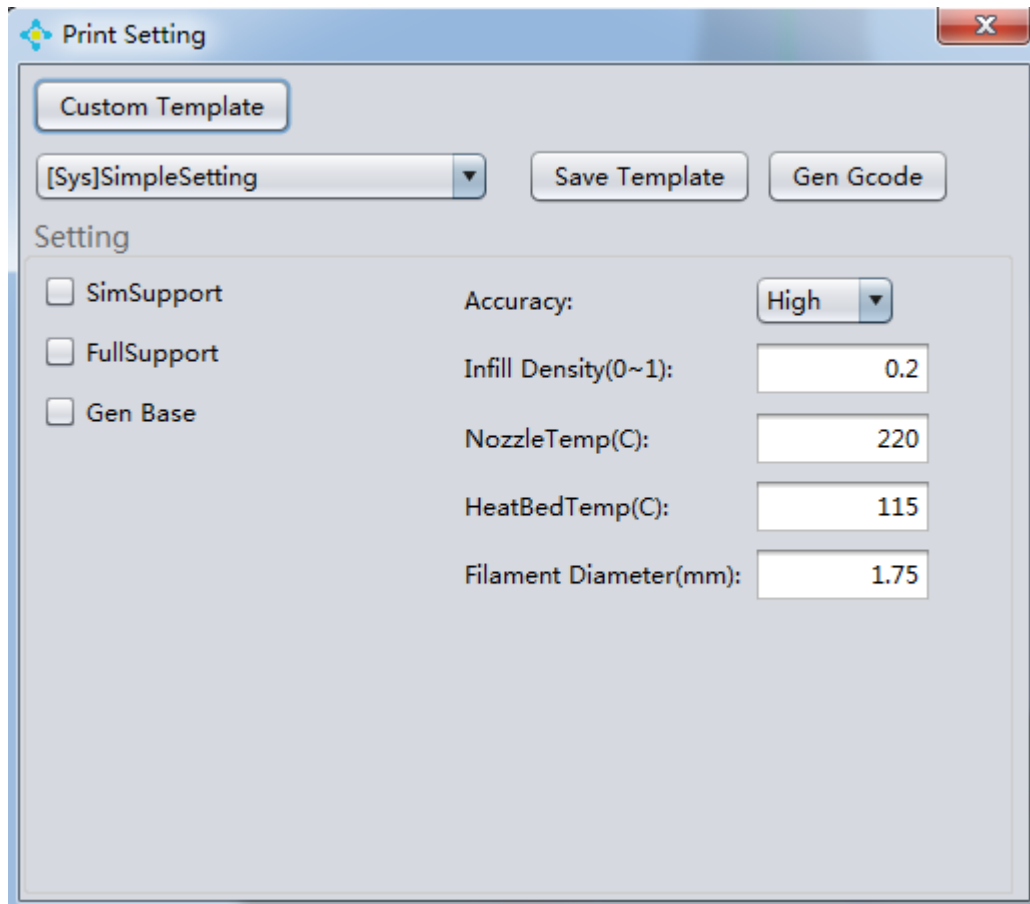
- Qubeware major interface.



