

Ricoma REVEL AIRE Direct-to-Film-Printer Powder Shaker and Dryer User Manual



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To ensure your safety and optimal use of this machine, please carefully read the following safety instructions.

CAUTION

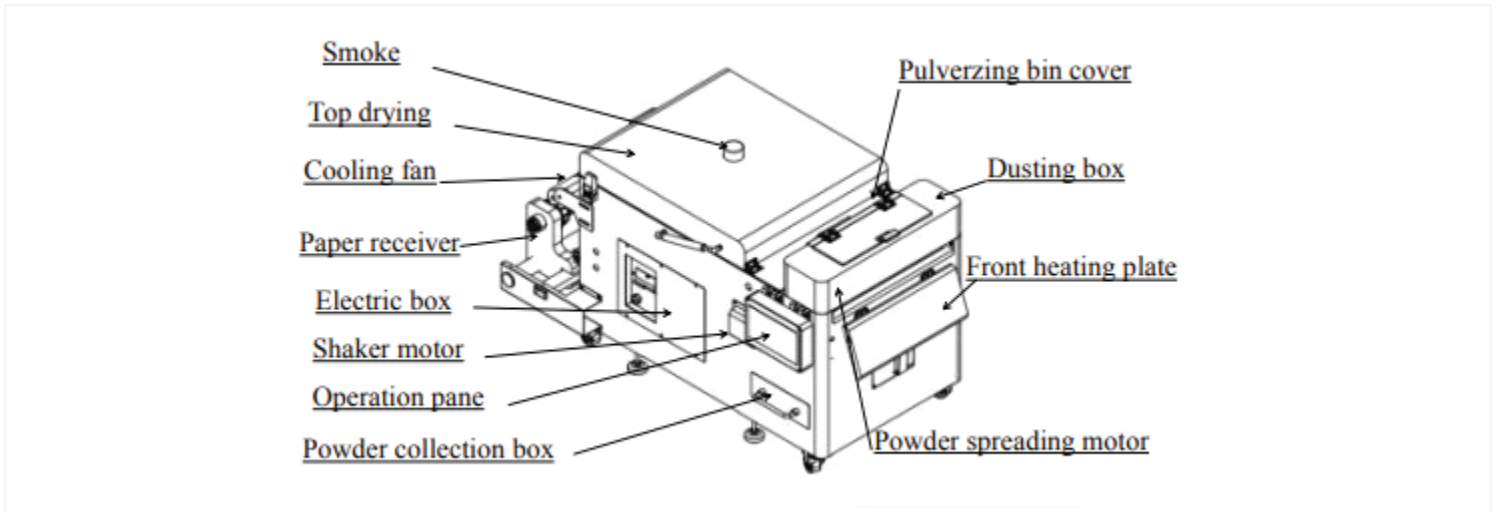
Manual mode

This machine has a high voltage and operates at high temperatures. Users are advised to connect it to an industrial-grade outlet suitable for this device.

- **Rated Voltage:** 220V
- **Rated Current:** 10A
- **Rated Power:** 2.2KW
- **K.W:** 50kg
- **G.W:** 100kg Overall dimensions:
1185 x 608 x 641mm (47 x 24 x 25 in)

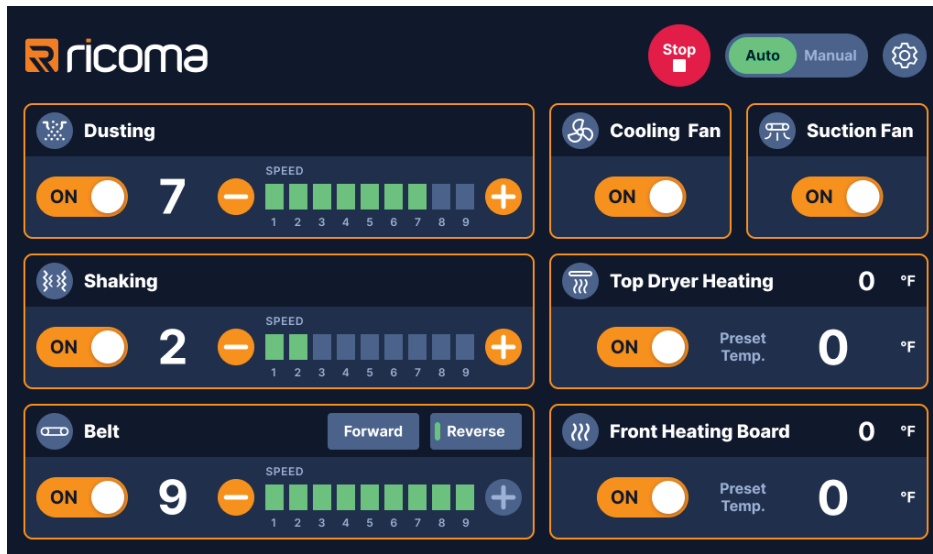
Pre-Startup Instructions

- **Electric Shock Caution:** Ensure the machine is properly grounded before starting to prevent the risk of electric shock.
- **Power Supply Check:** Verify that the power supply matches the heater's specifications and ensure proper connection of the lines.



Clockwise from top right:

- Powder bin cover
- Powder bin
- Front heating plate
- Powder bin motor
- Powder collection box
- Operation panel
- Shaker motor
- Electric box
- Paper roller
- Cooling fan
- Dryer cover
- Exhaust



Power and Setup

- Confirm external power connection (AC220v50 / 60Hz).
- Ensure the grounding wire is properly grounded.

Material Handling

- Align the printer with the powder shaker to minimize material deviation.
- Attach material to the feeder and insert it into the printer for printing. See “winding method” for specific instructions.

Power and Function Settings

- Turn on the main power switch located on the lower right control box.
- Set functions by clicking on the screen and using the plus and minus buttons to adjust shaking speed, dusting speed, guide belt speed, and heating settings. After setting, click the screen again until it stops flashing to confirm settings.

Function Controls

- Press and hold “Powder shaking speed value” to turn on/off the powder shaking function. When “--” is displayed, it is off.
- Use the “POWDER” key to control forward, reverse and close dusting function.
- Use the “CONVEYOR BELT” key in the lower left corner to select forward, backward and close for the guide belt function.

Heating Settings

- Press and hold “Set Temperature Value” to turn on/off upper drying and heating functions. When “--” is displayed, it is off.
- Press and hold “Set Temperature Value” in the front guide settings to turn on/off front guide heating. When “--” is displayed, it is off.

Cooling Fan

- Use the “COOLER” key to turn the cooling fan on/off.

Dryer Settings

- Set upper drying temperature (100 °C – 160 °C).
- Set front guide heating plate temperature (60 °C – 80 °C).

