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- › [SUNLU](#) /
- › SUNLU S4 Pro 3D Printer Filament Dryer Box User Manual

SUNLU S4 Pro

SUNLU S4 Pro 3D Printer Filament Dryer Box User Manual

1. INTRODUCTION

The SUNLU S4 Pro is an advanced 3D printer filament dryer box designed to optimize filament performance by removing moisture and enabling annealing. This device features dual-chamber independent control, faster heating, and intelligent humidity management to ensure your filaments are always in optimal condition for high-quality 3D printing.

Upgraded S4 Pro Filament Dryer

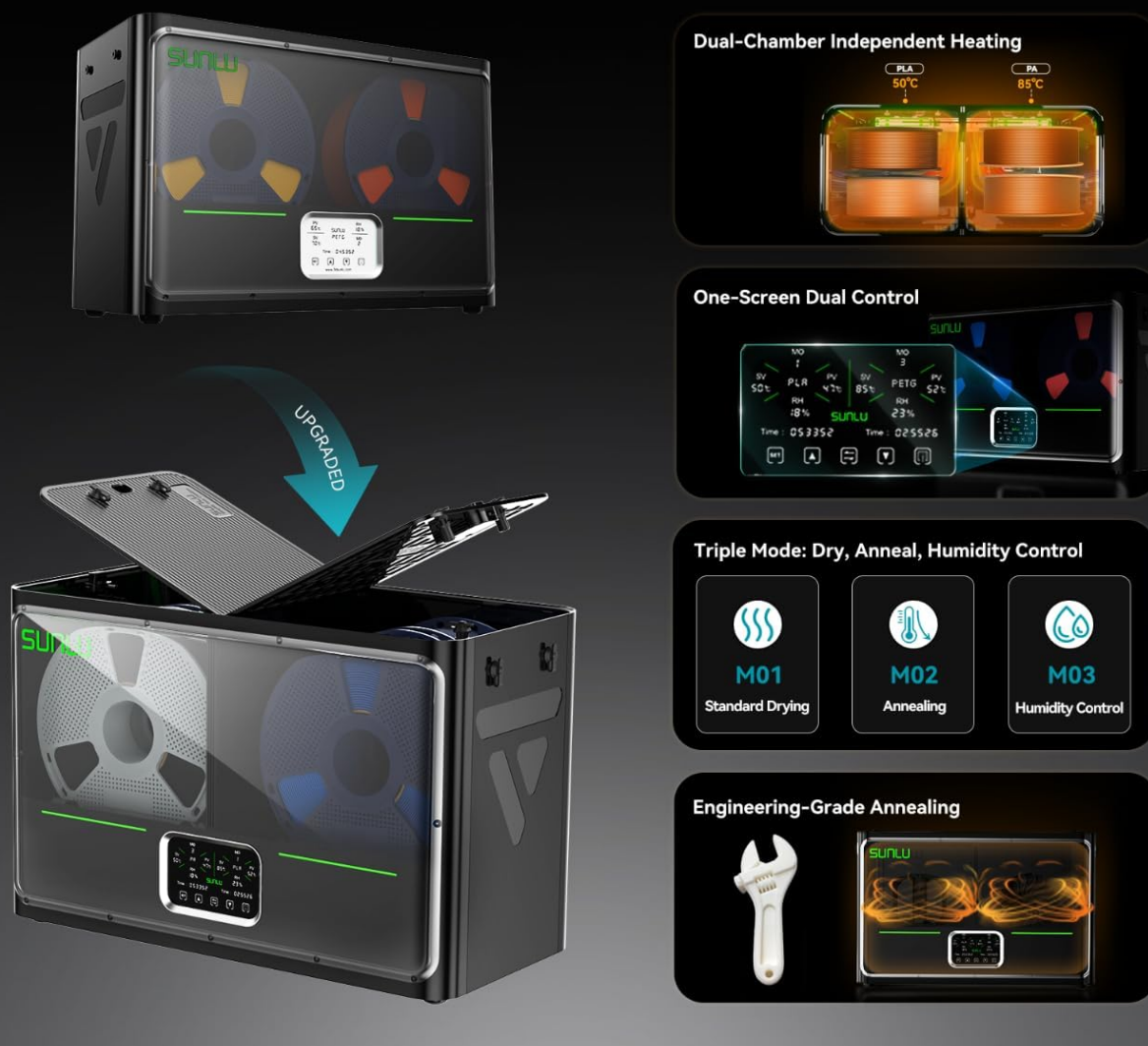


Image 1.1: The SUNLU S4 Pro Filament Dryer Box.

2. SAFETY INFORMATION

- Read all instructions before use.
- Do not operate the device with wet hands or in damp environments.
- Ensure proper ventilation during operation, especially during annealing.
- Keep out of reach of children and pets.
- Use only the provided power cable.
- Do not block ventilation openings.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- SUNLU S4 Pro FilaDryer x 1
- Power Cable x 1
- User Manual x 1
- PTFE Tube (8cm) x 4
- PTFE Tube (1m) x 4

