Flsun 2.0 Slicing Software User Manual

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1. Preface

1.1. Overview

3D printing technology plays an increasingly important role in today's manufacturing industry, and 3D printing slicing software is one of the key tools for achieving 3D printing. Slicing software is the process of converting three-dimensional models into layers for 3D printing, providing the necessary printing paths and parameter settings for printing.

The FlsunSlicer is a slicing tool specifically designed for 3D printers. It is used for slicing three-dimensional models into thin layers that can be stacked layer-by-layer by 3D printers to achieve precise and efficient printing. Its main features include model import, slicing settings, path generation, support structure generation, preview, and export. Users can slice 3D models using these functions and adjust various parameters to meet specific printing needs. For example, users can set parameters such as layer height, infill density, support structures, printing speed, etc., to achieve optimal results for different materials and print objects.

FlsunSlicer features an intuitive user interface and a rich set of functional options, supporting the import and export of various file formats such as STL, OBJ, AMF, and more. This allows users to easily import and process 3D models from various sources and export the sliced data to a 3D printer for printing.

In addition to basic slicing functions, FlsunSlicer also offers advanced features such as automatic support structure generation, simulated preview, and filament optimization, further enhancing printing efficiency and quality.

In conclusion, 3D printer slicing software is an indispensable tool in the 3D printing industry. By slicing 3D models, it provides efficient and precise print paths for 3D printers, promoting the development and application of 3D printing technology.

1.2. Purpose of Writing

This article serves as a user manual for the FlsunSlicer slicing software, aiming to provide you with a more detailed understanding of this slicing tool. Of course, as 3D printing technology continues to evolve and become more widespread, we will also keep updating and improving it, striving to offer users an even better printing experience and service!

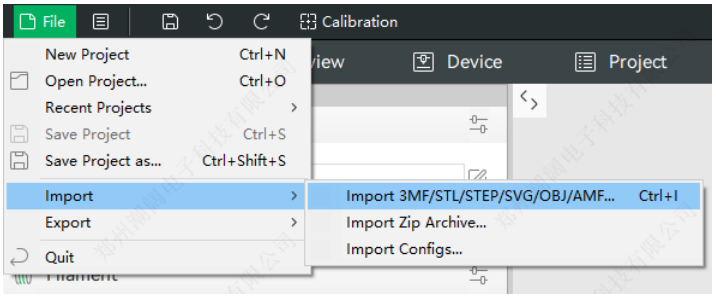
2. Menu

2.1. Import and Export of File Items

2.1.1. Import Custom Model Files

Navigate to the top of the interface > File > Import. There are three options for importing custom configuration files: import files in 3mf/stl/step/svg/obj/amf formats; import zip compressed files; and import preset files.

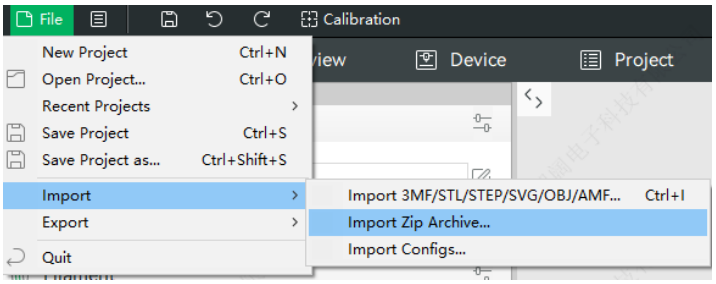
2.1.1.1. Import Model Files



Users can import 3mf/stl/step/svg/obj/amf format files.

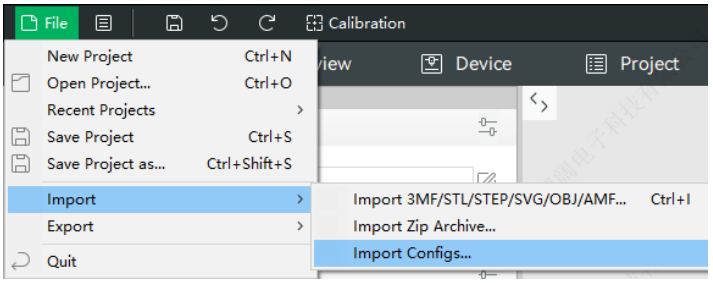
The other two methods for importing models are using the "Add Model" option in the top toolbar or dragging model files from the desktop into the slicing software.

2.1.1.2. Import Zip Archive



Users can import compressed files containing model data. The slicing software can automatically detect and unzip models within the zip file, allowing users to choose to import all models or a single model.

2.1.1.3. Import Configs

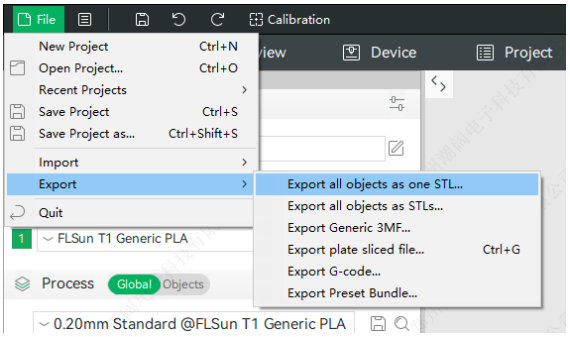


Users can import preset files downloaded and adjusted from elsewhere into the slicing software for use.

2.1.2. Export Custom Model Files

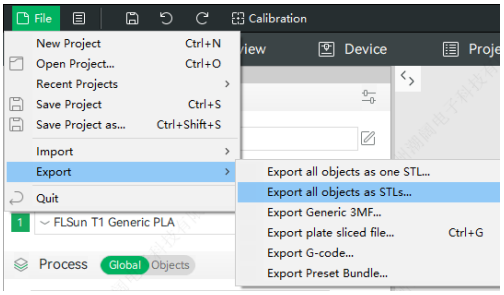
Navigate to the top of the interface > File > Export. There are six options for exporting custom configuration files: export all objects as one STL file; export all objects as STLs file; export generic 3MF file; export plate sliced file as a 3MF file; and export preset bundle file.

2.1.2.1. Export All Objects as One STL File



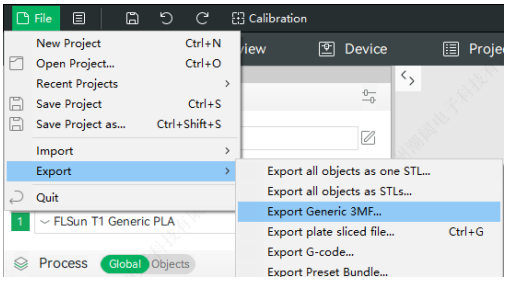
This option allows you to export all objects in the slicing plate as a single STL file.

2.1.2.2. Export All Objects as STLs Files



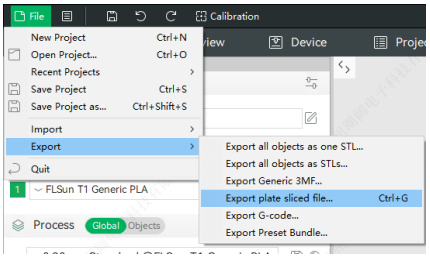
This option allows you to export each individual object in the slicing plate as multiple STL files.

2.1.2.3. Export Generic 3MF File



This option allows you to save the file as a generic 3MF file, which can save various parameters related to the printer, filament, and other settings.

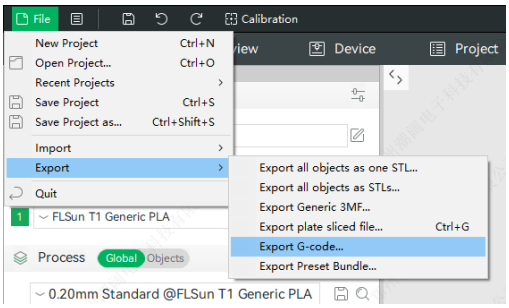
2.1.2.4. Export Plate Sliced File as a 3MF File



This option can only be enabled after slicing the model file. It allows you to

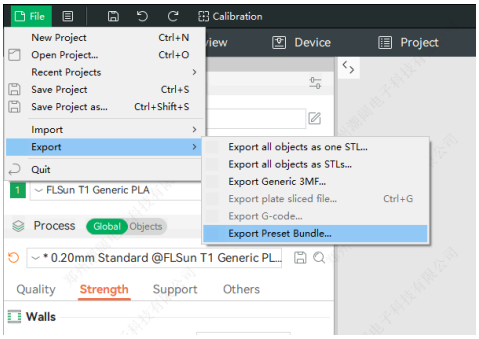
export the sliced model as a 3MF file. When this 3MF file is imported into the slicing software, there is no need to slice it again, but it cannot be switched back to a normal model. The shortcut key is Ctrl+G.

2.1.2.5. Export G-code File



This option can only be enabled after slicing the model file. It exports the model file in G-code format, which can be saved to a USB drive. This file can then be uploaded to the printer for printing via a USB drive without a network connection.

