

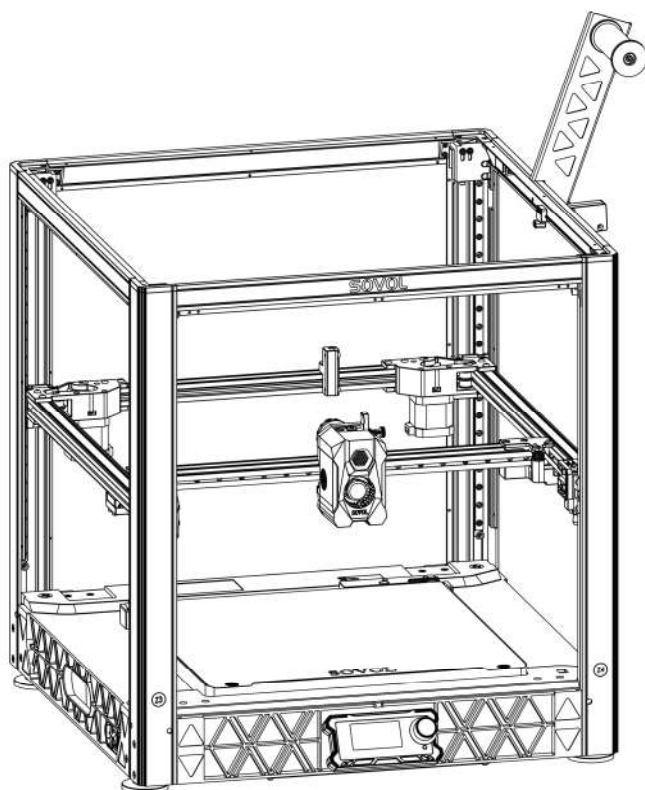
SOVOL



# SV08

## User Manual

V1.0





# Dear customers:

Thank you for choosing Sovol printers! Sovol is committed to providing excellent machines to 3D printing enthusiasts all over the world .This manual is designed for SV08 owners to start their SV08 printing journey.We still recommend all the SV08 owners to read the manual carefully even if you are familiar with the 3D Printing technology, as there are lots of important information about the SV08 for you to learn and help you get better printing exprience .In this manual there are some tutorials can be found on official website and group you can scan the QR-codes.



Sovol Support Group



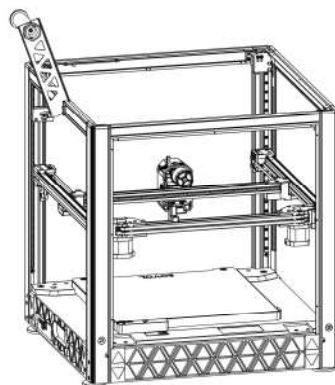
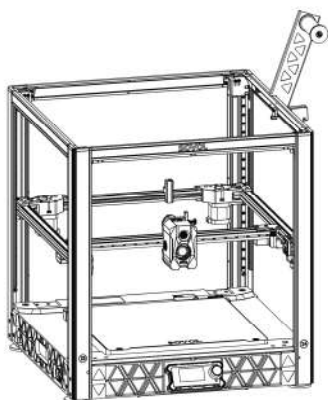
Sovol OfficialWebsite

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## Note

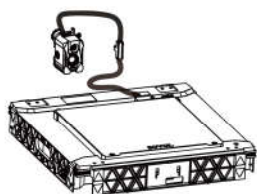
- Do not use the printer by any way except as otherwise described herein to avoid personal injury or property damage.
- Do not place the printer in an environment with heavy vibration or other unstable factors. Printer shaking will affect printing quality.
- Do not place the printer near inflammables and explosives or heat sources.
- Keep the printer in a well-ventilated, cool and dust-free place.
- It is suggested to use the materials recommended by manufacturer in order to avoid machine damage.
- Do not use any power cord other than the accompanied one.  
Use grounded three-phase power outlet.
- Do not wear cotton gloves while operating the printer. This type of fabric may be wound in the printer's motion parts, which can cause burns, personal injury, or printer damage.
- Wait for a moment after printing to remove the prints.
- It's not recommended to use the third party firmware or mainboard etc, or the warranty will be void.
- Clean the printer frequently. Prior to cleaning, turn off the power supply; use a dry cloth to wipe off dust, adhesive printed plastic or any other materials from the frame, rail or wheels. Use glass cleaner or isopropyl alcohol to clean printer surface.
- Children below 10 years old shouldn't use the printer alone.
- Do not move the nozzle and printing mechanism with your hands during printing.
- Users shall abide by relevant laws and regulations of the countries and regions where the printer is placed (used) and professional ethics perform safety obligations, and do not use our product or device for any illegal purpose. In no case shall Sovol bear any legal responsibilities for anyone breaching laws.

# Equipment Parameters



Model	SV08
Software language	English
Print method	Network interface USB cord and WIFI
Type	FDM
Number of nozzles	1
Print size	350*350*345mm
Recommend Printing speed	MAX 700 mm/s
Printing accuracy	$\pm 0.1\text{mm}$
Nozzle diameter	0.4mm (Replaceable)
Nozzle temperature	$\leq 300^{\circ}\text{C}$
Hot bed temperature	$\leq 100^{\circ}\text{C}$
Applicable filament	PLA/ABS/ PETG/TPU
Diameter of filament	1.75mm
File format supported	G-code
Voltage	Input:115/230V 50/60HZ Output:24V
Operation system	Windows,Linux,Mac
Power supply	150W/24V

