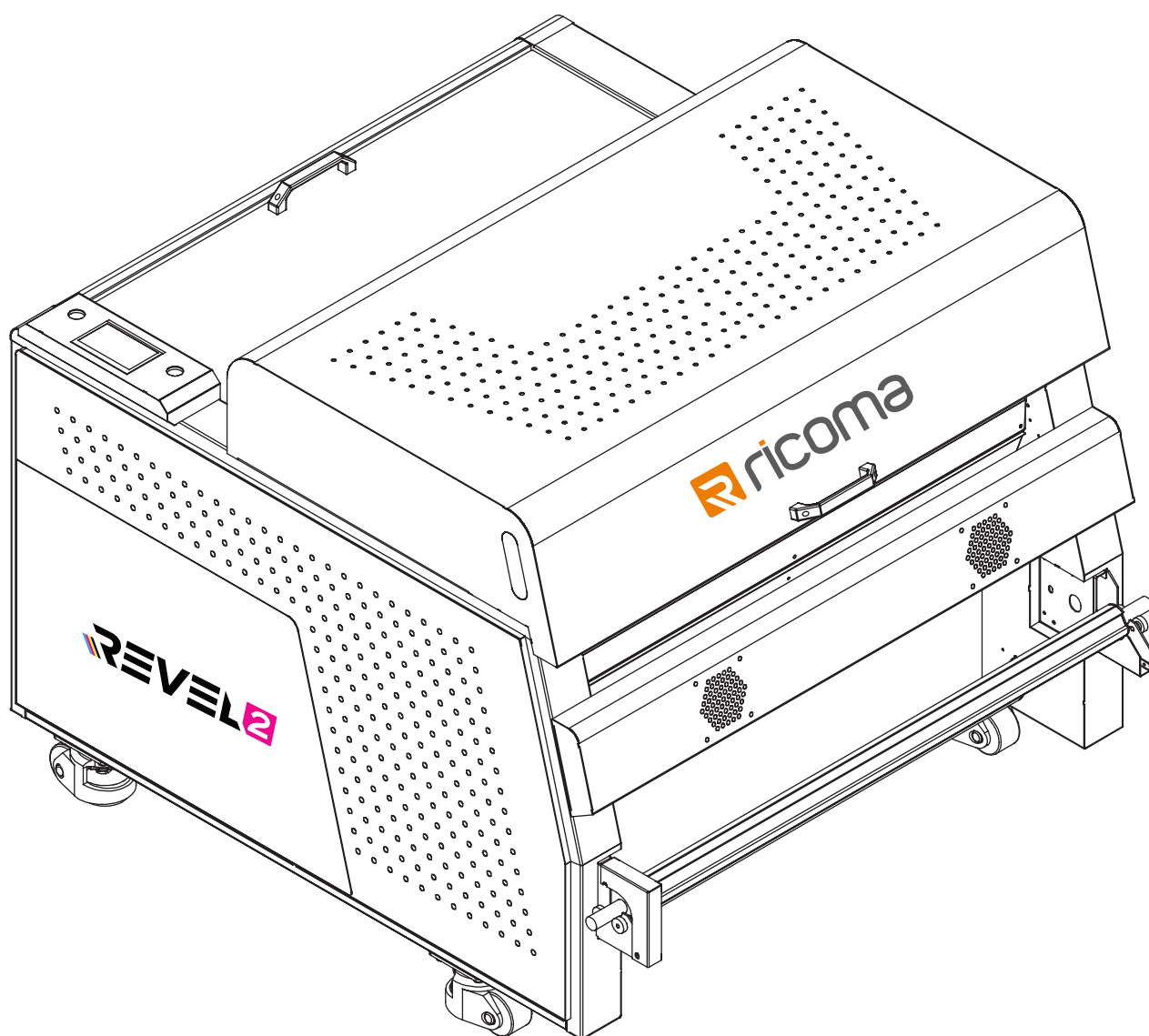


Operation Manual

HD-24A / HD-24A-2



Thank you for purchasing the HD-24A / HD-24A-2 powder shaker.

DTF powder shaker(hereafter, "the machine")stands out for its superior performance with low power consumption, environmental friendliness, and user-friendly operation that feed with 600 / 800mm max size, enhancing the adhesion of ink onto various surfaces during the printing process, making it an ideal choice in printing technology.

Caution

Ricom is in no way liable for any damages whatsoever (including but not limited to lost profit, indirect damage, special damage, or other monetary damage) arising from using or inability to use the machine, except as provided in Ricom warranty provisions.

This applies even if Ricom has been informed of the possibility of such damages.

For example, we cannot be held liable for any loss of media or other materials from using the machine, nor are we liable for any indirect loss caused by printed materials.

Please note that we are not liable for any financial damage or lost profits resulting from the use of the machine, or for any claims from third parties.

FCC statement (USA)

The machine has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the machine is operated in a commercial environment.

The machine generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the operation manual, may cause harmful interference to radio communications.

TV and radio interference

In use, the machine emits high-frequency electromagnetic radiation. If installed or used incorrectly, this may result in TV or radio interference. Accordingly, there is no assurance that the machine will not affect special radio or TV equipment.

If you believe the machine is interfering with radio/TV reception, turn it off to confirm. If interference is alleviated when the machine is off, the machine is likely to be causing the interference.

Try any of the following solutions or combinations of solutions:

- Change the orientation of the TV or radio antenna to find a position where interference does not occur.
- Place TVs or radios away from the machine.
- Plug TVs or radios into outlets on a different power supply path than the machine.

Product Appearance

Please note that the descriptions of the product appearance in the operating manual are primarily based on the product you actually receive. While ensuring the main functionality of the product remains unaffected, we continuously make subtle adjustments to the product appearance to achieve optimal design. These adjustments aim to enhance the overall look and feel of the product, providing you with an improved user experience.

In the case of significant changes, we will promptly notify you through the appropriate channels, ensuring that you stay informed about the latest product information.

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Chapter 1 Safety Precautions

1.1 Warnings and precautions in use

- The set of power cables provided with the machine is for use only with the machine and cannot be used with other electrical devices. Do not use any power cables other than the ones provided with the machine. Failure to observe these instructions may result in fire or electric shock.
- Do not attempt to modify the cable, and avoid damaging or breaking it. Placing heavy objects on, heating, or pulling the cable may damage it, which may result in fire or electric shock.
- Avoid use in humid places. Additionally, do not pour water on the machine. Failure to observe these instructions may result in fire, electric shock, or failure.
- Use of the machine under an abnormal condition, as when it is emitting smoke or fumes, may result in fire or electric shock. Turn off the power switch immediately, and then be sure to unplug the machine from the outlet. Once you have confirmed that smoke is no longer being emitted, request repair from your dealer or service office. Never attempt to repair the machine yourself. Doing so is hazardous.
- Never disassemble or modify the machine or ink cartridges. Failure to observe these instructions may result in electric shock or failure.
- Do not use extension cords. Failure to observe these instructions may result in fire or electric shock.
- Keep foreign objects such as pieces of metal away from the power plug prongs. Failure to observe these instructions may result in fire or electric shock.
- Do not overload electrical outlets by using too many pieces of equipment. Failure to observe these instructions may result in fire or electric shock.
- If the power cable is damaged or the core wire is exposed or broken, ask your service representative to replace it. Using it as is may result in fire or electric shock.
- Do not handle the power plug with wet hands. Failure to observe these instructions may result in electric shock.
- Always hold the power cable by the plug when unplugging the machine. Do not unplug by holding the power cable. Failure to observe these instructions may damage the cable or result in fire or electric shock.
- Do not use a voltage other than the indicated voltage. Failure to observe these instructions may result in fire or electric shock.
- Do not use a power frequency other than the indicated frequency. Failure to observe these instructions may result in fire or electric shock.
- If metal, water, liquid, or other foreign objects enter the machine, turn it off immediately. After that, be sure to unplug the machine and contact your service representative. Using it as is

may result in fire or electric shock.