2.1.2.6. Export Preset Bundle File

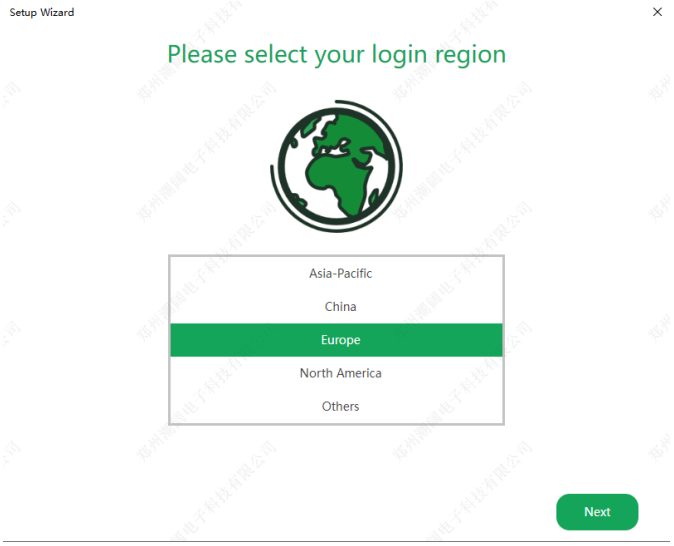


This option allows you to export the file as a preset bundle file.

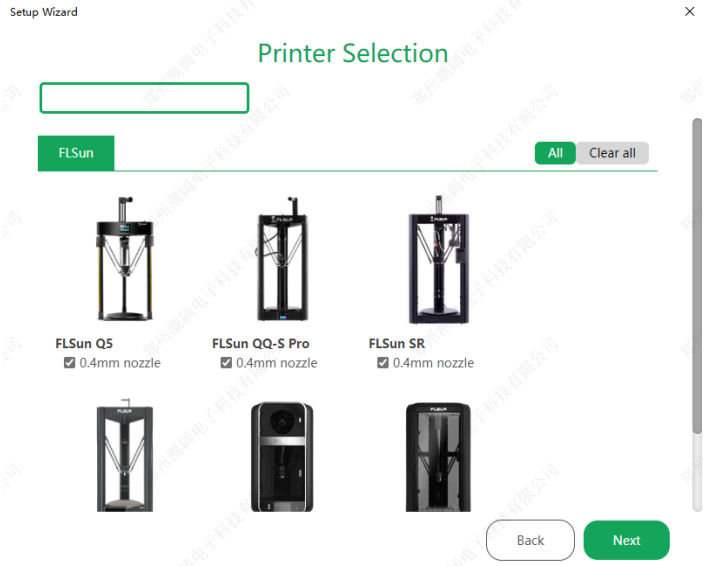
2.2. Configuration Item Introduction

2.2.1. Configuration Wizard Interface

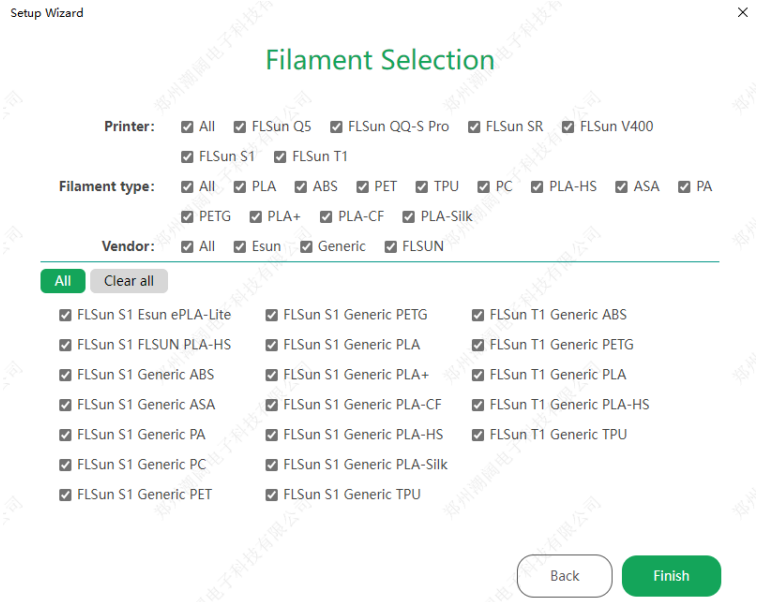
When you first start FlsunSlicer, you will enter the configuration wizard interface. You can also manually start the configuration wizard by selecting "Configuration - Configuration Wizard" from the top menu.



Select your login region and click Next.

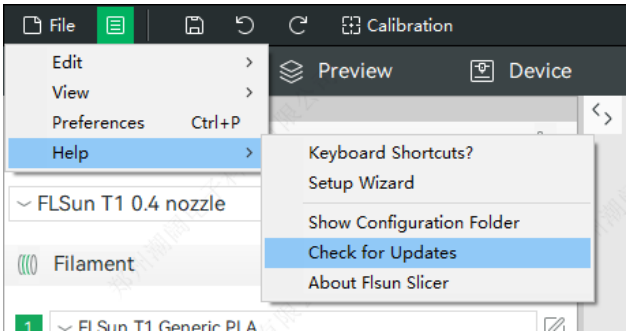


Select the printer configuration files you want to import, with all selected by default, and click Next.



Click the “Filament Selection” option to select the filaments to be printed by the printer; you can also click "All" to select all filaments.

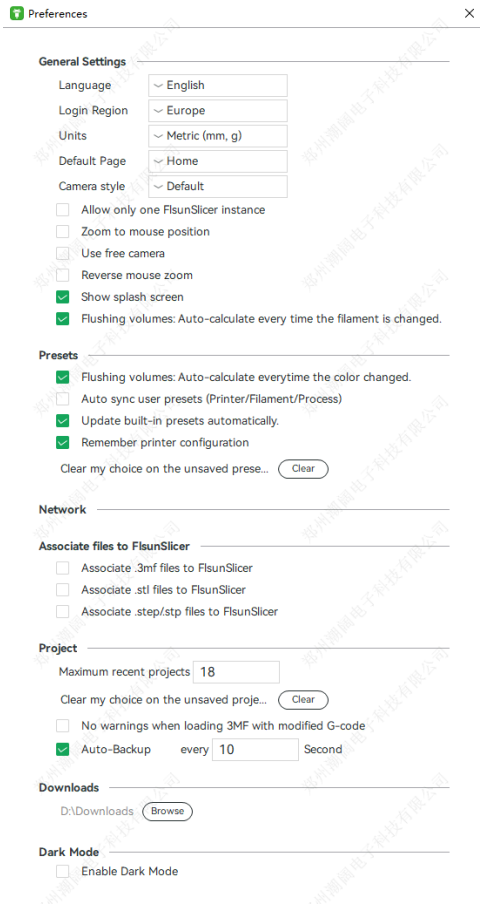
2.2.2. Check for Updates



Used to manually check if the program can be updated.

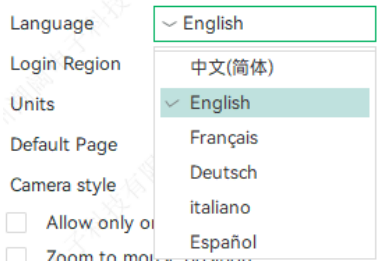
2.2.3. Preferences Settings

You can access the preferences interface through the configuration item in the top menu or by using the shortcut key Ctrl+P.



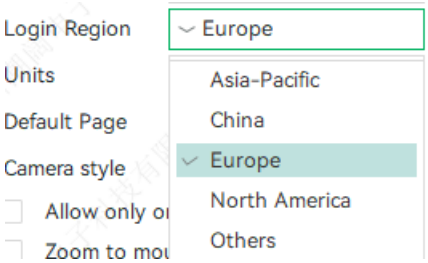
2.2.3.1. General Settings

1 Language:



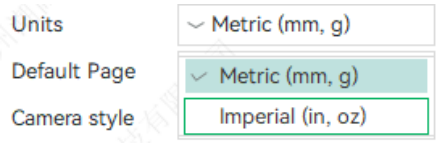
This software only supports six languages: Chinese, English, French, German, Spanish, and Italian.

2 Login Region:



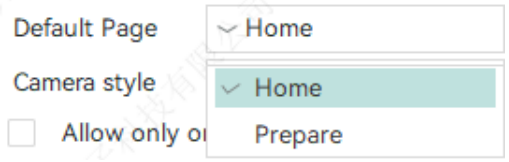
This software supports login from the Asia-Pacific, China, Europe, North America, and other regions.

3 Units:



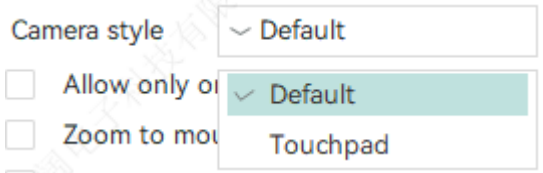
Supports two options: metric and imperial.

4 Default Page:



The default page displayed when opening FlsunSlicer can be set to either the home page or the preparation page.

5 Camera style:



The default remains unchanged, but the Touchpad mode can be enabled.