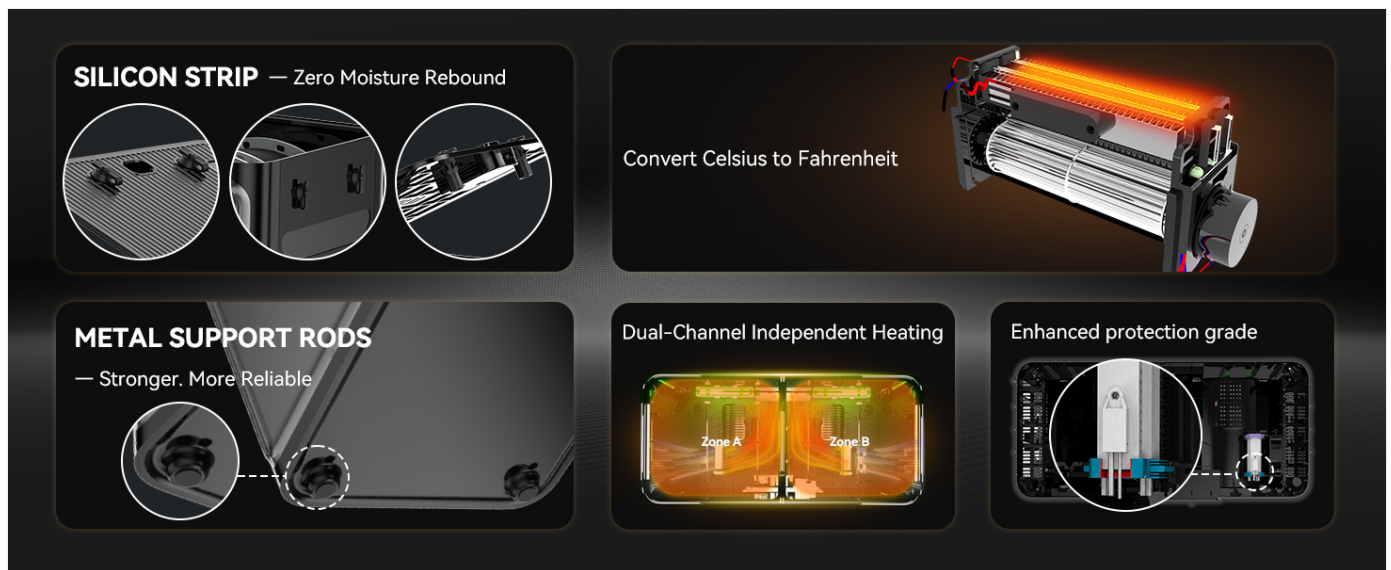


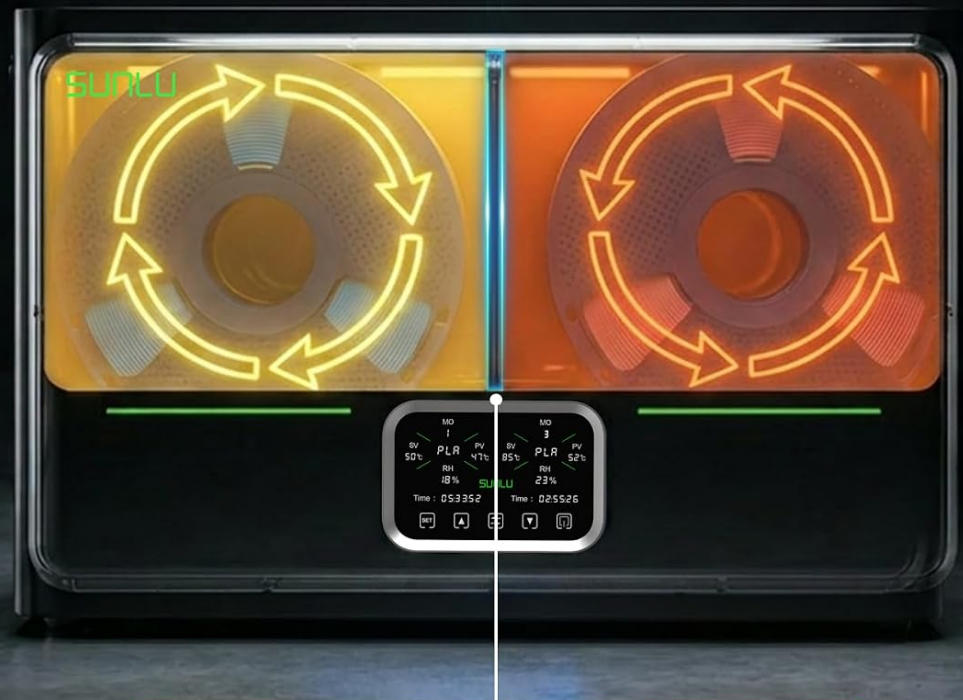
Image 3.1: Included components of the SUNLU S4 Pro.

4. PRODUCT OVERVIEW

The S4 Pro features a robust design with two independent heating chambers, allowing for simultaneous drying or annealing of different filament types at varying temperatures. The intuitive control screen provides real-time monitoring and easy adjustment of settings.

One Dryer **Two Zones**

Simultaneous Drying at Different Temperatures



Thermal Insulation Plate Effectively prevents heat from crossing over
Stable temps, better results.

Image 4.1: The S4 Pro features two independent drying zones.

One Screen , Dual Modes

Simultaneous Dual-Mode Control



Mode 1: Standard Drying

Mode 2: Annealing

Mode 3: Humidity Control

Image 4.2: The control panel allows for simultaneous dual-mode control.

5. SETUP

5.1 Initial Setup

1. Unpack the SUNLU S4 Pro and all accessories.
2. Place the dryer on a stable, flat, and heat-resistant surface. Ensure adequate clearance around the unit for ventilation.
3. Connect the power cable to the dryer and then to a suitable power outlet.

5.2 Loading Filament

1. Open the top lid of the S4 Pro.
2. Place up to two 1KG filament spools in each chamber. The dryer supports 1.75mm, 2.85mm, and 3.00mm filament diameters.

3. If using the dryer with a 3D printer, feed the filament through the designated PTFE tube outlets.
4. Close the lid securely.

Dual-Chamber **Independent** Heating



Image 5.1: Loading filament into the independent chambers.

6. OPERATING INSTRUCTIONS

6.1 Power On/Off

Press the power button on the control panel to turn the unit on. To shut down, short press the power button once more. The corresponding chamber will resume operation if paused.

Your browser does not support the video tag.