# Package List



Base & Toolhead



Z1



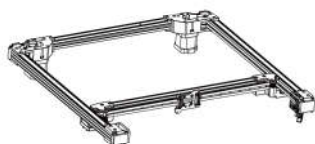
Z2



Z3



Z4



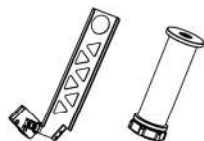
AB axis



Top frame



Screen



Filament Holder



PTFE TUBE



Filament



Black Seal strip

## Tool Box



M4X30\*16



M5X40\*4



M5X15\*4



M4X8\*4



M3X6\*8



M4X10\*2



M3X12\*3



M4X12\*1



USB Flash Drive



Scraper knife



Toolkit



Power cord



Ribbon



Nozzle cleaner



Cutting nippers



Thermal Grease



Tweezers



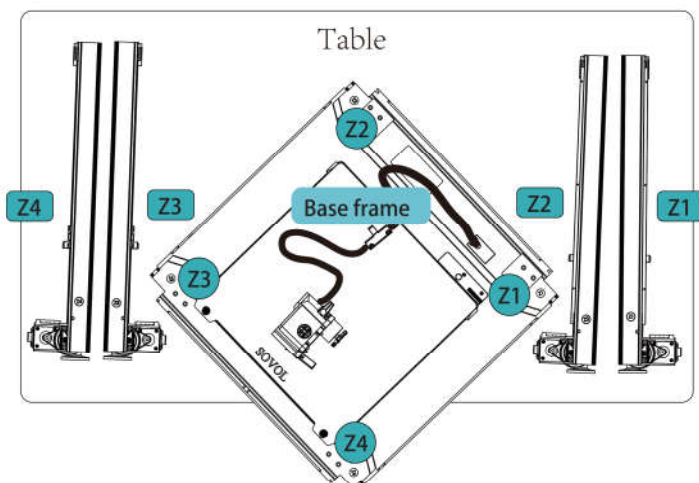
Spare nozzle



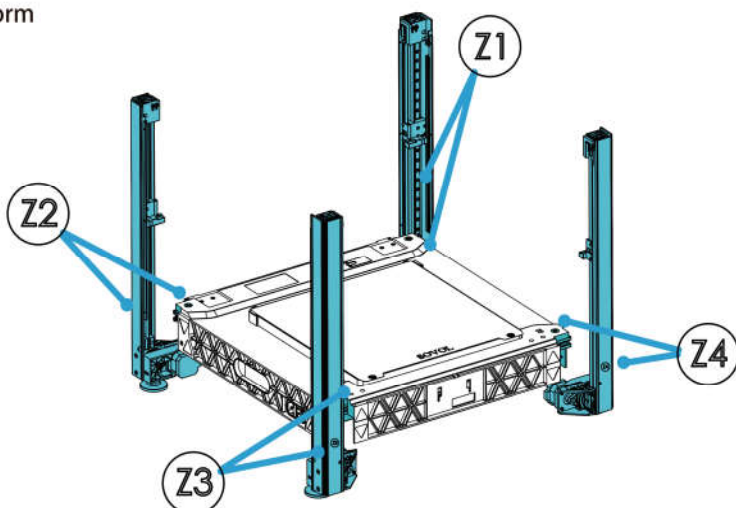
cable tie



Silicone brush

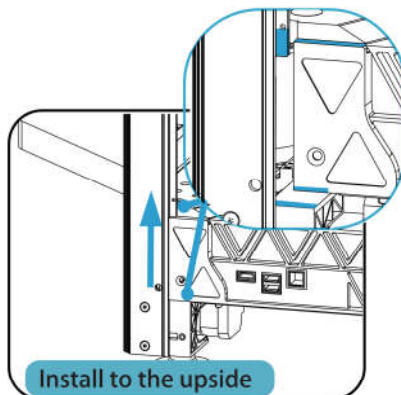
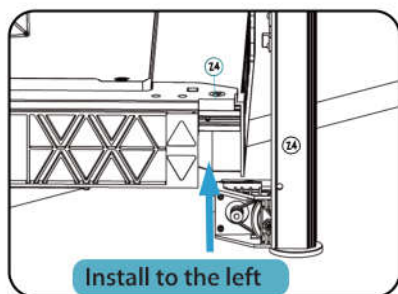


1. Take out the base, Z1, Z2, Z3, and Z4 components from the packaging box as shown in the picture, and place one corner of the base component on the table
2. Place the nozzle kit and wiring harness connected to the base on the hot bed platform



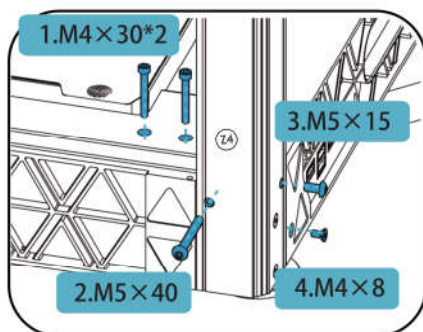
### Notice:

There is a corresponding corner mark on the installation corner of the component. Z1 components are installed in the installation positions with the Z1 mark. Z2, Z3, and Z4 are also installed according to the corresponding icon positions.



3. Align Z4 with the front panel of the base and install it to the left

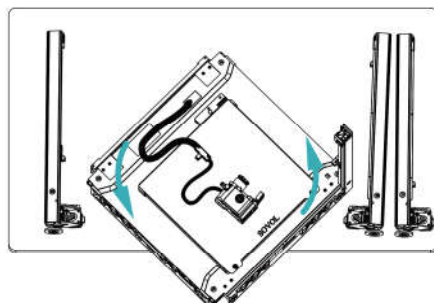
4. After Z4 is installed and cligned with the front panel of the base, pay attention to whether the profile clamping position and the base clamping position in the enlarged picture are stuck, push Z4 up and to the bottom to complete the Z4 clamping position installation.

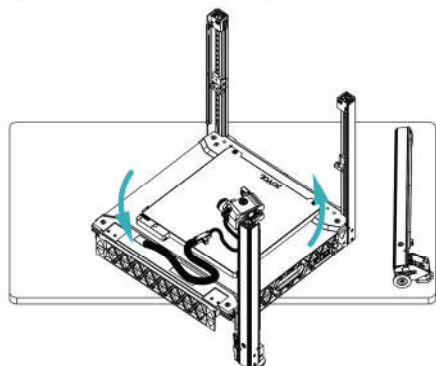


5. Check whether the mounting holes and screw holes are aligned. If not, please adjust manually and tighten Z4 and the base.

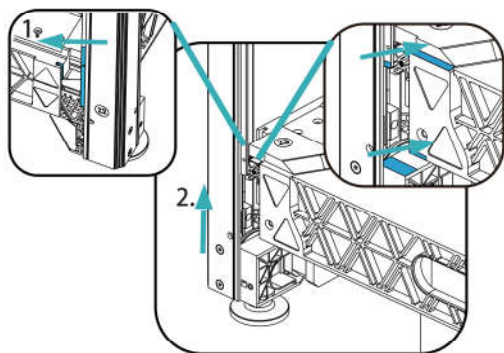
6. Mark the position of the holes and lock them in sequence with two M5x40 screws, one M4x30 screw, one M5x15, and one M4x8 screw.