6 Allow only one FlsunSlicer Instance: This option is not checked by default.

When enabled, only one instance of FlsunSlicer can run at a time. This means that opening a file associated with FlsunSlicer will only add the model to the currently running FlsunSlicer instance. When disabled, you can run multiple instances of PS completely independently at once. If your computer is not very powerful (like a budget laptop), running multiple instances simultaneously may slow down your computer.

7 Zoom in to Mouse Position: This option is not checked by default.

In the 3D view, zoom in to the position of the mouse instead of the center of the 2D window.

8 Use Free Camera: This option is not checked by default.

The free camera is commonly used in projects. All objects are displayed at the same scale, parallel lines remain parallel, and length units will display the same length at any position on the drawing. This makes it easier to judge relative sizes and align models.

9 Reverse mouse zoom: This option is not checked by default.

If enabled, scrolling up will zoom out instead of zooming in, and vice versa.

10 Show Splash Screen:

Disabling the startup animation will not make FlsunSlicer start faster;

11 Flushing Volumes: Automatically calculated each time the filament is changed.

When disabled, the flushing volume will not be calculated when the printer changes filaments.

2.2.3.2. Presets

1 Flushing Volumes: Automatically calculated every time the color is changed.

When disabled, the flushing volumes are not calculated when the printer changes colors.

2 Auto Sync User Presets (Printer/Filament/Process):

When importing a 3MF file, user presets will automatically synchronize.

3 Update Built-in Presets Automatically:

When enabled, FlsunSlicer will download updates for built-in system presets (print settings, filament, and printer profiles) in the background. These updates are downloaded to a separate temporary location. When new preset updates are available, they will be offered upon application startup.

4 Remember Printer Configuration:

When disabled, the printer settings will reset each time the software is opened.

5 Clear My Choice on the Unsaved Presets:

After clicking Clear, the unsaved preset information will be cleared.

2.2.3.3. Network

1 Associate 3MF Files to FlsunSlicer:

When enabled, this will add the option to use "FlsunSlicer to open 3MF files" as the default in your operating system. The next time you try to open a 3MF file, the operating system is likely to prompt you.

2 Associate STL Files to FlsunSlicer:

When enabled, this will add the option to use "FlsunSlicer to open STL files" as the default in your operating system. The next time you try to open an STL file, the operating system is likely to prompt you.

3 Associate STEP/STP Files to FlsunSlicer:

When enabled, this will add the option to use "FlsunSlicer to open STEP/STP files" as the default in your operating system. The next time you try to open a STEP/STP file, the operating system is likely to prompt you.

2.2.3.4. Project Settings

1 Maximum Recent Projects:

You can adjust the number of recent projects saved within the slicing software.

2 Clear My Choice on the Unsaved Unsaved Projects:

Clicking the Clear button will remove unsaved projects from the slicing software interface.

3 No Warnings When Loading 3MF with Modified G-Code: Commonly Closed State

When enabled, there will be no reminder if the 3MF file with G-Code is corrupted upon opening, which may lead to issues such as damaged print models.

4 Auto-Backup

Set the duration for automatic backups. If the backup files are too large, you can shorten this duration to avoid computer slowdowns.

2.2.3.5. Download

Users can choose their own file download path.

2.2.3.6. Dark Mode

This option is turned off by default. When enabled, the user interface will switch from white to dark, reducing glare and making it more suitable for nighttime use.

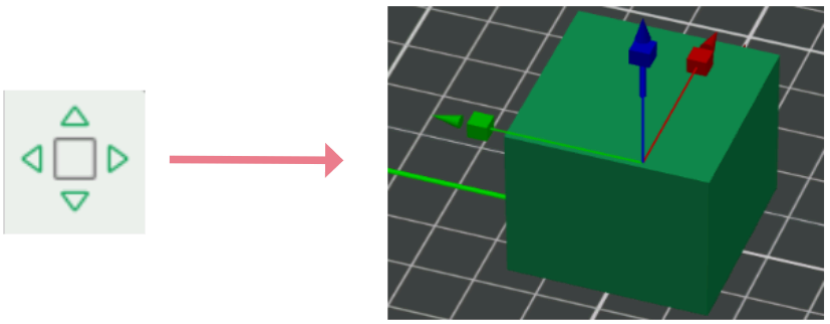
2.2.4. Top Toolbar

Button	Name	Content
	Move	Supports moving by mouse drag as well as moving by coordinates; see section 1.1.1 for details.
	Rotate	Supports rotating by mouse drag as well as rotating by coordinates; see section 1.1.2 for details.
	Scale	Supports scaling by mouse drag as well as scaling by coordinates; see section 1.1.3 for details.
	Lay on Face	Supports selecting a plane as the base surface with the mouse; see section 1.1.4 for details.
	Cut	Performs a plane cut on the entire model, splitting it into two parts; see section 1.1.5 for details.

	Mesh Boolean	Performs boolean operations during slicing of two models, including union, intersection, and difference.
	Support Painting	Allows drawing supports for the model; see section 1.1.6 for details.
	Seam painting	Manually draws to fill gaps in the model; see section 1.1.7 for details.
	Emboss	Adds text to the model, which can directly adhere to its surface; see section 1.1.8 for details.
	Measure	Measures the distance from point A to point B on the model; see section 1.1.9 for details.
	Add	Primarily used to add print models.
	Auto Orient	The slicing software automatically determines the bottom surface of the model.
	Arrange all objects	Supports automatic arrangement of models within the plate; see section 1.1.10 for details.
	Split to Objects	When a model consists of multiple objects as a whole, this function splits the model into multiple objects.
	Split to Parts	This allows you to split a model into multiple parts; see section 1.1.11 for details.
	Variable layer height	Uses different layer heights for different areas of the model and automatically smooths the transitions between them. This can significantly reduce print time while minimizing the impact on print quality; see section 1.1.12 for details.

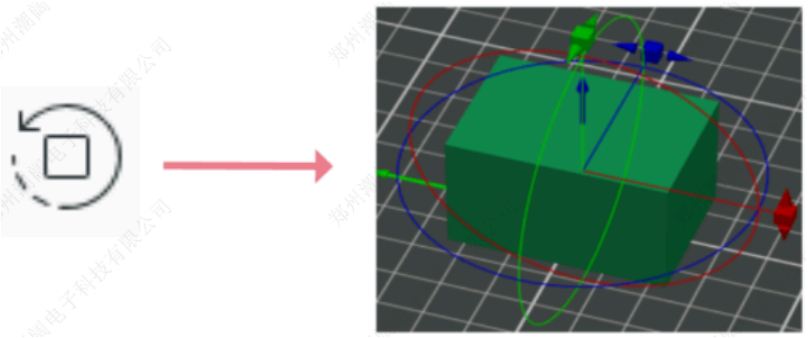
	Assembly View	Allows you to slice the model from different angles by dragging.

2.2.4.1. Move

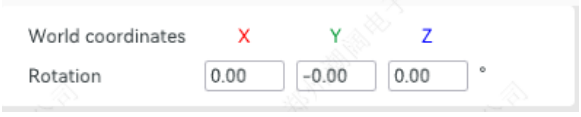


Even when the move tool is inactive, objects can be moved by dragging with the left mouse button. Enabling the move tool will display the 3D mini-control, allowing users to adjust the object's position along the X, Y, or Z axes. The system also supports moving it by entering coordinates and pressing Enter.

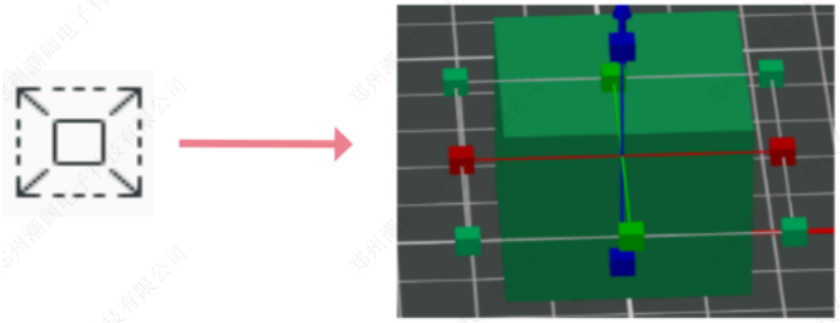
2.2.4.2. Rotate



The rotation tool displays the 3D mini-control, allowing users to rotate the object along the X, Y, or Z axis. When a user grabs one of the axes handles, two sets of white circular guides will appear. Hovering the mouse over these guides will rotate the model, and the system also supports rotation by entering a rotation angle and pressing enter.