- If ink leaks, turn off the main power switch, unplug the machine, and contact your dealer, service office, or call center.
- Keep the heater on the media transport surface free of dust and debris. Failure to observe these instructions may result in sparks or fires.
- Keep children away from this machine.
- Do not use a flammable spray or solvent inside or around the machine. Failure to observe these instructions may result in fire or electric shock from ignition.
- Do not place vases, pot plants, cups, cosmetics, containers of chemicals or water, or small metal objects on top of the machine. Liquid or foreign objects may get inside the machine, leading to fire or electric shock.
- Handling of the power cable
 - a. Plug into a polarized electrical outlet.
 - b. Always plug the power cable into an outlet near the machine, and make sure the power cable can be easily unplugged.
 - c. Regularly (at least once a year) unplug the cable and remove any dust on or near the power plug. Failure to remove dust may result in fire.
 - d. Do not use a voltage other than the indicated voltage.
 - e. Before plugging in the machine, check the outlet supply voltage and circuit breaker capacity. Plug each cable into a power source with an independent breaker. If you plug more than one power cable into outlets that share the same circuit breaker, it may trip the breaker.
- Power supply
 - a. Leave the breaker in the ON position.
 - b. Do not turn off the main power switch on the side of the machine.
- Notes on maintenance
 - a. Pay close attention to ventilation and be sure to wear safety glasses, gloves, and a mask. When dealing with unused hot melt powder, airborne particles may enter the eyes or mouth. Please take precautions.
 - b. Gloves are consumables. After you have worn out the included gloves, purchase and use commercially available gloves.
 - c. Use in a room with as little dust as possible.
 - d. Use in a room with as much ventilation as possible.
 - e. Regularly wipe the oil tank to keep it clean and prevent oil accumulation.
 - f. Store transfer film in a bag. Wiping off dust accumulated on the media will adversely affect the media due to static electricity.
 - g. When leaving the workshop after working hours, do not leave any media on the roll hanger. Dust will adhere to the media.
- Moving part precaution
 - a. Keep fingers and other body parts away from hazardous moving parts.
 - b. Do not touch the dusting roller when it is rolling. Failure to observe these instructions may result in finger

injury such as torn skin or fingernails.

- c. Keep your head and hands away from moving parts during operation. Failure to observe these instructions may result in injury such as your hair becoming caught in the machine.
- d. Wear suitable clothes. (Do not wear loose-fitting clothes or accessories.) Keep long hair bound.

- **Pres-Heater**

- a. Do not pour liquid on the media transport surface. Failure to observe these instructions may result in heater failure or sparks.
- b. Do not touch the media transport surface with bare hands while the heater is hot. Failure to observe these instructions may result in burns.

- **Consumable Items**

- a. Machine consumables, including hot melt powder and transfer film.
- b. The machine's safety level is based on the use of Ricoma recommended transfer film. To ensure operational safety, please use the transfer film recommended by Ricoma.
- c. If hot melt powder is brought from a cold place to a warm place, please let it sit at room temperature for at least three hours before use.
- d. Do not leave consumables exposed to the air for an extended period; if left open for a long time, they may not transfer properly. If not in use, seal and store them.
- e. Store consumables in a cool, dark place.
- f. Keep consumables out of reach of children.
- g. Once consumable packaging is opened, please use it within half a month. After a certain period of time, the transfer quality may decline.
- h. Please hand over unused consumables to your dealer or service representative. If handling them yourself, comply with the requirements of industrial waste disposal facilities and local regulations.

- **Components requiring periodic replacement**

Some parts of the machine require regular replacement. For long-term use of the machine, be sure to apply for an annual maintenance contract.

- **Machine disposal**

Contact your dealer or service representative for assistance when disposing of the machine. If you will dispose it by yourself, request assistance from an industrial waste disposer.

- **Handling of media**

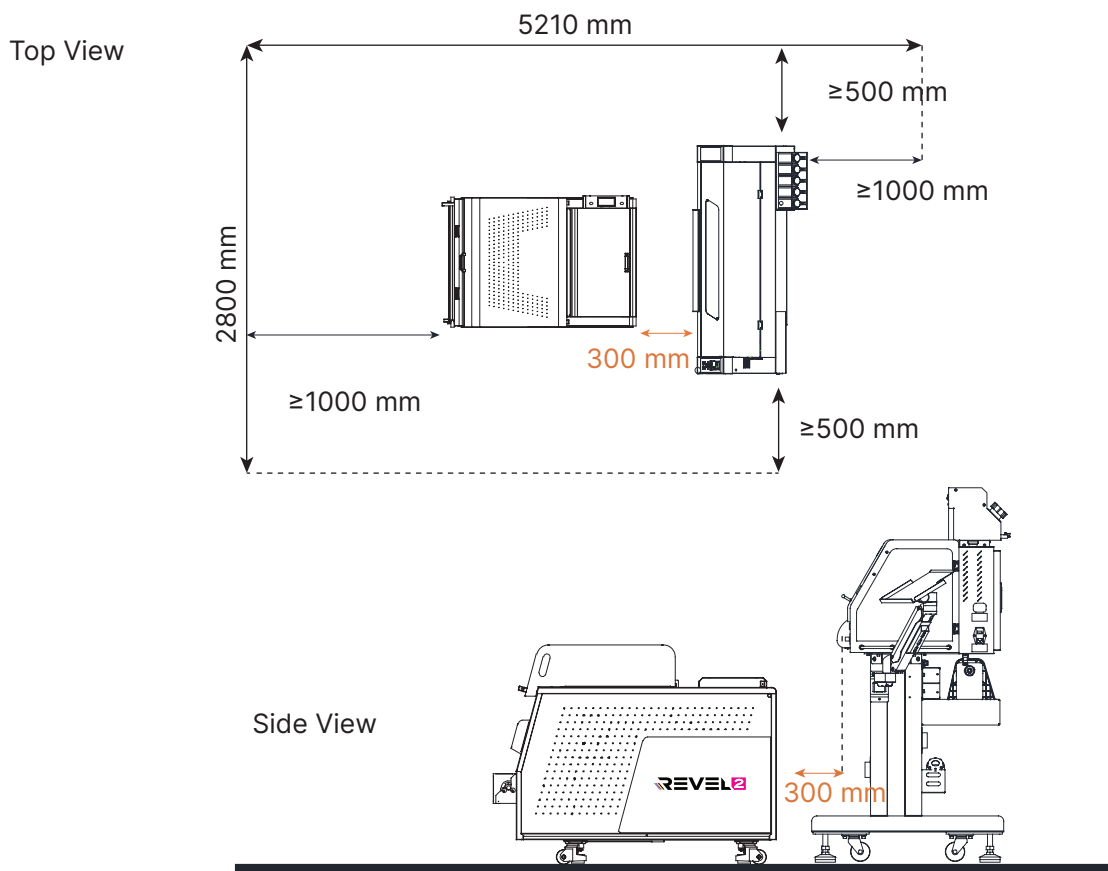
- a. Use recommended media. Please use the media recommended by Ricoma to ensure reliable, high-quality transfers.
- b. Be aware of media expansion and contraction. Do not use media that has just been opened. The media may expand or contract depending on the room temperature and humidity. Open the package and allow it to adjust to the place of use for at least 30 minutes before loading it in the machine.
- c. Do not use curled media. Not only does this cause media jamming, but it also affects transfer quality. Straighten any media that is significantly curled before use. When rolling up regular-sized coated media for storage, make sure the coated side is facing outward.
- d. Set the heater temperature to suit media characteristics.
- e. Do not leave media loaded over extended periods with the heater on.