7. As shown in the picture, after Z4 is installed, rotate the base assembly 90° counterclockwise and adjust it to the Z3 installation position.

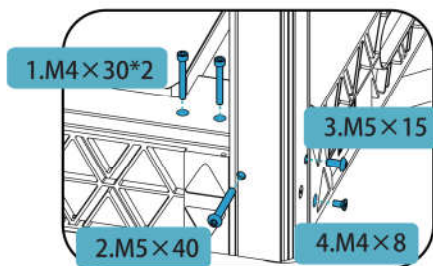




1. As shown in the picture, after Z3 is installed, rotate the base assembly 90° counterclockwise and adjust it to the Z2 installation position.

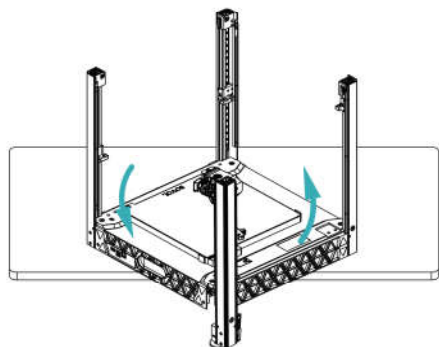


2. After Z2 is installed and aligned with the front of the bottom, check whether the profile and base are buckled. Push the Z2 assembly up to the end to complete the Z2 installation.

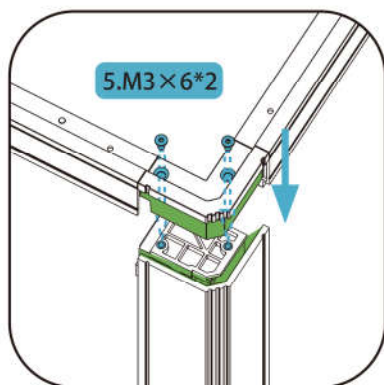


3. Check whether the mounting holes and screw holes are aligned. If not, adjust and tighten manually.

4. Lock in the marked position, using two M4×30 screws, one M5×40 screw, one M5×15 and one M4×8 screw.



5. As shown in the picture, after Z2 is installed, rotate the base assembly 90° counterclockwise and adjust it to the Z1 installation position. The process is same as Z2 installation.

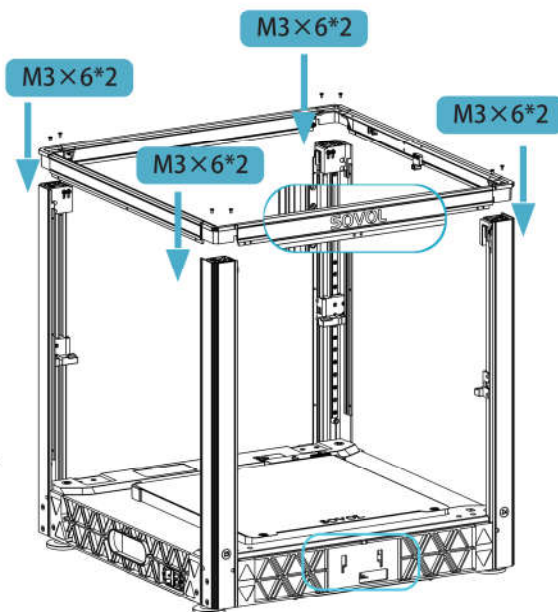


The top frame is installed according to the corresponding position in the picture.

Use two M3×6 screws in each mounting corner to lock in a total of 8 M3×6 screws.

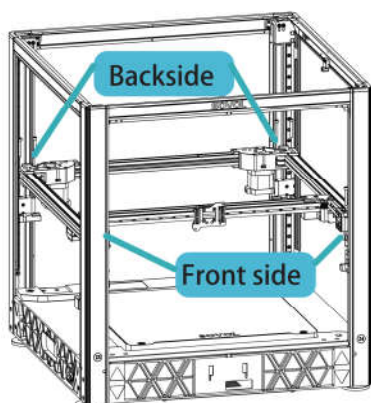
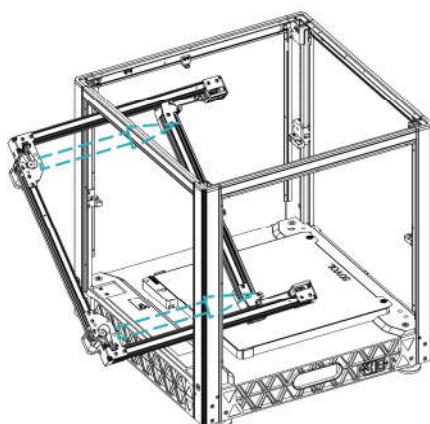
Notice:  
The "sovol" logo  
faces forward, corresponding  
to the screen installation  
position

When installing the top frame,  
all four corners need  
to be installed  
downward into the  
slots at the same time

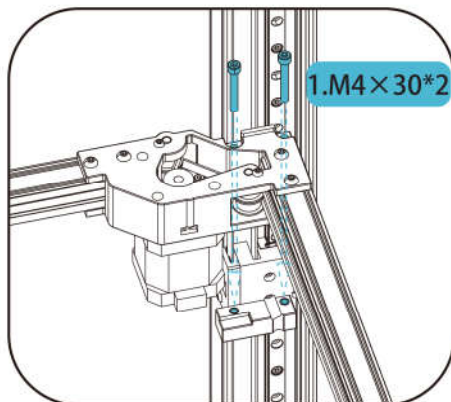


Take out the AB axis, as shown in the picture.  
Place the AB axis on the Z-axis mounting base according to the position in the picture.

The AB axis assembly needs to be tilted and placed sideways into the frame.

