eSUN eEnclosure

eSUN 3D Printer Enclosure Tent User Manual

Model: eEnclosure | Brand: eSUN

1. Introduction

The eSUN 3D Printer Enclosure Tent is designed to create a stable and controlled environment for your 3D printer. This enclosure helps maintain consistent temperature and humidity, which are crucial for successful 3D printing, especially with sensitive filaments. It also provides protection against dust and reduces operational noise, contributing to improved print quality and a cleaner workspace.
Key benefits include:

- **Constant Temperature and Humidity:** Helps prevent common printing issues like cracking, warping, and shrinking by maintaining an internal temperature of approximately 36°C.
- **Moisture-proof and Dust-proof:** Protects filament from moisture and the printer from dust, reducing print failures such as bubbles, stringing, and brittleness.
- **Noise Reduction:** The enclosed design helps to dampen noise from the printer's fans and motors.
- **Safety Features:** Constructed with thermal insulation and fire-resistant aluminum foil internally, and Oxford fabric externally, enhancing operational safety.

2. Important Safety Information

Please read all safety instructions carefully before assembling and operating the eSUN 3D Printer Enclosure. Failure to follow these instructions may result in injury or damage to the product or your 3D printer.

- Ensure the enclosure is placed on a stable, level surface.
- Do not obstruct the ventilation openings of the enclosure or your 3D printer.
- Keep the enclosure away from open flames, heat sources, and direct sunlight.
- Always disconnect the 3D printer from its power source before performing any maintenance or adjustments inside the enclosure.
- The enclosure is designed to contain heat; however, ensure adequate room ventilation, especially when printing with materials that emit fumes.
- For detailed safety guidelines, refer to the official safety document provided by eSUN:Safety Information (PDF).

3. Package Contents

Verify that all components listed below are present in your package. If any items are missing or damaged, please contact eSUN customer support.

Figure 3.1: Overview of included package contents.

- eEnclosure 3D Printer Cover (1 unit)
- 3-way Corner Connectors (Quantity as required for frame assembly)
- Support Pipes (Various lengths, quantity as required for frame assembly)
- User Manual (1 copy)
- Discoloration Desiccant (1 bag)
- Bamboo Charcoal Bag (1 bag)

4. Assembly Instructions

Follow these steps to assemble your eSUN 3D Printer Enclosure. It is recommended to assemble the frame first, then place the

cover over it.

