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THE HUB FOR THE PRINTING INDUSTRY

Innovator 24inch DTF Printer

User Manual

DTF-IN-C24H2-US

Thank you very much for choosing Sign-in-Global DTF printer, please read the manual carefully, including the operation and maintenance to ensure the best output and the lifetime of the machine.

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About DTF

Direct Transfer Printing is a revolutionary new printing technique that's more affordable and accessible compared to DTG, screen printing, sublimation or laser white toner transfers.

What Sets DTF Apart from Other Transfers?

- √ A great option for small orders.
- √ No cutting and weeding required.
- √ Crisp, defined edges and images from start to finish.
- √ Low cost on waste.
- √ Low investment – high reward (Print Cost: $0.007/inch^2).

Works on Most any Fabrics

DTG technology works best on cotton pre-treated fabrics while DTF opens the door to a wide range of choices and is capable of printing onto non-treated cotton, silk, polyester, denim, nylon, leather, 50/50 blends, and more. It works equally well on white and dark textiles.

1 Create your design

2 Printing

3 Shaking powder

4 Bake

5 Heat Press

6 Finishing

I. Notice on Safety Using

1.1 Risks migh present

Read the instructions carefully as they contain important information regarding proper, efficient and safe installation, use and maintenance of the unit.
The installation of this unit must be carried out in accordance with the manufacturer's instructions.
Switch off the unit in case of failure or malfunction and contact your distributor for service information.

1.2 Symbols

This symbol informs about a situation where a safety risk might be at hand. Given instructions are mandatory in order to prevent injury.

This symbol informs about the right way to perform in order to prevent bad results, appliance damages or hazardous situations.

This symbol informs about recommendations and hints that help to get the best performance out of the equipment.

1.3 Safety

1.3.1 Safe use of the appliance

For your safety. Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

1.3.2 Other prohibitions

Using any parts other than genuine Sign-in-Global approved manufactured parts can void the warranty.

Improper installation, adjustment, alteration, service or maintenance can cause property damage or major injury. Read the installation and operating instructions thoroughly before installing or servicing this equipment.

1.3.3 Caution

Users must pay attention to content have this mark; it might be caused by misoperation.

1.4 Notice before starting it

This machine is a high voltage equipment, in order to use the machine better please be aware of following specification.

1.4.1 Placement instructions

Installation And Placement

① The equipment should be placed in a dry and ventilated environment

② The equipment must be placed horizontally

③ Keep your computer system away from potential sources of electromagnetic interference, such as a speaker or wireless telephone set.

1.4.2 Power connection instructions

Electricity Parameters

Rated voltage: AC110V, 1 phase

Rated current: 9A

Rated power: 1000W

The access power must be consistent with the rated power of the equipment, and the guage number of the access power supply line must meet the rated requirements.

Please only use the power type identified on the printer's label.

Do not use a damaged or broken power cord. If you use an additional power cord, remember that the total amperes of the device inserted in the additional power cord should not exceed the rated ampere of the power supply. In addition, please remember that the total ampere of all devices inserted wall outlet should not exceed the amp rating of the wall outlet.

Ground Connection

Before the power-on, the ground wire must be connected properly.

Those who are sensitive to static electricity should take protective measures when operating the equipment.

Those who are allergic to static electricity should wear an anti-static wristband or anti-static gloves.

NOTE: The machine must be inserted in the ground wire. In dry air conditions, static can be a dangerous issue, especially when using PET media (and moreso when the paper feeding speed is very fast).

Electrostatic charge can cause damage to the printer and the board.

The grounding wire is the best method to avoid this. During operation, ensure that the user's hands have been discharged (through contact with ground or electrostatic equipment). Otherwise, damage may occur to the board or nozzle.

1.4.3 Precautions for operation

> The printer must be monitored during operation.
> Do not unplug the printer or other relevant data cables until the machine is switched off.
> Do not unplug the printer cables or power cable while the machine is on or in operation, as it may cause damage to the main board.
> Please do not place tools or other items on the printing platform or cover plate of the machine, so as to avoid unnecessary losses caused by improper cleaning before the machine is running.
> Before handling your printer, make sure that your printing carriage is fixed in the primary position.
> Perform regular maintenance on the printer to reduce the impact of dust and ink on the printer.

II. Digital Printer Introduction

2.1 Installation environment requirements

> The temperature is generally controlled at 68°F-86°F (20°C-30°C), and the humidity is controlled at 55%~85% (no condensation).
> Avoid exposing the printer to direct sunlight, strong light, wind or heat sources.
> Leave enough space around the printer to ensure proper ventilation.
> The workplace must be clean and dust-free, and smoking must be strictly prohibited.
> The installation ground should be stable, and the machine cannot be installed on a sloped ground.

2.2 Main features

Item Number: Innovator 24inch DTF Printer

Available Print Head & Quantity: Dual Epson I3200-A1 Printheads

Dot Size: Minimum ink drop 3pl, variable dot technology

Maximum Print Width: 23.6inch (600mm)