- f. With some types of media, under high temperature and humidity, it may affect the transfer effect. Be careful about where media is stored.
- g. With some types of media, if the media is left exposed to air, the ink-receiving layer may change, causing image defects such as blurred colors and bleeding.
- Installation precautions
 - a. Places exposed to direct sunlight
 - b. Places with uneven surfaces
 - c. Places where vibration is generated
 - d. Places directly exposed to air conditioning
 - e. Places subject to significant changes in temperature or humidity
 - f. Places where open flames are present

1.2 Working Environment

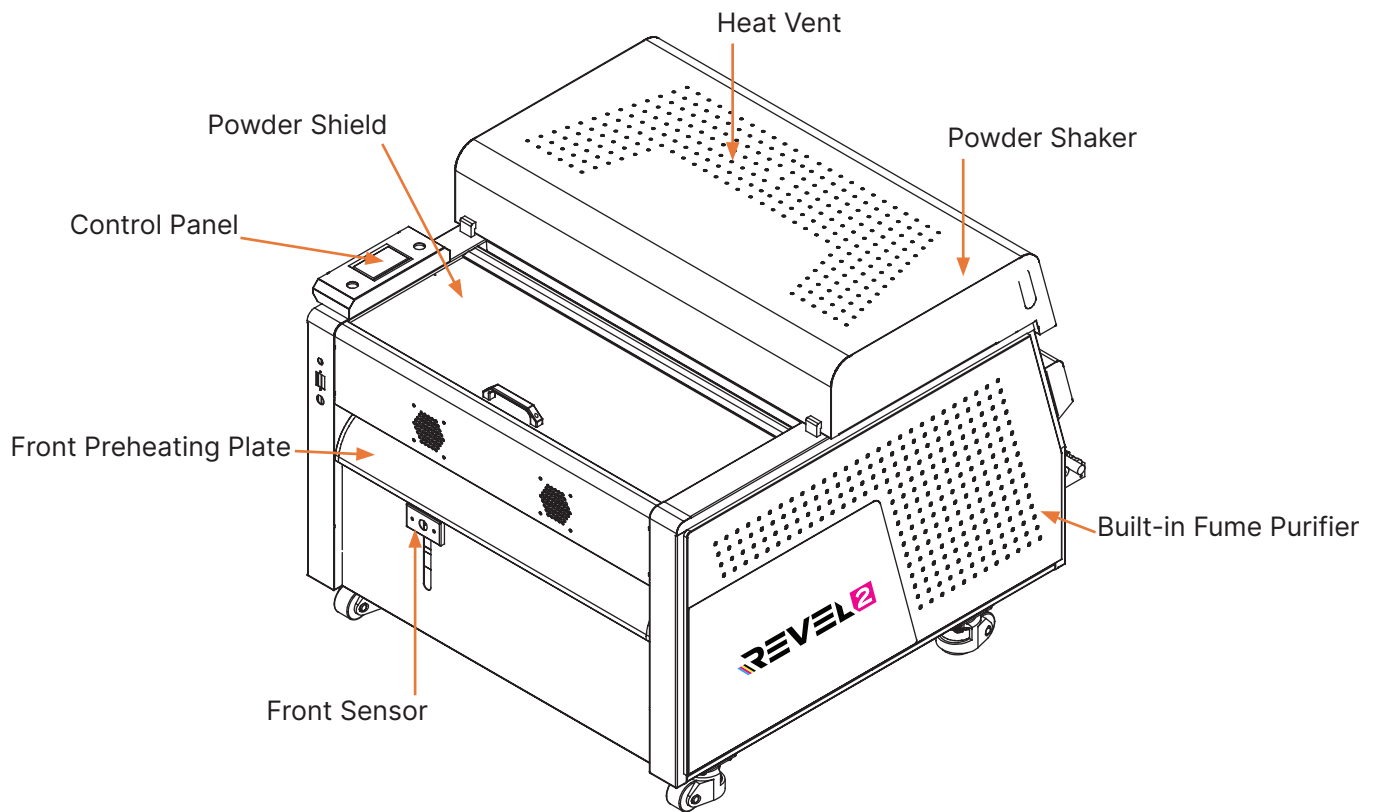
- Place of installation
 - a. Before installing the machine, ensure that the required amount of space is available in the place under consideration.
 - b. The place of installation must have enough space for the machine as well as transferring tasks.
 - c. To ensure reliable transferring, use the machine in an environment of 15°C - 30°C.

