FLSUN S1 Pro 3D Printer

FLSUN S1 Pro 3D Printer User Manual

Model: S1 Pro 3D Printer | Brand: FLSUN

1. Introduction

The FLSUN S1 Pro is an advanced FDM Delta 3D printer designed for high-speed and high-precision additive manufacturing. It features an ultra-fast printing speed of up to 1200mm/s and an acceleration of 40,000mm/s², significantly reducing print times. Equipped with Klipper firmware, a 7-inch smart touch screen, and a 350°C all-metal hotend, the S1 Pro supports a wide range of filaments, including high-performance engineering materials. Its large build volume of Φ320*320*430 mm³ accommodates substantial projects. This manual provides essential information for setting up, operating, maintaining, and troubleshooting your FLSUN S1 Pro 3D Printer.

Image 1.1: Front view of the FLSUN S1 Pro 3D Printer, showcasing its sleek design and enclosed build chamber.

2. What's in the Box

Upon unpacking, please verify that all components are present:

- FLSUN S1 Pro 3D Printer (main unit)
- Filament Dryer Box
- Power Cable
- USB Cable
- Tool Kit (various wrenches, screwdrivers, etc.)
- Sample Filament
- User Manual (this document)
- Quick Start Guide

Image 2.1: The FLSUN S1 Pro 3D Printer and its included accessories, demonstrating its 95% pre-assembled state.

3. Setup Instructions

The FLSUN S1 Pro is designed for quick setup, being 95% pre-assembled. The initial setup typically takes less than 10 minutes.

1. **Unpacking:** Carefully remove the printer and all accessories from the packaging.
2. **Placement:** Place the printer on a stable, level surface in a well-ventilated area.
3. **Assembly:** Install the door and glass panels as per the instructions in the detailed Installation Manual (PDF).
4. **Power Connection:** Connect the power cable to the printer and a suitable power outlet.
5. **Initial Power On:** Turn on the printer using the main power switch. The device will perform self-checks to ensure stability.
6. **Automatic Leveling:** The printer features automatic leveling. Follow the on-screen prompts on the 7-inch touch screen to initiate and complete the leveling process. This ensures optimal print bed calibration.
7. **Filament Loading:** Load your desired filament into the filament dryer box and then guide it into the extruder as instructed on the display.
8. **Network Connection:** Connect the printer to your local Wi-Fi network via the touch screen interface for remote monitoring and control.

For detailed visual instructions, please refer to the officialInstallation Manual (PDF).

4. Operating Instructions

4.1 User Interface and Control

The FLSUN S1 Pro utilizes a 7-inch Klipper firmware smart touch screen for intuitive control. The visual operation interface allows for smart adjustment and monitoring directly from the printer. Additionally, with advanced Microtac radar control and Wi-Fi connectivity, you can monitor and control your printer in real-time from mobile phones and PCs.

Image 4.1: Remote control and monitoring capabilities via the FLSUN World app on a mobile device.

- **Remote Control:** Manage your printers remotely from anywhere.
- **Tap it, Print it, Like it:** Start printing tasks with a quick tap on the FLSUN World app, utilizing cloud storage for G-code files.
- **Monitor in Pocket:** Real-time checking of your printing progress.
- **Smart Reminder:** Receive notifications when print errors occur.

4.2 Printing Process

1. **Prepare Model:** Use compatible slicing software (FLSUN Slicer V2.0 or other slicers like PrusaSlicer, Cura) to prepare your 3D model. Ensure settings are optimized for the S1 Pro's capabilities, including its high speed and acceleration.
2. **Transfer File:** Transfer the sliced G-code file to the printer via USB or Wi-Fi (FLSUN World app).
3. **Start Print:** Select the file on the touch screen or through the app and initiate the print.
4. **Monitoring:** Utilize the built-in camera for real-time monitoring and time-lapse recording. The printer's low noise level (55dB) ensures a quiet operating environment.
5. **Power-Off Resume:** In case of power interruption, the printer supports power-off continuous printing, resuming from where it left off. Vibration compensation further ensures print quality.