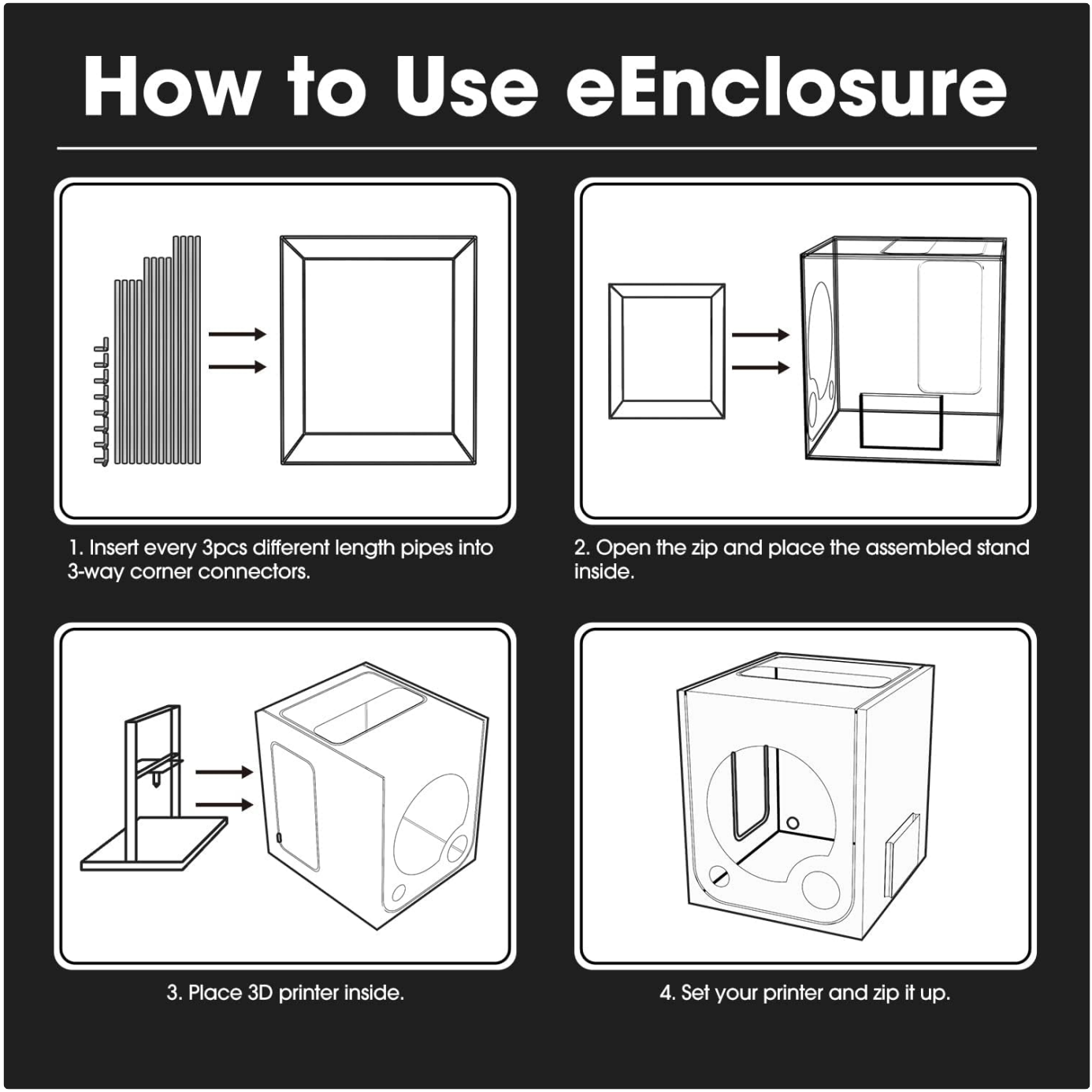

Figure 4.1: Step-by-step assembly guide for the eSUN 3D Printer Enclosure.

1. **Assemble the Frame:** Insert the support pipes of different lengths into the 3-way corner connectors to form the cubic frame. Ensure all connections are secure. Refer to the diagram for correct pipe placement.