Model	Length	Width	Height	Gross Weight
HD-24A	1185 mm	850 mm	920 mm	230 kg
HD-24A-2	1785 mm	850 mm	920 mm	280 kg

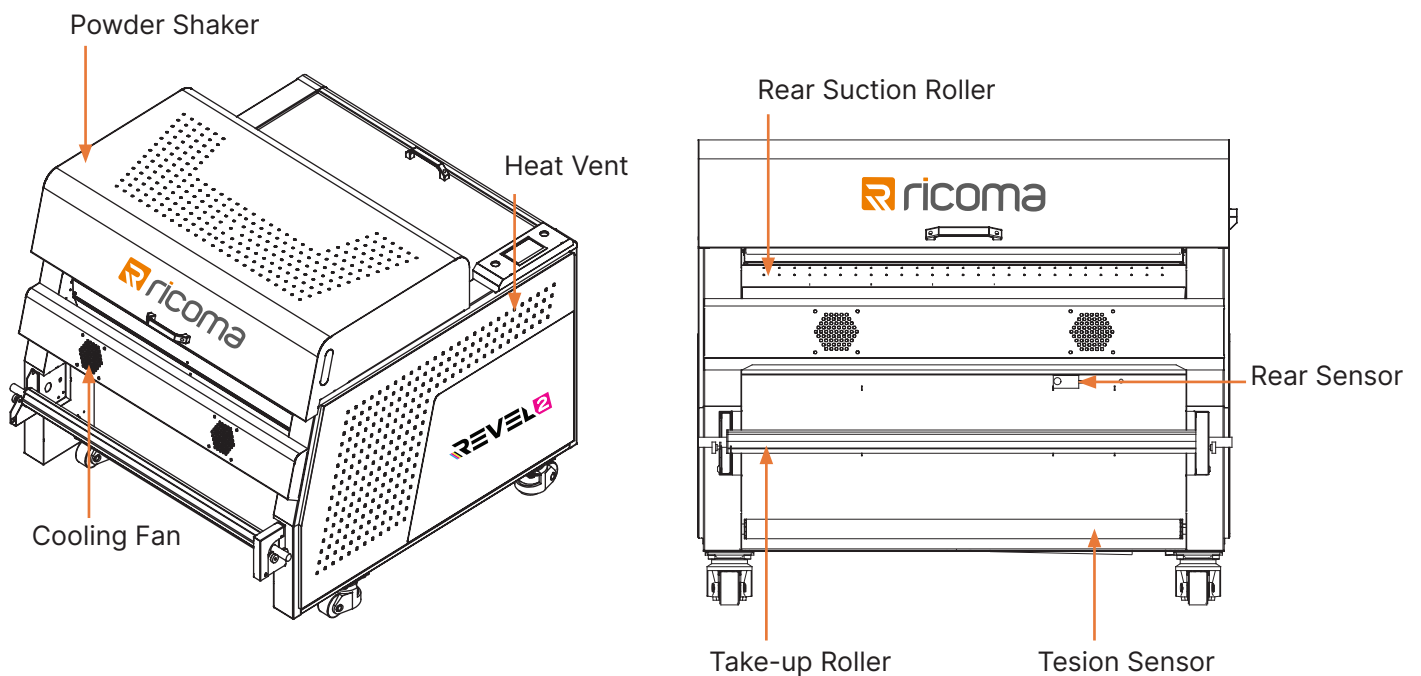


Chapter 2 Structure Diagram and Functions Overview

2.1 Rear Side

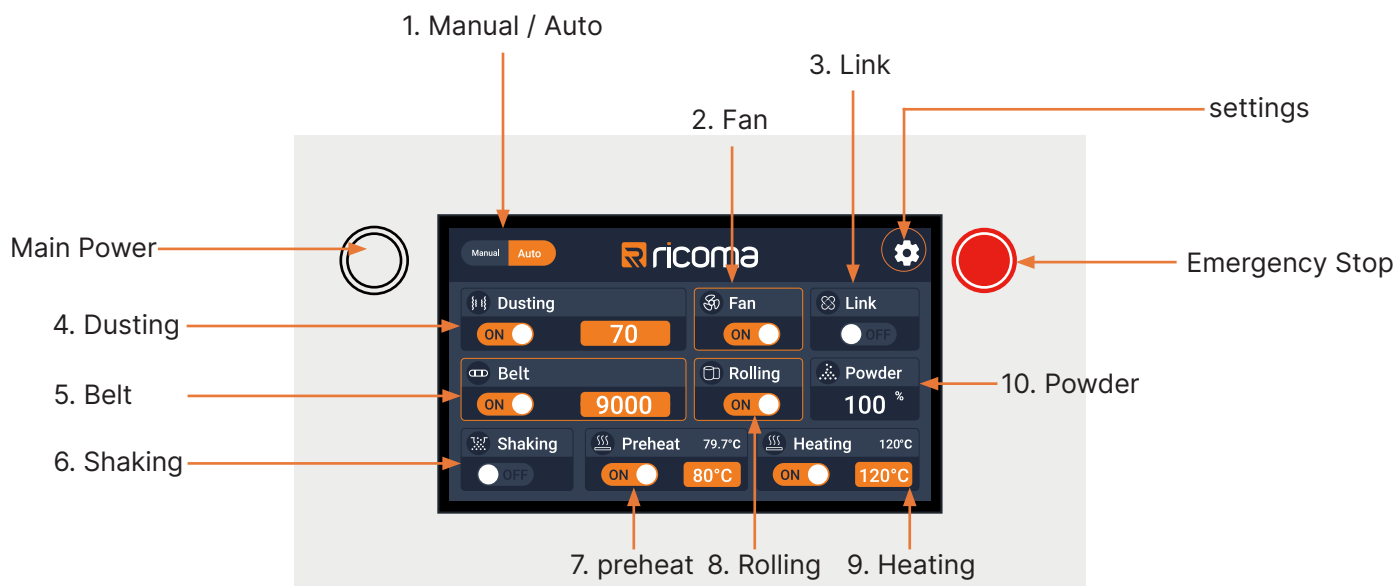


2.2 Rear Side



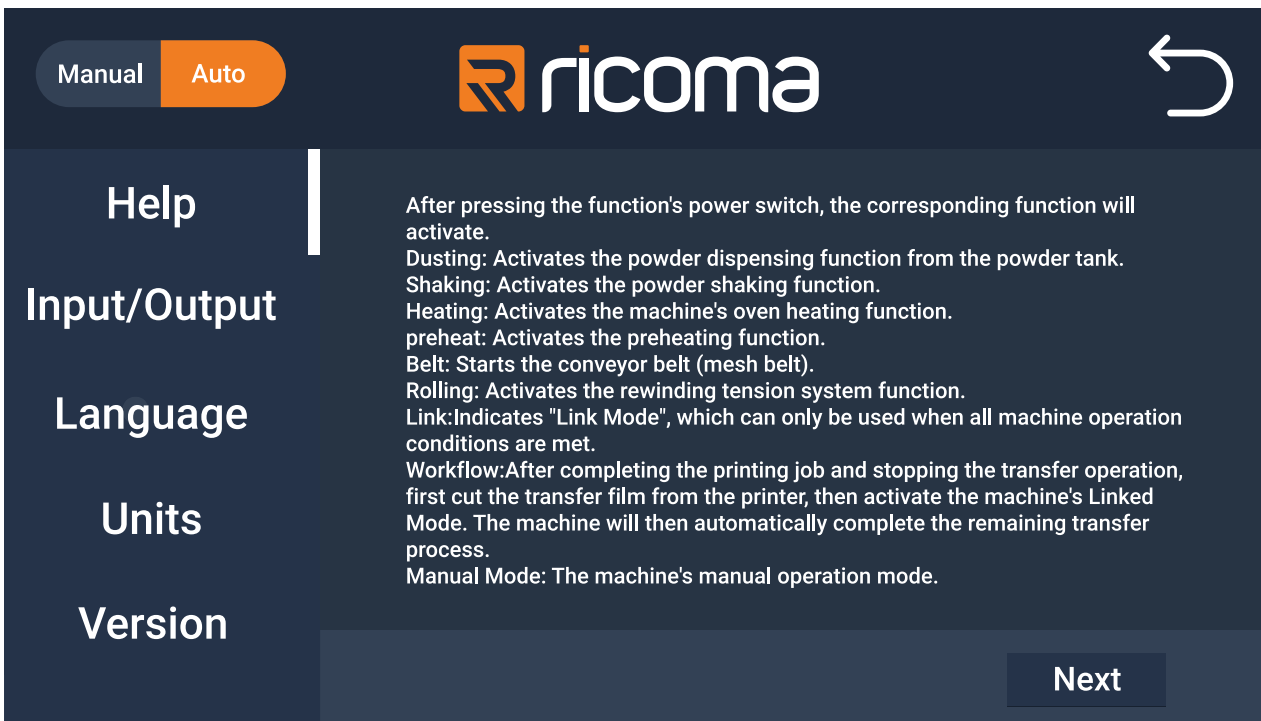
2.3 Operation Screen Functions Introduction