Media Type: PET Film

Language: English

RIP Software: DTF Master RIP Software

Operating System: Windows7 64-bit, Windows10 64-bit

Hardware: CPU: Intel core i5H ↑ Memory: 8G ↑ / Graphics Discrete

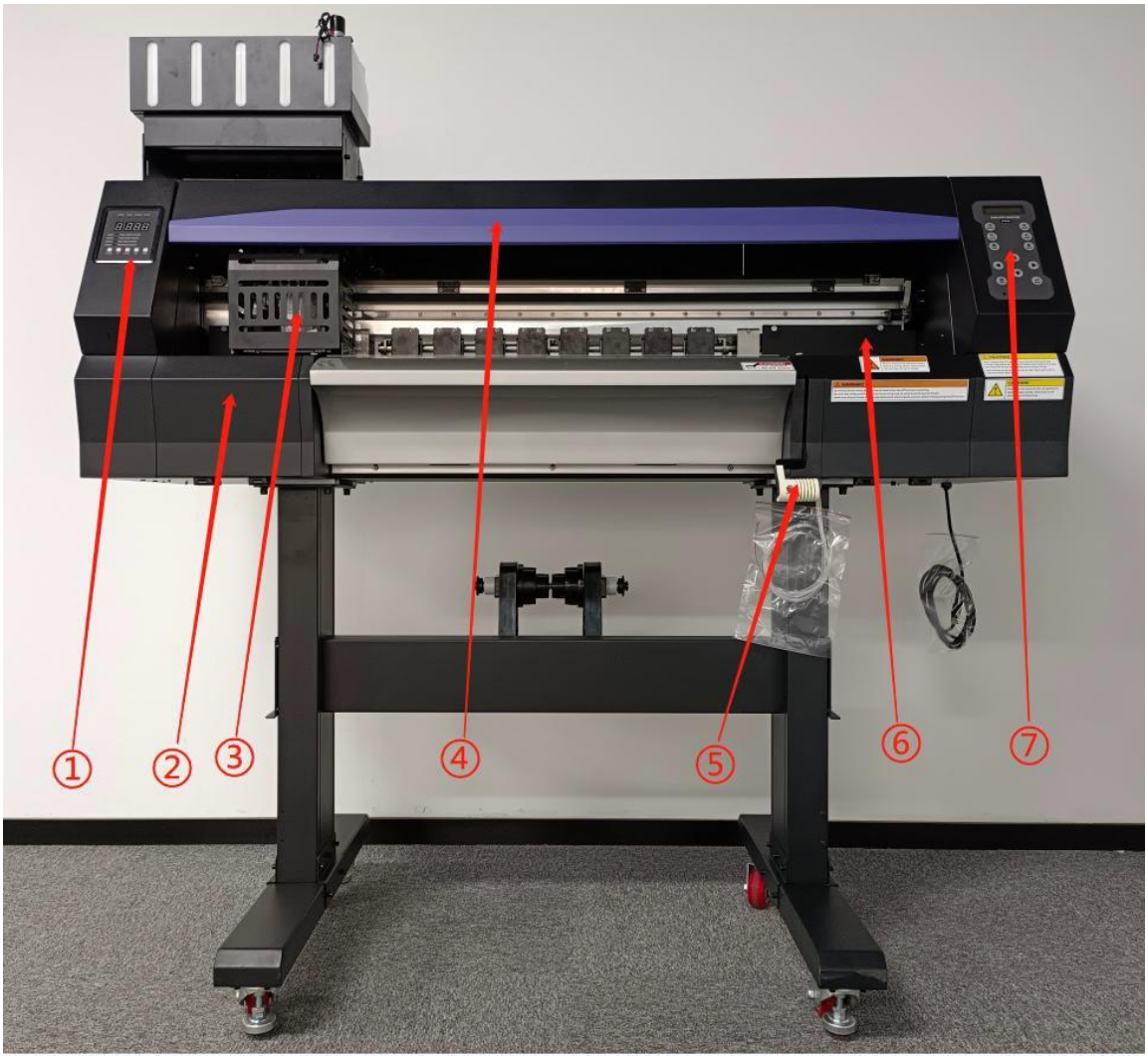
Interface: 1000MB Network Interface

Image Format: PNG / JPG / TIFF

Rated Voltage: AC110V, 50HZ / 60HZ, 1 phase.

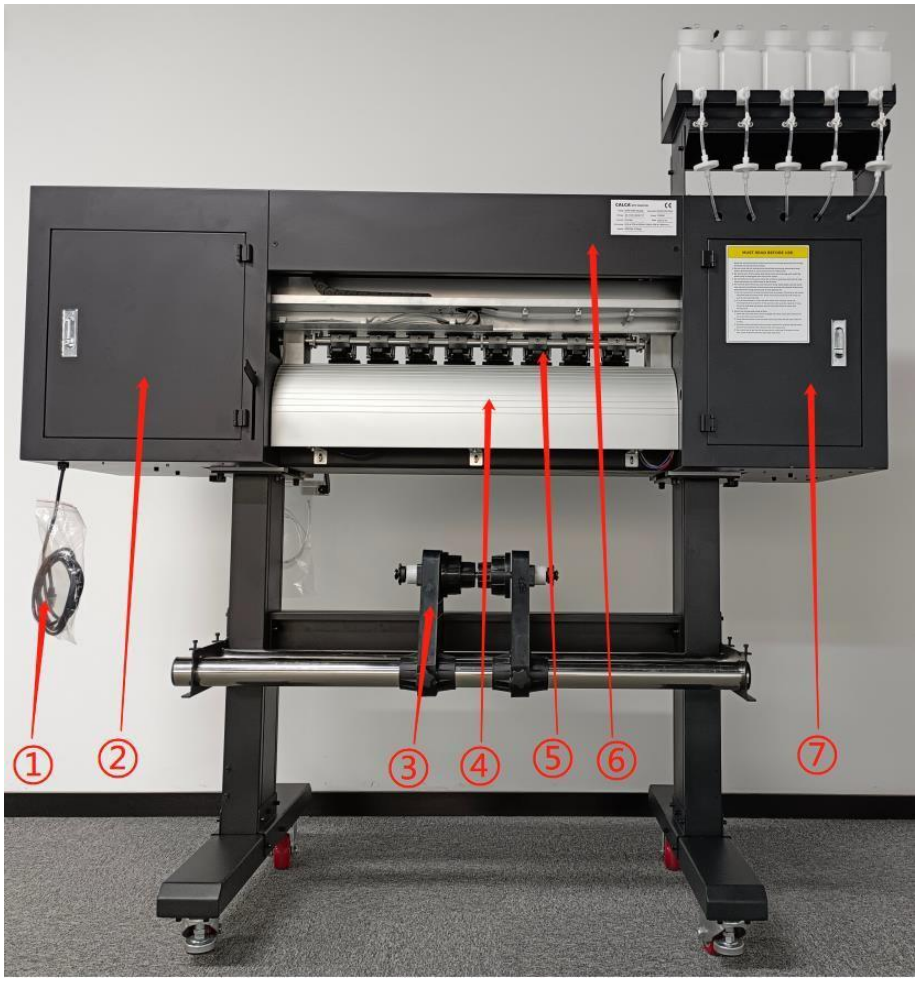
Power: 9A, 1000W

2.3. printer main structure description



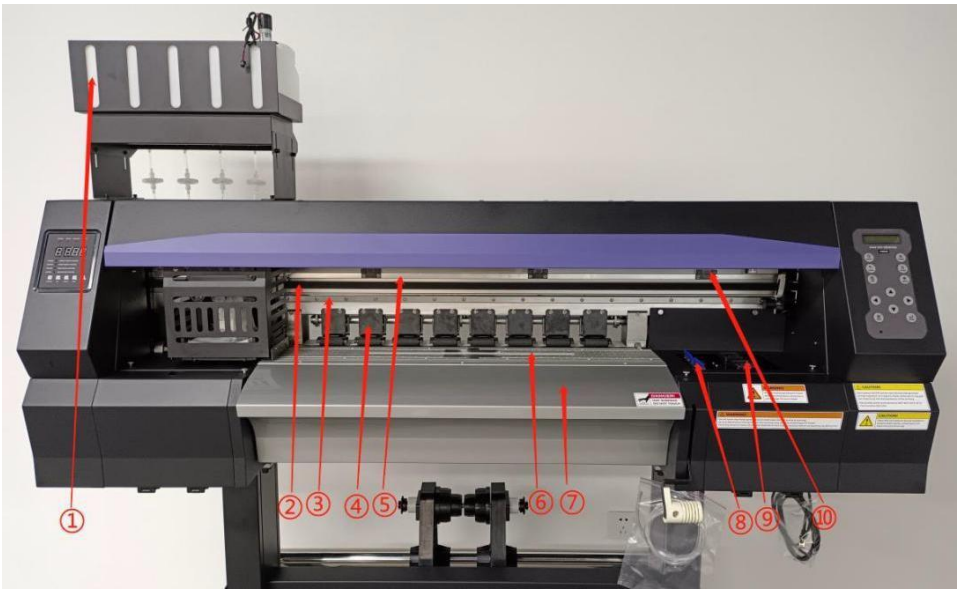
NO.	Name	Effect
1	Temperature control panel	Control and display the heating temperature of the front, middle and back panels of the printer
2	Left flip	Open this flap to observe and clean the print head surface
3	Print head cover	Cover the print head and the ink path of the print head to prevent external dust or other liquids from contaminating the print head and its related accessories
4	Middle cover	Open this cover to access ink circuits or electrical components on the carriage
5	Roller handle	Press roller up/up Press roller down/press

6	Moisturizing components	The print head is moisturizing and cleaning is carried out at this position, and there is a motor that can move up and down
7	Operation panel	Maintenance equipment and equipment-related settings can be performed through the operation panel



