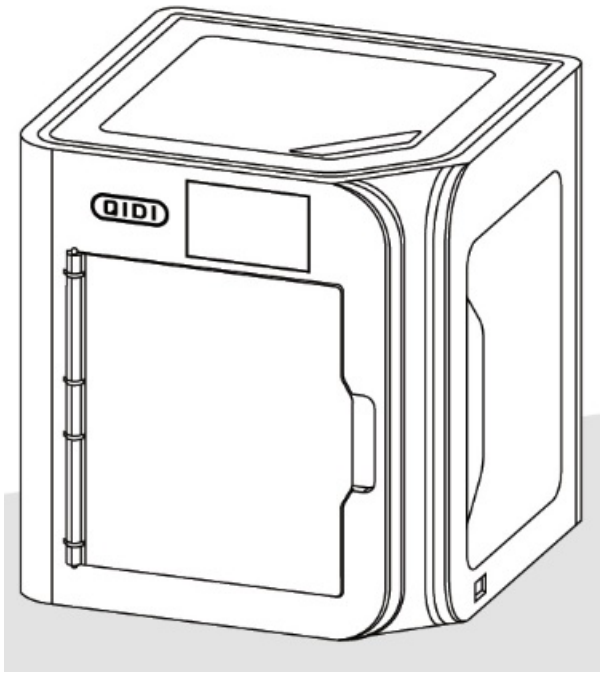
QIDITECH X-Smart3 3D Printer User Guide

Contents

QIDITECH X-Smart3 3D Printer

Quick Start Guide

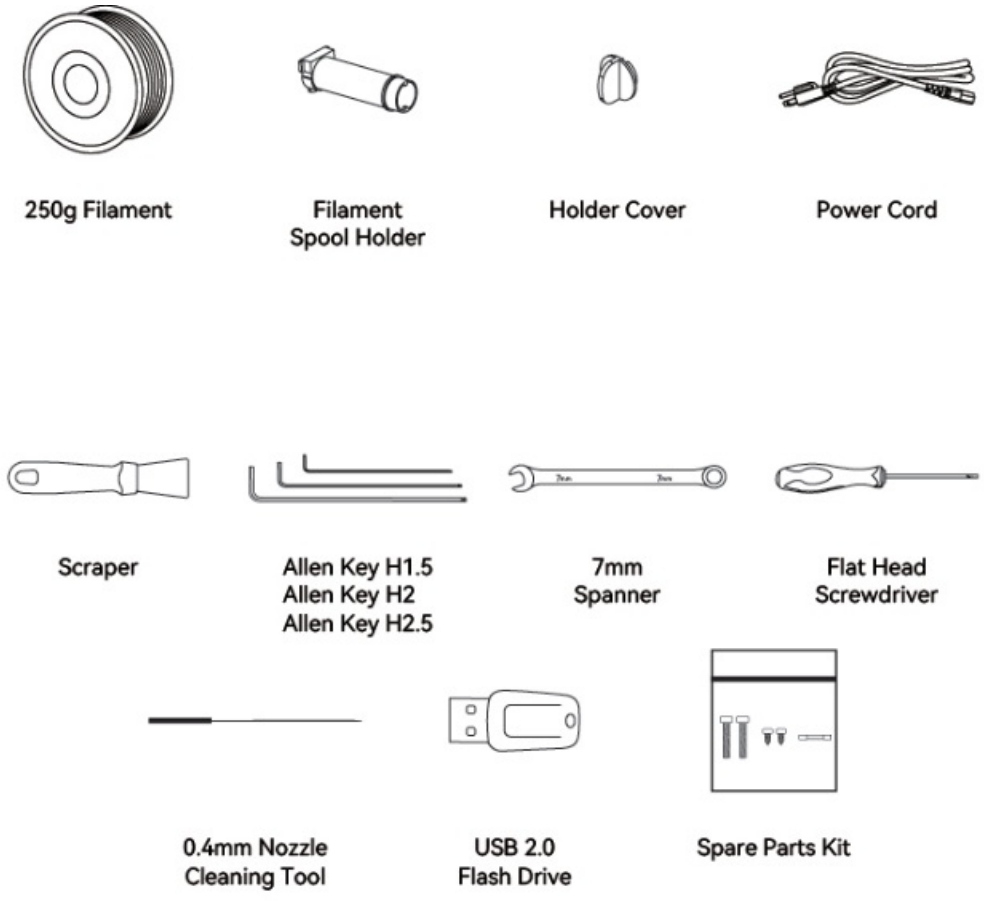


Usage Notice

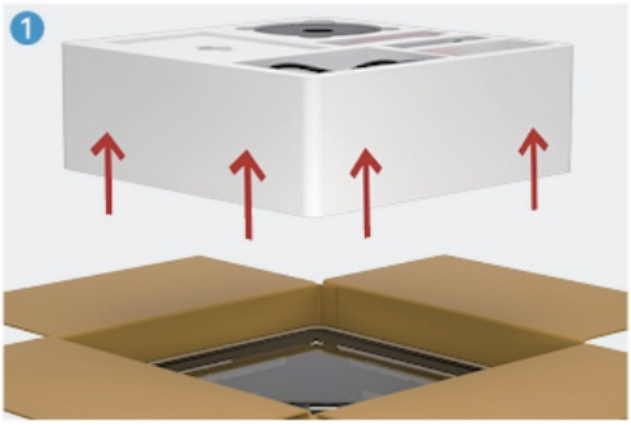
- Do not place the machine in flammable and explosive materials or near high heat sources, please place the machine in a ventilated, cool and dust-free environment.
- The X-axis carbon fiber rod on the machine cannot be replaced, so please take care to protect it from scratching the carbon fiber rod and affecting printing.
- Ensure the machine is powered off(unplug power cord) before performing maintenance or modifications.
- Before connecting the power. please follow the power setup instructions to ensure that the voltage is correct.
- Never reach inside QIDI printer while they are in operation.

- Children should be under constant supervision when using QIDI products.
- The printer contains high-speed moving parts, so be careful of hands pinching.
- **There is a potential risk of burns:** the print heads of the QIDI printers can reach temperatures above 300 • C, while the hot bed can reach temperatures above 100
- Do not touch either of these parts with your bare hands.