Timing Powder Spreading

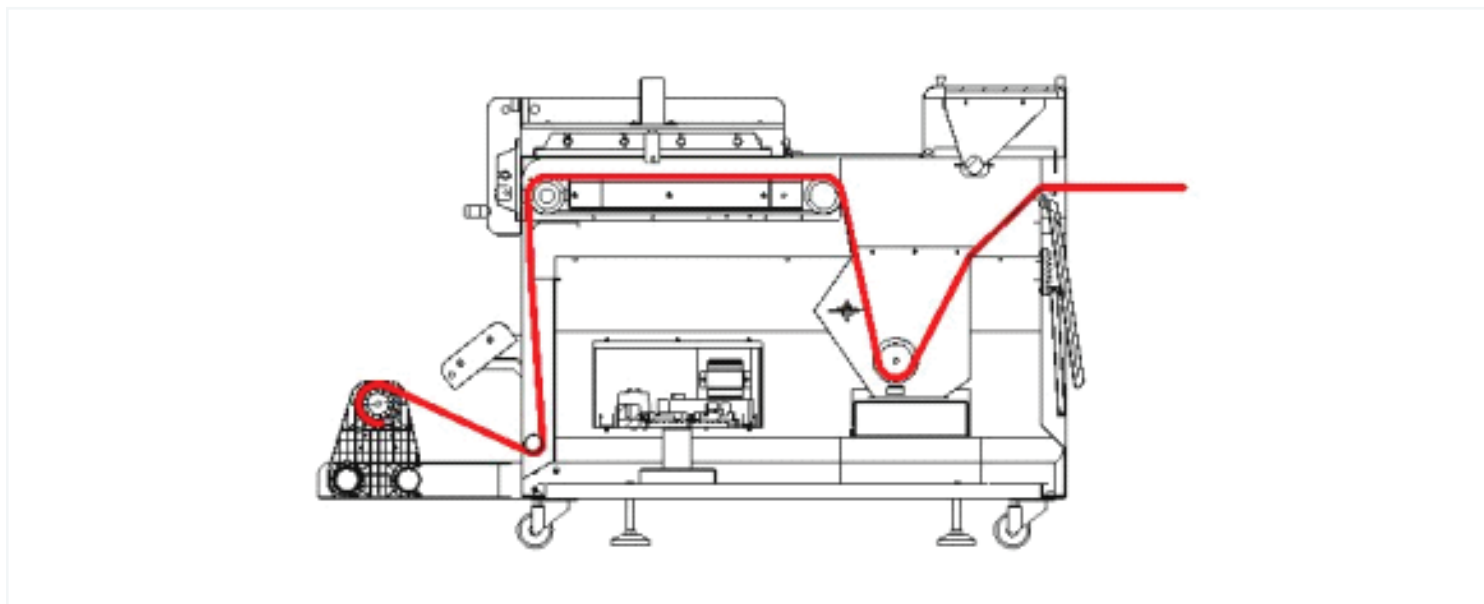
- To set the timing powder spreading function, enter automatic mode.
- When setting the first gear, the powder will operate for 1 minute and 30 seconds before a 15-minute stop.
- The cycle continues, resulting in a 15-minute stop and a powder spreading time of 3 minutes for the second gear, 4 minutes and 30 seconds for the third gear, and so on.
- For gears four through ten, add 1 minute and 30 seconds to the spreading time for each gear.
- If there’s insufficient powder, adjust the spreading time directly. After adjustment, turn the powder spraying on and off.
- Upon reopening, spray the powder according to the new adjusted time.

Shutdown

- Turn off all “heating switches.”

Powder Shaker Loading Transfer Film

Lead media into the powder box, passing through the outside powder bar. Wind it onto the take-up winder's paper tube.



Note: Ensure smooth cloth with no folds; edges level.

Power Disconnect

Disconnect the external power supply before repairing or cleaning the machine.

Daily Cleaning Routine

- Clean residual powder on the powder shaking chamber's walls daily.
- Clean the powder shaking film.
- Clean the remaining powder on the panel.
- Clean powder on the positioning shaft.
- Regularly clean the control box to keep it dry.
- At the end of each day, clean the spreading powder box. Avoid powder accumulation to prevent moisture and motor issues. Disassemble and clean the powder hairbrush if powder is blocked.

Glue Powder Usage

After using glue powder twice, sieve it using a 60-purpouse mesh to prevent impurities that may block the powder scattering hairbrush or affect picture quality and stamping firmness.

Powder Shaker Usage

Keep the upper cover of the powder shaking cavity closed during use to prevent rubber powder from entering the guide belt and reduce noise.

Adding Powder:

Avoid a large action range when adding powder to prevent rubber powder from flying onto the guide belt and entering the air suction platform. This can cause bonding issues between the guide belt and platform, leading to motor burnout after cooling.

Power Safety

- **Power Supply:** The printer operates on single-phase AC 50Hz, either 220V or 110V AC ($\pm 10\%$). The printer has a 1KW power rating, and the powder shaker has a 6KW power rating. It is advisable to use a voltage stabilizer.
- Use the power supply specified on the printer's label—select 110V or 220V AC power based on the equipment's nameplate label. This high-power, high-temperature device requires industrial-grade electricity and appropriate premises. Avoid touching areas marked with high-temperature signs to prevent burns. Before usage, users must understand the machine's parameters to avoid improper operation leading to product damage or other losses.
- Connect all equipment to a properly grounded outlet, avoiding circuits shared with frequently switching devices like copiers or air conditioning systems.
- Avoid using outlets controlled by wall switches or automatic timers. Do not use damaged or broken power cords. Do not exceed the rated amperage of the wall outlet.
- Keep the computer system away from potential sources of electromagnetic interference, such as speakers or wireless telephone bases.
- Ensure safety during machine installation to prevent dropping and causing harm to people and equipment.
- If using additional power cords, ensure that the total amperage of devices plugged into them does not exceed the rated amperage of the power source or wall outlet.
- Seek timely assistance from printer repair technicians if any problems arise.
- For the safety of people and the machine, properly connect the grounding wire as instructed. Avoid plugging or unplugging the printing cable and power cord while they are energized, as this can damage the motherboard.