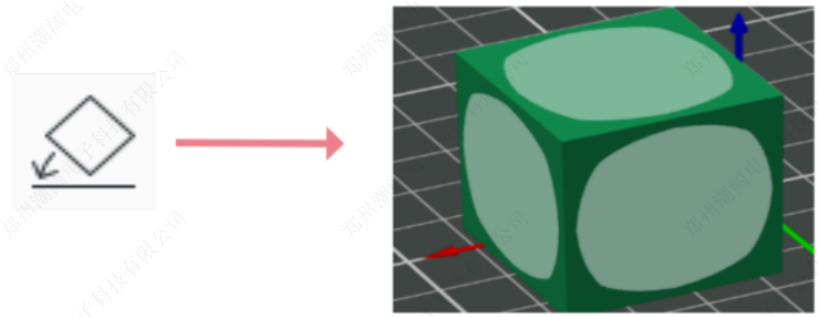


2.2.4.3. Scale



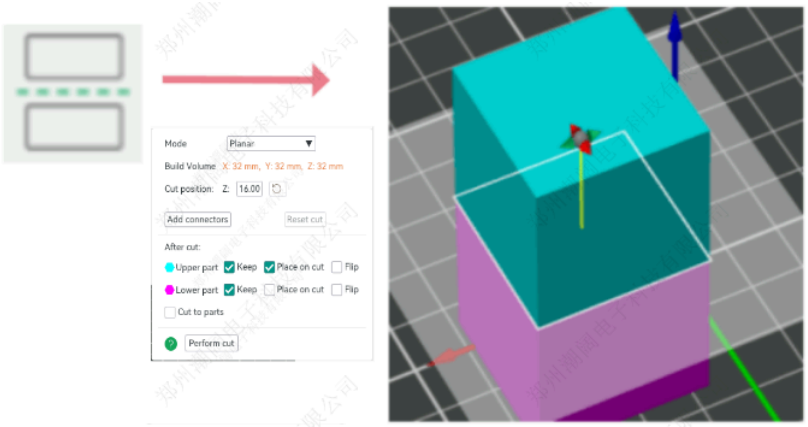
The scaling tool displays the 3D mini-control, allowing users to stretch the object along the X, Y, or Z axis. When users grab one of the axes handles, they can stretch the model's size in that direction. The system also supports scaling by entering a scale ratio and specific dimensions, followed by pressing enter to apply the scaling.

2.2.4.4. Lay on Face



Place the selected plane on the heated bed.

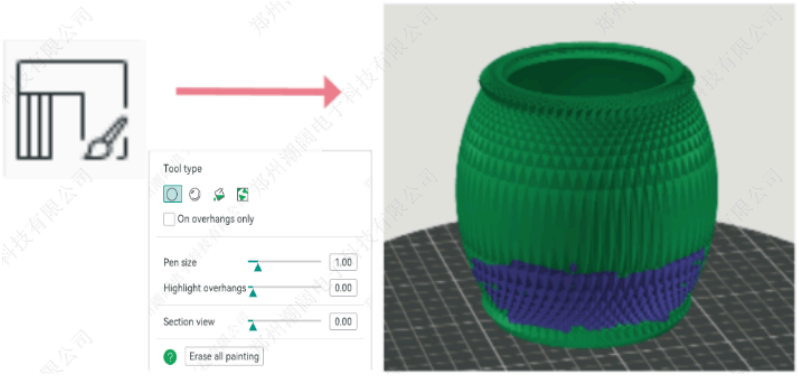
2.2.4.5. Cut



Select the object and press the C key or choose the cut tool from the left toolbar. Using the 3D mini-control, you can drag the cutting plane to the desired position. You can also enter precise values [mm] in the context menu. To rotate the

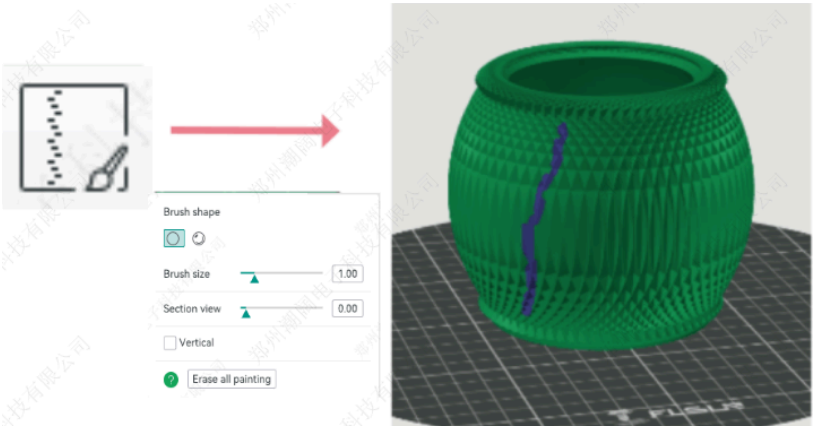
cutting plane, use the arrows at the top of the 3D mini-control.

2.2.4.6. Support Painting



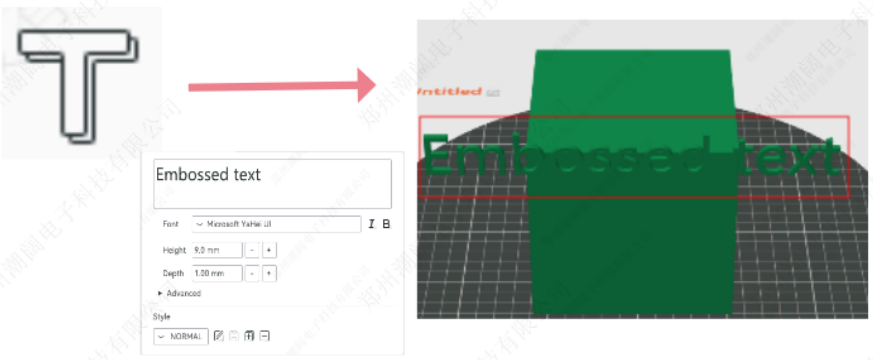
This feature allows you to draw directly on the object to select areas for enforced supports or areas to prevent supports.

2.2.4.7. Seam painting



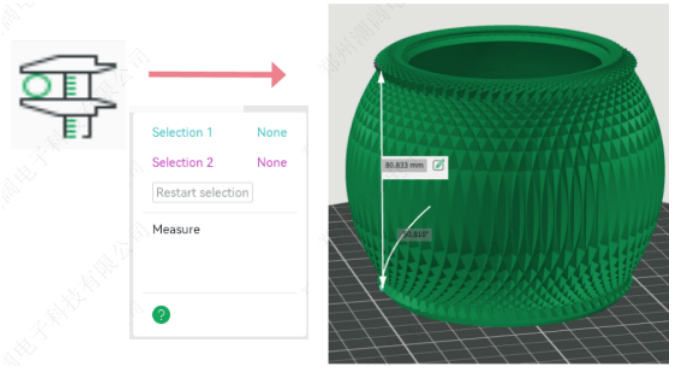
You can set the seam position in the "Print Settings" to try to hide the seam in a corner or align it with the model's backside. The seam drawing tool provides more detailed control over the seam position. This tool can be accessed from the left toolbar. After clicking the icon, users can draw "seam enhancers" or "seam blockers" on the model in a manner similar to drawing supports.

2.2.4.8. Emboss



You can place it on any type of surface, not just flat surfaces. It supports modifying text, setting fonts, and adjusting the height and depth of the letters. By using surface settings, the text can fully conform to the curved surface.

2.2.4.9. Measure



This measurement tool utilizes geometric detection algorithms to identify points (vertices), edges, circles, and planes. Users can directly check the dimensions and angles of the model in FlsunSlicer.

The measurement tool allows you to uniformly scale an object to the desired length by clicking on the measured distance in the scene.

You can measure the distances and angles between parts of a single object for better alignment, but you cannot measure distances and angles between separate objects.

2.2.4.10. Arrange all objects

When you import multiple models or create multiple instances of the same model, arranging them on the print bed can be very time-consuming. FlsunSlicer features an automatic arrangement tool that distributes objects across the entire print bed, leaving a reasonable gap between objects. You can initiate automatic arrangement by pressing the A key or by selecting "Auto Arrange" from the top toolbar.

Right-clicking on the "Auto Arrange" icon in the top toolbar will open a dialog box for adjusting the distance between objects and allow objects to rotate along the Z-axis during the arrangement process. This allows you to place more parts on the print platform.

You can set the spacing using the slider, or you can input an exact value by holding down the Ctrl+left mouse click on the text field.

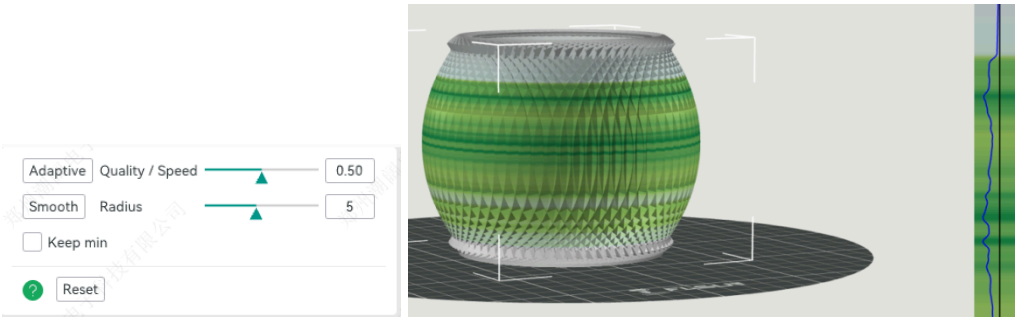
The current spacing and rotation settings will also affect the "Global Arrange" function.