- Do not place the printer in a vibrating or other unstable environment. Otherwise the shaking of the machine will affect the printing quality.
- After printing, use the residual temperature of the print head to clean the filament around the nozzle with the dedicated tools in time. Do not touch either of these parts with your bare hands.
- Regular maintenance will reduce the wear and increase the life of the printer. Regularly clean the carbon fiber rod with absolute alcohol or isopropanol, clean the printer body with a dry cloth, wipe off dust, bonded printing materials, and foreign objects on the Z axis. Always unplug QIDI products before performing maintenance or modifications.
- If the machine is in standby mode for a long time, please unplug the power of the QIDI products.
- If the machine is not used for a long time, please pay attention to protect the printer from dust and damp.
- There are manuals, slicer software and other related informations in the USB flash drive.
  (The information in the USB flash drive may not be the latest. You can obtain the latest information by contacting the After-sales Service marked at the end.)

Accessory List



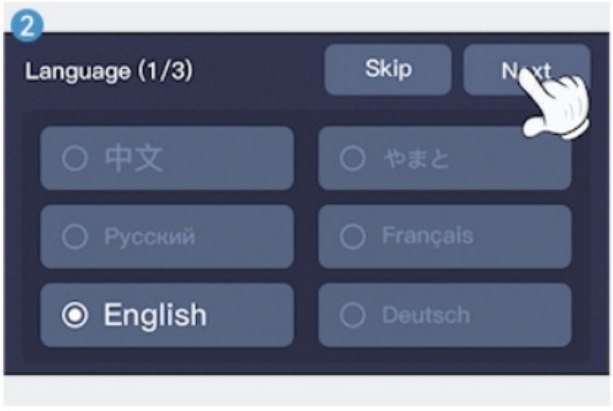
Starting Up



Remove the upper foam and extract the printer.