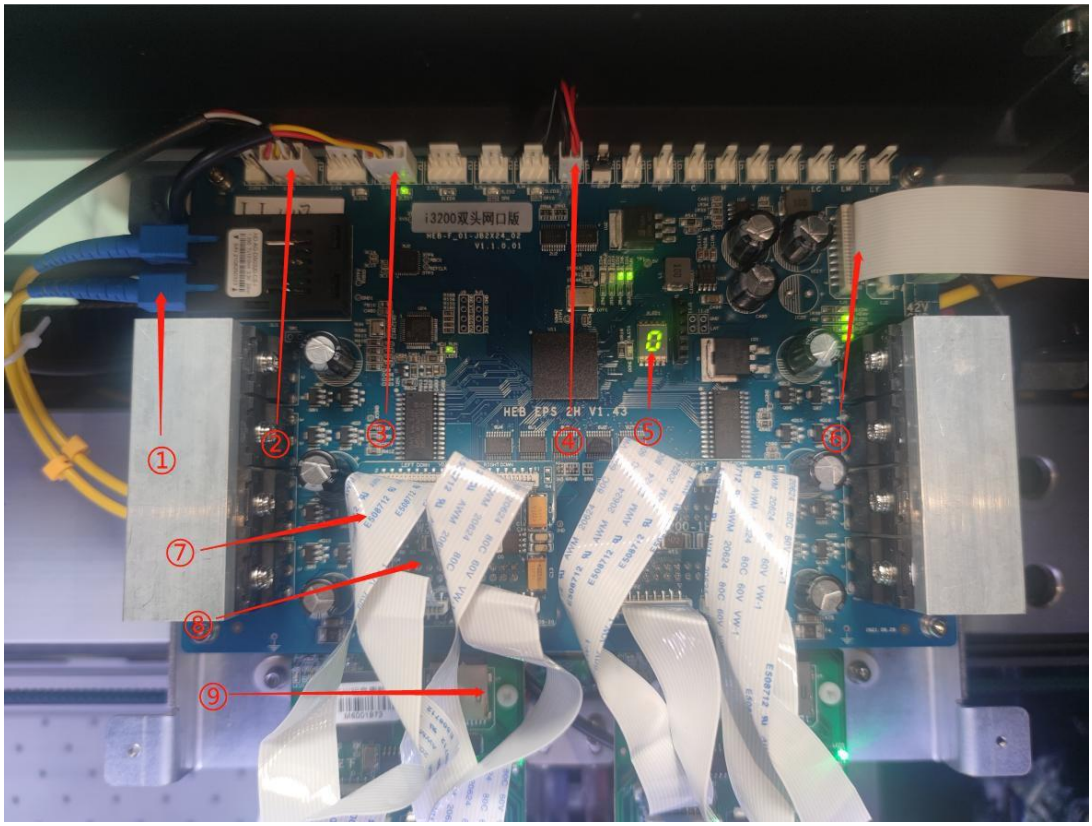
NO	Name	Effect
1	Six types of Gigabit Ethernet cables	Connect the printer to the computer
2	Right back door	Open this door to maintain electrical components such as boards, switching power supplies, etc.
3	Unwinding components	Fixed support for the entire roll of printing material
4	Rear paper guide	Provides a guide for printing material to enter the platen flat

5	Pickup shaft	Compresses the print material and controls it to move back and forth
6	Middle and upper cover	Open this cover to repair the trolley board, grating sensor and other components
7	Left rear door	Open this door to maintain the electrical components of the heating part and the ink circuit system



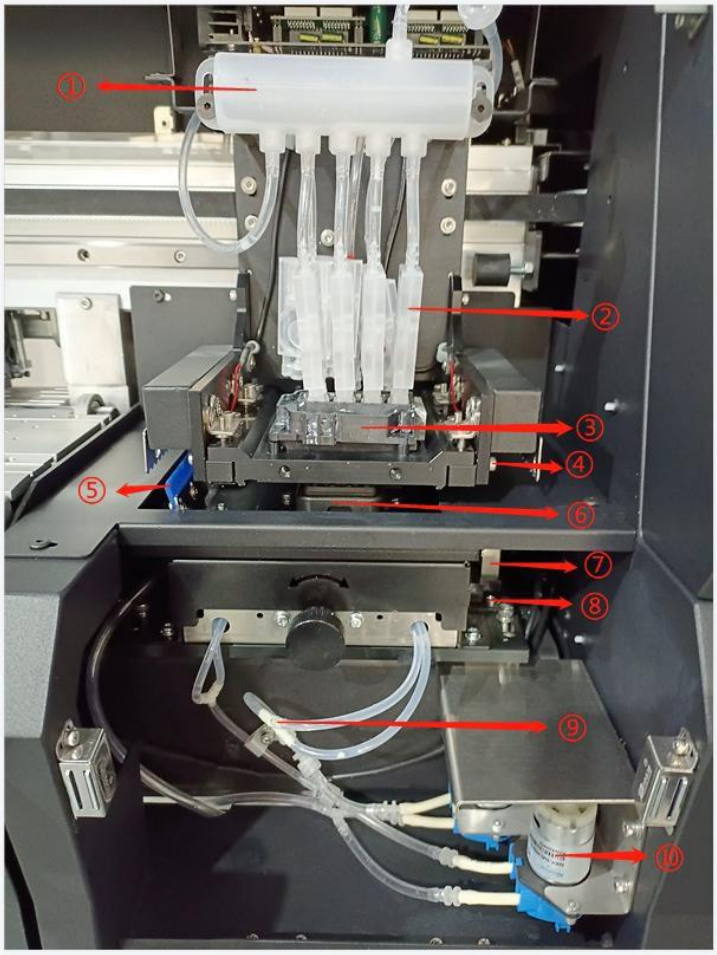
NO	Name	Effect
1	Main ink bottle	Stores CMYK four-color and white inks
2	Car belt	Motion conveyor belt for printing cart
3	Linear guides	Provides mechanical positioning guides for printer head movement
4	Pressure roller assembly	Press the printing material and push it forward
5	Grating strip	The scale on the grating is sensed by the grating bar sensor behind the trolley, so as to define the correct
6	Print platen	Provide a flat printing surface for printing materials, the platen also has negative pressure suction to make the material tightly adhere to the platen surface
7	Front arc cover	The front arc cover also has a heating function, which dries the material after printing the picture and smoothly feeds the material into the powder shaker.