- Home - Features



No.	Details
1. Manual / Auto	<p>Switchable Automatic/Manual Mode</p> <p>Auto mode: When the powder capacity value reaches 80 and the oven temperature reaches the set value, and the front sensor detects the film, the machine can start the automatic transfer mode, allowing one person to operate three machines simultaneously.</p> <p>Manual: In manual mode, the machine allows for the adjustment of various parameters, and real-time monitoring and adjustment of the machine's operating status.</p>
2. Fan	To start the operation of the Vacuum.
3.Link	Means for "LINK mode", can only be activated in the machine's automatic mode. After completing a printing job and stopping the transfer operation, cut off the transfer film from the printer and initiate the machine's Link mode. Then the machine will automatically complete the remaining transfer process.
4. Dusting	To initiate the powder box to dust powder.
5. Belt	To start the Net belt and the vacuum roller, initiating the paper feeding movement of the machine. Clicking on the orange area allows you to modify the feeding speed
6. Shaking	To activate the powder shaking function.
7. preheat	To activate the machine's heating function. The actual temperature of the oven is displayed in the upper right corner. Clicking on the orange area allows you to modify the heating temperature.
8. Rolling	To initiate the tension system.
9. Heating	To activate the machine's heating function. The actual temperature of the oven is displayed in the upper right corner. Clicking on the orange area allows you to modify the heating temperature.
10. Powder	Displays the current powder level being monitored.

- help page: On-Screen Function Reference

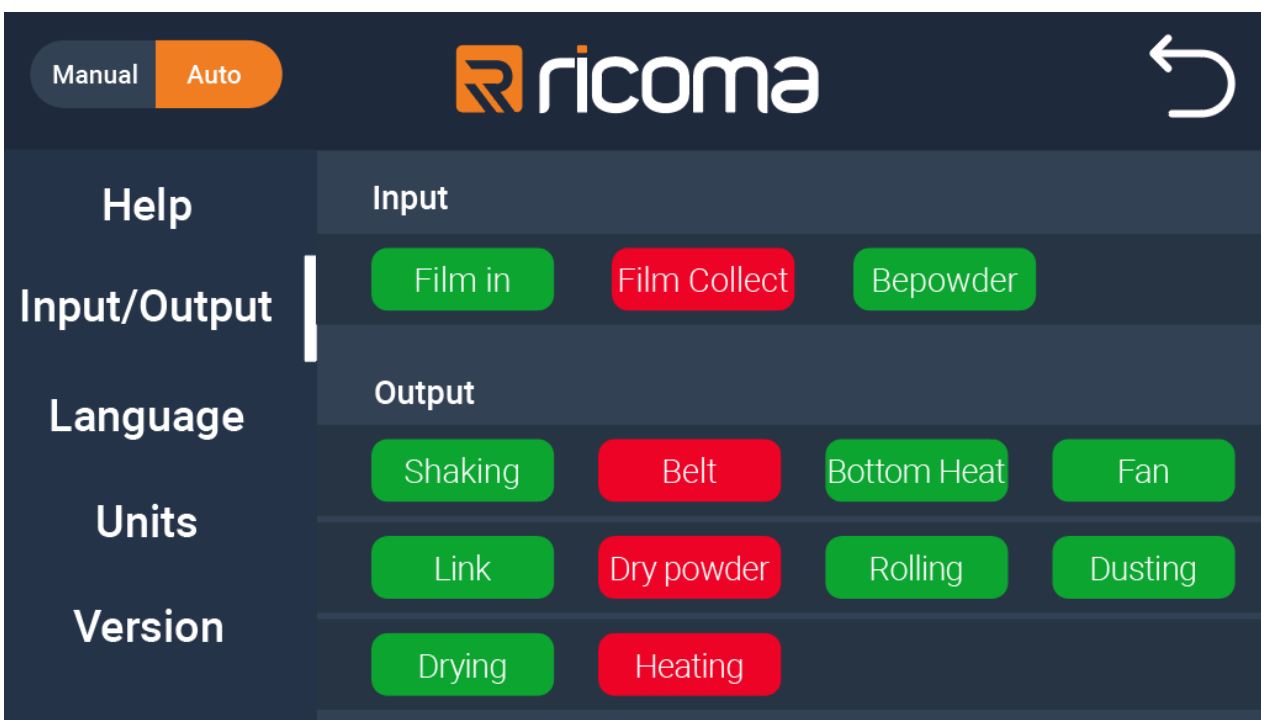


- Input / Output

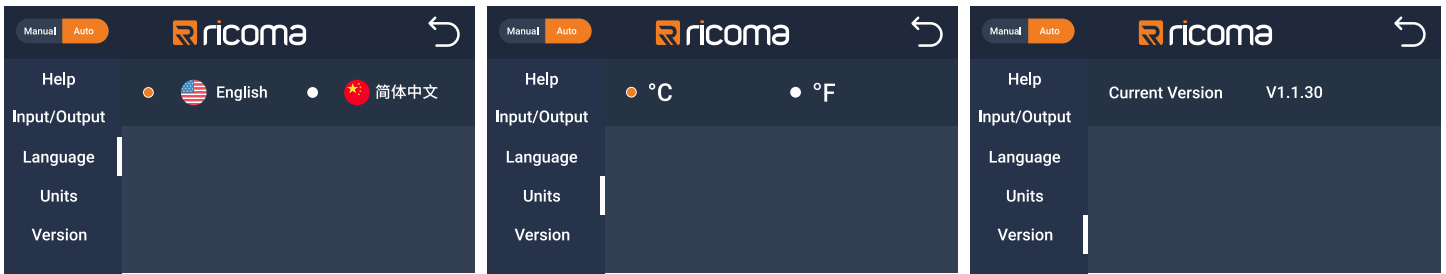
The displayed parameters here correspond to the working status of their respective names and do not support manual adjustment. Icon color varies depending on the function working status.