Video 6.1: Demonstrates the shutdown process and control panel interaction.

6.2 Control Panel Overview

The S4 Pro features a single screen for dual-chamber control. You can independently set temperature, drying programs, and annealing settings for each chamber. The display shows Set Value (SV), Process Value (PV), Relative Humidity (RH), and remaining time for each chamber.

6.3 Standard Drying Mode

This mode is designed for general filament drying to remove absorbed moisture. It improves print quality by reducing stringing, improving layer adhesion, and preventing clogs. The S4 Pro offers faster heating, reaching up to 85°C (185°F) in approximately 20 minutes, with improved airflow circulation for effective moisture removal.



Image 6.1: The S4 Pro heats rapidly for efficient drying.

6.4 Annealing Mode

The S4 Pro includes a professional annealing mode to enhance the strength, dimensional stability, and heat resistance of 3D printed parts. This is particularly beneficial for engineering-grade materials such as PA, PC, PA6-CF, and PA12-CF. Annealing involves heating the printed parts to relax internal molecular stresses and then slowly cooling them.



Image 6.2: Explanation of the annealing process and its benefits.

6.5 Automatic Humidity Control

Set your desired target humidity level between 30% and 50%. The S4 Pro will automatically initiate drying when the chamber humidity exceeds this preset value and will stop once it reaches 25%. This feature ensures your filaments remain consistently dry and protected.

Intelligent Humidity Control

Keeps Filaments in Optimal Printing Condition



Image 6.3: The S4 Pro's intelligent humidity control system.

6.6 Filament Compatibility and Recommended Settings

The S4 Pro is compatible with a wide range of filaments, including PLA, PETG, TPU, ABS, ASA, PA, PC, Nylon, Carbon Fiber, and Glass Fiber. Refer to the table below for recommended drying and annealing settings:

Table 6.1: Recommended Drying and Annealing Settings

Material	Drying Temperature (°C)	Drying Time	Annealing Temperature (°C)	Annealing Time
PLA	50	6H	N/A	N/A
PETG	55	6H	N/A	N/A
TPU	55	6H	N/A	N/A
ABS	65	6H	N/A	N/A

Material	Drying Temperature (°C)	Drying Time	Annealing Temperature (°C)	Annealing Time
PETG-CF	60-70	8H	55-60	2H
PC	70-80	6H	80-85	2-3H
Easy PA	70-80	6H	80-85	2-3H
PA6-CF	80-85	8-12H	80-85	6-8H
PA6-GF	80-85	8-12H	80-85	6-8H
PA12-CF	80-85	8-12H	80-85	6-8H
ABS-GF	80	8H	80	2H

Note: Annealing times are adjustable based on part size and material.