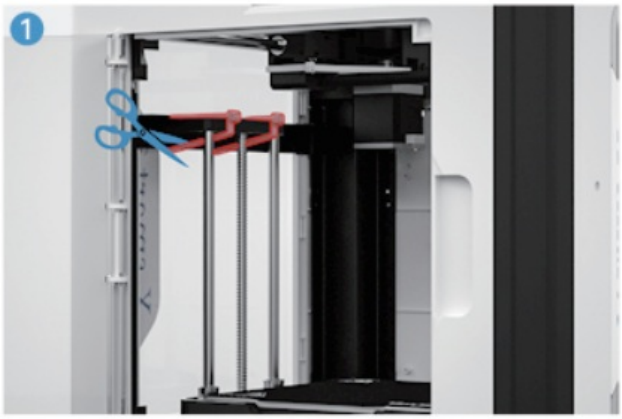
Remove the power cord from the top cover foam and connect it to the printer. Switch on the printer and proceed with the on-screen instructions to complete the unpacking and calibration process. Attention: Please double-check that the voltage setting of the power supply aligns with the voltage standard of your region/country before turning it on.

Language



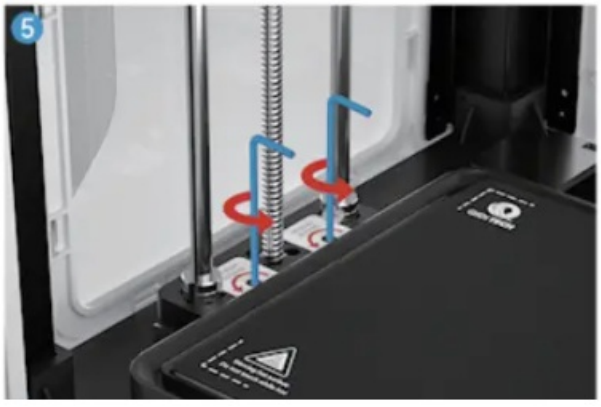
Please select your preferred language and click on the next step.

Unboxing

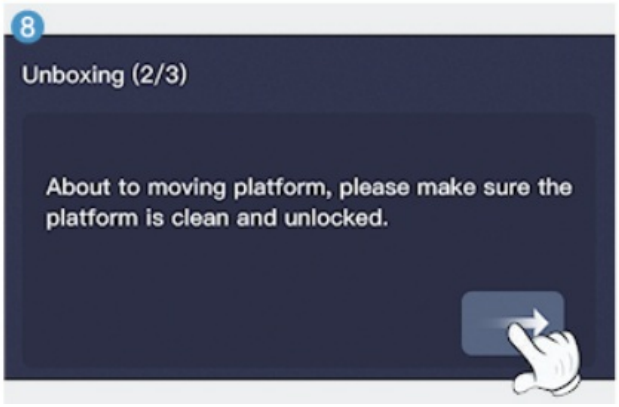


Follow the on-screen instructions to remove the four ties securing the platform in place.

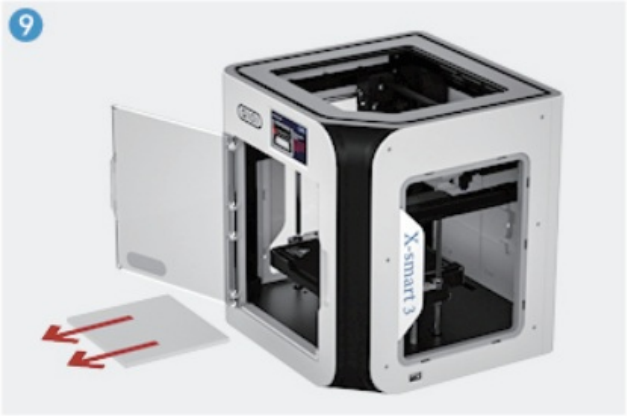
Remove the ties fastening the extruder and X-axis, discard the cardboard, and proceed to the next step.
Note that the carbon fiber rod on the X-axis cannot be replaced, so handle it with caution to avoid scratching it and compromising print quality.