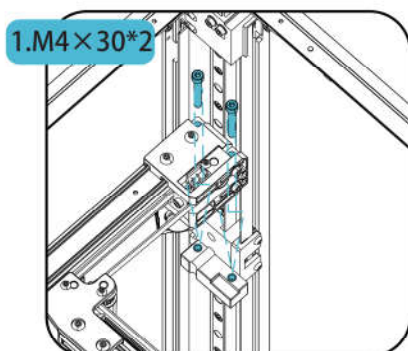


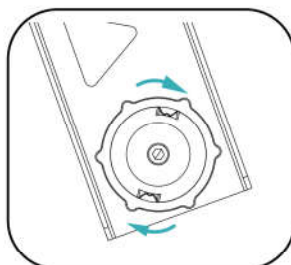
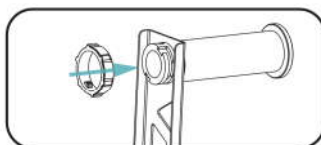
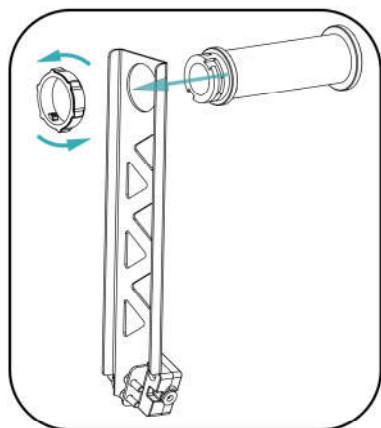
**2. AB shaft front end installation**  
Take out two M4×30 screws from the spare parts package and lock them into the mounting screw holes.



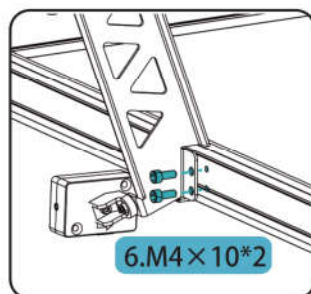
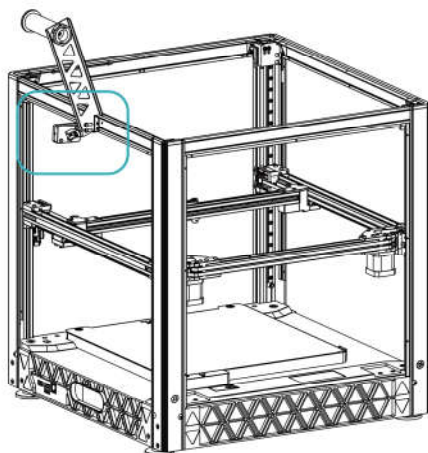
**1. AB shaft rear end installation**  
Take out two M4×30 screws from the spare parts package and lock them into the mounting screw holes

**Note:** When locking the screws, you need to adjust the mounting hole position of the AB axis and the mounting threaded hole of the Z-Front side axis component, and then lock the screws. If necessary, you can pull the AB axis frame to align the holes.

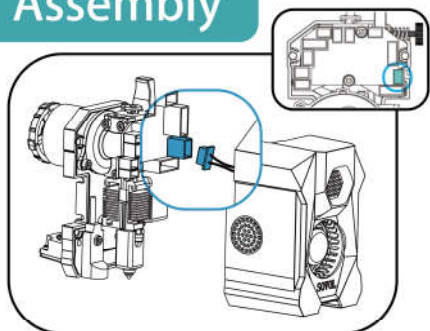




Turn counterclockwise to open the end cap, then insert the barrel into the circle of the barrel holder, then align the barrel cover with the barrel buckle and rotate it clockwise to tighten it.

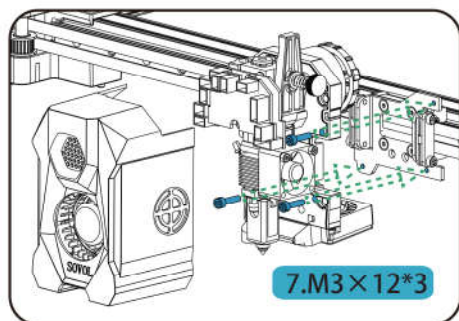


Use two M4×10 screws to lock after assemble the holder.



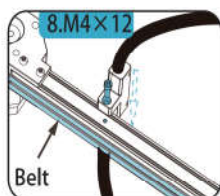
Please take off the cover before assemble the nozzle.

Notice: The nozzle cover is magnetically connected and is not fixed with screws.  
When removing the nozzle cover, please carefully unplug the fan cable

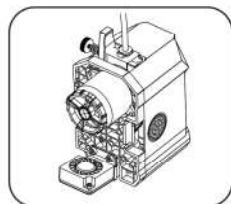


Use 3 M3×12 screws to lock and tighten on the nozzle mounting sheet metal. Then connect the heat sink that was pulled out in the previous step.

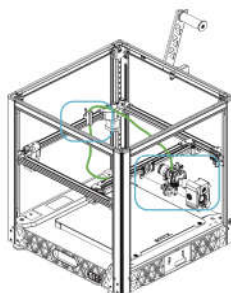
M4×12 Fan wire terminal, after connecting the terminal, install and remove the nozzle cover



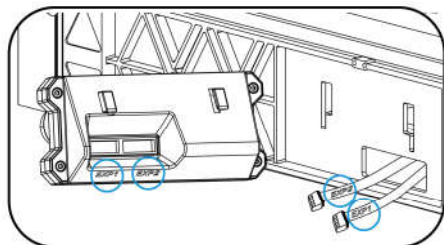
- 1.Please pay attention to the direction of the blue Teflon pipe buckle to avoid hitting the tool head cover
- 2.Please insert the Teflon tube to the bottom.



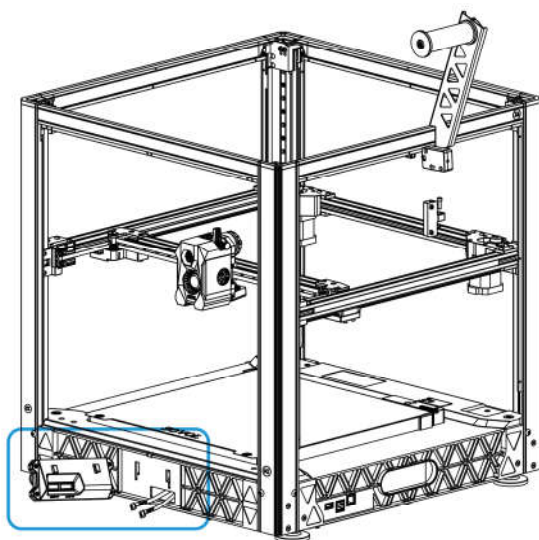
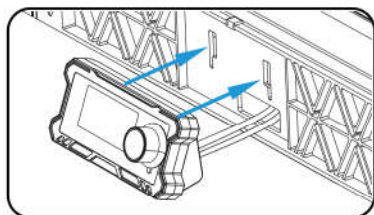
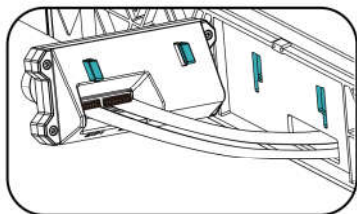
As shown in the picture, use 1 M4×12 Screw locking harness clamp Note that the wire harness clip should be locked inside the frame  
Do not lock it outside the profile, as it will affect the belt drive