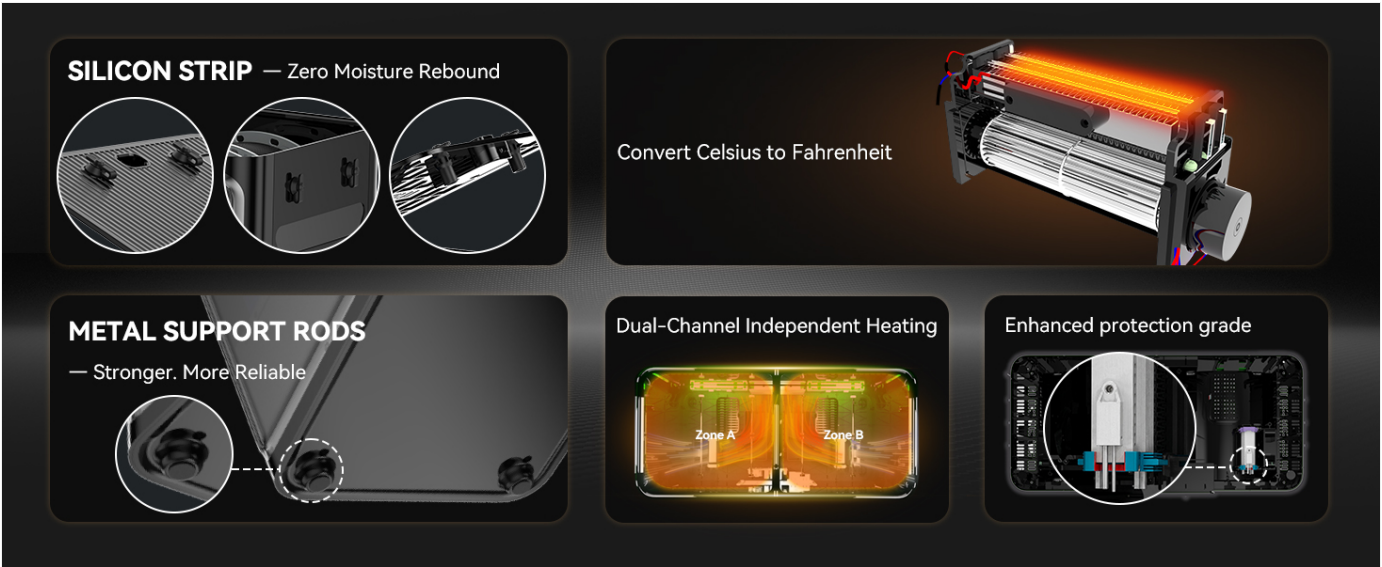


Image 6.4: Visual representation of recommended drying and annealing settings.

7. MAINTENANCE

- **Cleaning:** Regularly wipe the exterior of the dryer with a soft, dry cloth. Ensure the device is unplugged before cleaning.
- **Internal Cleaning:** Periodically check the interior for any filament debris or dust. Use a soft brush or compressed air to clean if necessary.
- **Silica Gel:** While the S4 Pro has automatic humidity control, some users may choose to use desiccant. If so, monitor and replace or regenerate silica gel as needed.

8. TROUBLESHOOTING

8.1 Common Printing Issues Related to Moisture

Moisture-laden filament can lead to various printing problems. The S4 Pro helps mitigate these issues:

SUNLU S4 Pro Filament Box

Effectively Reduce Printing Issues



Image 8.1: Comparison of prints with wet vs. dry filament.

- **Stringing:** Excessive fine strands of plastic between printed parts.
- **Rough Surface:** Prints appear uneven or bubbly.
- **Poor Adhesion:** Layers do not bond properly, leading to weak parts.
- **Clogging:** Filament expands in the hotend due to moisture, causing blockages.
- **Brittle Filament:** Filament snaps easily, especially when unspooling.
- **Warping:** Prints lift from the build plate.

8.2 Device Specific Issues

- **Device does not power on:** Ensure the power cable is securely connected to both the dryer and the power outlet. Check if the outlet is functional.
- **Screen is garbled or unresponsive:** Try restarting the device by unplugging it for 30 seconds and plugging it back in. If the issue persists, contact customer support.
- **Chamber not heating:** Verify that the temperature settings are correctly configured for the desired mode (drying or

annealing). Ensure the lid is properly closed.

9. SPECIFICATIONS

Table 9.1: SUNLU S4 Pro Technical Specifications

Feature	Detail
Brand	SUNLU
Model Number	DCUS-FD-S4PRO-BK-US
Item Weight	4.7 KG
External Dimensions (L*W*H)	458mm * 218mm * 310mm
Internal Chamber Dimensions (L*W*H)	220mm * 210mm * 211mm (x2 chambers)
Maximum Heat Temperature	85°C
Rated Power	300W
Number of Chambers	2 (Independent Control)
Special Features	Dual-Chamber Independent Control, Faster Heating, Built-in Annealing Mode, Automatic Humidity Control
Filament Capacity	4 x 1KG Spools
Filament Diameter Compatibility	1.75mm, 2.85mm, 3.00mm

Material	Temperature(°C)	Drying Time	Temperature(°C)	Annealing Time
PLA	50	6H	/	
PETG	55			
TPU	55			
ABS	65	8H	55-60	2H
PETG-CF	60-70			
PC	70-80	6H	80-85	2-3H
Easy PA	80-85	8-12H	80-85	6-8H
PA6-CF				
PA6-GF				
PA12-CF	80	8H	80	2H
ABS-GF				

Annealing: Adjust the constant temperature time according to the size and material.