Image 4.2: Illustration of the FLSUN S1 Pro's epic speed capabilities: 1200mm/s max printing speed, 40000mm/s² max acceleration, and 110mm³/s peak flow rate.

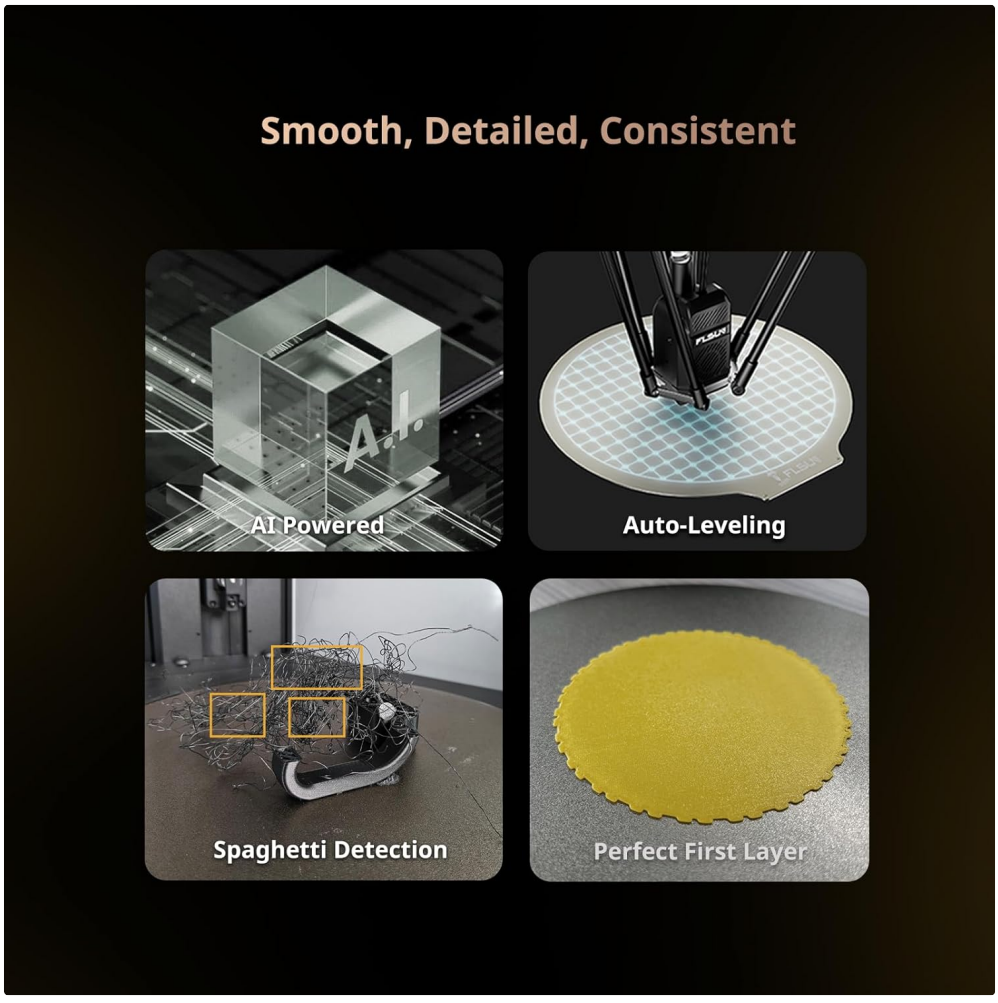

Image 4.3: Key features for smooth and consistent printing, including AI-powered functions, auto-leveling, spaghetti detection, and perfect first layer adhesion.