2.2.4.11. Split to Parts

Split into Objects: Create a separate object for each shell; place each newly created object on the print bed.

Split into Parts: Keep a single model object in the scene, but create multiple parts that float in mid-air above the print bed, with the parts still retaining their original positions.

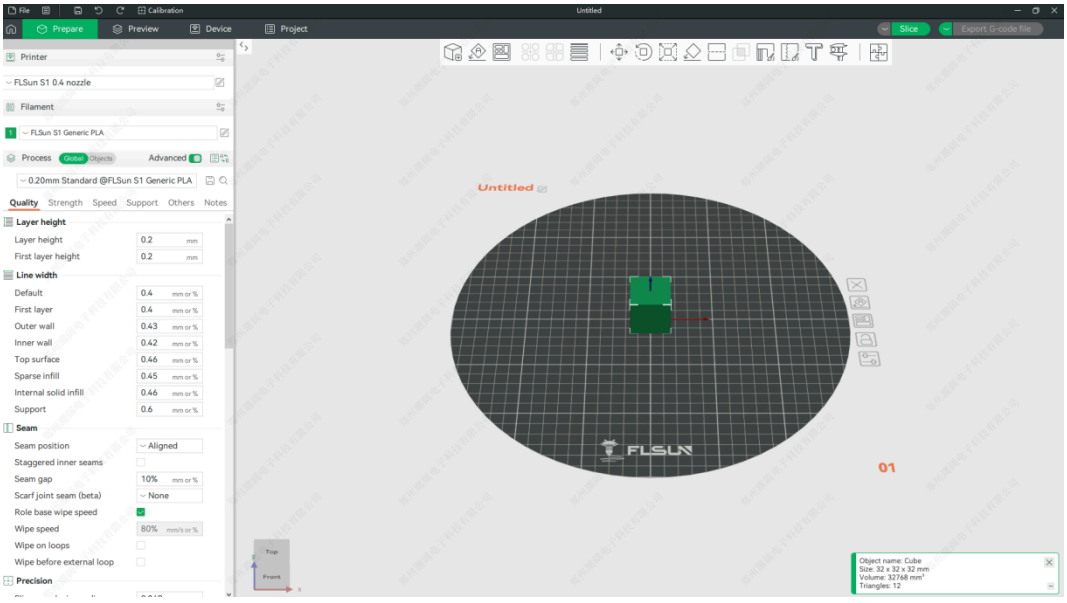
2.2.4.12. Variable layer height



Define different areas of the model to be printed with different layer heights and automatically smooth the transitions between them. This can significantly reduce printing time while minimizing the impact on print quality.

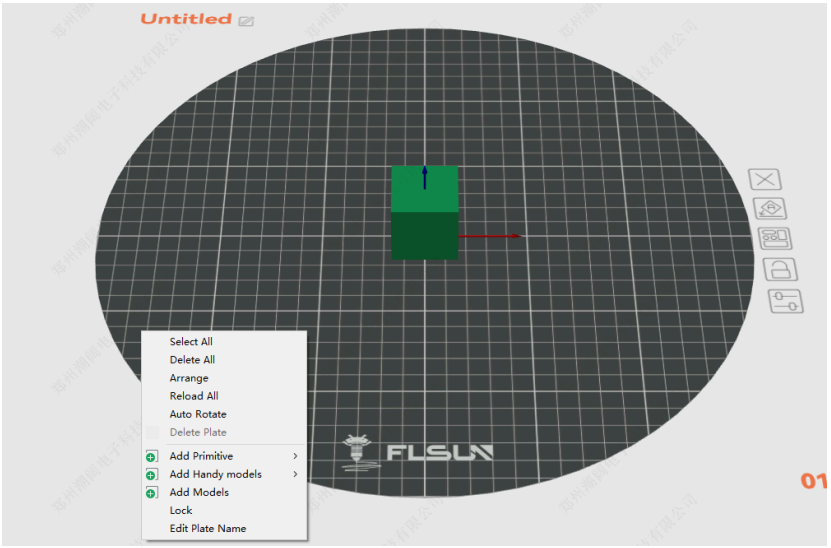
3. User Page

3.1. Preparation Page

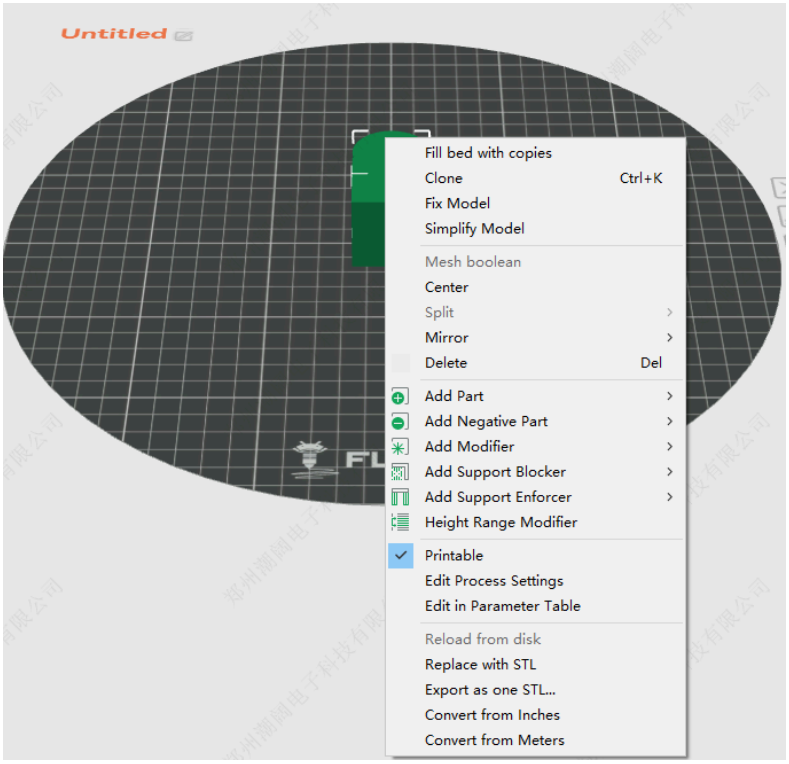


The preparation page includes the parameter settings area, operation bar, and heated bed. The parameter settings consist of printer settings, filament settings, and process settings. The operation bar includes relevant operations such as importing models, placing planes, arranging, splitting into objects, and splitting into parts.

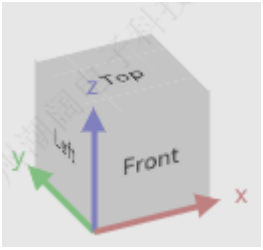
3.1.1. Heated Bed Operations



By right-clicking on the heated bed, you can add a model. After adding the model, operation options will appear in the bottom right corner of the interface, allowing you to quickly modify parameters such as position, angle, and scale.



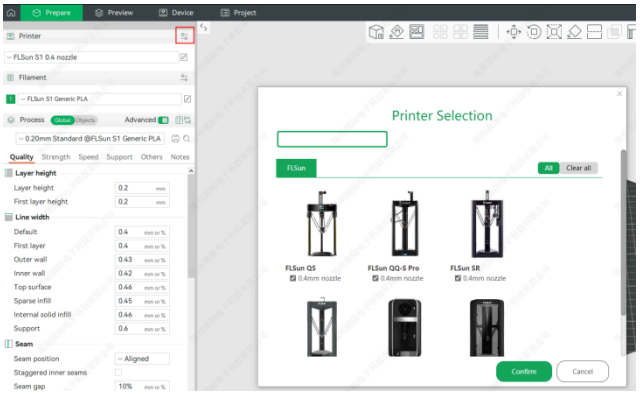
When there is a model on the heated bed, right-clicking the mouse will provide options beyond just adding instances, including setting instances, deleting, scaling the print volume, mirroring, etc. In advanced mode, it also supports adding parts and adding support blockers, etc.



The coordinate axes are used to view the model. Clicking the cube icon allows you to see the model from different views, and you can also use the right mouse button to drag and adjust the view.

3.1.2. Printer Settings

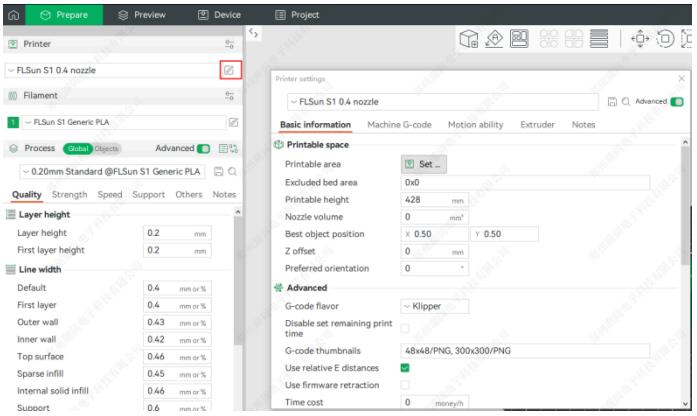
3.1.2.1. Add Printer



Clicking the "Confirm" and "Cancel" printer buttons will enter the printer selection interface, supporting both single selection and select all, with the default set to select all.