8	Blade	After cleaning the print head, scrape off the residual ink on the surface of the print head
9	Ink stack cap	It is used for moisturizing and cleaning the print head, and there is a waste ink tube below.
10	Grating holder	For fixing the grating bar position



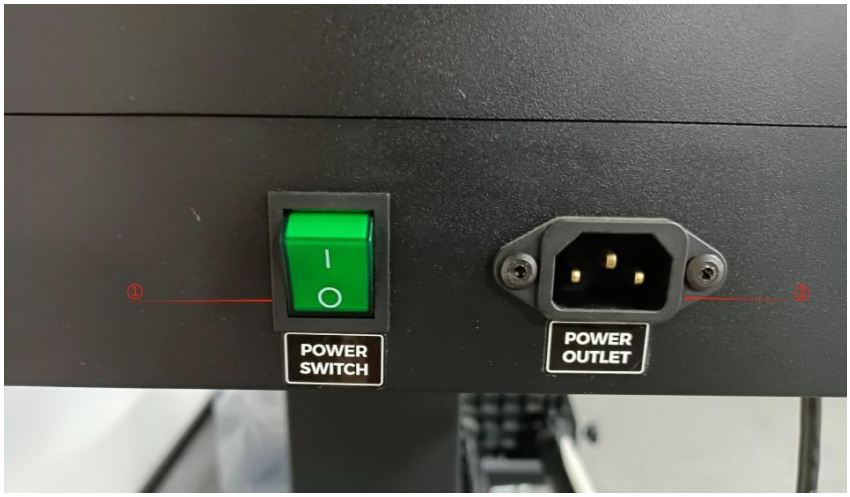
NO	Name	Effect
1	Fiber optic line	Connect the trolley board and the main board, responsible for the communication between the trolley board and the main board
2	Raster decoder Signal power cable	Connect the raster decoder, supply power to the raster decoder, and send signals
3	Origin sensor	The origin sensor is used to detect the origin probe to locate the origin in the X direction of the trolley
4	Anti-collision probe sensor	The angle of the left and right anti-collision probes is offset, short-circuit here, the car stops running and alarms

5	Car board status indication digital tube	Digital tube A: Optical fiber is not connected or reversed Digital tube 1: Z-axis initialization Digital tube 2: The car starts to move Digital tube 3: The car finds the origin limit Digital tube 4: The initialization of the car is completed Digital tube 5: The initialization of the Z axis is completed Digital tube 0: Start-up initialization completed
6	Trolley board power cable	Connect the trolley board and the main board, responsible for supplying power to the trolley board
7	16P data cable	Responsible for connecting decryption card and adapter board
8	Adapter board	Inserted on the needle seat of the trolley board, the function is to provide a slot for the 16P data cable
9	Secondary decryption card	The secondary print head needs to install the secondary decryption card, but the original print head does not need



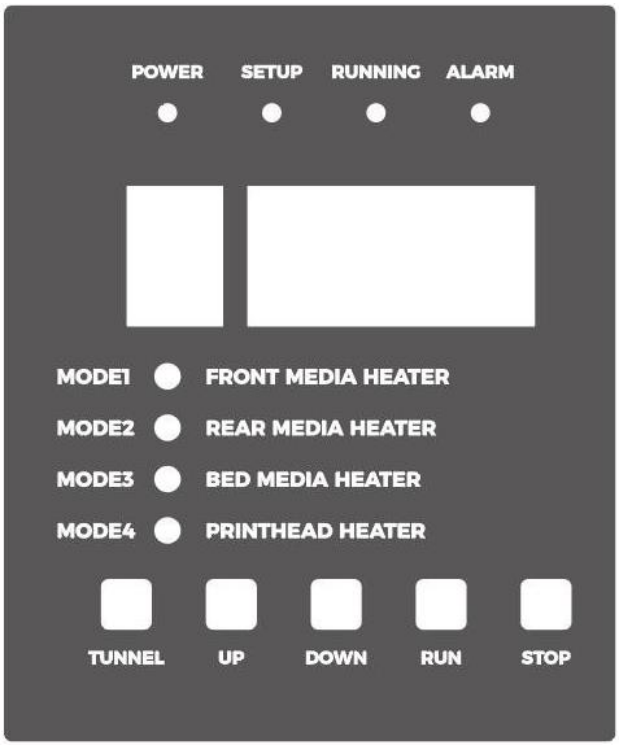
NO	Name	Effect
1	Allocator	Store a certain amount of white ink to prevent insufficient ink supply due to too much white ink
2	Ink damper	Provide ink to the print head, and store a certain amount of ink, with a filter device inside
3	Sprinkler	Print print head, print out the picture through digital
4	Bumper	When the angle of the anti-collision plate is offset, it will be considered that the car has crashed
5	Blade	Scrape off the ink on the surface of the print head during the cleaning process
6	Ink stack cap	Moisturizing and cleaning for print heads
7	In situ probe	Origin height determination for ink stack
8	Ink stack origin sensor	Origin height determination for ink stack

9	Waste ink tube	For draining waste ink from the ink stack cap
10	Ink pump	For print head cleaning and ink stack cap cleaning

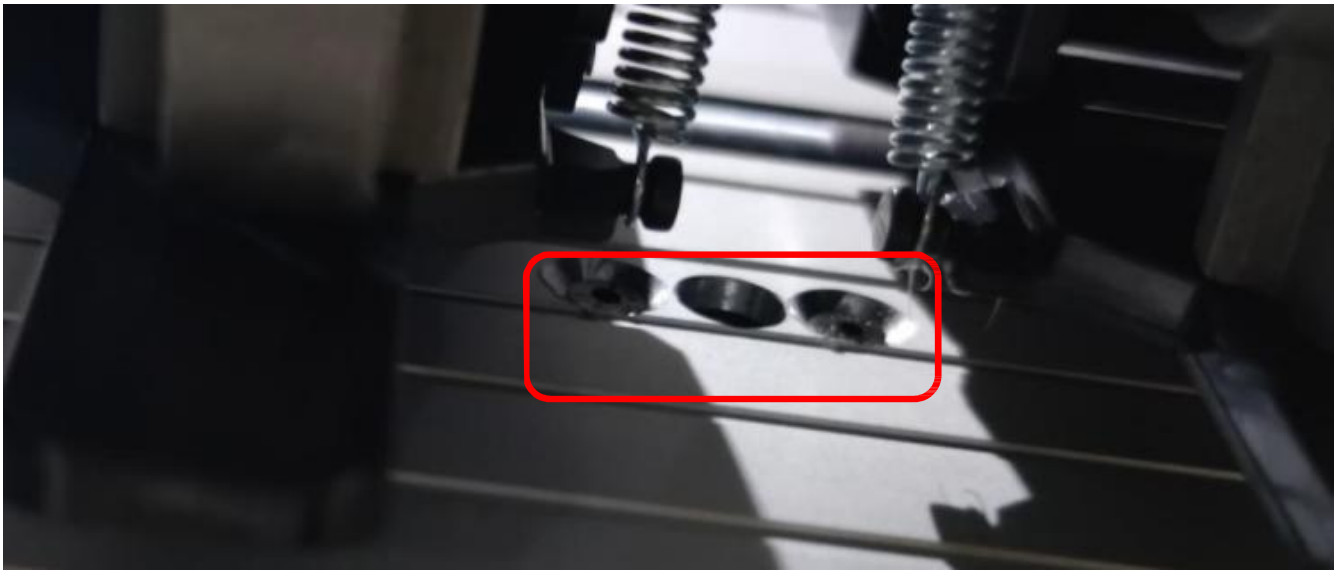


NO	Name	Effect
1	Main power switch	The main power switch of the printer, turn on this switch, the printer is powered on and started
2	Power outlet	An AC outlet to provide the printer with the power it needs to work

2.4 Description of other parts



Heating panel: Used for front arc, rear arc and platform heating (print head heating is not suitable for paint ink), the digital tube will display the temperature of each place in turn, The method of setting the temperature is to click the “TUNNEL”, adjust to the place you want to set, press + or - to adjust to the appropriate temperature and press “RUN”.



Empty paper sensor: It is used to detect whether there is printing material on the printing platen, in order to avoid the ink being sprayed into the platen by the printer when there is no printing material.

Anti-collision device: Protects the trolley when it moves outside the work area.