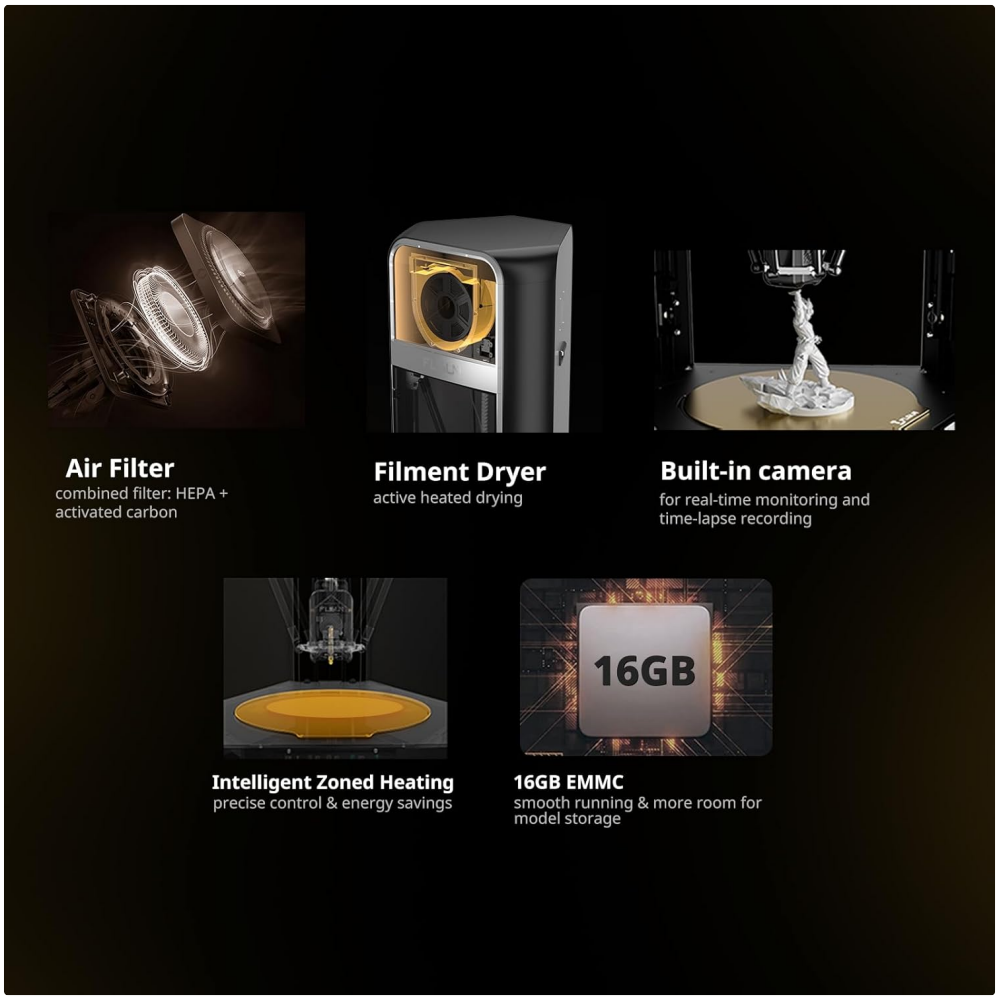

Image 4.4: Advanced features like the Air Filter, Filament Dryer, Built-in camera, Intelligent Zoned Heating, and 16GB EMMC storage.

5. Maintenance

Regular maintenance ensures the longevity and optimal performance of your FLSUN S1 Pro 3D Printer.

- **Cleaning:** Regularly clean the print bed, nozzle, and internal components to prevent debris buildup. Use a soft cloth and appropriate cleaning solutions.
- **Air Filter:** The printer is equipped with a combined HEPA + activated carbon air filter. Check and replace the filter periodically as needed to maintain air quality and prevent odors.
- **Filament Dryer Box:** Ensure the filament dryer box is functioning correctly to keep your filament dry, which is crucial for print quality.
- **Nozzle Inspection:** Periodically inspect the 0.4mm hardened steel nozzle for wear or clogs. Replace if necessary. The all-metal hot end can reach up to 350°C, supporting various high-temperature filaments.
- **Lubrication:** Refer to the detailed manual for any lubrication requirements for moving parts.