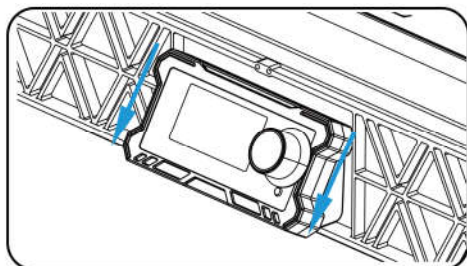
Wire harness wiring diagram after installing the toolhead. Be careful not to rotate or knot the wire harness.



1. Prepare the touch screen and find the two display cables on the base. The cables are marked EXP1 and EXP2 below the corresponding display installation ports. Insert the display cables according to the corresponding marked ports.



2. After the screen cable is connected, use the buckle to assemble the screen.



3. Align the screen buckle and the base buckle into the correct positions, then press down to tighten the screen buckles.



Camera Butt Connector



X-axis motor connector



Y-axis motor connector



Light butt connector



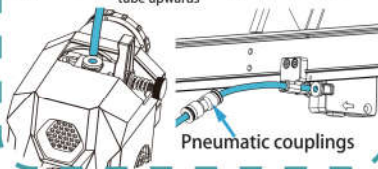
Filament runout sensor Butt connector

### Assemble two side of PTFE TUBE

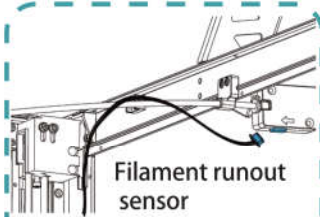


Please follow the following steps when unplugging the Teflon tube from extruder

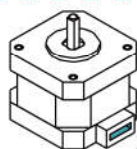
1. Please pull out the Teflon tube buckle of the quick-plug interface first.
2. Press down on the quick-plug interface
3. At the same time, pull out the Teflon tube upwards



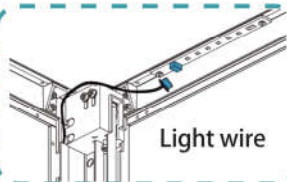
Pneumatic couplings



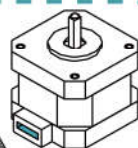
Filament runout sensor Butt connector



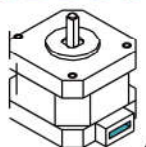
Z3 connector



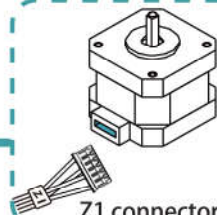
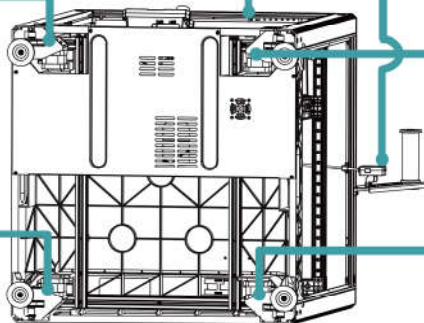
Light wire



Z4 connector

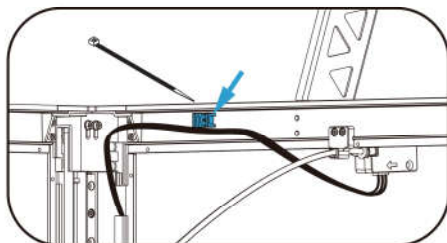


Z2 connector

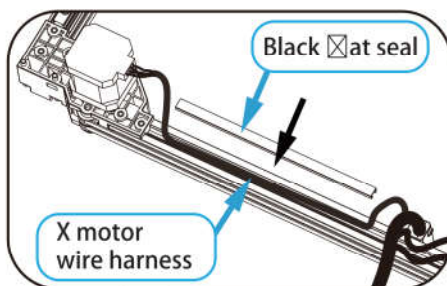


Z1 connector

Put the printer vertically on the desktop  
(please pay attention to security)

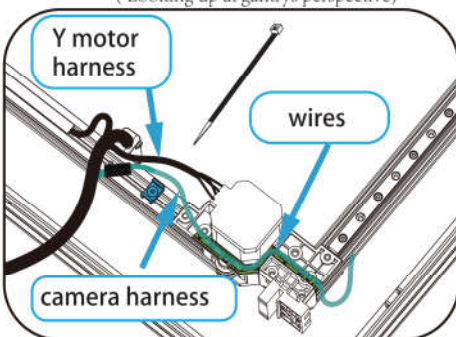


After connecting the material breakage detection line, you need to use a cable tie to fix the wire harness on the cable tie as the picture shown.



Place the "X motor wire harness" in the wire trough at the bottom of the profile, then lower the black flat seal to cover the wire harness, adjust the position and press the flat seal tightly.

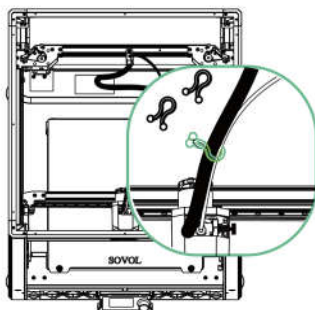
( Looking up at gantrys perspective)



Place the camera wire harness in the reserved wire trough according to the trajectory in the picture. Then use cable ties to tie the Y motor harness and camera harness to the cable tie buckle