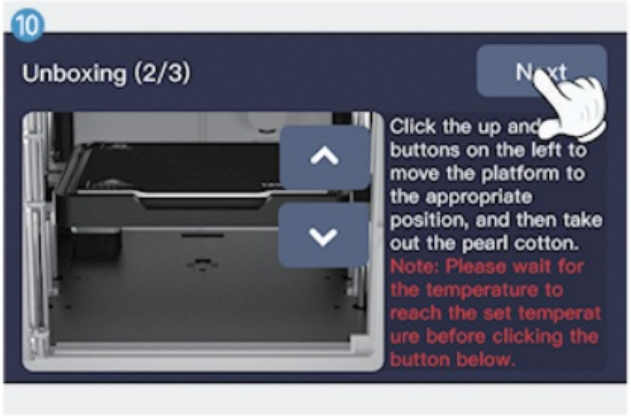


Follow the on-screen instructions to remove the four screws securing the printing platform in place.



Click “Next”. Make sure the print bed is unlocked and clear of any debris before proceeding.

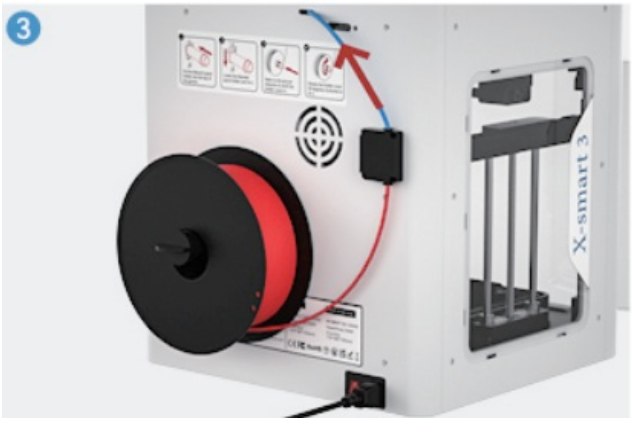


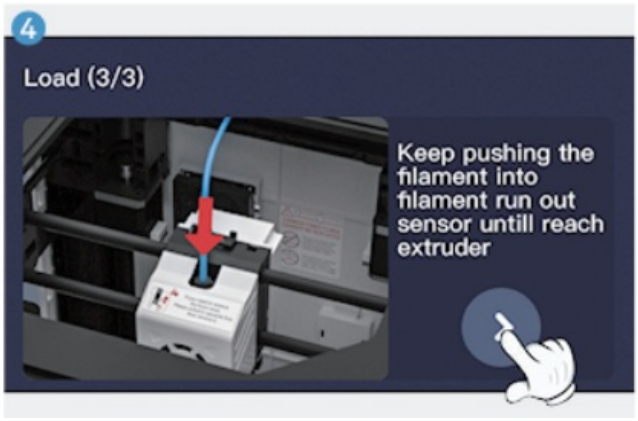


Follow the instructions on the screen to remove the foam from under the printing platform and click next.”
Note that the foam may adhere to the underside of the platform.

Load Filament

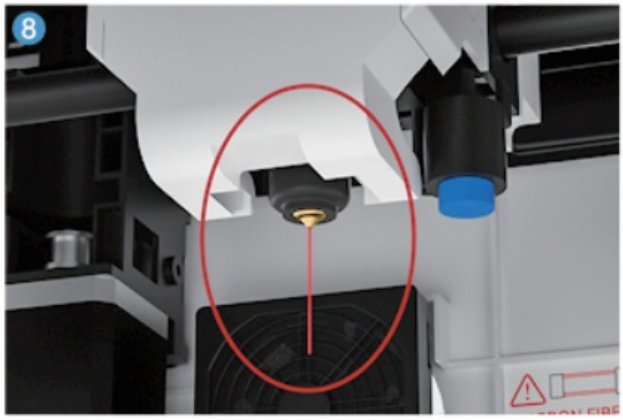
Take out the filament support bar from top foam, and follow the instruction on the back side sticker to attach the support bar properly. Once attached support bar, place the filament onto the support bar.
Note that it is advised to fit the filament support cover to the support bar to prevent any potential dropping of the filament.