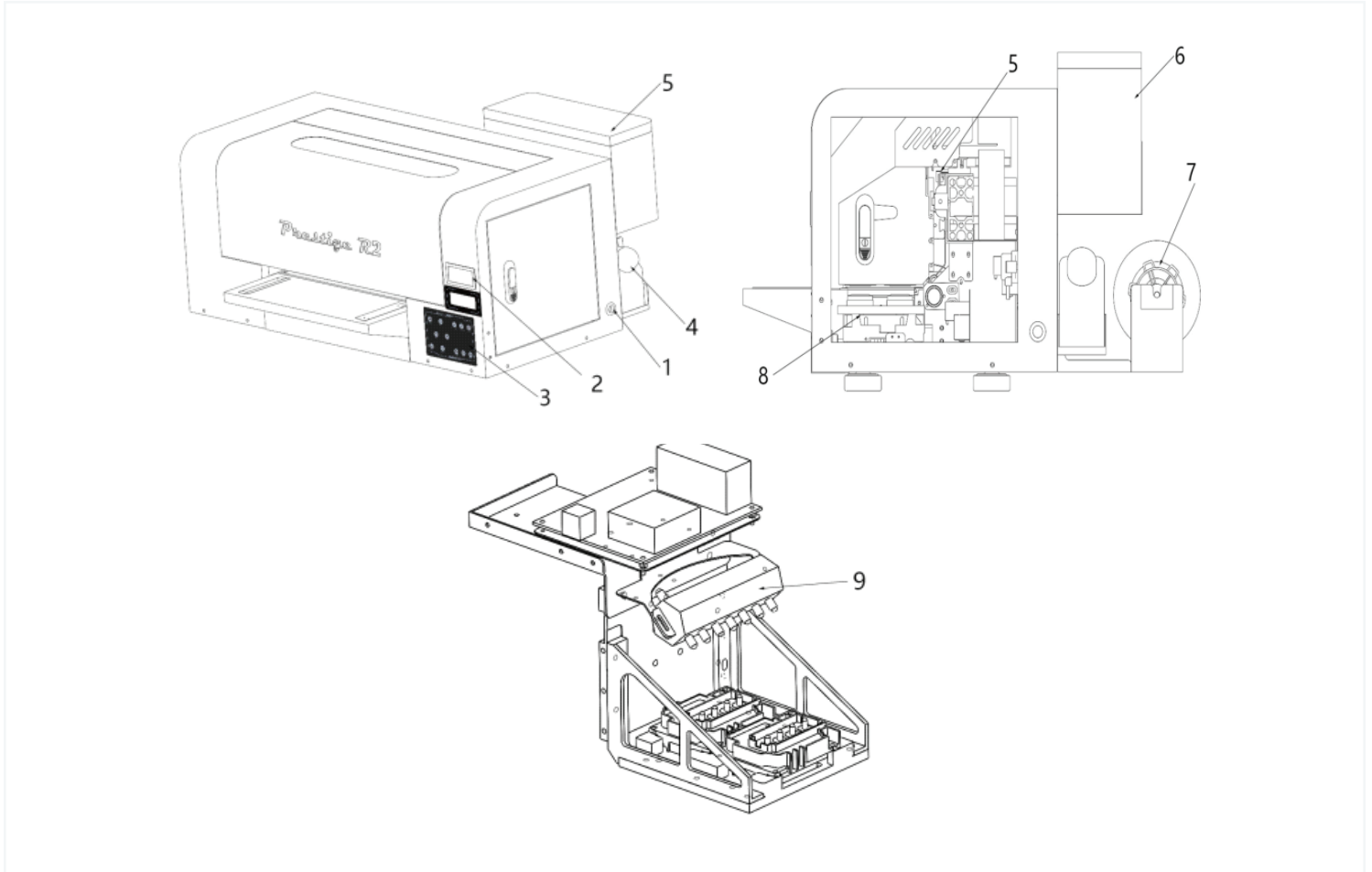
Operating Precautions

- Before powering on, ensure there are no foreign objects inside the machine.
- When shutting down, turn off the computer and software before cutting off the power supply. Check the sealing status of the print head after shutdown to prevent clogging.
- When printing, always use a card paper holder (anti-curling device) to prevent paper misalignment and scraping against the print head.
- The machine must be supervised while operating.
- Avoid exposing the print head to the air for an extended period to prevent clogging.

CAUTION

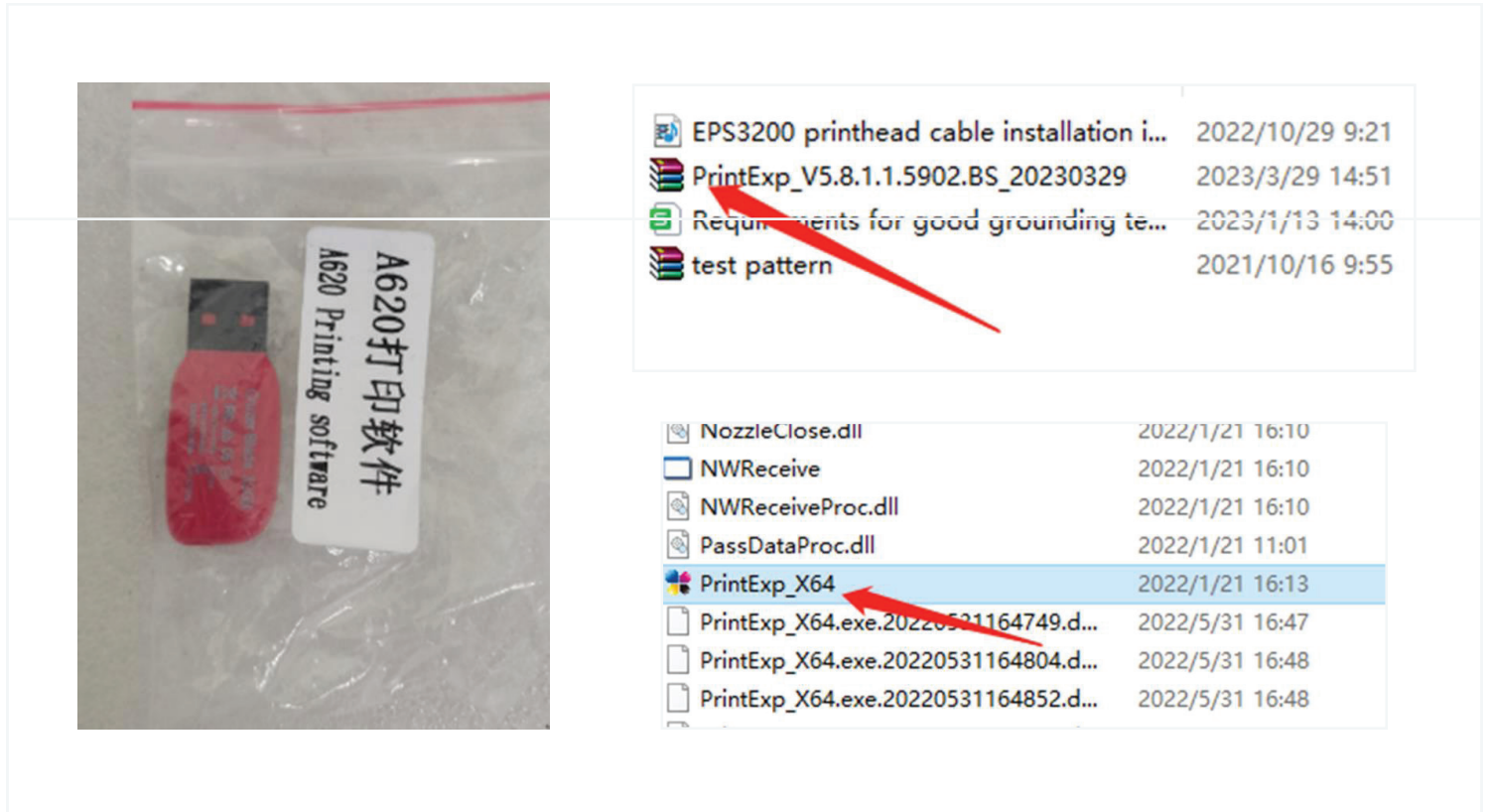
Ground the machine. In dry air, static electricity issues, especially with PET film media at high paper feeding speeds, should not be ignored. Static electricity can damage the machine and circuit boards. The only way to release static electricity is through grounding. Since the human body is a significant source of static electricity, discharge both hands (by touching a grounded metal object or wearing an anti-static wristband) when handling the print head to prevent damage to circuit boards and print head.

Components and Functions



No.	Item	Function
1	Power socket	Power input switch
2	Temperature controller	Control heat
3	Control panel	Control and operate device
4	Waste ink bottle	Waste ink
5	Ink bottle	Color ink
6	White ink bottle	White ink
7	Paper feeder	Feed paper
8	Ink stack	Protect and clean print head
9	Splitter	Separate white ink