III. Main Structure Hardware Installation

After the mechanical part of the printer is installed, it should be as shown in Figure 3-1:

Figure 3-1

1. Remove the belt holder as shown in Figure 3-2, and manually move the trolley back and forth slowly several times to ensure that the trolley can move easily and without obstacles.

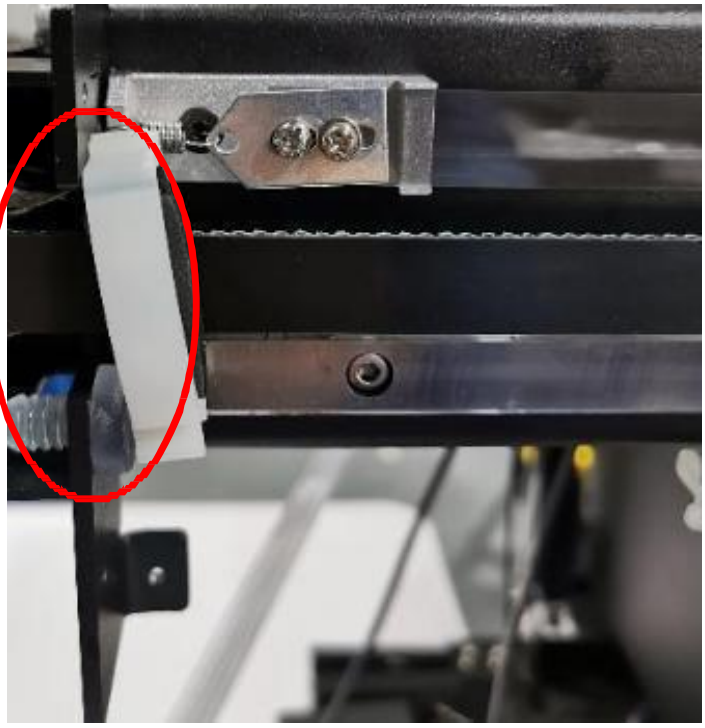


Figure 3-2

2. (1) Pour about 100ml of distilled water into the ink bottle (distilled water produced by Watson's distillation method is recommended), and then use a syringe to extract from the ink damper until the cleaning solution in the ink bottle and pipeline is completely drained. Remember to open the valve that comes with the ink bottle before pumping, as shown in Figure 3-3.

Figure 3-3

(2) Pour the cleaning solution into the ink bottles, each ink bottle can be filled with 1500ML, and then use a syringe to draw the ink damper until the cleaning solution in the ink bottle and pipeline is evacuated.
Plug in the main power cord and turn on the power switch of the printer. At this time, the printer will complete a process from self-checking to booting. At this time, the trolley will move back to the ink tank autonomously (it should be noted that there should be no obstacles on the trajectory of the trolley before starting). At this time, the current state of Initializing will be displayed on the operation panel, as shown in Figure (3), the startup is completed.

Figure 3-4

Figure 3-5

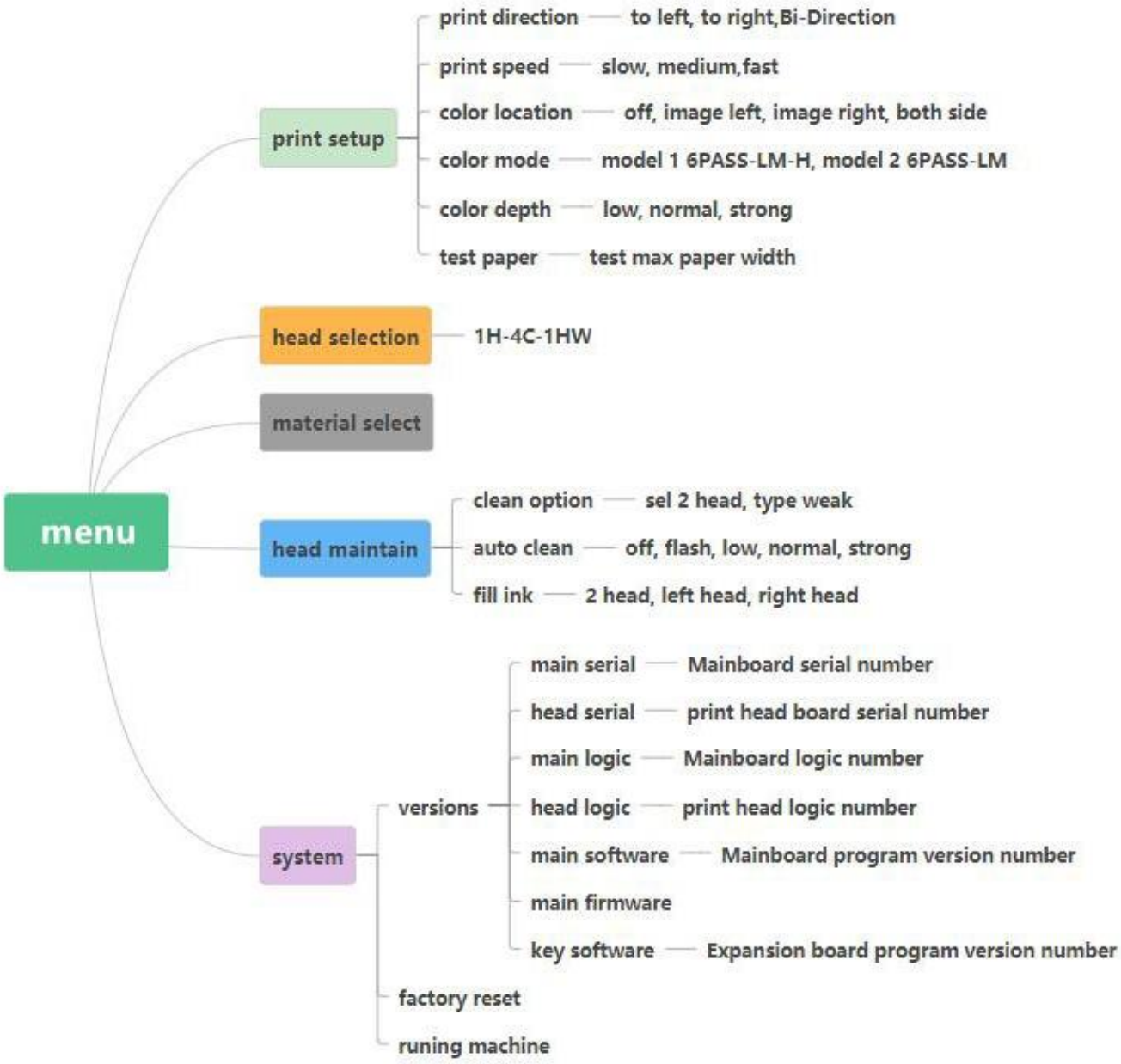
IV. Operation Panel Introduction

4.1 Control panel button function introduction

Function	Options	Effect
QUALITY	Off Low Normal deep	Adjust the quality of the image and the degree of feathering. Off corresponds to off feathering, low corresponds to light feathering, normal corresponds to normal feathering, and deep corresponds to deep feathering
CLEANING		Cleaning print head
TEST		Conduct print head test, need to be online to use
CANCEL		Can be used to cancel the job during printing, click cancel and select yes or no

