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> Freesub ST-420 Pneumatic Auto 3D Vacuum Heat Press Sublimation Oven User Manual

Freesub ST-420

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Model: ST-420

INTRODUCTION

This user manual provides essential information for the safe and efficient operation of your Freesub ST-420 Pneumatic Auto 3D Vacuum Heat Press Sublimation Oven. Please read this manual thoroughly before operating the machine and retain it for future reference.



Figure 1: The Freesub ST-420 Pneumatic Auto 3D Vacuum Heat Press Sublimation Oven. This image shows the compact design of the machine, featuring its control panel, heating platen, and the base structure. The machine is black with a prominent digital display and yellow

SAFETY PRECAUTIONS

Always observe the following safety guidelines to prevent injury or damage to the machine:

- Ensure the machine is placed on a stable, heat-resistant surface.
- Do not touch hot surfaces during or immediately after operation. Use heat-resistant gloves if necessary.
- Keep children and pets away from the operating machine.
- Do not operate the machine with wet hands or in damp environments.
- Unplug the machine from the power outlet when not in use or before cleaning.
- Use only sublimation-compatible materials and accessories.
- Do not attempt to modify or repair the machine yourself. Contact qualified service personnel.

SETUP

1. **Unpacking:** Carefully remove the ST-420 from its packaging. Inspect for any signs of damage during transit.
2. **Placement:** Place the machine on a flat, sturdy, and heat-resistant workbench or table. Ensure adequate ventilation around the machine.
3. **Power Connection:** Connect the power cord to the machine's power input, then plug it into a grounded electrical outlet. The machine supports 110/220V.
4. **Initial Power On:** Turn on the main power switch, usually located at the rear or side of the machine. The touchscreen LCD control panel should illuminate.

OPERATING INSTRUCTIONS

The ST-420 features a touchscreen LCD control panel for easy operation. It supports both pneumatic automatic and manual modes.

Control Panel Overview

The touchscreen allows you to set temperature, time, and select operating modes. There are 5 different modes available, each suited for specific sublimation tasks (e.g., 3D film, phone cases, mugs, T-shirts).

Basic Operation Steps

1. **Power On:** Turn on the machine.
2. **Select Mode:** On the touchscreen, select the appropriate mode for your item (e.g., mug, phone case, flat item).
3. **Set Parameters:** Adjust the temperature and time settings according to the sublimation paper and blank item manufacturer's recommendations. Typical temperature range is up to 320°C.
4. **Preheat:** Allow the machine to reach the set temperature. The display will indicate when it's ready.
5. **Prepare Item:** Securely attach your sublimation print to the blank item (e.g., mug, phone case) using heat-resistant tape.
6. **Place Item:** Carefully place the prepared item into the sublimation chamber. For mugs, use the provided silicone wraps. For phone cases, use the appropriate jigs.
7. **Close Chamber:** Close the chamber door. The machine will automatically initiate the vacuum and pressing process

if in automatic mode.

8. **Sublimation Cycle:** The machine will count down the set time. Once complete, an alarm may sound.
9. **Remove Item:** Open the chamber door. Using heat-resistant gloves, carefully remove the hot sublimated item. Place it on a heat-resistant surface to cool.
10. **Power Off:** When finished, turn off the machine and unplug it.

Specific Applications

- **Mugs:** The ST-420 can sublimate up to 6 mugs simultaneously. Use the included silicone wraps to ensure even pressure.
- **Phone Cases:** Utilize specific jigs for various phone models to ensure proper fit and pressure.
- **Flat Items (Tiles, Rock Slate, Metalware):** Place flat items directly on the heating platen, ensuring even contact.
- **T-Shirts:** While primarily a 3D vacuum press, the ST-420 can also be used for flat heat press applications on T-shirts. Ensure the fabric is suitable for sublimation.

MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your ST-420 heat press.

- **Cleaning:**
 - Ensure the machine is unplugged and completely cool before cleaning.
 - Wipe down exterior surfaces with a soft, damp cloth. Do not use abrasive cleaners or solvents.
 - Clean the heating platen gently with a non-abrasive cloth if any residue is present.
- **Silicone Accessories:** Inspect silicone wraps and mats regularly for wear and tear. Replace if damaged to ensure consistent pressure.
- **Storage:** Store the machine in a clean, dry environment when not in use.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Machine does not power on.	No power supply; power switch off; faulty power cord.	Check power connection; ensure switch is on; try a different outlet.
Uneven sublimation transfer.	Incorrect pressure; uneven heat distribution; worn silicone accessories.	Adjust pressure settings; ensure item is centered; replace worn silicone.
Sublimation image is faded or blurry.	Insufficient temperature or time; incorrect paper/ink; moisture.	Increase temperature/time; use quality sublimation supplies; ensure items are dry.
Vacuum not engaging properly.	Chamber not sealed; vacuum pump issue.	Ensure chamber door is fully closed and sealed; contact support if issue persists.

If you encounter problems not listed here or if solutions do not resolve the issue, please contact Freesub customer support.

SPECIFICATIONS

Feature	Detail
Model	ST-420
Colour	Black
Transfer Size	297 x 420 mm
Wattage	800W + 800W (Total 1600W)
Voltage	110/220V
Working Mode	Auto-Pneumatic / Manual
Net Weight	26 kgs
Max Temperature	320°C
Oven Space Capacity	Up to 6 Mugs
Key Features	Touchscreen LCD, Multi-Functional (3D Film, Phone Cases, Mugs, T-shirts, etc.), Patented Technology, Quantitative Counting Feature, No External Air Compressor Required.

WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact your retailer. You may also visit the official Freesub website for the latest support resources.

Manufacturer: Freesub

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