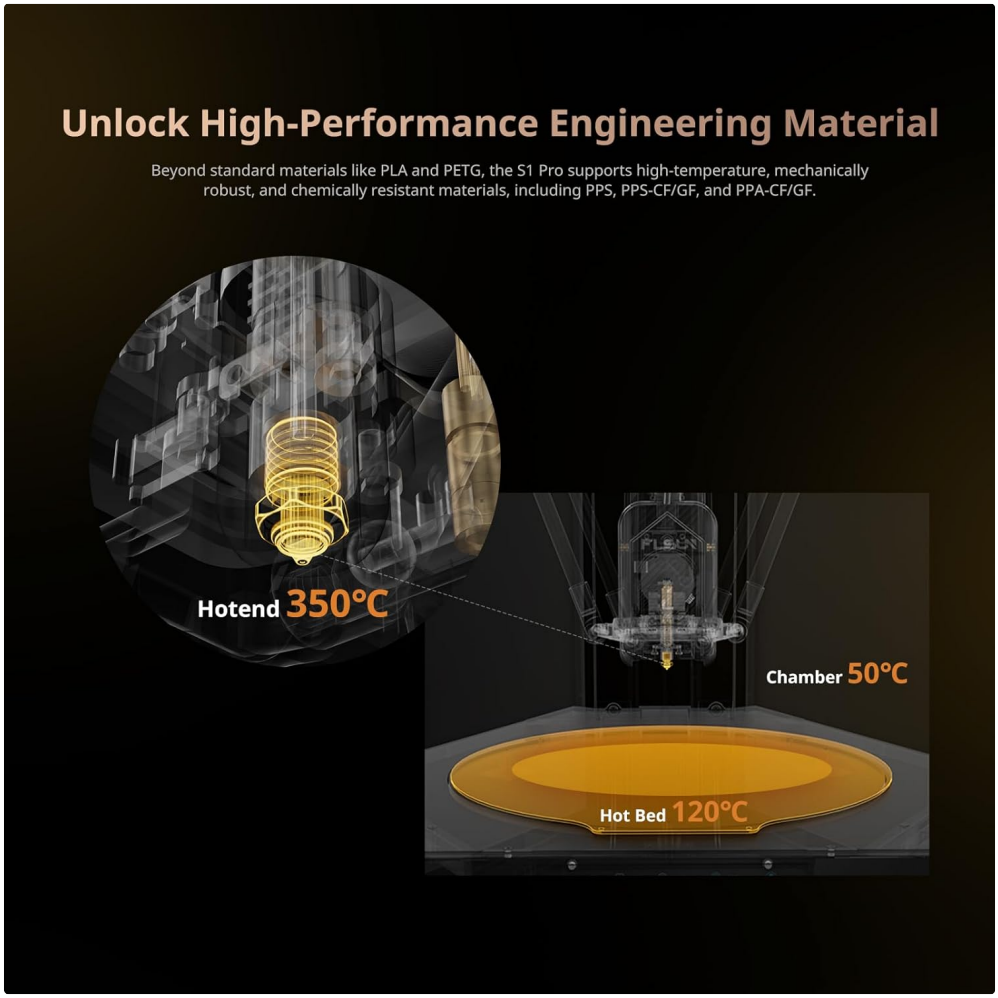

Image 5.1: Diagram illustrating the 350°C hotend, 50°C chamber, and 120°C hot bed for optimal material handling.

6. Troubleshooting

This section addresses common issues you might encounter during operation.

Problem	Possible Cause	Solution
Print Not Sticking to Bed	Improper bed leveling, dirty print surface, incorrect bed temperature.	Re-run auto-leveling. Clean the print surface with isopropyl alcohol. Adjust hot bed temperature according to filament type (Max 120°C).
Filament Clogging	Dust in filament, incorrect hotend temperature, worn nozzle, heat creep.	Ensure filament is dry (use filament dryer). Verify hotend temperature (Max 350°C). Clean or replace nozzle. Check cooling fan operation.
"Spaghetti" Prints	Poor bed adhesion, model detaching, extrusion issues.	The S1 Pro features **Spaghetti Detection**. Ensure proper bed adhesion. Monitor print progress via the built-in camera.
Printer Not Responding	Software glitch, loose connection, power issue.	Restart the printer. Check all cable connections. Ensure stable power supply.
Poor Print Quality	Incorrect slicing settings, worn nozzle, vibration, wet filament.	Optimize slicing parameters. Replace nozzle if worn. The printer has **Vibration Compensation**; ensure it's active. Use filament dryer.