Red: Working status can not meets the standard; Green: Working status meets the standard

To determine the specific working status, please contact your sales to get details or go to HELP Page to know more



- Other page
 - Supports Chinese / English language switching
 - Supports temperature unit selection
 - Displays version number



- Powder configuration requirements

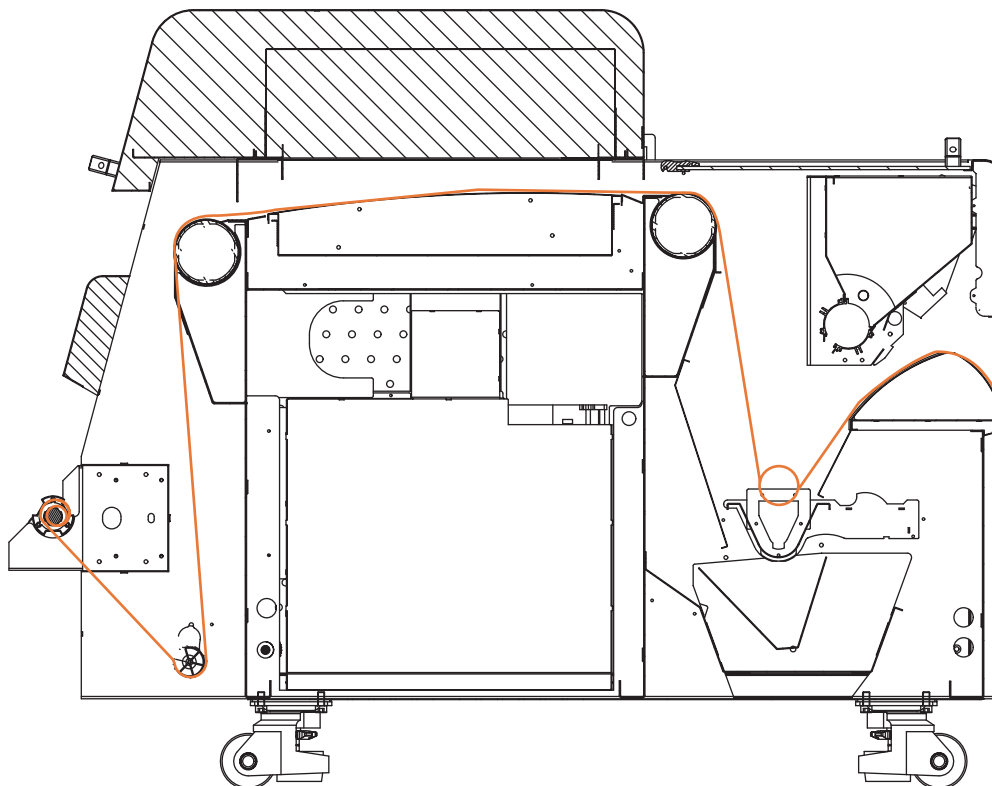
Powder Supply

- It is important to confirm whether the voltage of the power supply at the location where you are using the machine is compatible with the machine's power requirements.
- If the machine is designed for 110V, please connect it to a 110V power outlet;
- If it is designed for 220V, then connect it to a 220V power outlet.

The machine does not come with an electrical outlet; instead, it can only be powered by wiring directly to the electrical supply.

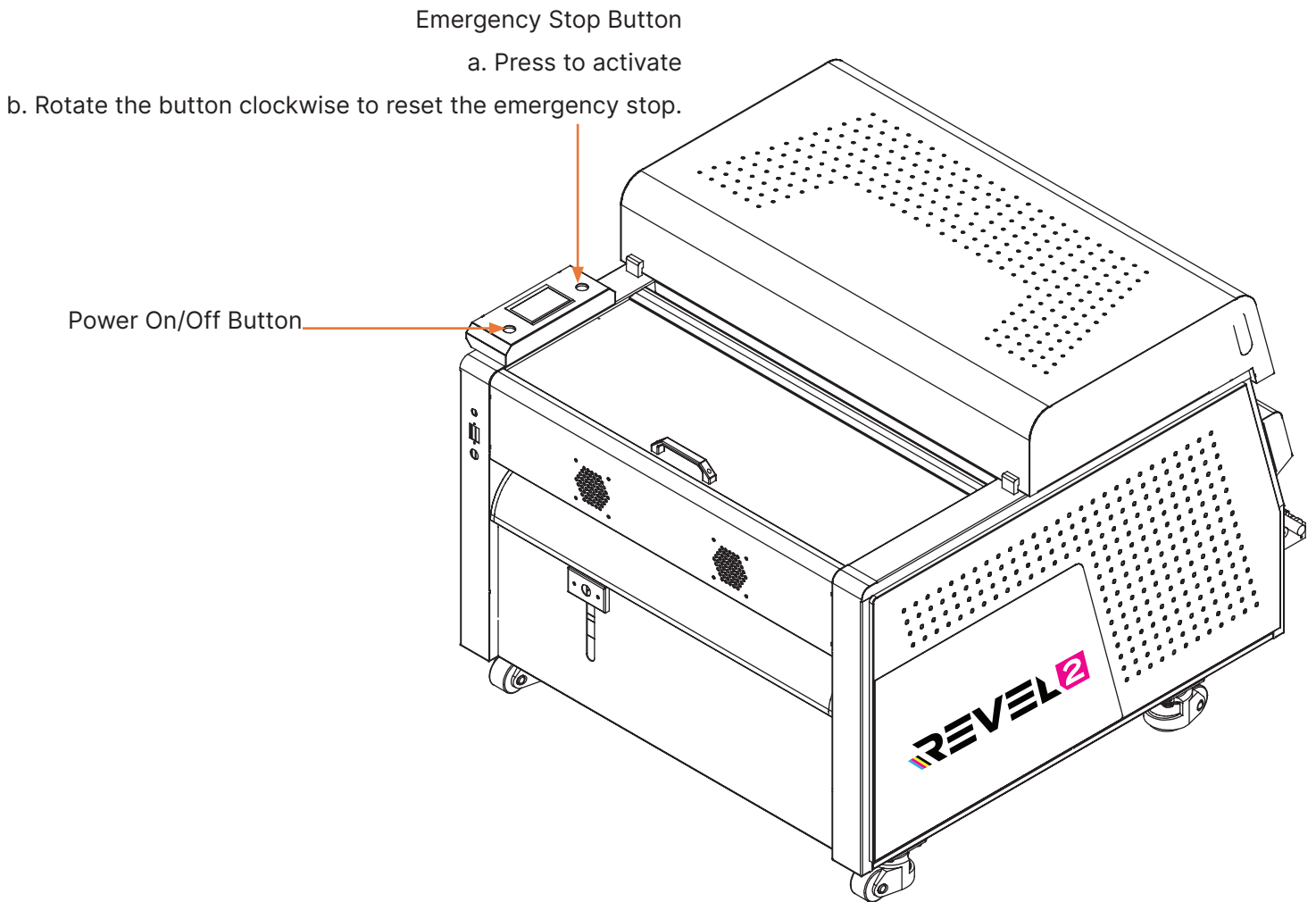
- The width of the power cord must be greater than 6 square millimeters
- Professional electrician technicians are required for wiring
- Due to the high voltage, there is a risk of electric shock for non-professionals professional handling is recommended.