**Gcode Generation Notice:**

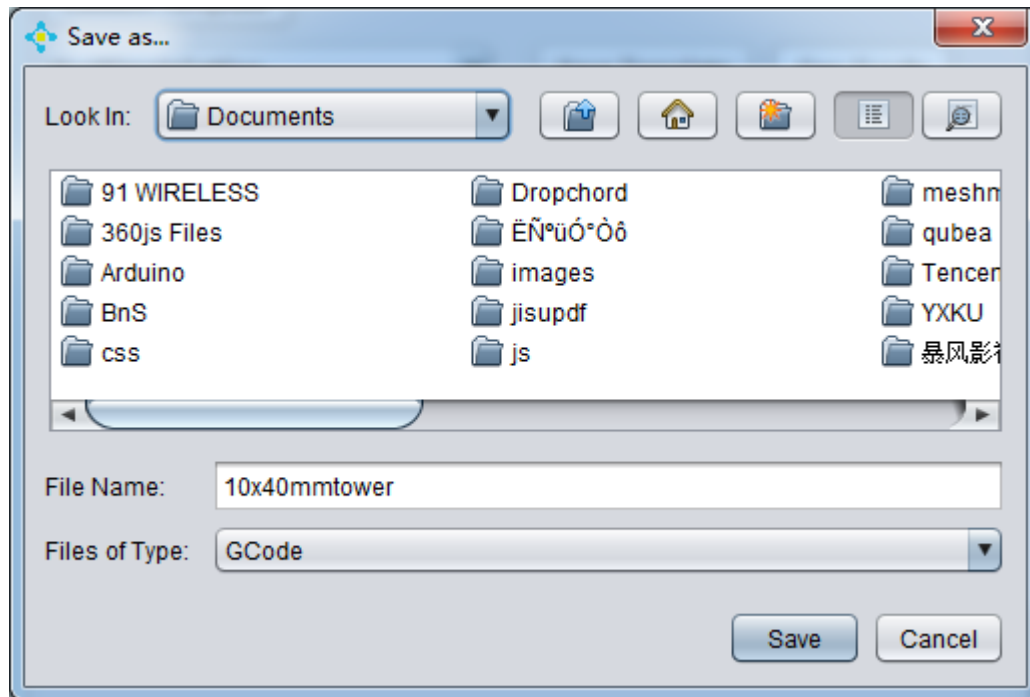
- 3D printer is based on fused deposition modeling, so when 3D model has some overhead sections (like two support points have over 10mm distance or a slope surface has lower than 45 degree), this might cause filament hang down and fail for printing in finally. In this case, ‘support’ option can resolve this problem.
- ‘Center’ button is used for putting model into printing center, it is good at enforce the sticky model and heat bed together, and reduce probability of sticking up edge.

■ In printing configuration setting, use default parameter from ‘SimpleConfig’ , and click ‘Gen Gcode’



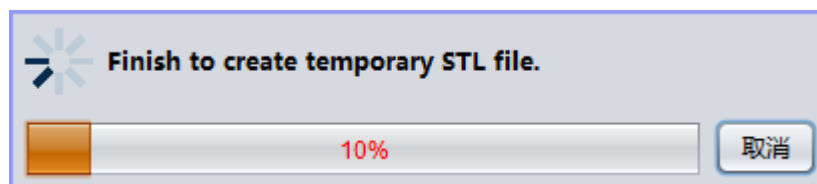
- SimSupport: computer design generate support or not.
- FullSupport: generate support under any overhead section.
- Basement: generate a three layer basement, which reduces probability of stick up.
- Accuracy: layer height. Lower accuracy is 0.25mm. High accuracy is 0.2mm
- FillDensity: density rate of infill
- Nozzle/Heat Bed Temp: ABS:220/115, PLA:180/60
- Filament diameter: base on different filament, input actual value.