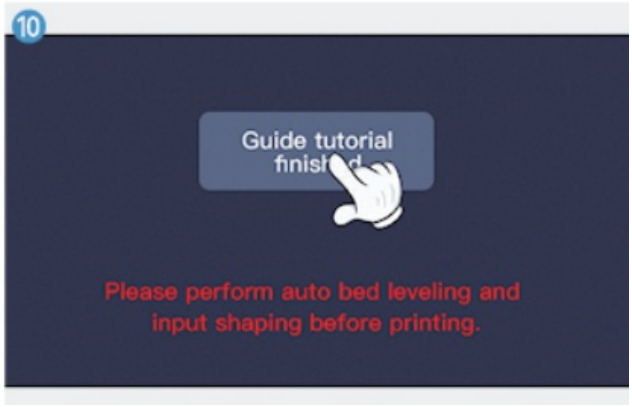


Follow the prompts displayed on the screen and insert the filament through the filament detection sensor up to the printhead. Ensure that the filament is properly fed into the printhead and click on the “next” button to proceed.

Enter the print temperature for the filament and press the Heat button. Allow the temperature to reach the preset value and then proceed to the next step.

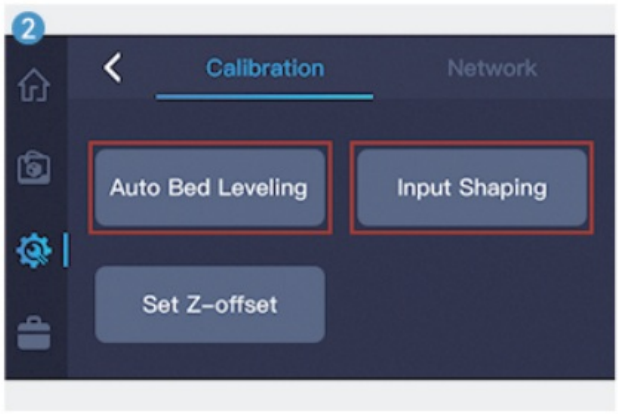


Click the downwards button and allow the filament to emerge from the nozzle.
Notice: If there is no filament flow, even after multiple attempts, check that the filament is properly entering the printhead.



Click “Next” and finish the start guide.