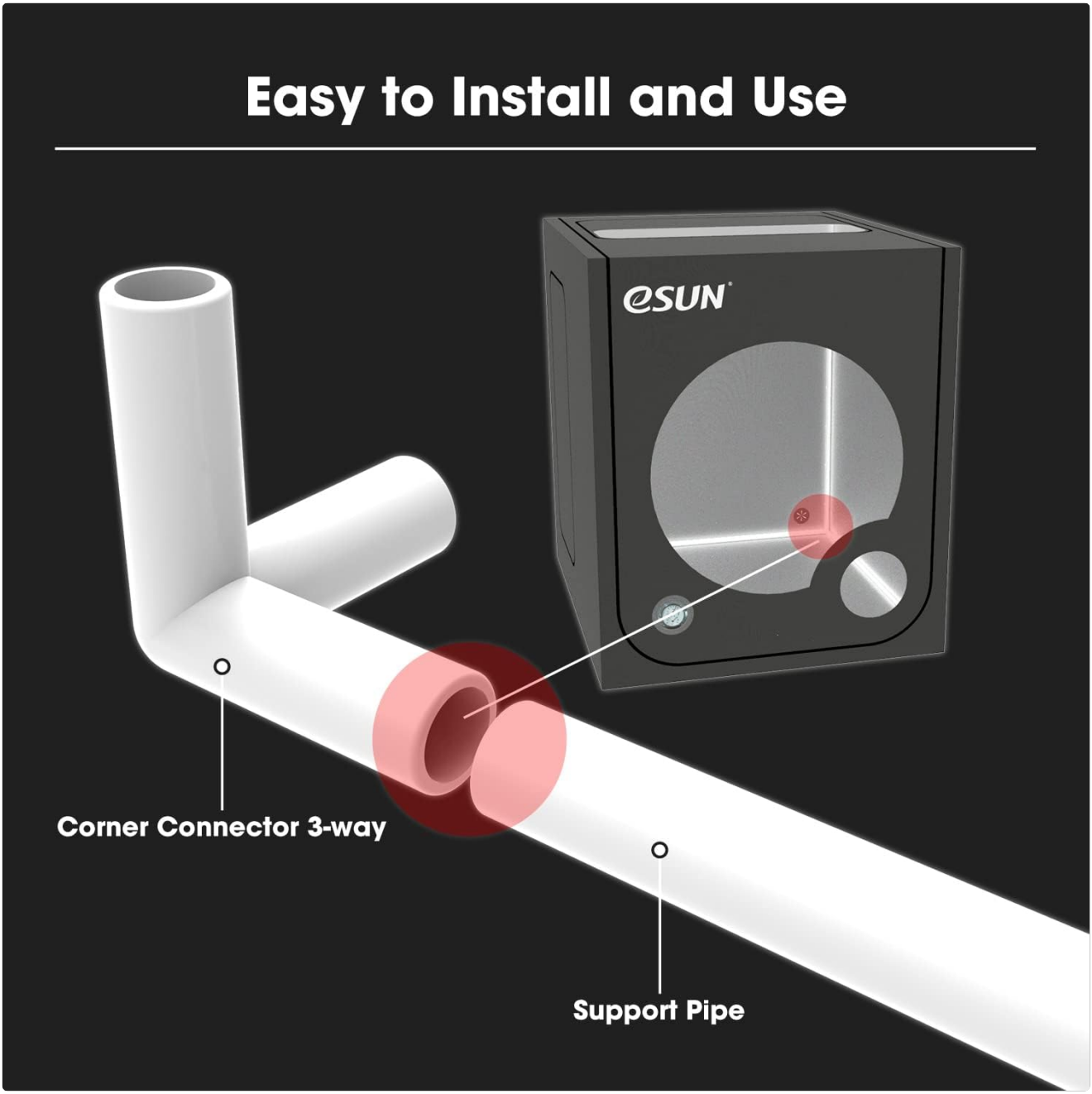

Figure 4.2: Detail of pipe and connector assembly.

2. **Install the Cover:** Open the main zipper of the eEnclosure cover. Carefully place the assembled frame inside the cover, ensuring it fits snugly into all corners.
3. **Position the 3D Printer:** Once the frame is inside the cover, place your 3D printer into the enclosure. Ensure there is adequate space around the printer for operation and cable management.
4. **Secure the Enclosure:** Close the main zipper and any other openings (e.g., Velcro flaps) to seal the enclosure. Ensure all cables (power, USB, etc.) are routed through the designated dual power cord outlets to maintain the sealed environment.

5. Operation

The eSUN 3D Printer Enclosure is designed for ease of use while providing an optimized printing environment.