■ Select saving path and file name

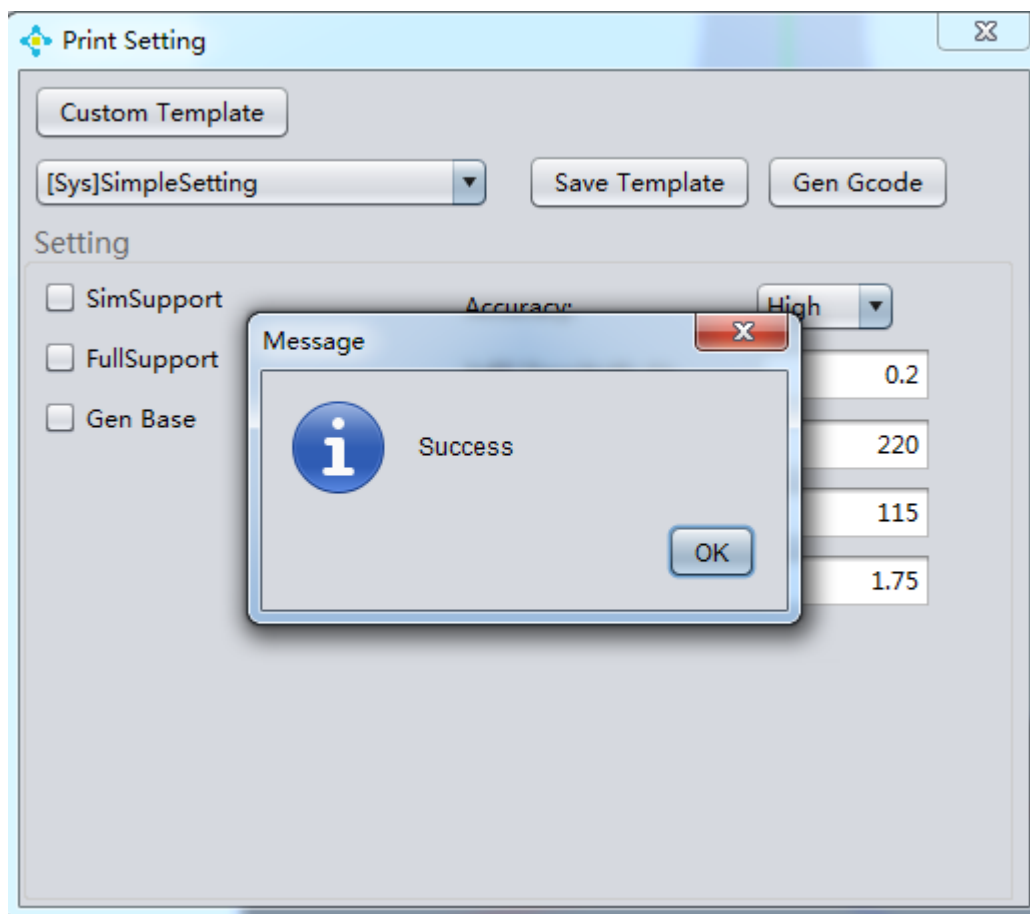


Note: Printing file name must be in English, otherwise, it will fail for printing

#### ■ Slicing and generate Gcode process



## ■ Generate Gcode file successfully



Copy the Gcode to SD Card, and insert it to QD-1, then you can start printing your model in QD-1.

## 4.4 Printing Notes

There is a probability to have a stick up while printing a large model. That is because ABS filament (Acrylonitrile Butadiene Styrene) is kinds of plastic, it contract by ambient code after extrude in high temperature. Increase heat bed temperature can not only enhance model sticky but also keep printing ambient temperature warm. Therefore, heating heat bed is necessary when you print large model.

**Increase printing success:**



A、Avoid large model

B、Confirm the gap between nozzle and heat bed is in perfect size, preheat heat bed to an appropriate temperature.

D、Confirm filament is enough for printing whole model.

E、Wait for cool down after printing completed. If not, it may lead to heat bed blending or model destroy while you removing model.

F、Put on heat insulation gloves when you are removing model.

## 5、FAQ

Why LED is not working?	Please check LED socket connection. It may be loose when transport. If it does not work, there is a spare LED in supplement tools. User can change it itself or contact local agency.
Is there any testing model for QD-1 printer?	Yes, there are 3 testing model files (bottle, vase and owl) in SD Card.
If I get an electric shock, does QD-1 have a leakage of electricity?	No, that is caused by cold weather, it will easy to have static electricity. To avoid this, you can touch walls before using.
If machine is louder, does it mean it has a breakdown?	This sound is caused by Mechanical arm moving, it won' t affect quality.
When I setup filament, filament keep extruding, is that normal?	Yes, in order to clean the last filament remaining, it will extrude 10mm new filament.
Can QD-1 print PLA filament?	Only the one we sold, we are not guarantee any other PLA filament. It

	is easy to block nozzle by other PLA filament. If any damage is caused by using other PLA filament, we won't response for repairing.
What is yellow plastic tape used for?	It's used for enhancing model sticky. Do NOT rip it off.
Do I need to adjust heat bed for my first using?	Yes, but all printers have been adjusted before delivery, user only need to double check and have a micro adjust.
The model is different from design.	STL data will have lost if you use PE or Rhino. Please try 3DMax or Maya.

## 6、 Daily Maintain

### 6. 1 Unload Filament

Insert SD Card, push function button to enter level 2 menu, and rotate button to left for selecting 'Print From SD' .

```

*Info screen      *
  Prepare        →
  Control         →
  Print From SD   →
  