- Demonstration of the film feeding direction



Chapter 3 Basic operation

3.1 Turn On/Off the Power

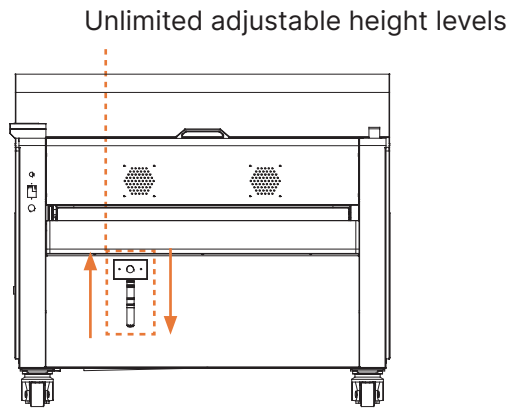


• Warning

- In case of emergencies or potential hazards, the emergency stop button or switch is used to quickly initiate the emergency stop. This rapidly halts all movements of the machine to prevent injuries or equipment damage.
- If the operator loses control of the machine and is unable to handle unforeseen circumstances, the emergency stop is employed to swiftly halt machine operations.
- When there is a malfunction or abnormal operation of the equipment, the emergency stop helps prevent further damage and protects both operators and the equipment.
- Safety Checks: During maintenance or safety checks, it may be necessary to activate the emergency stop to ensure the safety of personnel.
- It's important to note that the emergency stop is intended for responding to urgent situations or ensuring safety, so it should be used sparingly under normal circumstances.
- After activating the emergency stop, a proper inspection and maintenance of the machine are usually required to ensure its safety and normal operation.

3.2 Loading Media

1. Adjust the sensor height.



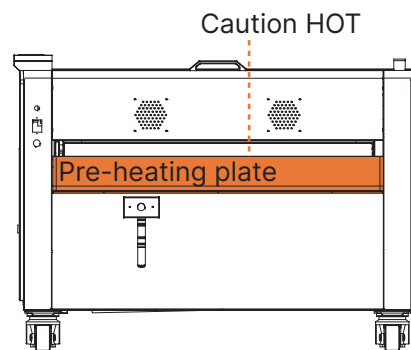
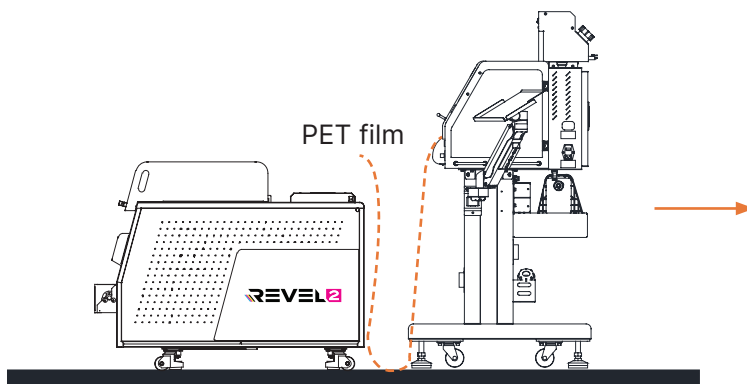
2. Loading roll media

a. Wait till the media long enough.

The media length should generally reach the ground also higher than the machine.

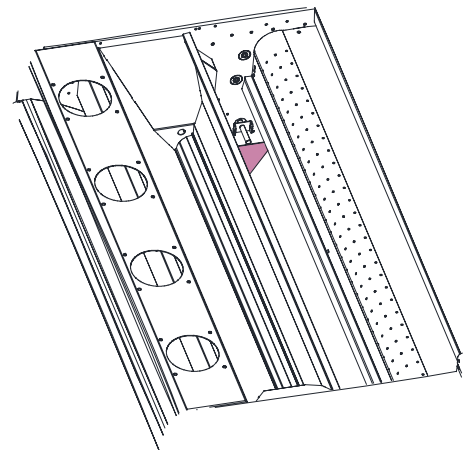
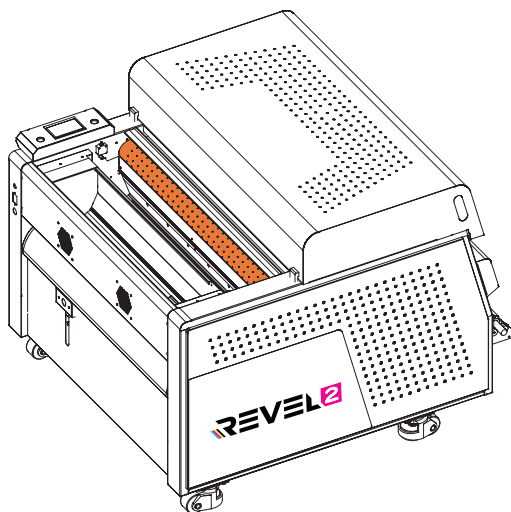
b. Put the media into the shaker

The entrance is as shown in the diagram, above the preheating plate.



c. When placing the transfer film into the oven, ensure it is positioned correctly and horizontally aligned on both sides. After placement, turn on the [Fan] function on the operation panel.

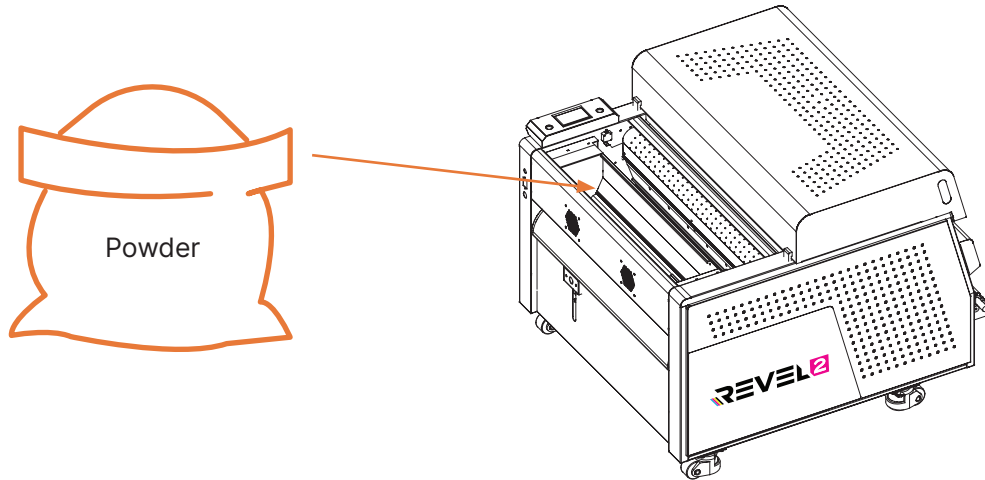
d. Adjust the powder baffle plates on both sides of the weight sensor to fit snugly against the edges of the transfer film. This not only prevents powder from falling too quickly but also ensures the transfer film does not shift during the process.