First Printing

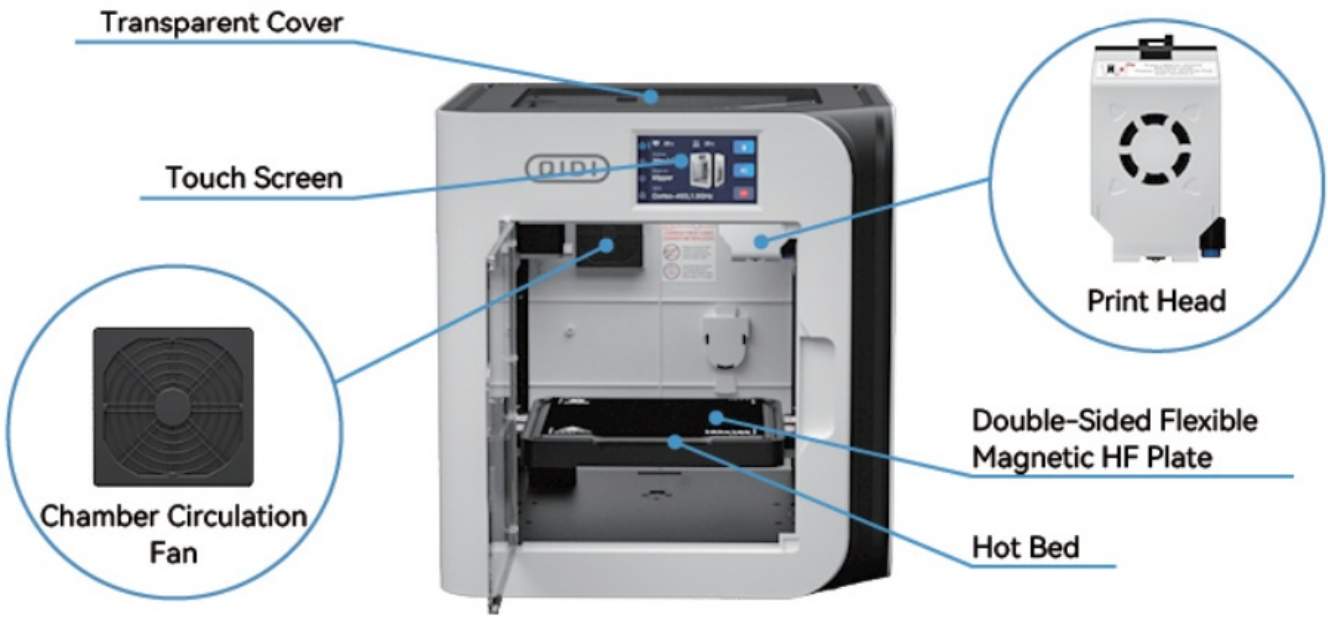


Please perform automatic bed leveling and input shaping before the first print to make the printing more better.
Note : Before any operation, make sure that the PEI build plate is on the print platform.

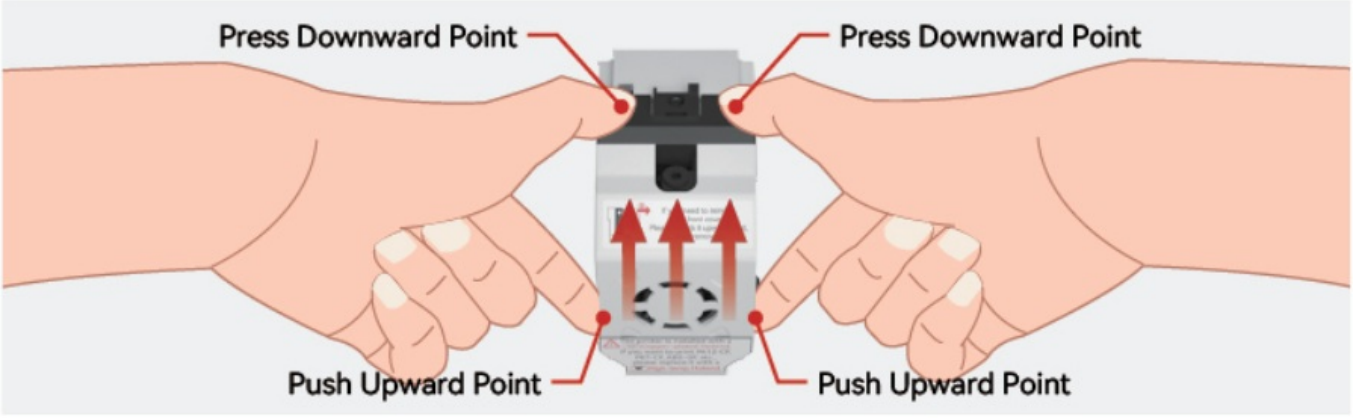
Choose a preset model and print it

Note: Built-in models use PLA Rapido filament by default. After the U disk is inserted into the machine, the U disk files are displayed in the sda1 folder.

Printer Introduction



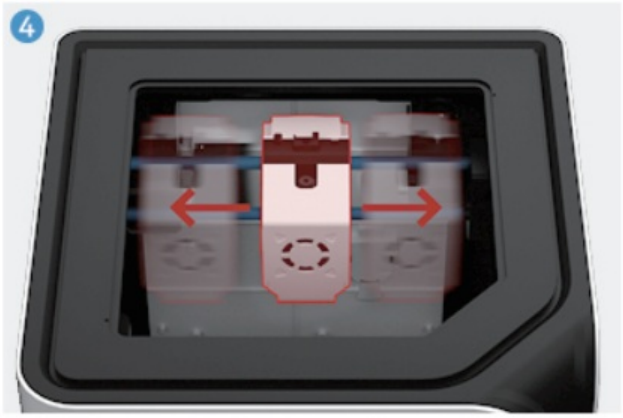
How To Remove The Print Head Front Cover



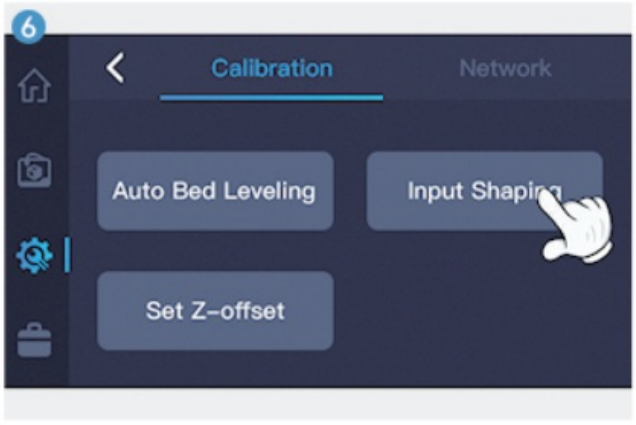
Carefully push upward to unlock the front cover. then remove it.