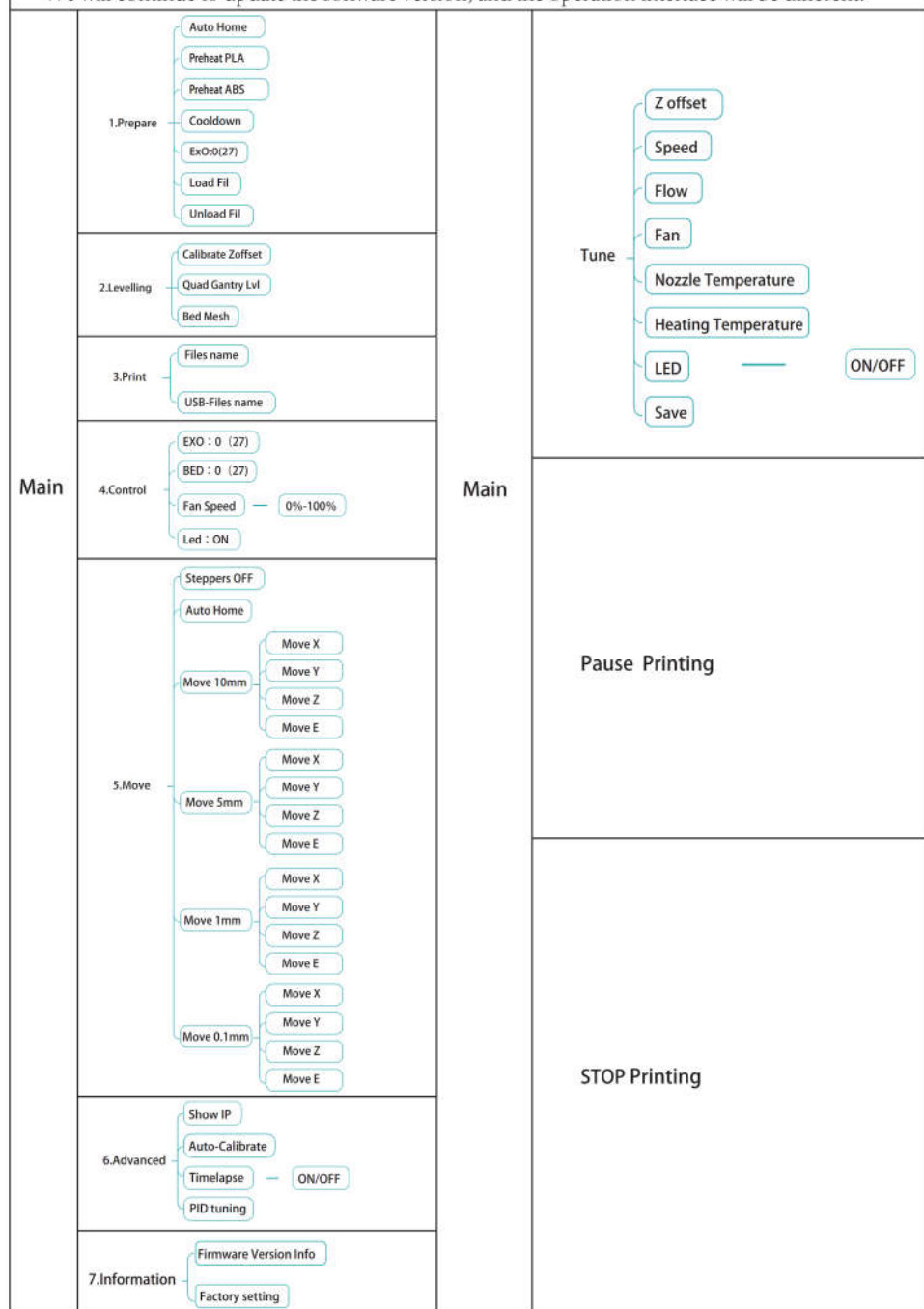
Please route the camera module cable through the outside of the motor



Use threeties to secure the PTFE TUBE and toolhead wire harness. Bound together to facilitate the movement of the toolhead and wire harness can move freely and improve the shaking of the wire harness.

When installing cable ties, the first cable tie is installed 50mm away from the nozzle, the second cable tie is installed 120mm away from the first, and the third cable tie is installed 120mm away from the second cable tie.

We will continue to update the software version, and the operation interface will be different.





1. Nozzle temperature: Displays the current temperature/preset value temperature of the nozzle

2. Heating bed temperature: Displays the current temperature/preset value temperature of the heating bed

3. Printing progress bar: displays the printing progress percentage, starting printing 0% - printing completed 100%

4. Printer status: ready to print, printing, printing content display

5. Fan rotation speed percentage: displays the cooling fan rotation speed percentage, 0%-100% 6. Printing progress time: displays the time required to print the model

6. Printing speed: displays the current printing speed. Printing speed can be adjusted with the knob.

7. Printing progress time: displays the time required to print the model



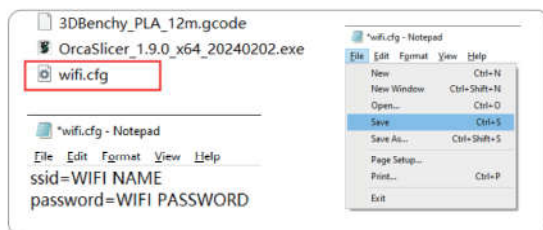
1 Use the USB flash drive included in the machine's accessory package and insert it into your computer to access its contents. Search for the file named 'wifi.cfg' within the drive.

2 Open the 'wifi.cfg' file using Notepad; this action resembles the example displayed on the right. Enter your Wi-Fi network name (SSID) and password in the following format:

- ssid=your\_wifi\_network\_name
- password=your\_wifi\_password

Example:

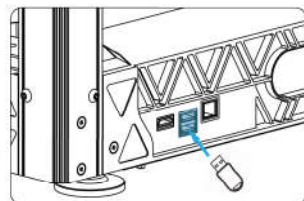
- ssid=Spixi-12CS
- password=Spixi2023



3 After entering your WiFi info, save the 'wifi.cfg' file, ensuring it remains in the USB's root directory.  
\*Please make sure you type in the correct WiFi info.

4 Power on the machine and plug the USB into one of the two USB ports situated on the machine's right side.  
Post-insertion, pause for about 15-20 seconds before moving on.

5 Use the knob to navigate to the screen's menu and select the "Advance" menu by rotating and pressing the knob.

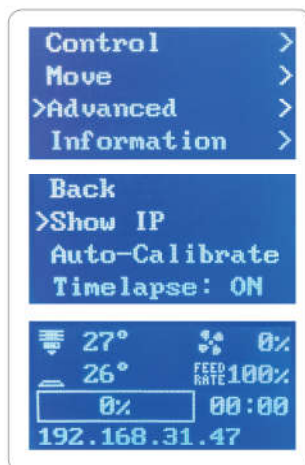


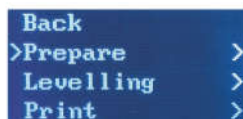
6 Find the "Show IP" option within the "Advance" menu, and select it to view your machine's default IP which is 127.0.0.1—this can be disregarded.