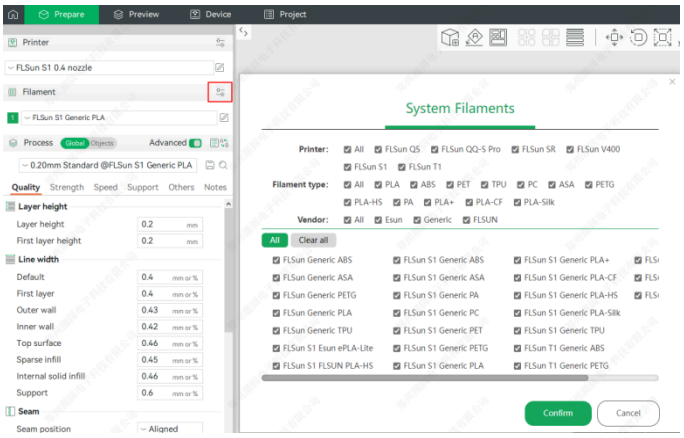
The drop-down option box for printers is used to select parameters for different printer models. This option comes from the printer selection in the configuration wizard.

3.1.2.2. Printer Parameter Settings

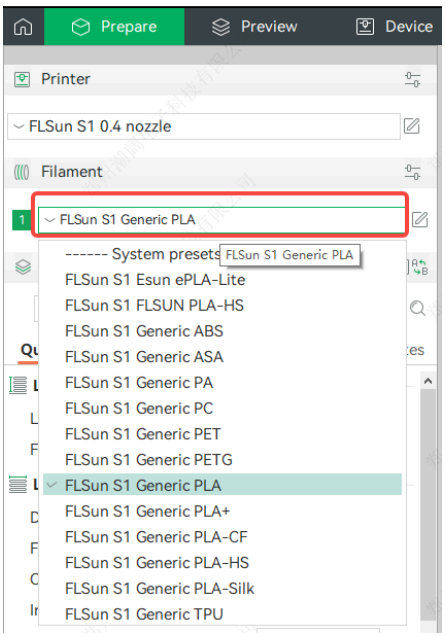


Printer settings support configurations for general parameters, machine limitations, and extruders. This mainly includes settings for the size and height of the print platform, the maximum speed, acceleration, and jerk settings of the device, as well as extruder nozzle diameter, layer height limits, lift height range, retraction, and other hardware-related settings for the printer.

3.1.3. Add Filaments

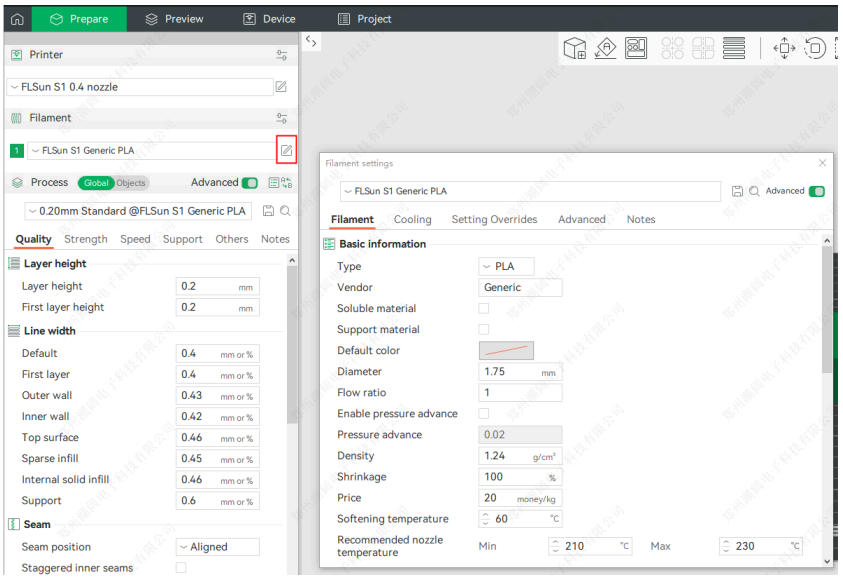


After selecting the printer model, you can choose the filament type to add the filaments specified by the system.



The drop-down option box for filament is used to select parameters for different filament types, sourced from the filament selection in the configuration wizard.

3.1.3.1. Filament Settings



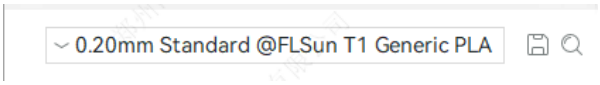
Filament settings support configurations for basic filament information, flow rate, temperature, cooling, lift during travel, retraction, and other related parameters.

3.1.3.2. Print Settings

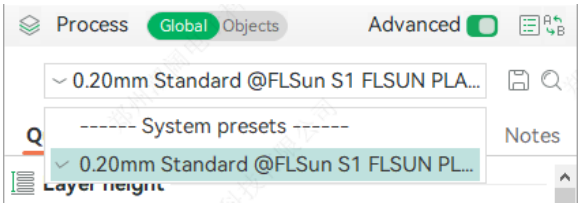
Print settings primarily focus on parameters that affect the overall print quality, including layer height, shell, infill, supports, speed, and more. To enhance user convenience, FlsunSlicer has separated commonly used supports and skirt settings to

the outer area, which are consistent with the support and skirt functions in the print settings and have interactive functionality.

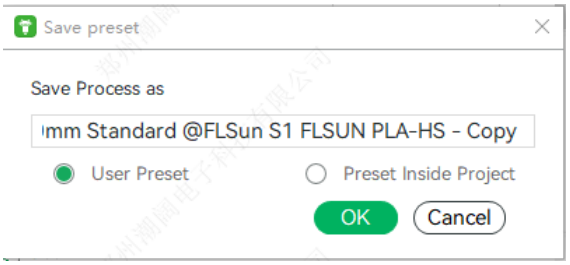
3.1.3.3. Settings Menu Items

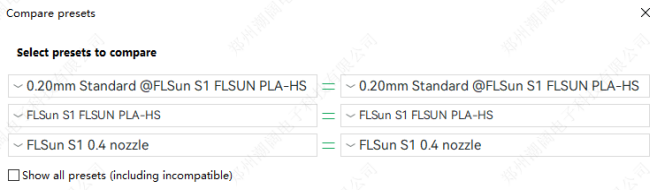


In the printer settings, filament settings, and print settings, there are options to save presets, search for parameters, and compare presets.



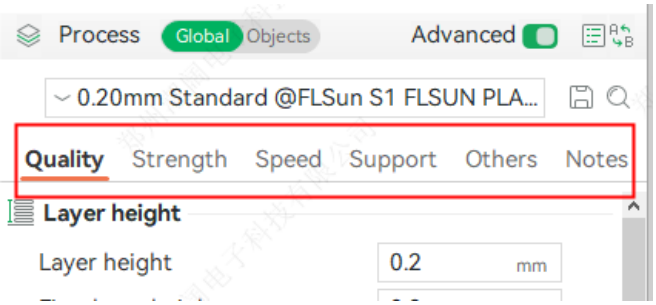
After adding and saving a preset, you can edit and cancel the preset.





The “select presets to compare” feature allows you to view and compare different parameters and specific parameter values for different models of devices.

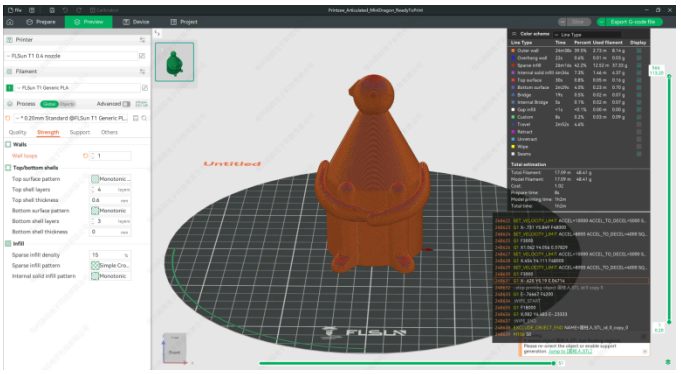
3.1.3.4. Print Parameter Settings



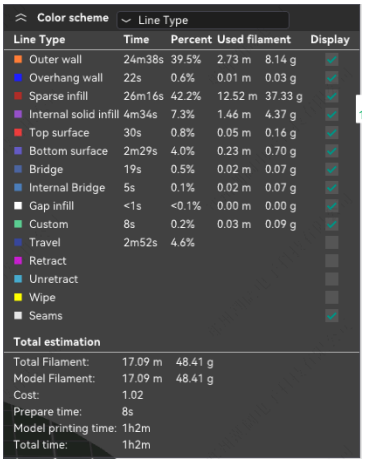
By adjusting the model quality, strength, speed, supports, and other parameters, you can achieve better print quality. The software supports switching between normal and advanced modes. By clicking the advanced button, you can

switch to advanced mode, which allows for the configuration of additional parameters.