5.1 Environmental Control

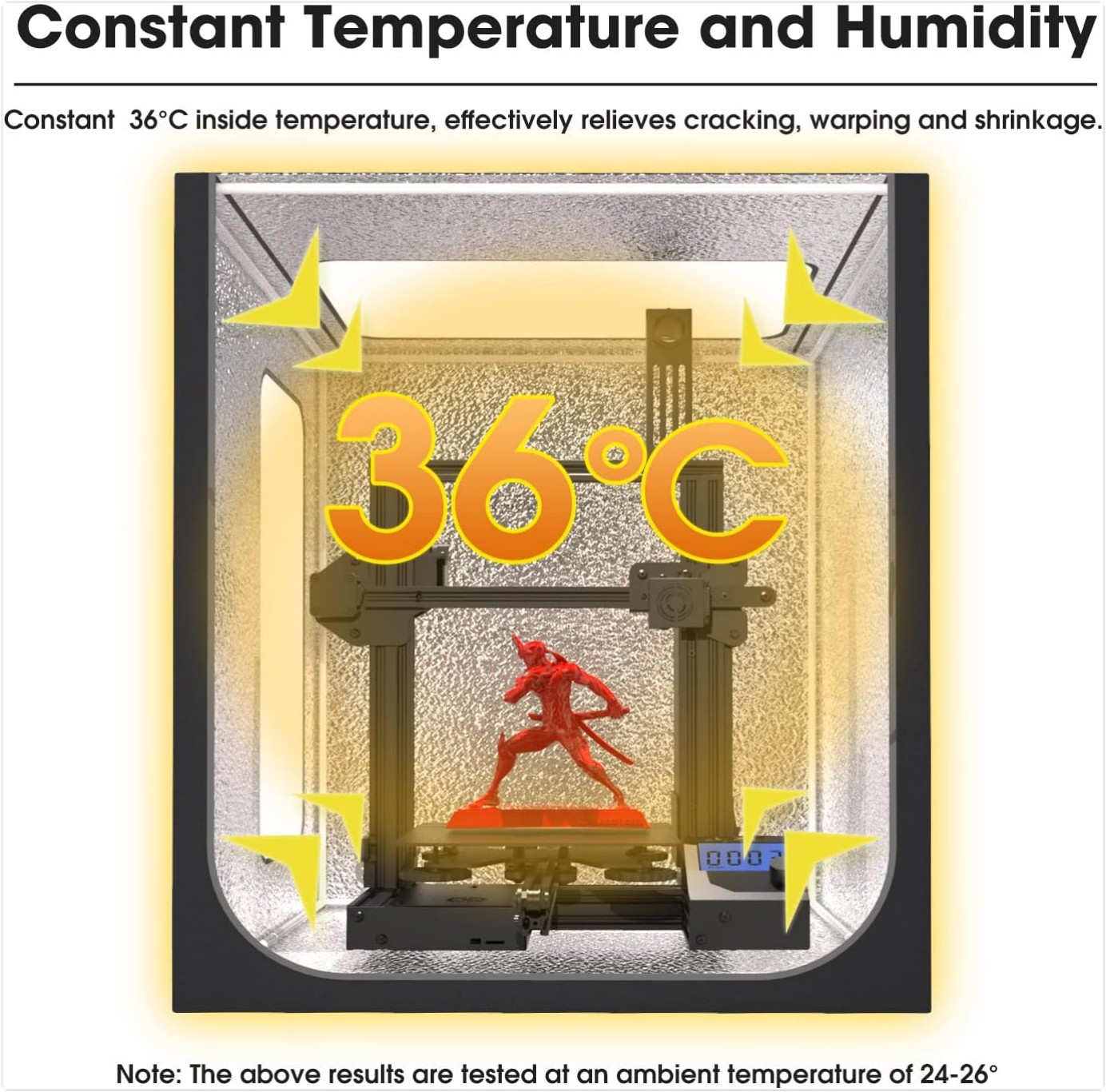

Figure 5.1: The enclosure maintains a stable internal temperature.

The enclosure helps maintain a constant internal temperature, typically around 36°C (results tested at an ambient temperature of 24-26°C). This stable environment is crucial for preventing common 3D printing issues such as cracking, warping, and shrinking of prints, especially when using materials like ABS or ASA.