7 Press the knob and turn the knob to enter the "Advance" menu again, Select the "show IP" menu again, wait for 5-8S, and the IP address of the wifi you are connected to will be displayed at the bottom of the main interface of the screen, as shown in the figure on the right; (Please record the IP address displayed at this time, such as 192.168.31.47, so that you can enter the web interface to figure out the problem at any time when you encounter problems in printing.)

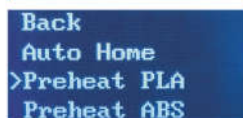
### Attentions:

1. WIFI must use 2.4G band signal.
2. Pay attention to the strength of the WIFI signal, the router connected without obstacles in a. The straight line distance from the machine should not exceed 10m.
3. Make sure the wifi name and password are correct.
4. computer or cell phone must be used with the printer is the same network wifi
5. If the printer display does not show the IP address, or shows the IP address "172.0.0.1", please recheck the wifi. Please recheck the name and password in the wifi.cfg file to make sure they are correct. And try "show IP" several times.
6. If you want to change the WiFi network, please re-enter the name and password of the WiFi network you want to connect to in the wifi.cfg file. If you want to change the WiFi network, please re-enter the name and password in the wifi.cfg file.





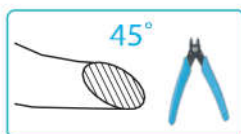
Press the Button on the home page to confirm, enter the first-level menu, and select "Prepare".



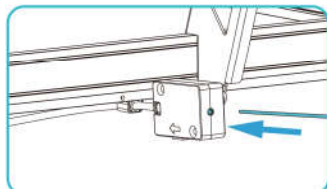
Enter the temperature control setting interface and select PLA preheating or directly adjust the E-axis temperature to 200℃



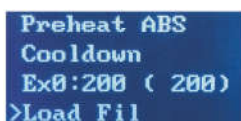
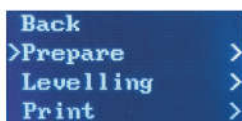
When the temperature reaches 200° C, load the filament.



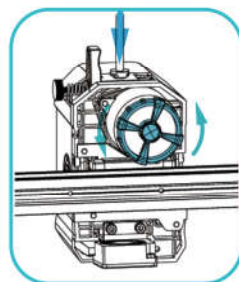
Use the scissors in the accessory kit to cut off the end of the filament at a 45° angle.

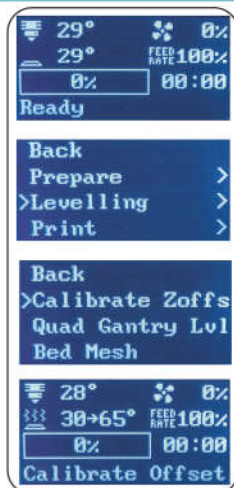


Steps to insert filament: Insert the filament into the hole of the filament runout sensor until it reaches the end. When the consumables cannot be inserted any further, complete the step of inserting filament.



Select "Load Fil" and the E-axis motor starts to rotate. When the E-axis motor rotates, gently push in the filaments located at the end of the breakage detector when the filaments are stuck into the gears and the filaments are fed normally. Check the nozzle to see if the filaments are discharged normally. After confirming the normal extrusion, the step of loading filaments is completed.





Turn on the power and enter the home page.

Press the button to confirm

Enter the first-level menu, select ' Levelling '

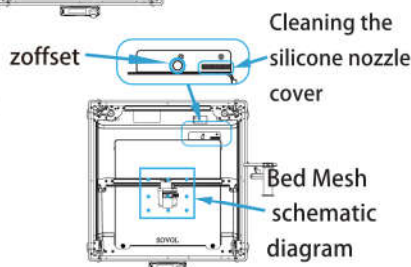
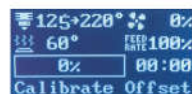
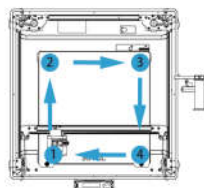
Select "Calibrate Z offset", the machine will automatically heat the hot bed to 60° C, reset, Z-axis calibration, nozzle heating, and Z-axis height calibration.

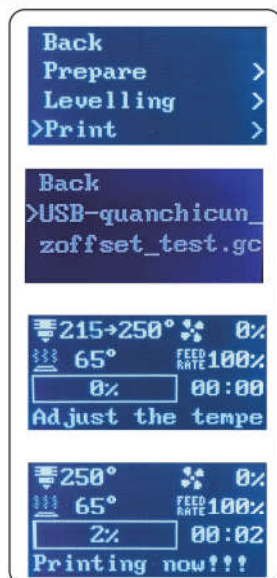


Please start printing after the leveling calibration is completed

Note: The following leveling process takes about 6min.

1. Warm heat bed to 65°C.
2. Homing of X, Y and Z axes of the toolhead.
3. Perform Quad-gantry-leveling(QGL) (the nozzle moves to the four corners of the hot bed probe point, according to the parameters, probe 1-5 turns to complete this step)
4. Heat nozzle to 220 °C after cleaning the nozzle (Automatically wipe the nozzle when moving to cleaning silicone pad)
5. Cool the nozzle to 130° C
6. Do Zoffset calibration (nozzle moves to Zoffset calibrator)
7. Do bed mesh leveling (Do bed mesh leveling before printing the model)
8. Print the leveling test model (Observe the nozzle height on the way to print the leveling model to see if the nozzle is (Print the leveling model and observe whether the filaments sticks to the hot bed during the process, then adjust the Zoffset value according to the comparison diagram.)
9. Screen restarts (auto-saves leveling values)





Press the button on the home page to confirm, enter the first-level menu, move down, and select "Print"

Choose local model or bring headband USB letters Print the model in the USB flash drive and press to confirm.