```

A. Select 'Print From SD'

```

Info screen      *
  Prepare        →
  Control         →
  >Print From SD  →
  
```

B. Select 'Calibration'

```
Main                                     ⚡
>▣Calibration
  ▣Manual
  ▣Software
```

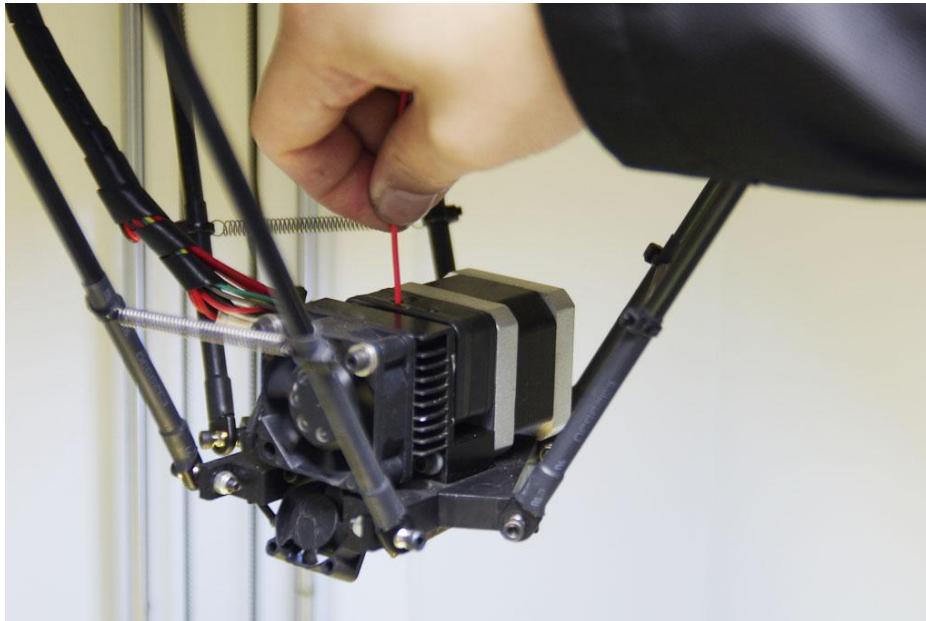
C. Select '2\_Unload\_Filament.gcode'

```
Main                                     ⚡
  ▣..
  1_Load_Filament.gco
>2_Unload_Filament.g
```

D. Preheat nozzle, please wait.

```
0 86/230° ▣ 11/0°
X 0 Y 0 Z+396.0
%100% SD 40% 000:00
Heating...
```

E. After preheat, extruder will descend to the middle of QD-1, and start unload filament.

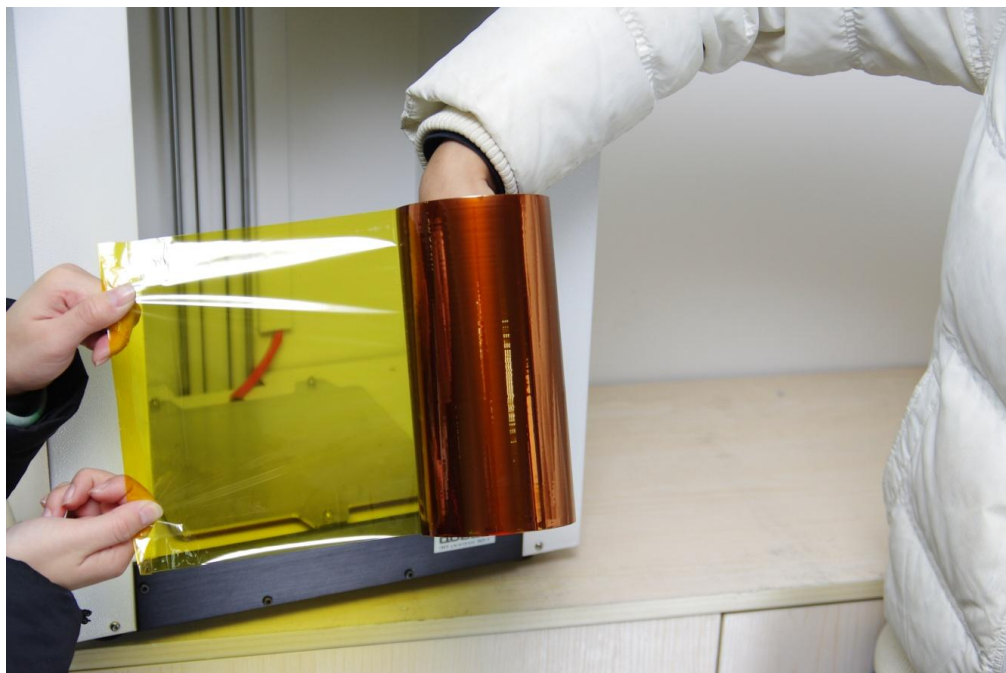


- F. After unload filament completed, extruder will return to initial position.