PAUSE		Pause a job during printing
ORIGIN		Confirm that the current position of the trolley is the starting point of printing, and the white border
Arrow keys	UP DOWNLEFT RIGHT	UP corresponds to the ejection, DOWN corresponds to the feeding, LEFT corresponds to the trolley to move to the left (it can also be used as a return key when entering the menu interface), and RIGHT corresponds to the trolley to move to the right
MENU		For details, see the mind map below
ENTER		Use as confirmation key

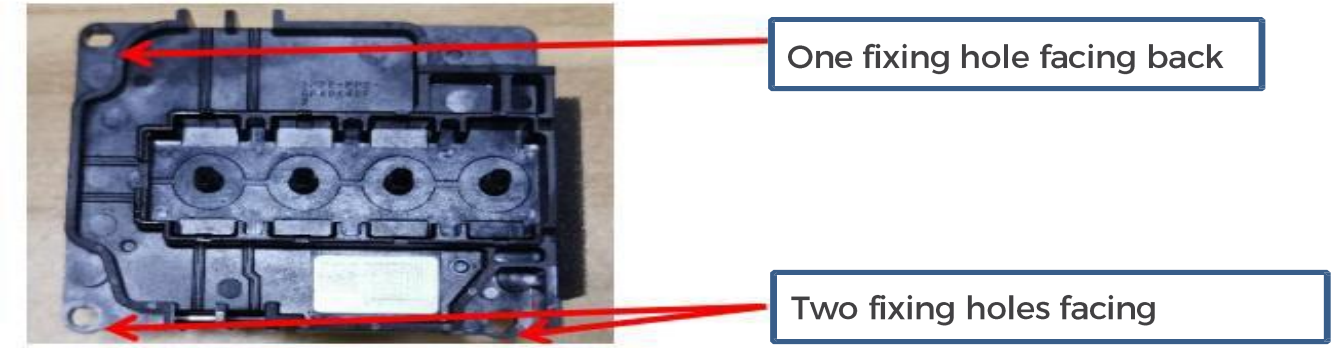
4.2 Menu details



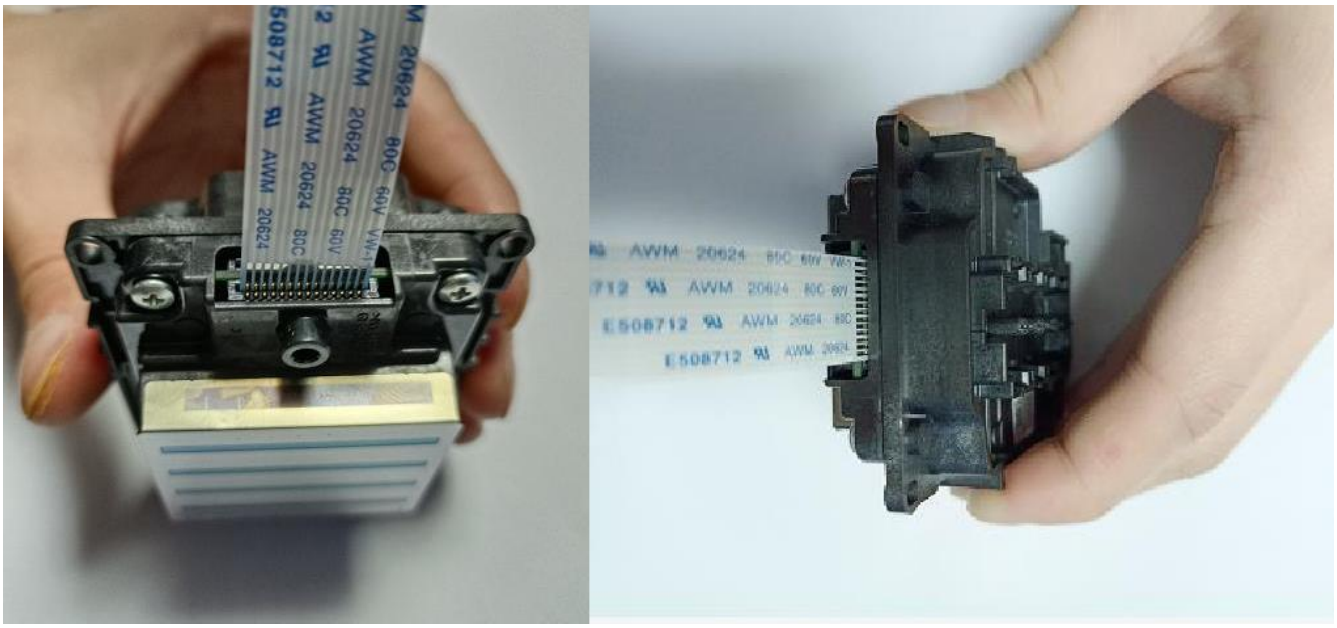
V. Installation Standards and Settings

5.1 Print head installation

5.1.1 Schematic diagram of the print head, determine the front and rear direction of the print head.

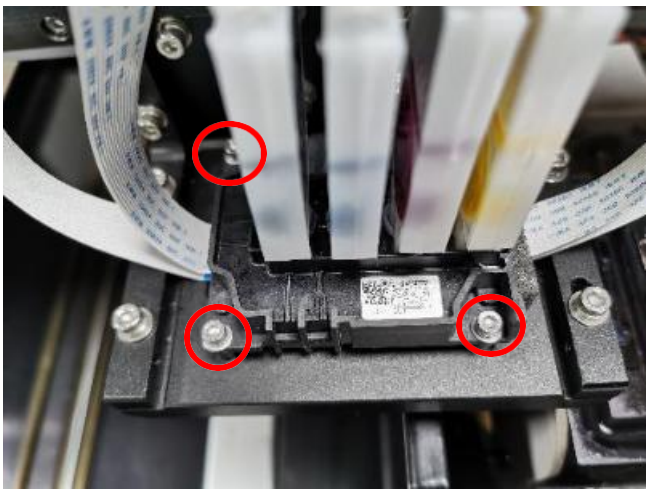


5.1.2 Connect the print head data cable



When connecting the print head data cable, pay attention to the front and back of the data cable, connect the data cable to the print head according to the above diagram, and ensure that the data cable is not inclined.

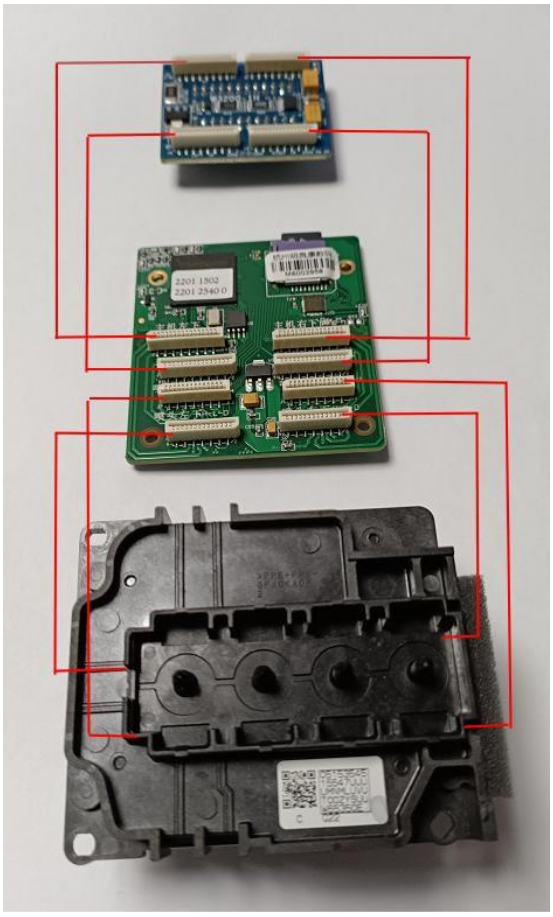
5.1.3 Fixed print head



After plugging in the data cable, install the print head. The print head has three fixing holes. Fix the three 3*8 hexagon socket screws in the installation holes respectively. Note: When fixing, place the print head on the lower left corner of the print head base plate. The ink stack can be raised and lowered to facilitate observation of whether the print head and the ink stack are in close contact。