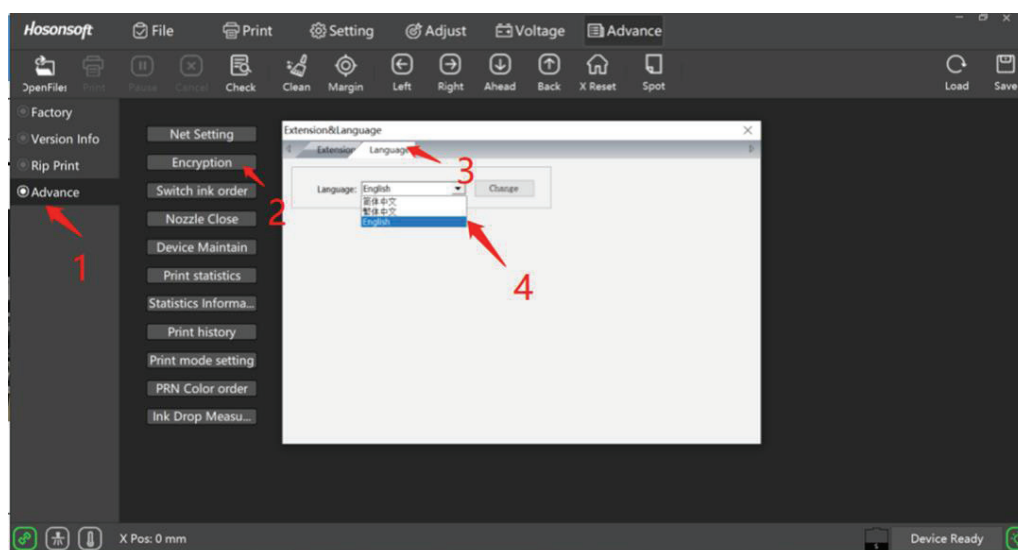
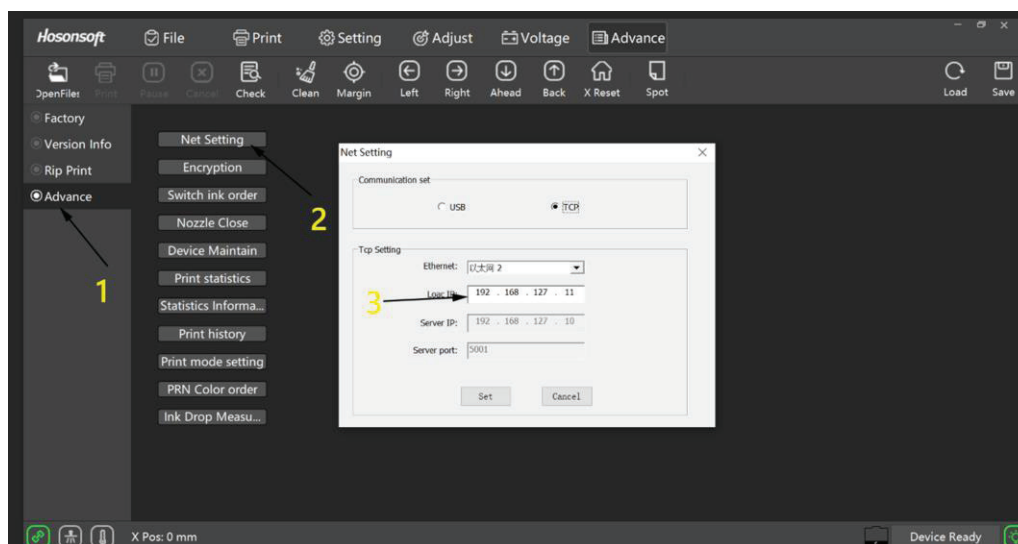
1. Insert the USB provided into the computer drive. Copy installation package to computer and unzip it.



2. Confirm that there are no foreign objects on the device and remove the carriage attachment.



3. Power on the printer, connect it to your computer and modify the IP address to 192.168.127.11



Note: Power must be on to change IP address and set language.

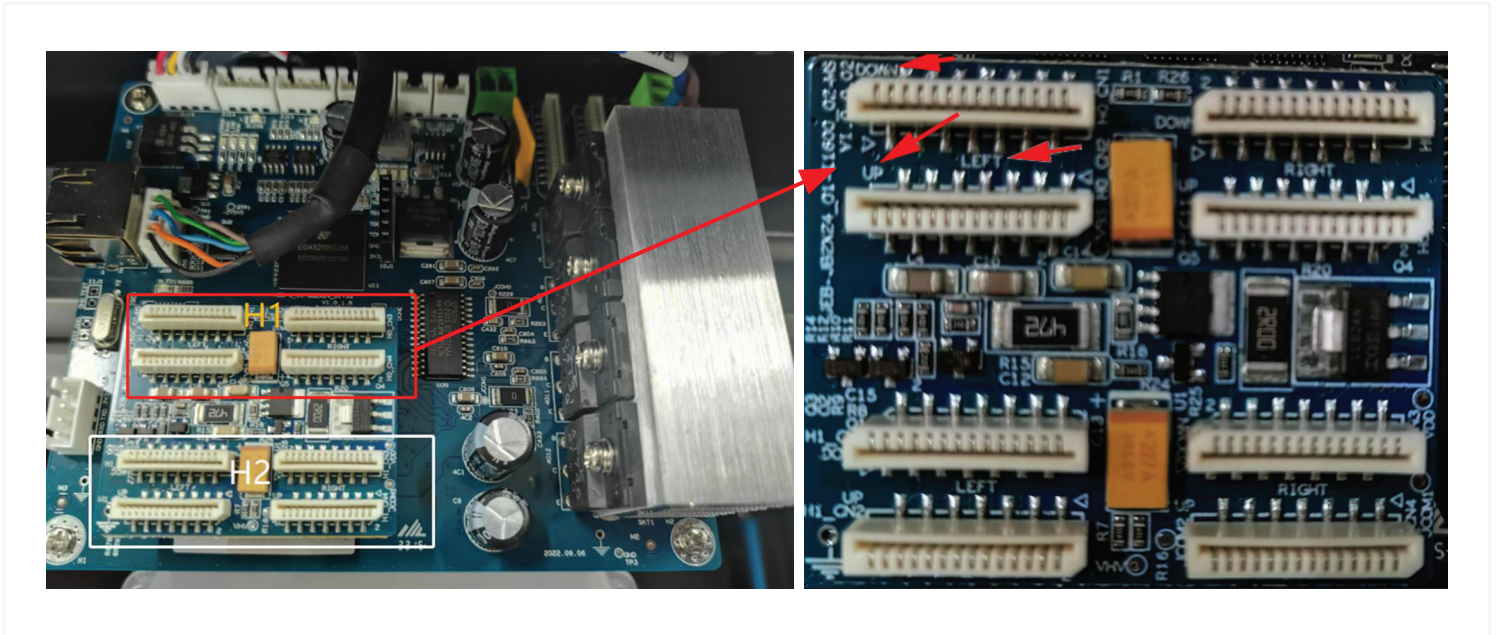


No.	Item	Quantity
1	Damper	8
2	USB flash drive	1
3	Ink nozzle	1
4	Syringe	1
5	M 4 x 6 screw	10
6	M 5 x 10 screw	20
7	Ink nozzle connector 3 x 5	10
8	Print head screw m 3 x 10	10
9	Y-shape connector	2
10	Power cable	1
11	Print head cable	8
12	M 3 x 8 screw	4