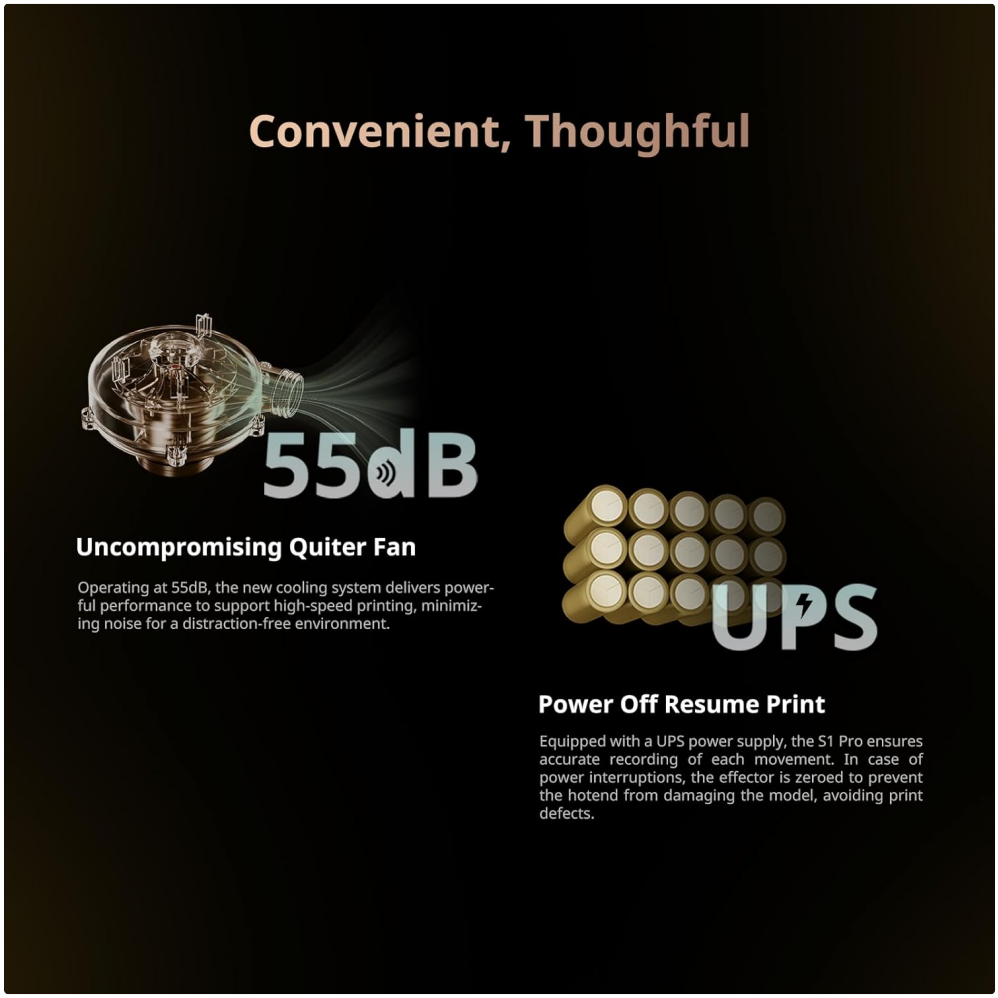

Image 6.1: Features like the 55dB quiet fan and Power Off Resume Print (UPS) contribute to a reliable printing experience.