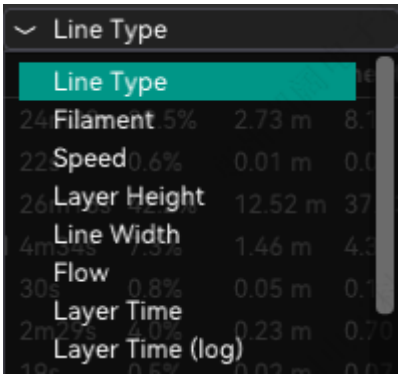
3.1.4. Preview Page



After setting the model parameters, click "Slice Single Plate" to switch to the preview page and begin slicing, which takes some time.

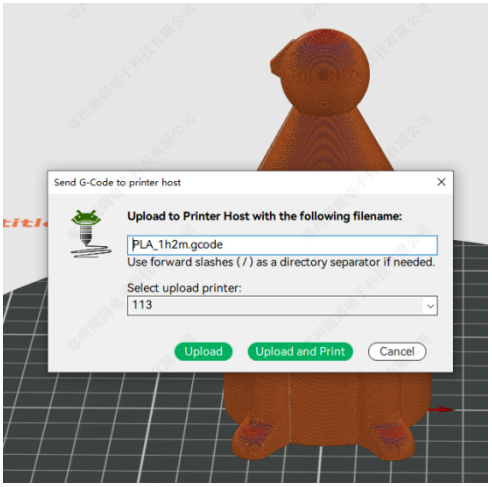


The default display shows functional types, including the time needed for printing at different positions, the weight of filament consumed, the estimated printing time, etc.



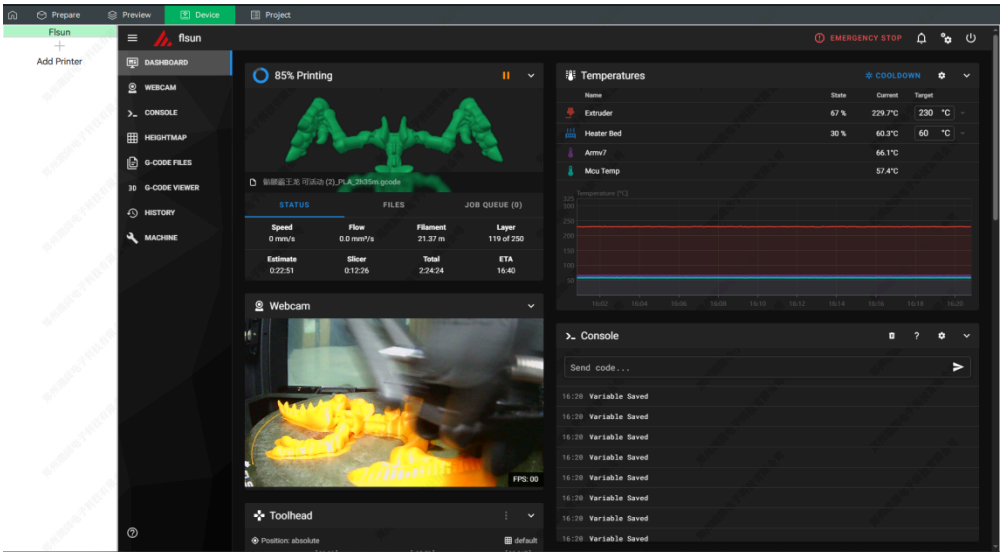
After slicing, you can view G-code file information, including functional type, height, width, speed, etc.

The G-code file can be exported to the desired location and also supports sending the file to the selected printer.



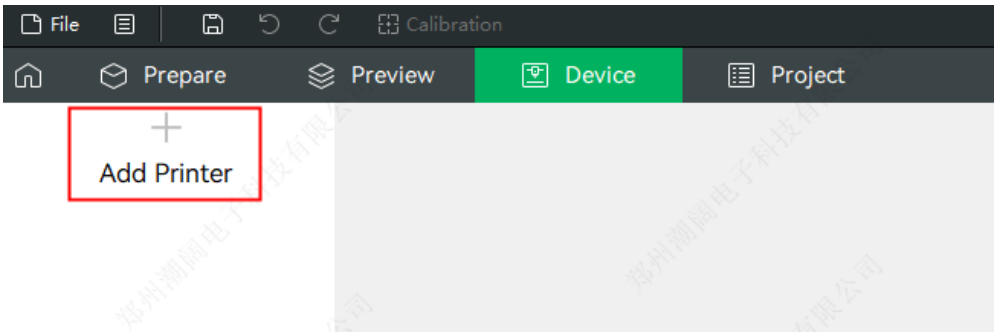
Choose the printer by name, and clicking "Upload and Print" will upload the G-code file to the selected printer and start printing.

3.2. Device Page

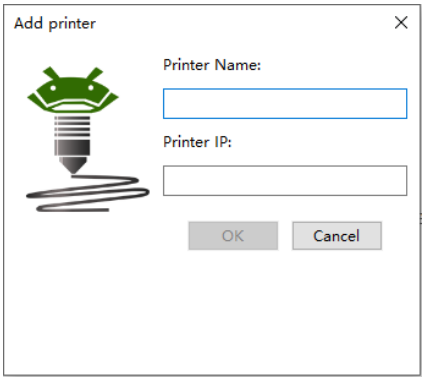


The left side is the device list, supporting the addition of devices, and the right side is the printer control window, used to view and control the printer.

3.2.1. Add Printer



The printer and the FlsunSlicer slicing software must be on the same network. Click on "Add Printer" to proceed with the connection setup.



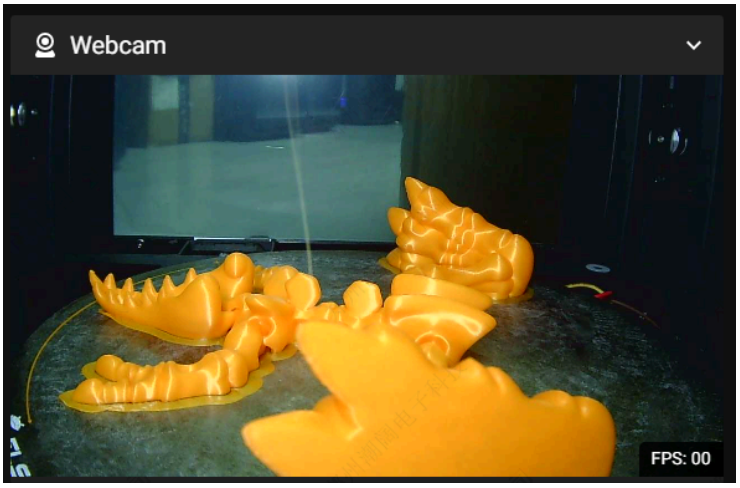
Enter the network IP of the printer into the 'Print IP' field, and you can freely fill in the printer name. After confirmation, the added printer will be displayed on the left, and you can then connect to the printer.

If you encounter an "Access Denied" message on the right side, please check the network speed of the printer's connection and ensure that the printer's network and the network used by the slicing software are the same.

When the control and monitoring interface of the printer device appears on the right side, it indicates that the printer has been successfully connected. At this point, you can remotely send print files, control, and monitor the printer remotely.

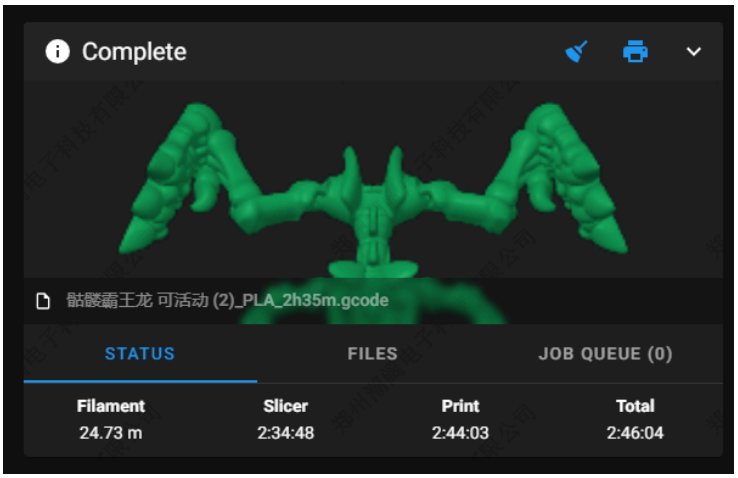
3.2.2. Device Control/Monitoring

3.2.2.1. Video Monitoring



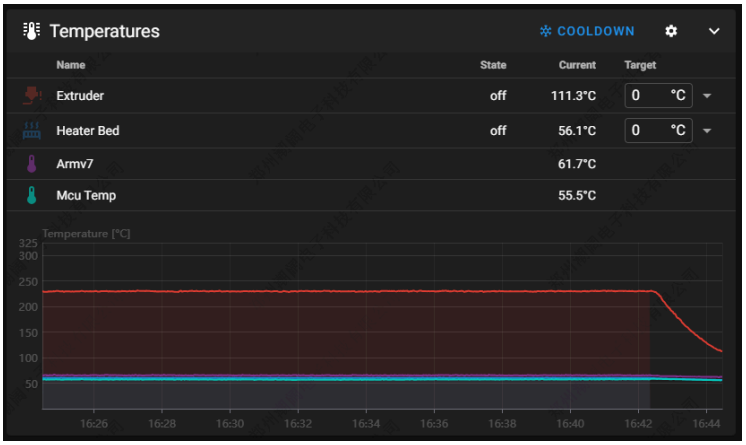
Both the webcam area on the control panel and the Camera tab can be used to view the live print job captured by the printer's camera. This allows users to monitor the printing process remotely and ensures that they can keep an eye on their print jobs without having to be physically present next to the printer.