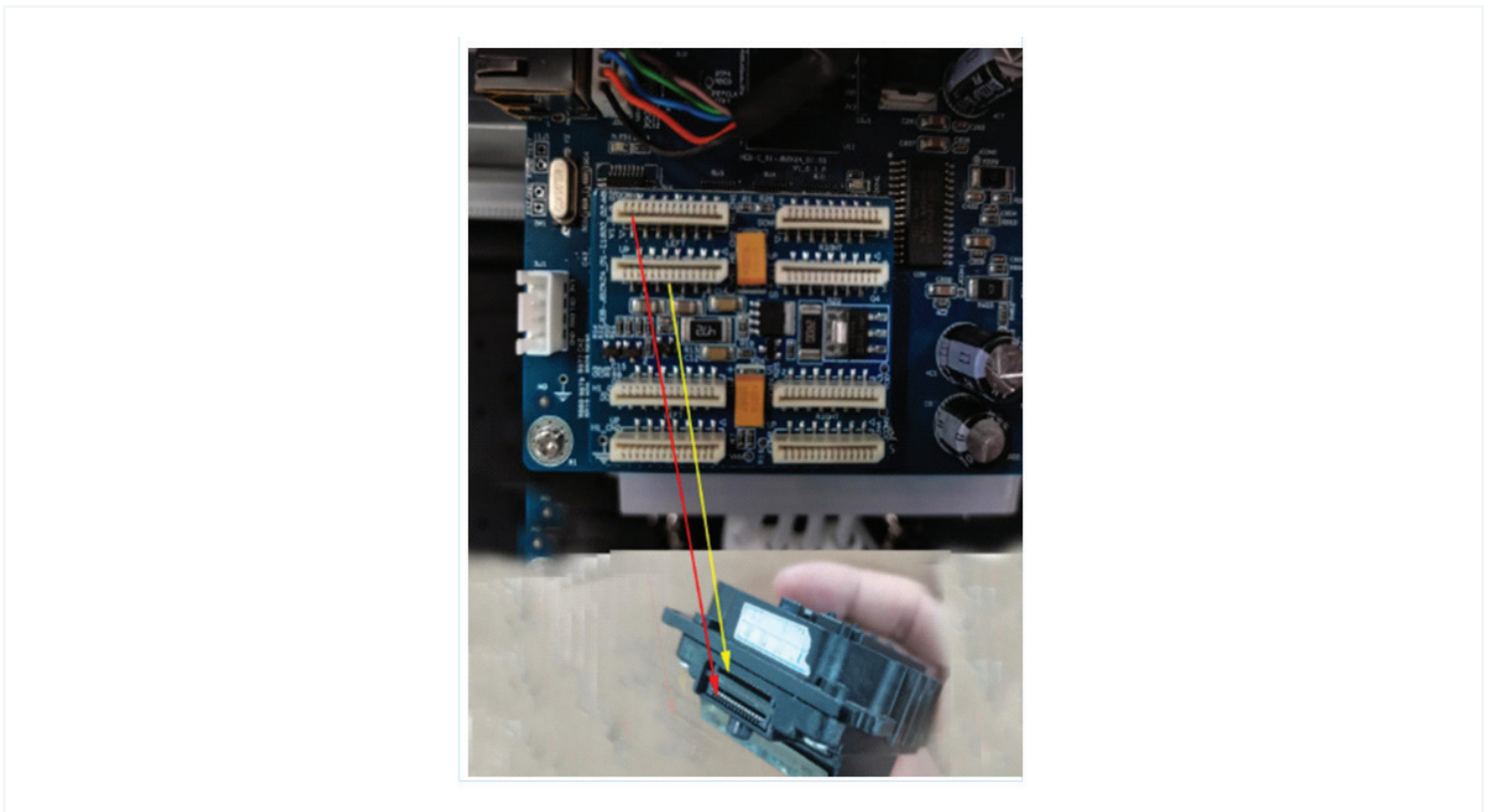
Installing Print Heads

Wiring Connections Warning: Ensure proper installation of print head cables to prevent print head damage.

Each small board on the circuit board is labeled with the corresponding print head cable, as shown on the diagram's small card.



The diagram below illustrates the distinctions in the print head's orientation—up, down, left, and right.



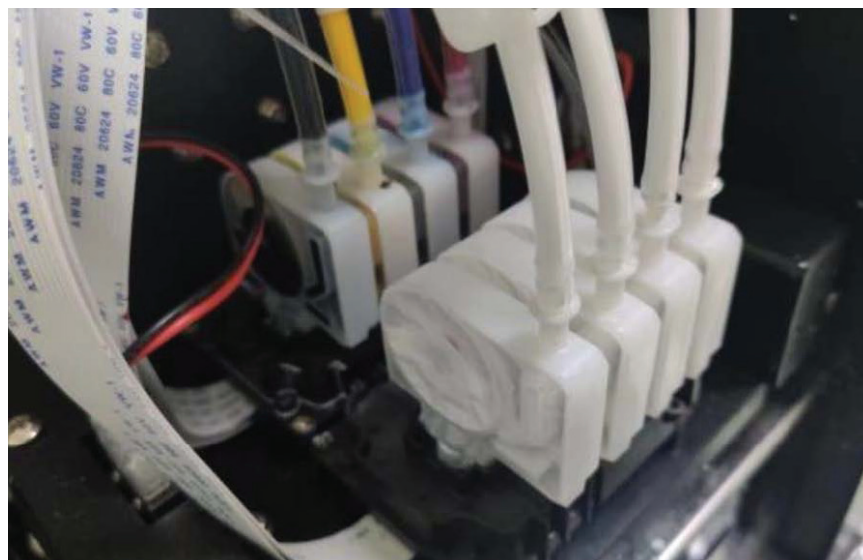
Proper Layout of Ink and Dampers

Arrange ink and dampers from left to right as follows:

Color ink K Y C M

White Ink W W W W

1. Color ink print head
2. White ink print head



CAUTION

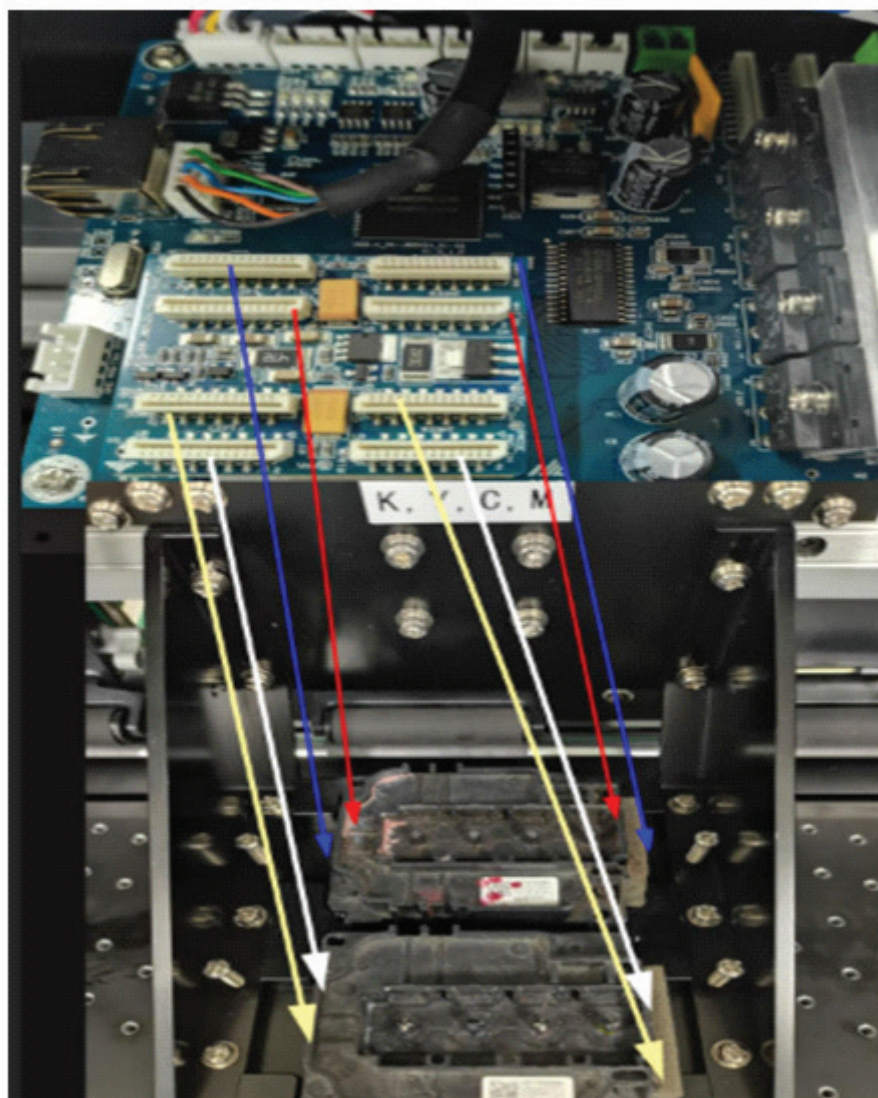
The print head is fragile and not covered by warranty once ink is applied. Take precautions to avoid improper use that may damage the print head.