5.2 Monitoring and Access

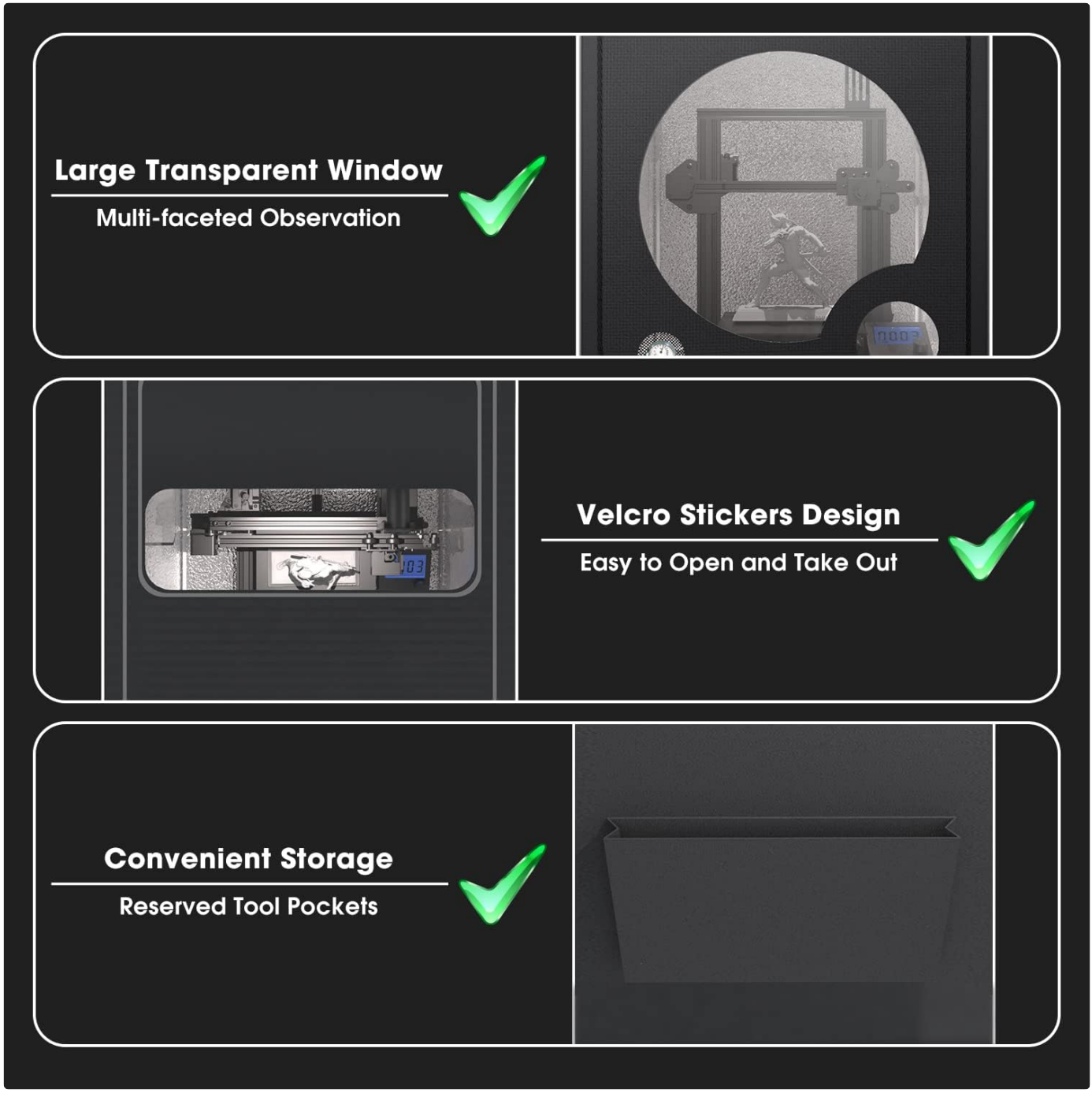

Figure 5.2: Features for monitoring and access.

- **Transparent Window:** The large transparent window allows for multi-faceted observation of your printing progress without opening the enclosure.
- **Temperature and Humidity Indicator:** A built-in indicator allows you to easily monitor the internal temperature and humidity, ensuring optimal conditions.

Figure 5.3: Temperature/humidity indicator and desiccant bag.

- **Velcro Stickers Design:** The front panel features Velcro stickers, making it easy to open and close for accessing your 3D printer.
- **Tool Pockets:** Reserved tool pockets provide convenient storage for small tools and accessories.

6. Maintenance

Proper maintenance ensures the longevity and effectiveness of your eSUN 3D Printer Enclosure.

6.1 Cleaning

- Wipe the exterior Oxford fabric with a damp cloth as needed. Avoid harsh chemicals.
- For the transparent window, use a soft, lint-free cloth and a mild cleaner to avoid scratching.
- Periodically clean any dust or filament debris from inside the enclosure to maintain a clean printing environment.

6.2 Moisture Control

Figure 6.1: The enclosure helps prevent moisture-related print defects.

- The enclosure includes a desiccant bag and a bamboo charcoal bag for dehumidification and deodorization.
- Monitor the discoloration desiccant. When it changes color (typically from blue to pink/purple), it indicates saturation and needs to be replaced or regenerated according to its specific instructions.
- The bamboo charcoal bag can be periodically refreshed by placing it in direct sunlight for a few hours.

7. Troubleshooting

This section addresses common issues related to 3D printing environment and how the enclosure helps mitigate them.

- **Print Warping/Cracking:** If prints are still warping or cracking, ensure the enclosure is fully sealed and the internal temperature is stable. For some materials, a higher bed temperature or brim/raft might still be necessary.
- **Filament Bubbles/Stringing:** This often indicates moisture in the filament. Ensure the desiccant is active and consider drying your filament before printing. The enclosure helps keep filament dry during printing.
- **Excessive Noise:** While the enclosure reduces noise, if noise levels are still high, check for loose components on your 3D printer or consider additional sound dampening measures if necessary.
- **Difficulty Assembling Frame:** Ensure you are using the correct pipe lengths for each section (width, depth, height) as per

the instructions. The cover is designed to fit snugly.

8. Specifications

Detailed technical specifications for the eSUN 3D Printer Enclosure Tent.

Figure 8.1: Dimensions and compatibility of the enclosure.

Feature	Detail
Model	eEnclosure
Dimensions (L x W x H)	650 x 720 x 760 mm (25.6 x 28.3 x 29.9 inches)
Weight	2.3 kg (5.07 lbs)
Material	Oxford cloth (exterior), Thermal insulation, Fire-resistant aluminum foil (interior)

Color	Black
Compatibility	Compatible with most 3D printers, including Ender 3, Ender 5, Ender 6, CR 6SE, CR 5, CR 10, CR 20.
Features	Constant temperature control, humidity control, dust-proof, moisture-proof, transparent observation window, tool pockets, foldable design, dual power cord outlets.

9. Warranty and Support

eSUN products are manufactured to high-quality standards. For information regarding warranty coverage, returns, or technical support, please refer to the documentation included with your purchase or visit the official eSUN website. You may also contact the seller directly for assistance.

Return Policy: This product typically includes a 30-day return/replacement policy. Please check your purchase details for specific terms.

Manufacturer: eSUN