Note: After the transfer film passes through the preheating plate and enters the powder shaker, manually guide the film around the weight sensor as the machine operates, ensuring the hot-melt powder fully adheres to the pattern. Once the transfer film reaches a sufficient length, manually place it into the oven.

3.3 Adding Powder

Pour the powder directly into the powder tank.



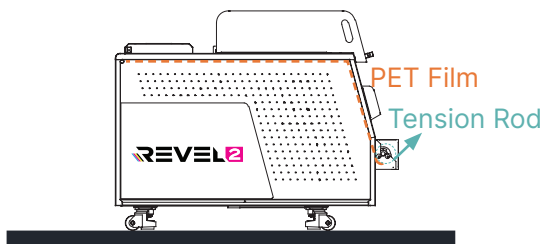
3.4 Auto mode

On the operation screen, switch to [Auto Mode] in the [Main Menu] and turn on the [Heating] function.

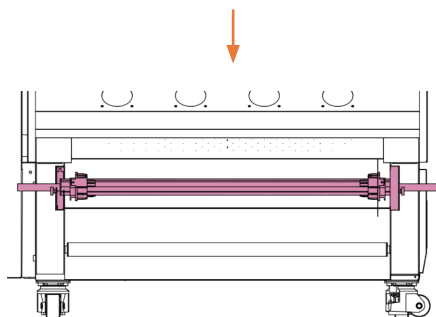


Note: Before entering [Auto Mode], the following operations must be performed:

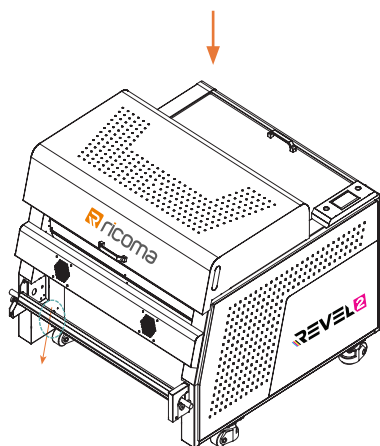
- Check if the [Front Sensor] on the [Input/Output] page is green. A green icon indicates the transfer film has been detected; if the icon is red, identify and resolve the underlying issue.
- Check if the dispensing weight on the [Main Menu] is sufficient. A value of 50 or higher indicates the powder weight meets the requirements for Auto Mode.
- Check if the heating temperature on the [Main Menu] meets the standard. The temperature displayed under the "Heating Temperature" item in the main menu must match the set "Heating Temperature".
- After meeting conditions a, b, and c, the machine will only enter semi-automatic mode. The following steps must be completed to enter full automatic mode:



Wait for a sufficient length of transfer film to be output



Attach the transfer film to the rewinding shaft



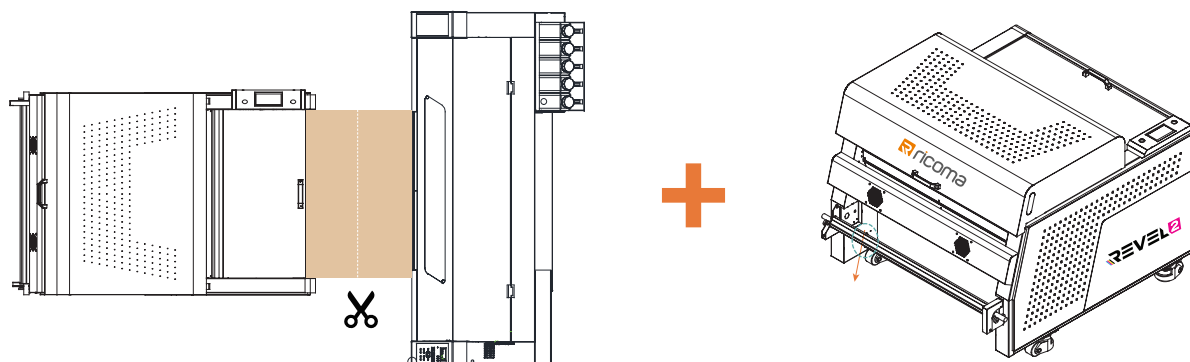
When the tension sensor reaches its highest point, the machine will enter full automatic mode.

After full automatic mode is activated, the conveyor belt begins to move backward continuously. At this point, the suction roller stops operating, while the tension sensing system gradually tightens and tensions the transfer film.

3.5 Link Mode

The Smart Link mode can only be activated when no further printing or transfer tasks are required. Before enabling Smart Link mode, the following operations must be performed:

- a. Cut the transfer film + The powder dispensing machine is in [Auto Mode], the [Rolling] function is activated, and the film has been connected to the rewinder and has been running continuously for over 2 minutes.



- b. Return to the operation screen and enable [Link Mode] in the [Main Menu].
 01. After activating Smart Link Mode, the machine will automatically complete the final transfer process. Ensure the last batch of transfer film in the oven is fully baked, and do not stop the machine until no transfer film remains inside.
 02. After the Smart Link Mode completes the baking process, wait for the machine to shut down automatically or manually power it off after 15 minutes.
 03. This process helps collect residual fumes and oil, ensures powder fully flows back to the upper powder box, and improves equipment efficiency and cleanliness.

Chapter 4: Daily Maintenance and Care of the Machine

1. It is recommended to activate the heating function for 15 to 20 minutes before starting work each day to enhance curing effectiveness.
2. If the weather is humid, an additional 10 minutes may be required for pre-dehumidification by pouring powder into the powder box in advance.
3. At the end of each workday, it is advisable to keep the [Heating] function on for 15 to 20 minutes; in humid conditions, continue heating for another 10 minutes if necessary.
4. It is recommended to clean the interior of the upper oven weekly to remove oil residue, which helps extend the machine's service life and maintain operational stability.
5. When using the machine, it is suggested to place a tray filled with sponge at the bottom of the fume purifier to prevent potential oil drips.
6. Every two to three weeks, open the valve at the bottom of the filter to drain the collected oil.
7. For specific repair issues related to component damage, please contact our after-sales personnel for assistance.
8. These maintenance guidelines are essential to ensure your powder shaker achieves optimal performance and a prolonged service life.
9. Following these instructions helps maintain efficiency and avoid potential problems.
10. In addition to the routine maintenance tasks outlined earlier, the annual maintenance of this machine also includes the replacement of the following components:
 - a. Lamp Tubes: Replace lamp tubes annually to ensure stable performance and even heating.
 - b. Bearings at Various Transmission Points: Replace bearings at all transmission points annually to maintain smooth operation and prevent mechanical failures.
 - c. Gears with Visible Wear: Replace any gears showing obvious signs of wear to prevent further damage and maintain machine efficiency.