X-Axis Cleanup

Wet the carbon fiber rods with alcohol or isopropanol, and gently rub the carbon rods to dean any debris with a dust-free cloth.



Wet the carbon fiber rod again, and move the print head right and left repeatedly to clean out the dirt in the print head bearing.



Wipe the carbon fiber tube with a cloth, and repeat steps 3 to 5 until there is no stain on the print head bearing and carbon fiber tube. After cleaning, perform resonance compensation once.
Note: The X-axis rod needs to be cleaned every 1-2 weeks.

Filament Guide For Beginners

QIDI Filament 1		ABS Rapido	PLA Rapido	PETG-Tough	UltraPA
Preparation	Necessity Of Drying	✗	✗	✗	✓
	How To Dry	/	/	/	60℃ 4-6h
	Nozzle Material	Bimetal Nozzle	Bimetal Nozzle	Bimetal Nozzle	Bimetal Nozzle
	Nozzle Size	All Size	All Size	All Size	0.4/0.6/0.8 mm
	Dry Box	✗	✗	✗	Need to maintain humidity ≤ 15%
	Print With Enclosure	✓	✗	✗	✓
Slicer Parameter	Print Speed	260 mm/s	260 mm/s	180 mm/s	80 mm/s
	Chamber Temperature	50 ℃	/	/	/
	Nozzle Temperature	250-280 ℃	200-230 ℃	240-270 ℃	280-300 ℃
	Build Plate Temperature	100 ℃	60 ℃	80 ℃	80 ℃
	Cooling Fan	30%	100%	60%	20%
Post-processing	Annealing Needs	80-90 ℃ 6-8 hours	✗	✗	70-90℃ 6-8 hours

QIDI Filament 2		ABS-GF25	PA12-CF	PAHT-CF	PET-CF
Preparation	Necessity Of Drying	✓	✓	✓	✓
	How To Dry	70℃ 4-6h	100-120℃ 4-6h	100-120℃ 4-6h	100℃ 4-6h
	Nozzle Material	Bimetal Nozzle	Bimetal Nozzle	Bimetal Nozzle	Bimetal Nozzle
	Nozzle Size	0.4/0.6/0.8 mm	0.4/0.6/0.8 mm	0.4/0.6/0.8 mm	0.4/0.6/0.8 mm
	Dry Box	Need to maintain humidity ≤ 15%	Need to maintain humidity ≤ 15%	Need to maintain humidity ≤ 15%	Need to maintain humidity ≤ 15%
	Print With Enclosure	✓	✓	✓	✓
Slicer Parameter	Print Speed	200 mm/s	200 mm/s	200 mm/s	200 mm/s
	Chamber Temperature	45 ℃	/	/	/
	Nozzle Temperature	250-270 ℃	280-300 ℃	280-320 ℃	280-320 ℃
	Build Plate Temperature	100 ℃	80 ℃	80 ℃	80 ℃
	Cooling Fan	20%	15%	15%	10%
Post-processing	Annealing Needs	80-90 ℃ 6-8 hours	80-100 ℃ 6-8 hours	90-130 ℃ 6-8 hours	90-130℃ 6-8 hours