3.2.2.2. View Print Tasks



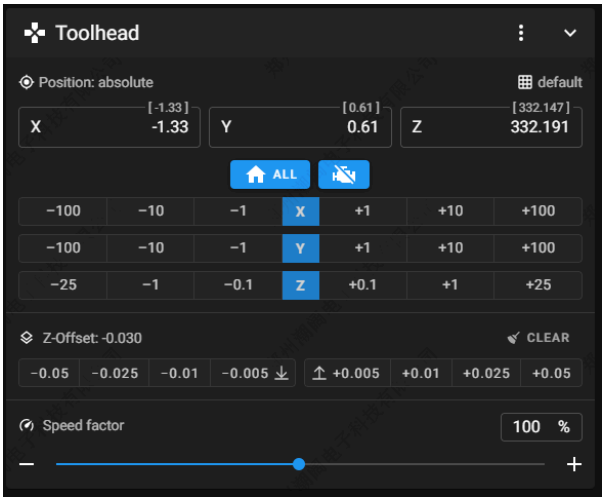
When printing, the task list area in the control panel can view the current print file information and print information, including print speed, flow, time, etc., while also supporting remote pause printing; it also supports viewing the history of printed files and task queues.

3.2.2.3. View and Modify Temperature



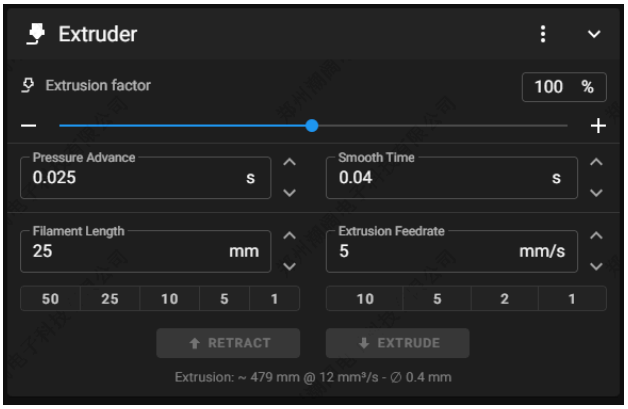
You can view the current nozzle temperature, heated bed temperature, chip temperature, and MCU temperature in real time. Users can also modify the current nozzle and heated bed temperatures, and printing will proceed according to the new settings.

3.2.2.4. Toolhead Settings



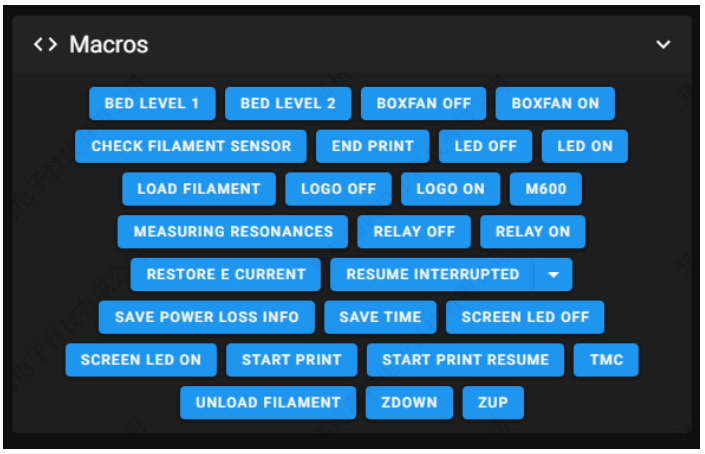
Users can perform axis movements, home the printer, set Z-offset, and adjust the printing speed factor in the print head settings.

3.2.2.5. Extruder Settings



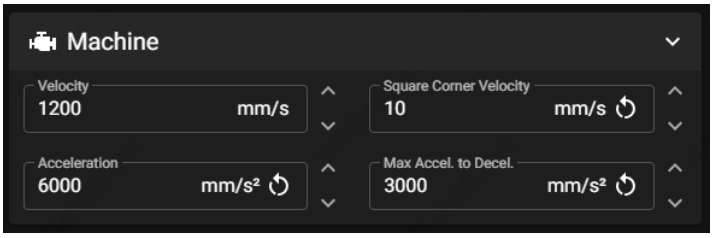
In the extruder settings, users can perform filament loading and unloading operations, set extrusion factor, configure pressure advance, smooth time, filament length, and extrusion feed rate.

3.2.2.6. Macro Operations



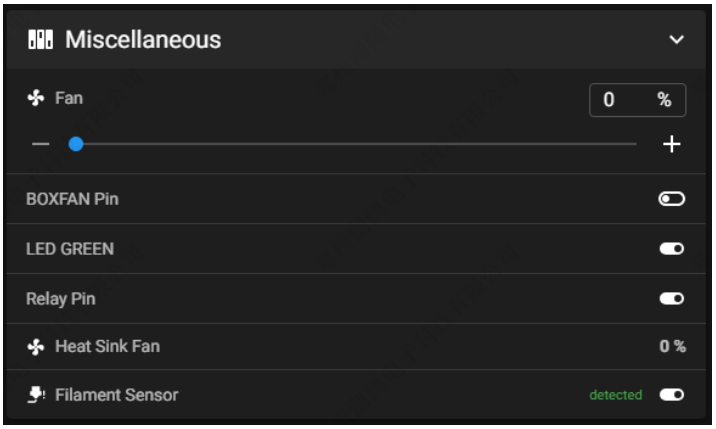
Users can perform operations such as auto bed leveling, turning the LED lights on/off, pausing/resuming printing, and Z-axis lifting/lowering in the macro operations.

3.2.2.7. Speed Settings



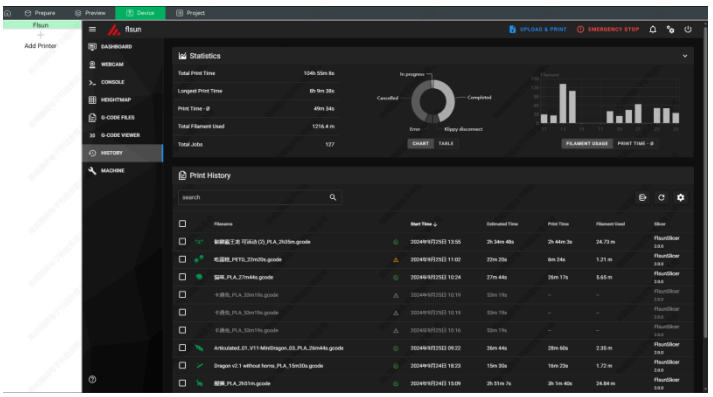
Users can adjust print speed and acceleration in the speed settings.

3.2.2.8. Other Settings



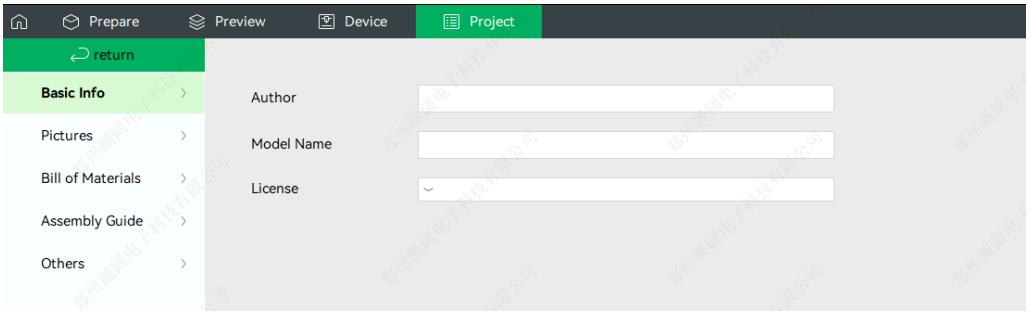
Users can modify the fan speed of the enclosure, enable filament detection, and perform other operations in the other settings.

3.2.2.9. View Print History Records



Users can view detailed information about previous print records in the print history section.

3.2.2.10. Project Page



You can create basic information for your print model projects, including the author, model name, model image, assembly guide, etc.

4. Acknowledgments

When using the slicing software, be sure to keep the software updated and contact the manufacturer for the latest features and technical support. Regularly back up your project files to prevent data loss. If you encounter any issues or need assistance, please do not hesitate to contact the software manufacturer or community; we are happy to provide support and solutions.

Finally, thank you for choosing FlsunSlicer, and we wish you joy and success on your 3D printing journey!