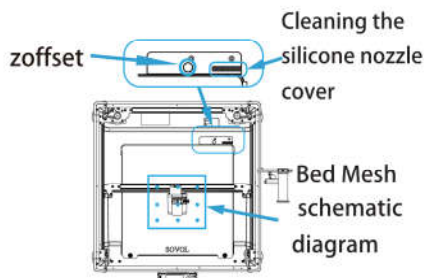
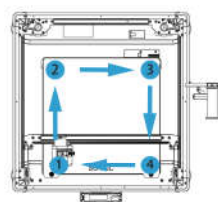
After the temperature of the heated bed reaches 60°C, reset and Z-axis calibration, the nozzle heats up after completion

Start printing while the temperature reached.

Using a USB flash drive to print or print from a web site interface.

Printing process after confirming the print model:

1. Preheating print bed to a temperature of 65°C.
2. Resetting the extruder to its home on the X, Y, and Z axes.
3. Perform Quad-gantry-leveling(QGL) (the nozzle moves to the four corners of the hot bed probe point, according to the parameters, probe 1-5 turns to complete this step) Conducting targeted levelling of the print bed in the grid area associated with the anticipated model placement.
4. Raising the nozzle's temperature to the predetermined slicing temperature, for instance 250 °C, before relocating it to the edge of the print bed to extrude a purge line (for nozzle priming purposes).
5. Commencing printing process.
7. After printing complete, elevating the Z-axis and returning it to the home position.



## Adjust while printing

```
>Back
Tune
Pause printing
Cancel printing
```

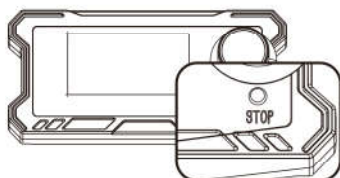
On the page of Printing, press the button to confirm and enter the firstlevel menu. You can select "Tune", "Pause Printing", "Cancel Printing".

```
Back
Load Fil
Unload Fil
>Offset Z:00.00
```

## Z-axis compensation parameter "Offset Z" :

Enter the adjustment menu and reduce the printing speed to 50%.Adjust according to the adsorption of consumables on the platform plate  
Z-axis compensation parameter "Offset Z",  
After adjusting, return the speed to 100%.

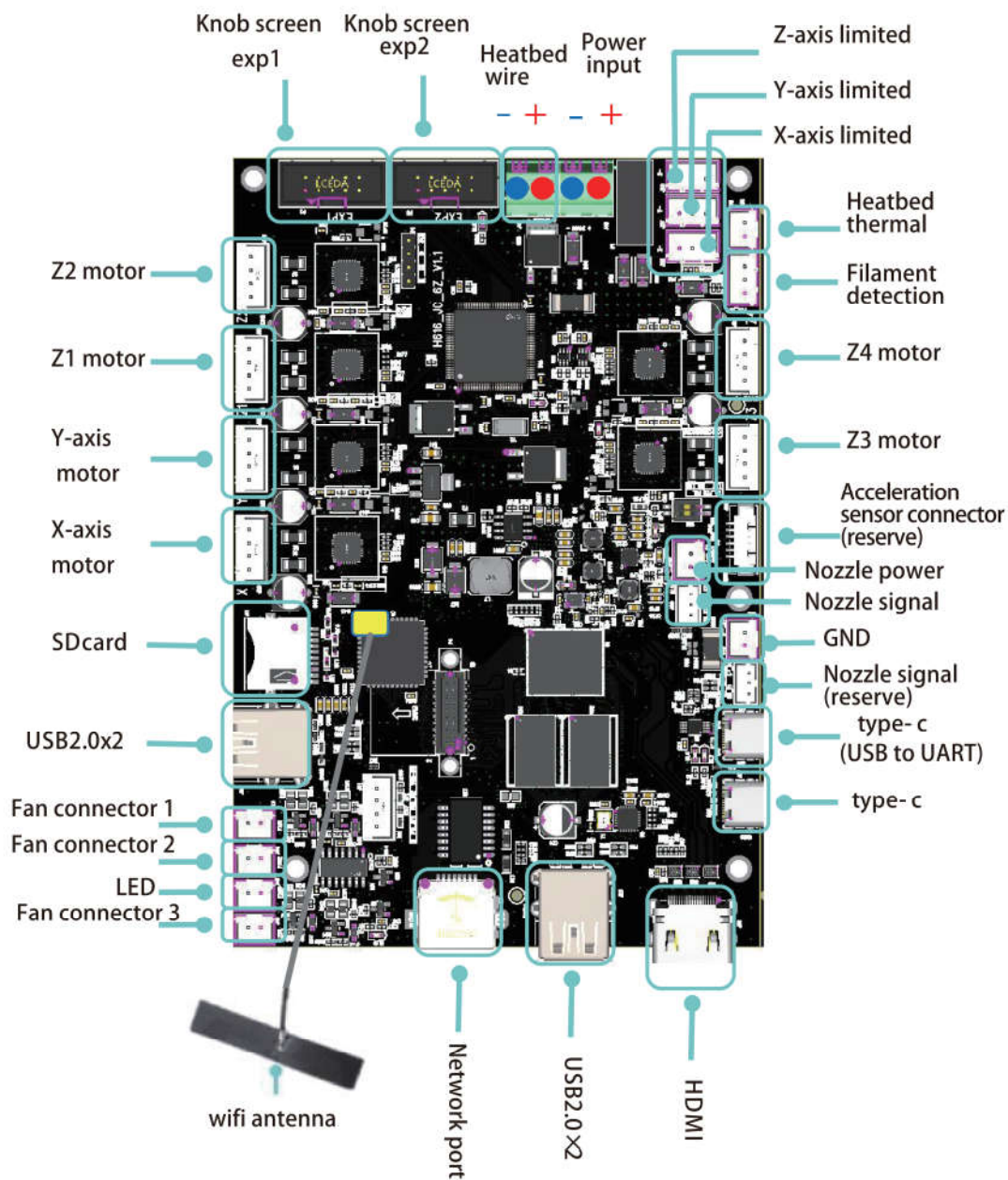
## Emergency Stop :



Press the 'Stop' button while encounter emergency. Machine will immediately stop printing work.

For resume printing, please turn off the power and turn it on again.

# Mainboard









sovol official user group



sovol official website

**SHENZHEN Lian Dian Chuang Technology CO.,LTD.**

Official website: [sovol3d.com](http://sovol3d.com)

E-mail: [info@sovol3d.com](mailto:info@sovol3d.com)



## FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### Mobile

#### RF Exposure Information

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.