1. Connect the print head cable according to the instructions. If uncertain, contact the dealer or manufacturer.
2. During installation, refrain from touching or rubbing the bottom of the print head with hands or objects.
3. When installing the print head, ensure ink does not drip into the print head socket. Take necessary precautions and use waterproof adhesive tape to secure it.
4. When loading materials, ensure balance to prevent misalignment, warping, or scraping against the print head.

Proper Layout of Print Heads

The wiring for the corresponding positions of the 1st and 2nd printheads is illustrated in the following diagram.

1. Color ink print head
2. White ink print head

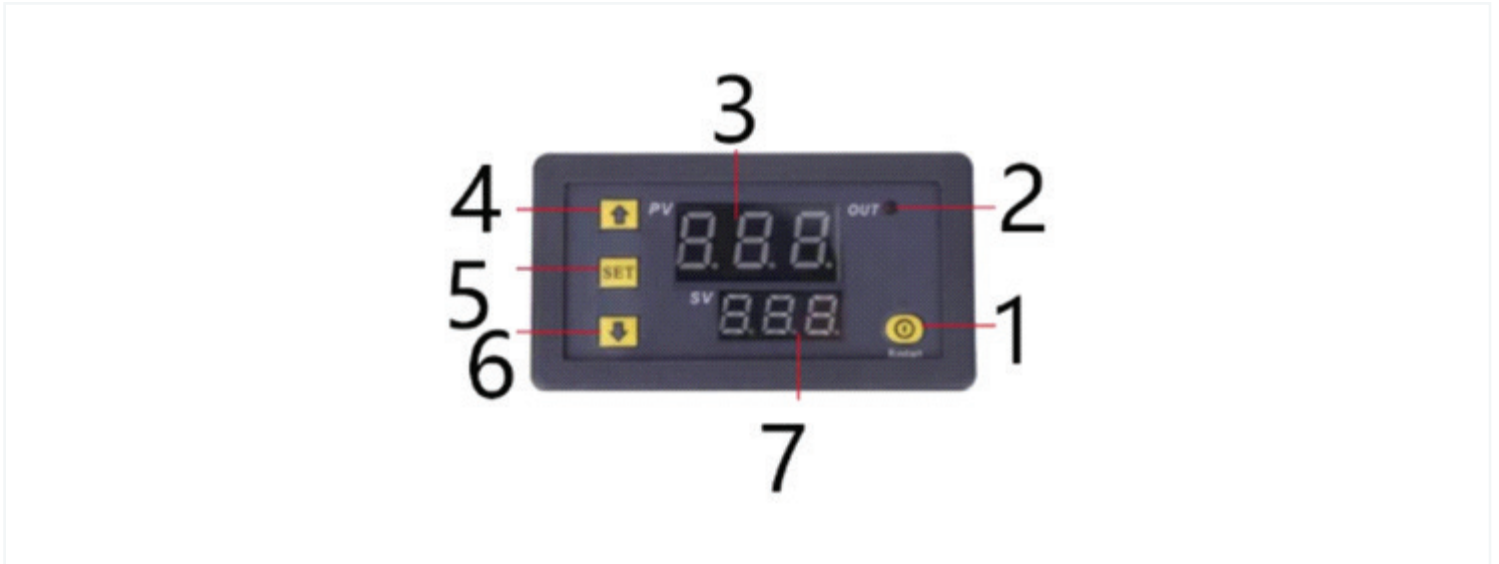


Power On/Off

The device is intended to be kept powered on 24/7, with exceptions for special circumstances that necessitate powering off. In such cases, adhere to the proper shutdown procedure to prevent potential impact on the normal operation of the print head.

Power On: Start by turning on the power and then launching the software.

Power Off: Begin by closing the software, then verify if the print head has been reset before powering off. Maintaining 24/7 power ensures continuous operation and is essential for optimal performance.



Temperature Controls

No.	Function
1	Restart
2	Working indicator light
3	Actual temperature
4	Increase
5	Settings
6	Decrease
7	Set temperature

Code Settings

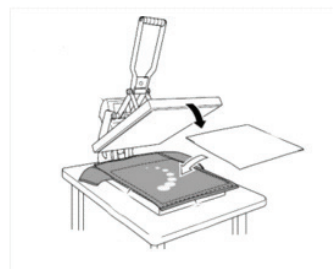
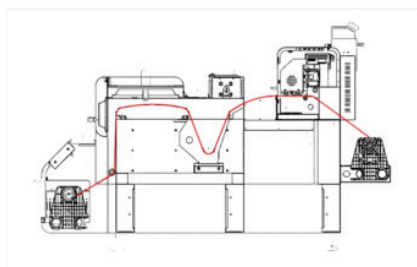
P0	Cooling/heating
P1	Differential setting 0.1-30 degrees Celsius
P2	Upper temperature limit (120 degrees Celsius)
P3	Lower temperature limit (-55 degrees Celsius)
P4	Temperature calibration
P5	Delay start time (0-10 min)
P6	Alarm temperature setting (-55 – 120 degrees Celsius)
P7	Data lock ON/OFF
P8	Factory reset

Nozzle Confirmation



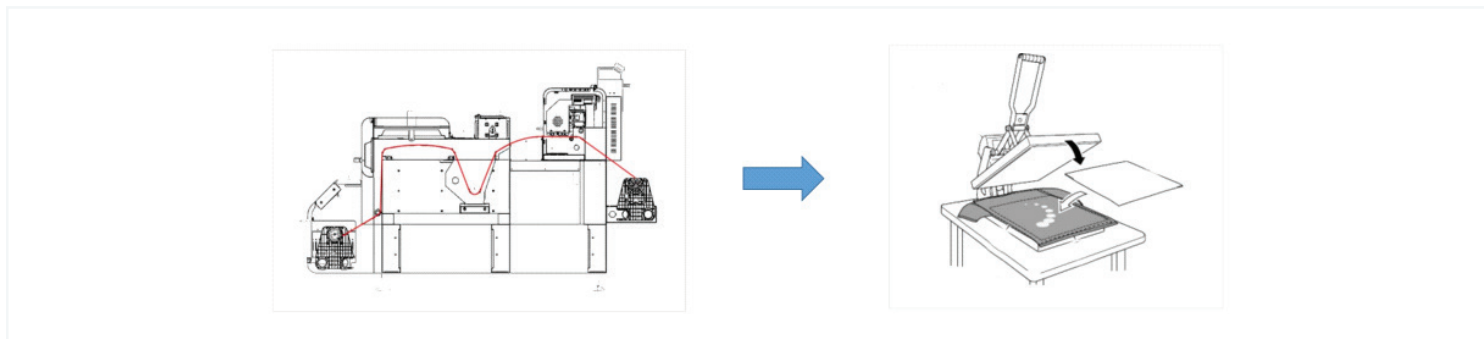
Printing Procedure (Step-by-step)