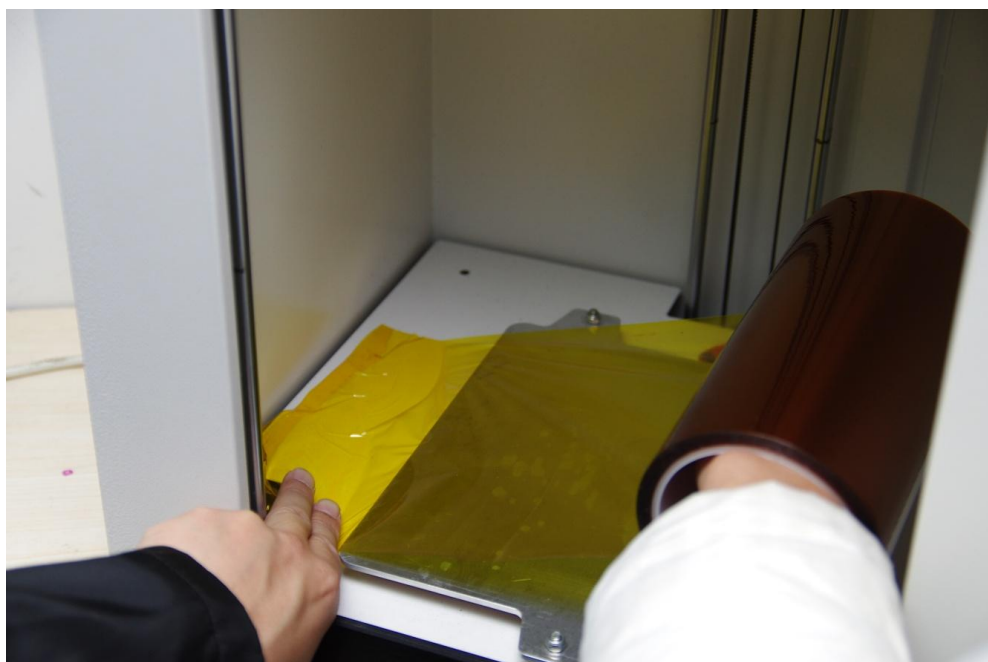
## 6.2 Setup Kapton Tape

Kapton Tape can enhance model sticky. It is consumed product, it needs to be changed after it damaged.

- A. Pull out appropriate size



B. Paste tape on one side



C. Get a credit card or similar item as a scorer. Slowly align the protector, and place it on the screen.



D. Cut off spare part.



E. Finish.

Notes:

- 1、 Use this to carefully remove all the air bubbles.
- 2、 Do NOT reuse the tape after rip off.

### 6.3 Clean Nozzle

There is a layer of oxidative ABS around nozzle after multiply printing. This may cause filament color change during printing. So it needs to be cleaned in regular. –

Steps:

- A. Preheat nozzle for melt down oxidative ABS.
- B. Using cotton or soft paper (heat resistant material) to wipe off nozzle and its surrounding area.

**Hint:**

Unload nozzle, and put it into acetone or use ultrasound for cleaning.

For more maintain hints, please search <http://www.qubea.com>

## 7、Warranty

- We recommend some ABS brands which have been tested and have a good performance insure. If user select any other filament for printing, we are not responsibility for any accidents that caused.
- We support post maintain and remote assistance service. For more information, please contact our customer service.
- We have a guarantee that seven days quality problem exchange, and one year maintain. If receipt lost, maintenance period starts from date of manufacture.
- If any quality problem happen and it requires post maintain, we support cost of delivery for resending. Customer need to bear cost of

returning delivery. We do not accept returns unless we have agreed to do so in advance.

- Any news about our product will update on website without notice in advance.
- Our company reserves the right to the interpretation of the above terms and conditions.

## 8、Disclaimer

We reserve the right to revise this manual without notice in advance.

We do not take any responsibility for any damage which is caused by user violate our manual, this includes misprinting or issue errors. No one allows to modify, copy or translate this manual. We reserve the right to the interpretation of this manual.

This manual is issued by J.H. Tech. Electronic (GZ) L.T.D.. J.H. Tech. Electronic (GZ) L.T.D. reserve the right to change the manual by improve, design or sale reason without notice.



## 9、Contact Us

Many thanks for your selection of Qubea QD-1 3D printer, and services, and also for your trust and support to us. If you have any doubt or problem, please feel free to contact us. We will be glad to hear from you.

<b>Customer-Service</b>	<p><a href="http://qubea.com/support">qubea.com/support</a></p> <p>You can solve your problem by reading our web site.</p> <p><a href="mailto:service@qubea.com">service@qubea.com</a></p> <p>If you need more help, please send email to us. Please attach images or video about your problem, this can help us to realize and solve your problem quickly.</p>
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