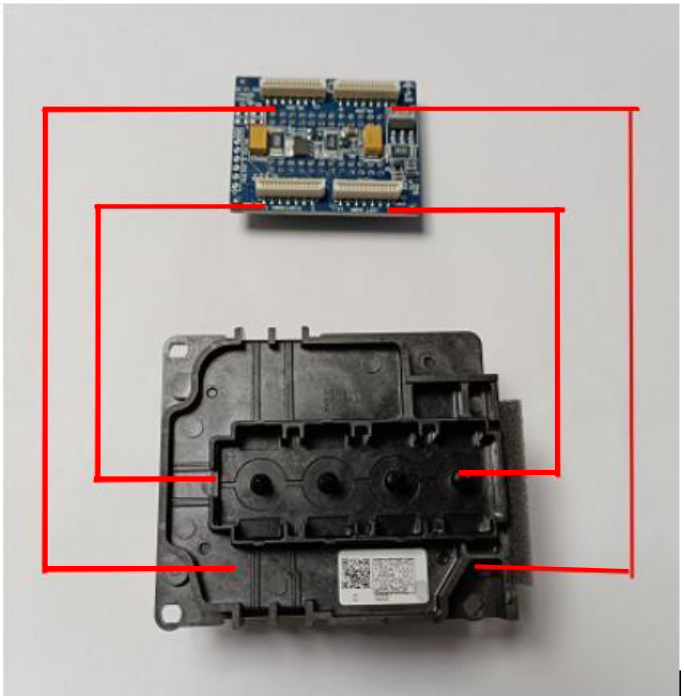
5.1.4 Decrypted print head installation

The decrypted print head needs to use a decryption card, and then connect it to the car head board through the adapter board. The specific connection method is shown in the figure below.

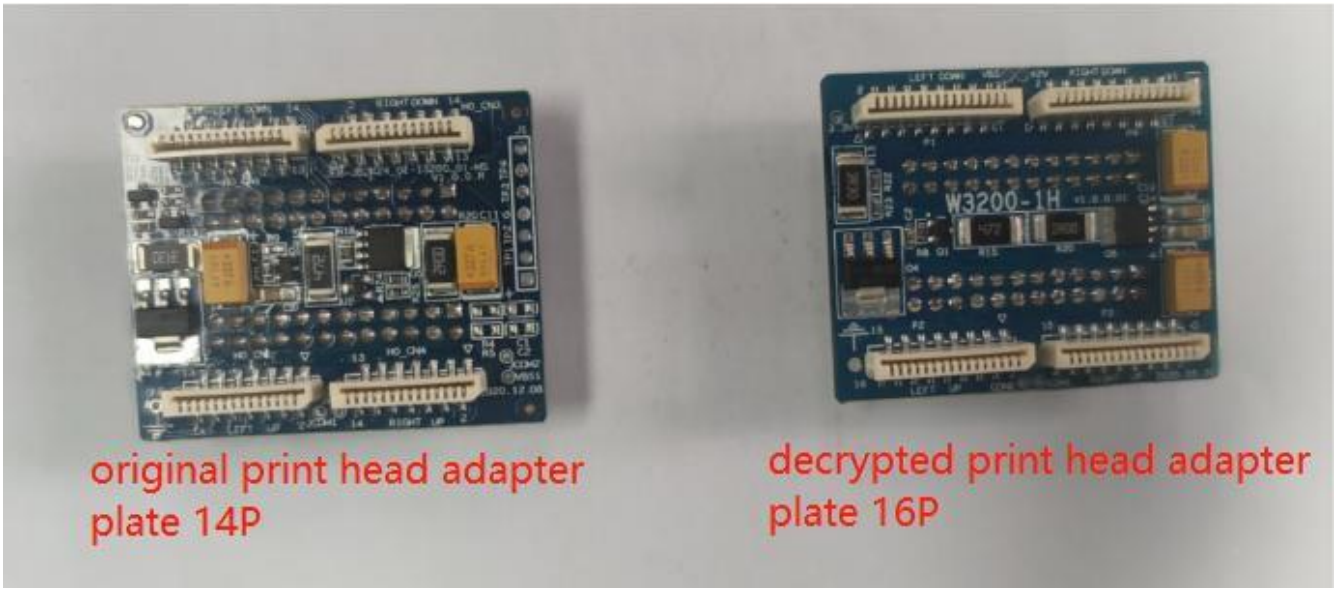


5.1.5 Original print head installation

The original print head does not need a decryption card, and can be directly connected to the car head board. The specific connection method is shown in the figure below.



5.1.6 The difference between the original print head and the second encrypted print head adapter plate



Note: There are silkscreen indication characters on the circuit board to connect the print head data line according to the silkscreen logo

Once the other white ink jet is in place using the same method it is ready to be inked

Note:

1. It is forbidden to unplug the cable when it is powered on.
2. It is necessary to replace the cable with a new one if the cable is pulled and inserted more than three times, and each time you insert the cable, please carefully check whether the cable is in an abnormal state.
3. It is recommended to connect the print head after the debugging of the electrical and motion functions is completed.

5.2 Installation of printing materials

It should be ensured that the printing material is located in the middle of the printing platform, parallel to the edge of the printing platform, and that each pressure roller can press the printing material. The standard is uniform, smooth and non-slanted paper output, and the paper platen is only pressed about 1/2.
Note: Once the paper is tilted during the printing process, stop printing immediately to prevent the printing material from arching and scratching the small holes of the print head. After adjusting the printing material, print again.

5.3 Inject ink

5.3.1 Add ink

Put the ink into the ink bottle according to the instructions on the label, note that the color of the ink needs to be the same as the color of the corresponding label on the main ink cartridge.

Note: In order to prevent the ink from precipitation, be sure to shake the ink head and tail upside down for 1-2 minutes before adding the ink, and the shaking force should not be too large.