1. Print
2. Powder shake & heating
3. Heat press
4. Final product

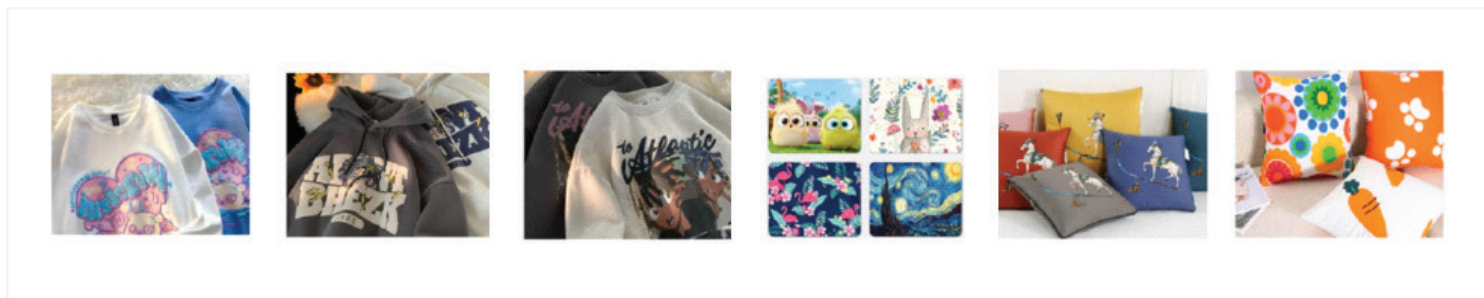


Printing Procedure (Step-by-step)

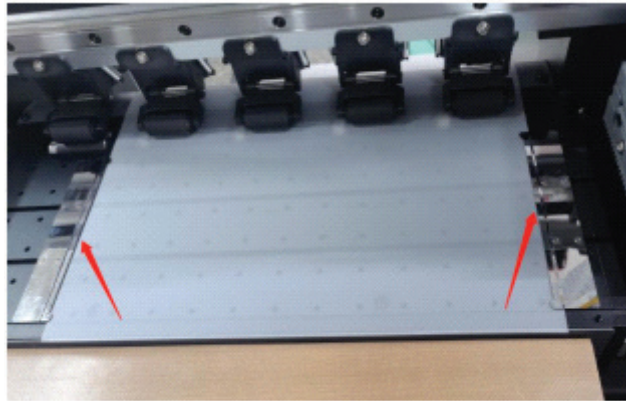
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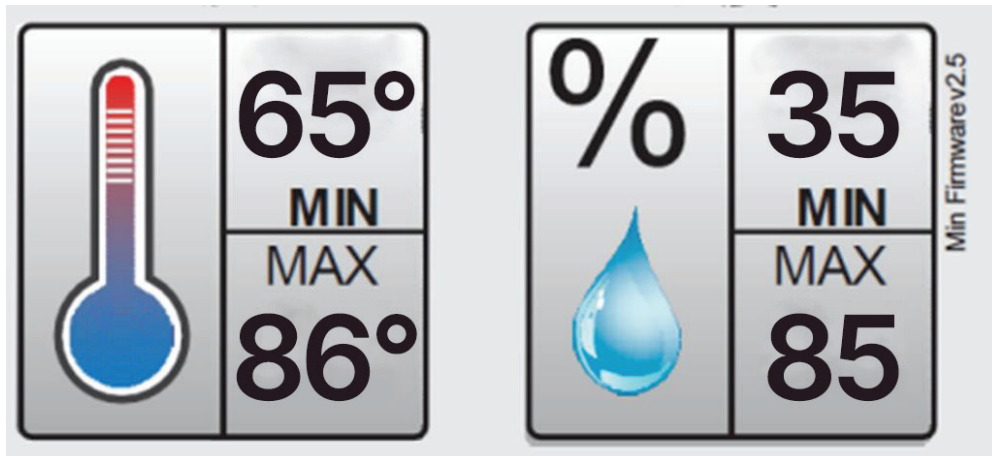
End Products



1. When installing materials, ensure proper balance and apply pressure to prevent the material from lifting and scratching the print head.



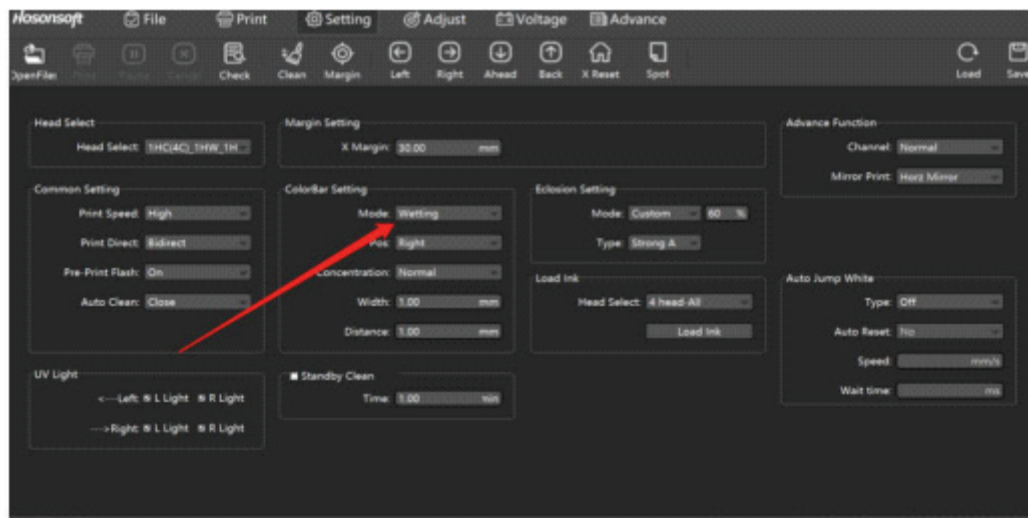
2. Keep the temperature of your work environment between 65-86 degrees Fahrenheit with a relative humidity of 35-85%.



1. If the print head is accidentally scratched, clean it immediately using a cotton swab and cleaning solution.








2. Do not approach the operating range of equipment while printing is in progress.
3. Set moisture mode at the color bar setting.



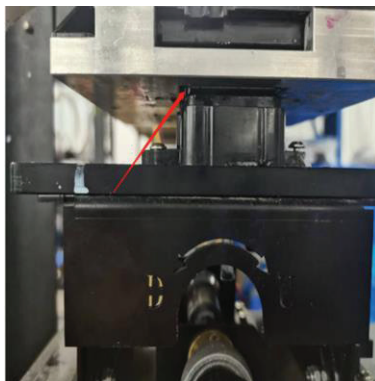
⚠ WARNING

All equipment parts and consumables are subject to overuse. To ensure stable equipment operation, do not overuse any parts or consumables past their specified duration.

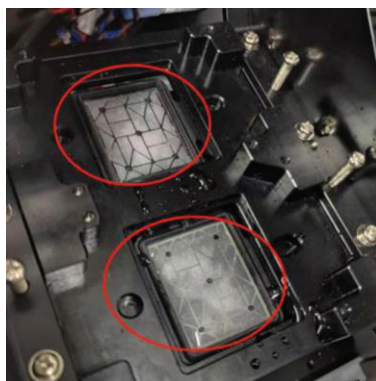
Photo	Function	Duration (months)
	Peristaltic pump	12
	Butterfly filter	6
	Cap top	6
	Wiper	3
	Damper	3

Daily maintenance routine:

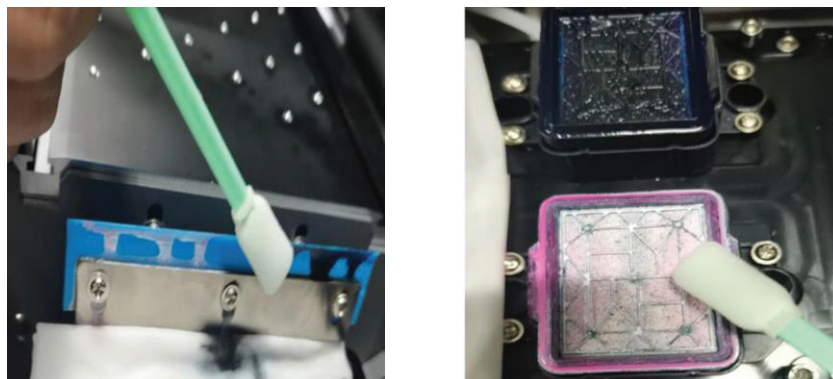
- Check and confirm that nozzle is sealed after shutdown.