7. Technical Specifications

Category	Specification	Details
General	Max Printing Speed	1200mm/s
	Max Acceleration	40000mm/s²
	Peak Flow Rate	110mm³/s
	Build Volume	Φ320*320*430 mm³ (Maximum height of the cylinder: 383mm)
	Chamber	Closed
	Noise Level	55dB
Tool Head	Nozzle	0.4mm Hardened Steel Nozzle (supports various nozzle sizes)
	Max Hot End Temp	350℃
	Filament Diameter	1.75mm
Filament	Supported Filament	Ideal: PLA, PETG, TPU. Satisfactory: ABS, ASA, PA, PC, PET. Capable: Carbon/Glass Fiber Reinforced PLA, PPS-CF, PPA-CF/GF.
	Active Heating Dry Box	Yes
	Filament Clog Detection	Yes
Heatbed	Build Plate	Textured PEI Plate
	Max Build Plate Temp	120℃
	Smart Zone Heating	Inner Circle Ø220mm, Outer Ring 220-320mm
	Display	7" Color Touch Screen
	Storage	16GB EMMC, 32GB USB Flash

Electronics Category	Specification	Details
	Power Supply	110-240V, 50/60Hz
	On-mode Power Consumption	400 watts
Software	Firmware Upgrade	OTA (Over-The-Air)
	Slicing Software	FLSUN Slicer V2.0, Other Slicers
	Supported OS	MacOS, Windows
Features	Monitoring Camera	Realtime, Timelapse
	Filament Detection	Yes
	Vibration Compensation	Yes
	Debris Detection	Yes
	Spaghetti Detection	Yes
	Screen Auto Sleep	Yes
	Printer Auto Power Off	Yes
	Auto-Leveling	Yes
	Power Loss Recover	Yes (Z lift, Backup Battery)
	Air Filter	HEPA + Activated Carbon
Physical Dimensions	Product Dimensions (D x W x H)	23.62"D x 34.25"W x 9.45"H (600mm x 870mm x 240mm approx.)
	Physical Dimension (Printer)	550*596*1030mm
	Item Weight	113 pounds (approx. 51.2 kg)
	Color	Black

Image 7.1: Comprehensive technical specifications for the FLSUN S1 Pro 3D Printer.

8. Warranty and Support

FLSUN is committed to providing reliable products and excellent customer service.

- **Returns:** The product is eligible for 30-day easy returns. Please refer to the retailer's return policy for specific details.
- **Customer Support:** For technical assistance, troubleshooting, or warranty inquiries, please contact FLSUN Customer Support. You can often find support resources and contact information on the official FLSUN website or through the retailer where the product was purchased.
- **Protection Plans:** Extended protection plans, such as a 4-Year Protection Plan, may be available for purchase separately to provide additional coverage beyond the standard warranty.
- **Online Resources:** Visit the FLSUN Store on Amazon for additional product information, FAQs, and support.

Related Documents

	Flsun S1 Instruction Manual: Ultra High-Speed 3D Printing Comprehensive instruction manual for the Flsun S1 3D printer, detailing setup, calibration, filament loading, and first printing. Covers technical specifications, component introductions, and customer support information.

	FLSUN V2 Pro Instruction Manual: Your Guide to Ultra-High-Speed 3D Printing This instruction manual provides comprehensive guidance for the FLSUN V2 Pro ultra-high-speed 3D printer, covering assembly, setup, operation, maintenance, and slicing. Learn to maximize your 3D printing experience with detailed steps and expert advice.
	Flsun T1 Pro Instruction Manual: Ultra High-Speed 3D Printing Comprehensive instruction manual for the Flsun T1 Pro 3D printer, covering setup, operation, and maintenance for ultra high-speed 3D printing.
	Flsun T1 Instruction Manual: Ultra High-Speed 3D Printing This manual provides comprehensive instructions for the Flsun T1 3D printer, covering setup, operation, and maintenance for ultra high-speed 3D printing.

Documents - FLSUN – S1 Pro 3D Printer

[pdf] User Manual

S1PRO FLSUN S1 Pro 3D Printer Moving Speed Fastest 1200mm s 40000 mm s²FDM Delta with 7 Klipper Firmware Smart Zone Heating 350℃ Filament Dryer Box Printing Size Φ320*320 * 430 mm³S1 Installation Manual mm³ B0CTZPQNNS B0F1FLMYVB B0DJNLJ9KP B0FJ8CCG2PC1c amazon images I C1qvA9FkweL |||

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