Next Page >>

Image 9.1: Comparison of SUNLU filament dryer models, highlighting S4 Pro features.

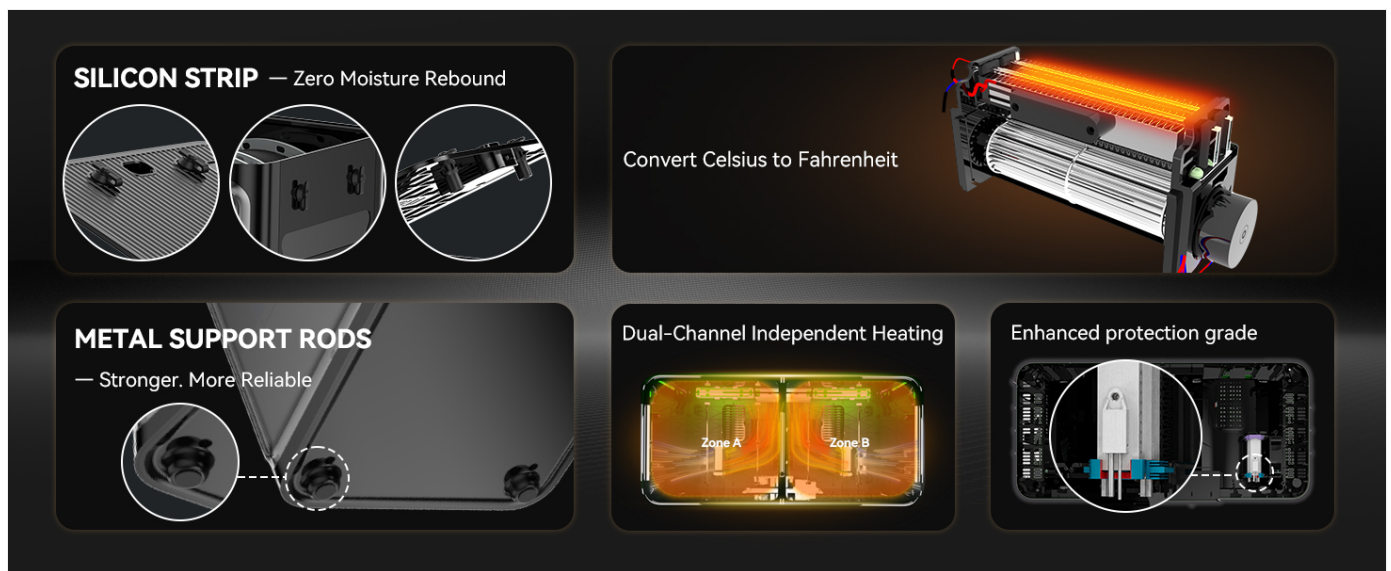


Image 9.2: External and internal dimensions, and spool capacity.

10. WARRANTY AND SUPPORT

10.1 Warranty Information

The SUNLU S4 Pro 3D Printer Filament Dryer Box comes with a **1-year warranty** from the date of purchase, covering manufacturing defects and malfunctions under normal use. Please retain your proof of purchase for warranty claims.

10.2 Customer Support

For technical assistance, troubleshooting, or warranty inquiries, please contact SUNLU customer support through their official channels. You can also visit the [SUNLU Official Store on Amazon](#) for more product information and resources.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

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