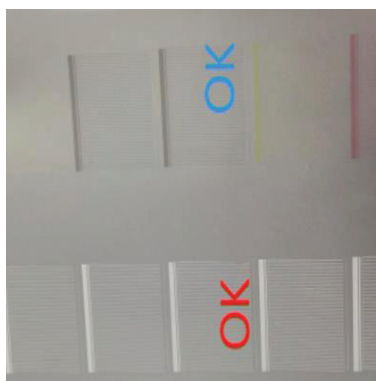
- Lubricate and clean the print head.



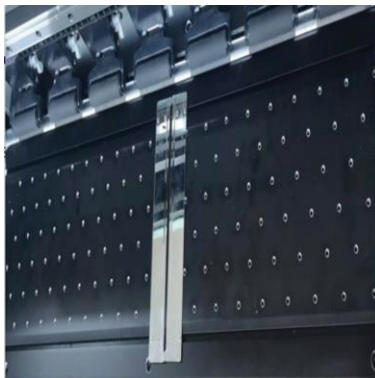
- Clean the wiper and ink stack overflow.



- Test print head by printing test patterns.

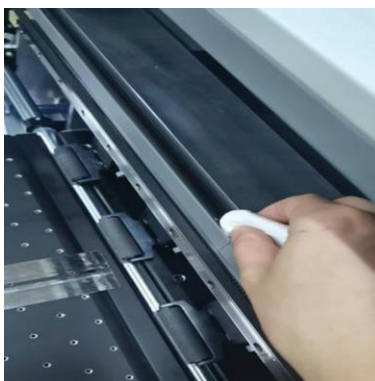


- Clean the printing platform and paper pressure pads.

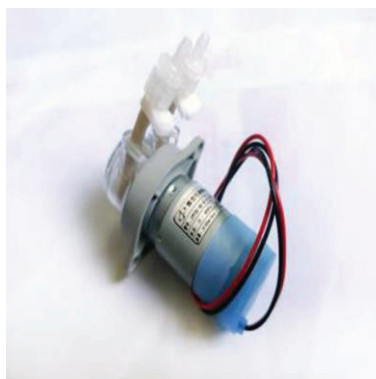


Weekly maintenance routine:

- Clean the grating strip and raster decoder with a lint-free cloth soaked in distilled water or medical-grade alcohol.



- Check to ensure ink pump and circulation pump are functioning properly.





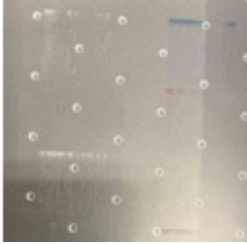
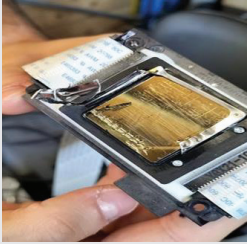
- Perform a computer virus check and disk defragmentation

Quarterly maintenance routine:

- Clean and replace lubricating oil on the guild rail.
- Check to see if dampers and filters are clogged and replace if necessary.
- Check to ensure the circuits, electrical boxes switches and motors and functioning properly.

Yearly maintenance routine:

- Check to see if the ink stack overflow is clogged and replace if necessary.

Issue	Cause	Photo
Color and white ink do not align properly.	Printing accuracy is not properly calibrated.	
Shadowing	Printing accuracy is not properly calibrated.	
Stringing	Print head needs to be cleaned.	
Damage to print head	Print head is clogged or scratched.	

Part	Warranty duration	Details
Boards (mainboard, car board, driver board, keypad board, delay board, industrial control board, etc.)	12 months	<p>Within 12 months, free repair and replacement will be provided for any issues. After the warranty period, repair will be charged based on the type of circuit board.</p> <p>(Note: If there is a problem with the circuit board, please clearly state the reason and return it to the factory in a timely manner. Without stating the reason, repair cannot be carried out.)</p>
Motors (car motor, stepper motor, paper feeding motor)	12 months	<p>During the warranty period, free repair and replacement services are provided. After the warranty period, repair services will be charged accordingly.</p>
Power supplies (machine power supply, 24V, 36V, 42V, etc.)	6 months	<p>During the warranty period, free repair and replacement services are provided. After the warranty period, repair services will be charged accordingly.</p>
Sensors (limit switch, photoelectric switch, micro switch, etc.)	6 months	<p>If a performance failure occurs during the warranty period and cannot be repaired, it can be replaced.</p>
Raster decoder, temperature controller, fan, switch, heating, drag chain, belt, solid-state relay, solid-state regulator, wheel and bearing for paper feeding system	6 months	<p>If a performance failure occurs during the warranty period and cannot be repaired, it can be replaced.</p>

Part	Warranty duration	Details
Paper feeding system	6 months	If a performance failure occurs during the warranty period and cannot be repaired, it can be replaced.
Wires and grating strips.	3 months	If a performance failure occurs during the warranty period and cannot be repaired, it can be replaced.
Machine parts, sheet metal, aluminum materials	3 months	<p>If the new item is damaged or the wrong model is sent, it can be replaced. Relevant pictures should be provided as proof.</p> <p>If there is any damage or a wrong part was received, they can be replaced. Relevant pictures should be provided as proof.</p> <p>If there are any issues during the assembly and debugging of the machine after unpacking, please contact our technical staff promptly and provide relevant pictures as proof.</p> <p>If there is any damage upon unpacking, parts can be replaced. Relevant evidence should be provided.</p> <p>If there is damage during transportation, please refuse to sign and contact us immediately.</p>
Ink Path (ink stack, ink pump, Ink pad, ink damper, ink tube, ink cartridge, including print head data cable)	Not covered	No warranty is provided after leaving the factory. Any problems that occur should be resolved by purchasing and replacing the parts yourself.

Part	Warranty duration	Details
Print head	Not covered	No warranty is provided after leaving the factory. Any problems that occur should be resolved by purchasing and replacing the parts yourself.

Note:

- Each machine accessory is labeled with an after-sales label. If you need to replace the accessories, please provide the relevant accessory label image.
- Please return the replaced accessories within 15 working days. Failure to return the accessories in a timely manner may incur charges.
- The warranty period starts from the date of machine delivery. If you have any objections, please contact us in a timely manner.
- Regarding after-sales issues, if you have any questions, please feel free to call our company.

What's not included in the warranty?

- Consumables (e.g., paper, ink cartridges, filters, ink bags, ink pads, print heads, etc.)
- Damages resulting from human factors or transportation, as well as those caused by unpredictable natural disasters.
- Products that users or unauthorized service providers have disassembled or repaired.
- Malfunctions and damage caused by the use of unsupported media, unqualified print sharers, or non-compliant power sources.
- Issues arising from using the product in an environment not supported by the product.
- Malfunctions and damage due to improper storage by the user (such as rodent infestation, liquid ingress, etc.).
- Damage resulting from the use of self-compiled or non-publicly released software that hinders the normal operation of the product.

Please note that this warranty solely covers machine malfunctions and does not assume any consequential liability arising from other circumstances.