Generic Filament		ABS	PETG	PLA	TPU 95A
Preparation	Necessity Of Drying	✗	✗	✗	✗
	How To Dry	/	/	/	/
	Nozzle Material	Bimetal Nozzle	Bimetal Nozzle	Bimetal Nozzle	Bimetal Nozzle
	Nozzle Size	All Size	All Size	All Size	0.4/0.6/0.8 mm
	Dry Box	✗	✗	✗	✗
	Print With Enclosure	✓	✗	✗	✗
Slicer Parameter	Print Speed	220 mm/s	120 mm/s	200 mm/s	60 mm/s
	Chamber Temperature	45 ℃	/	/	/
	Nozzle Temperature	240-280 ℃	240-270 ℃	200-230 ℃	220-260 ℃
	Build Plate Temperature	100 ℃	80 ℃	60 ℃	60 ℃
	Cooling Fan	30%	60%	100%	100%
Post-processing	Annealing Needs	80-90 ℃ 6-8 hours	✗	✗	✗

Tips

1. Some other brands of ABS filaments are less heat resistant and it is recommended to set the chamber temperature no more than 55 degrees Celsius. Otherwise the filaments may be soften in advance and cause clogging.
2. If the filaments do not stick to the print platform:
    1. Please check if the nozzle is far away from the print plate, you can adjust the platform upward by Offset adjusting function.
    2. Because of the different ambient temperatures in different regions, the temperature of the heat bed can be increased appropriately to increase the adhesion of the filaments.
    3. If above all can not work , please contact the after-sales service for assistance.

Specifications

Body	Print Size (W”D*H)	175*180*170 mm
	Dimensions	370*362*397 mm
	XY Structure	Core XY
	X Axis	10mm Hardened Wear-Resistant Carbon Fiber Rod
	Z Axis	Double Z Axis
	Shell	Plastic
	Chassis	Steel
	Motor	42-48 High-Speed Motor
Print Head	Print Head Temperature	:s 3so0c
	Extruder Gear	Hardened Steel Gears
	Transmission Ratio	9.5: 1
	Hot End	Circular Ceramic Heating Hot End Only need 405 Heating Fr om 20°c to 220°c
	Temperature Measurement U nit	Thermocouple
	Nozzle	Brass Nozzles
	Nozzle Diameter	0.4mm
	Filament Diameter	1.75mm
Hot Bed	Printing Platform	Aluminum Substrate Heating Bed
	Printing Plate	Double-Sided Flexible Magnetic **HF** Plate
	Hot Bed Temperature	:s 120°c
Speed	Printing Speed	250-500mm/s
	Maximum Printing Acceleration	20000mm/sA2
Cool Down	Hot End Cooling Fan	Closed-Loop Control
	Model Cooling Fan	Closed-Loop Control
	Auxiliary Part Cooling Fan	None
	Motherboard Fan	Open Loop Control
	Chamber Circulation Fan	Closed-Loop Control
	Chamber Temperature	50°C Without Chamber Heating
Filament	Recommended Filament	PLA
	Compatible Filament	PLA,ABS,ASA,PETG,TPU
	Seal Print	Compatible

Sensor	Broken Filament Detection	Support
	Automatic Leveling	Support
	Resonance Compensation	Support
Power Supply	Voltage	100-240 VAC, 50/60Hz
	Rated Power	350W
Electronics	Display Screen	4.3 Inch 480•272 Touch Screen
	Storage	8G EMMC and USB2.0 Flash Drive
	Motion Controller	Dual-Core Cortex-M4
	Application Processor	Quad-Core 1.5GHz Cortex-A53
	Extruder Independent Processor	Dual-Core Cortex-MO+
WIFI	Wifi Frequency Bands	2.4 GHz
	Transmitter Power (EIRP)	18 dBm **(MAX)**
	Protocol	IEEE 802.11b/g/n
Software	Slicer	QIDI Slicer and other third-party software, such as Ultimaker Cura, Simplify3D, PrusaSlicer, etc.
	Operating System	Windows, MacOS, Linux

Note: Since the first layer is more affected by the temperature of the hot bed, the chamber heater starts working on the second layer by default.

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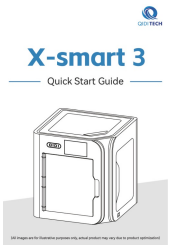
Please visit the QIDI Tech official Wiki for more machine usage and maintenance tutorials.
https://wiki.qidi3d.com/en/home

Documents / Resources

	QIDITECH X-Smart3 3D Printer [pdf] User Guide X-Smart3 3D Printer, X-Smart3, 3D Printer, Printer

References

- User Manual