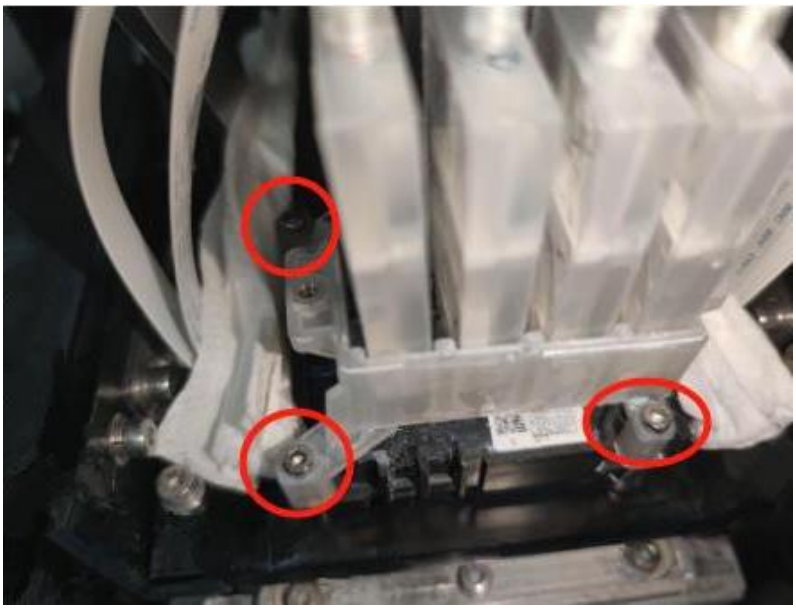
5.3.2 Pump ink

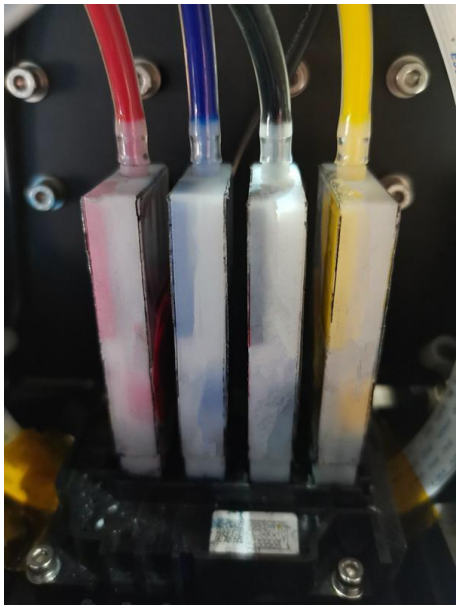
Use a syringe to pump the ink damper until the ink is filled with ink. When pumping the ink into the ink damper, please turn the ink damper upside down so that the air bubbles are at the mouth of the syringe. In this way, the ink can be fully filled into the ink damper, and all the air in the ink damper can be exhausted. When removing the syringe, do not take it away suddenly, which will also lead to insufficient exhaust.

Note: When pumping ink, pinch both sides of the ink damper, do not touch the membrane, otherwise the ink will be ejected.

5.3.3 Fix ink damper

After the ink damper is full, insert the ink damper into the ink damper interface of the print head in sequence, and then fix the ink damper. When fixing the ink damper, fix it tightly, and then tighten the screw.



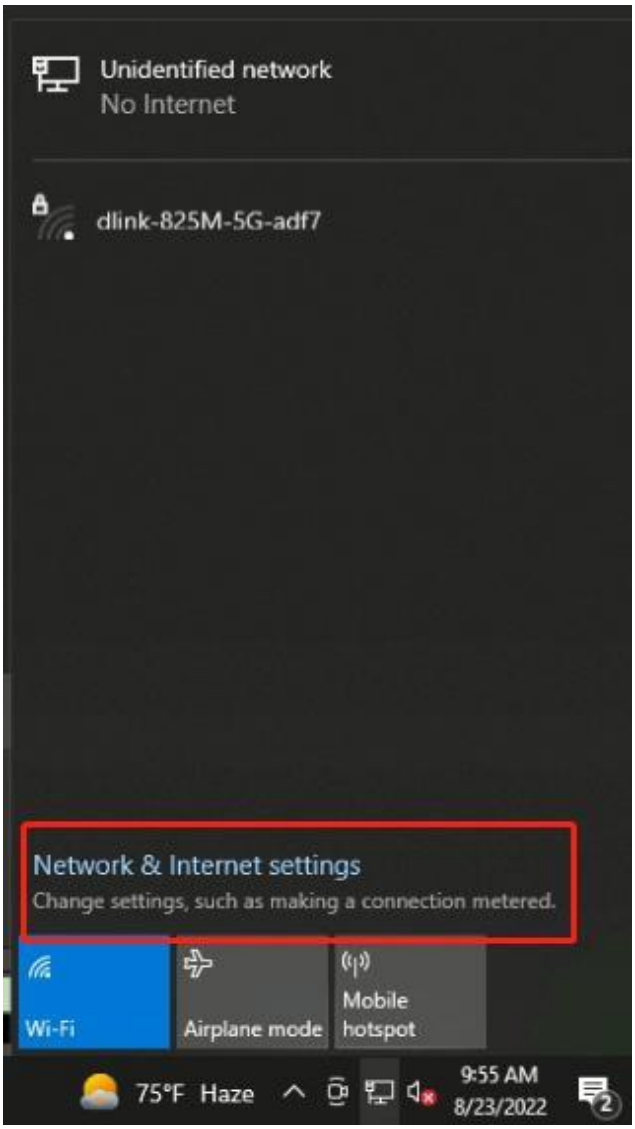


Note: When installing the color ink dampers, you need to pay attention to the installation order from left to right: M (magenta) C (cyan) K (black) Y (yellow).

VI. Calibration Tool Tutorial

6.1 IP settings

1. Click the network connection icon, then click "Network and Internet settings"



2. Click "Change Adapter Options" as shown in Figure 6.1-2

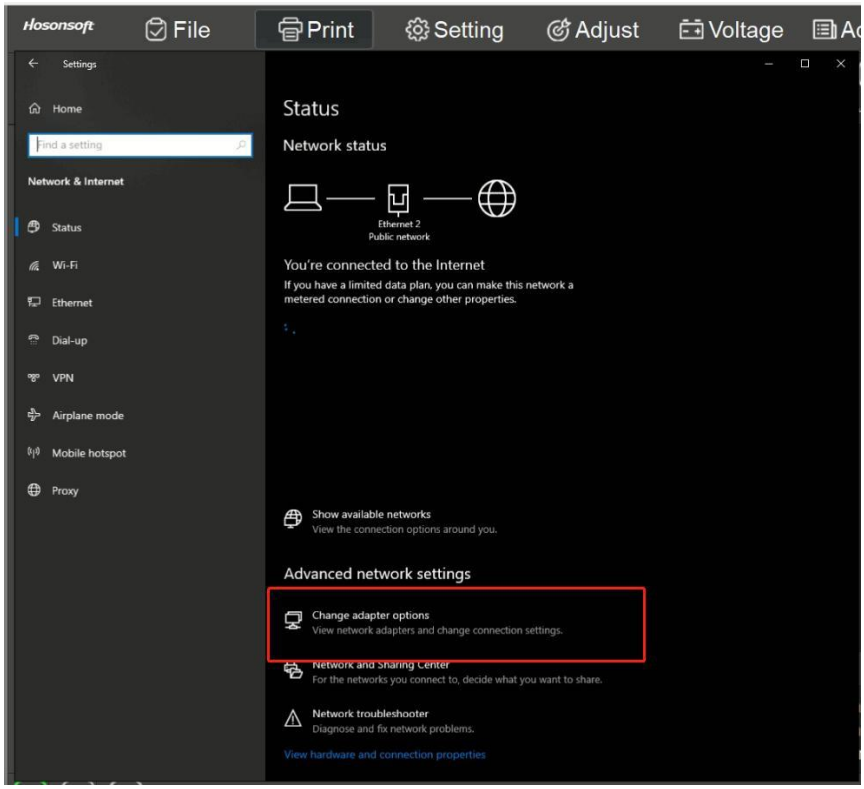


Figure 6.1-2

3. Double-click Ethernet and select "Properties", as shown in Figure 6.1-3

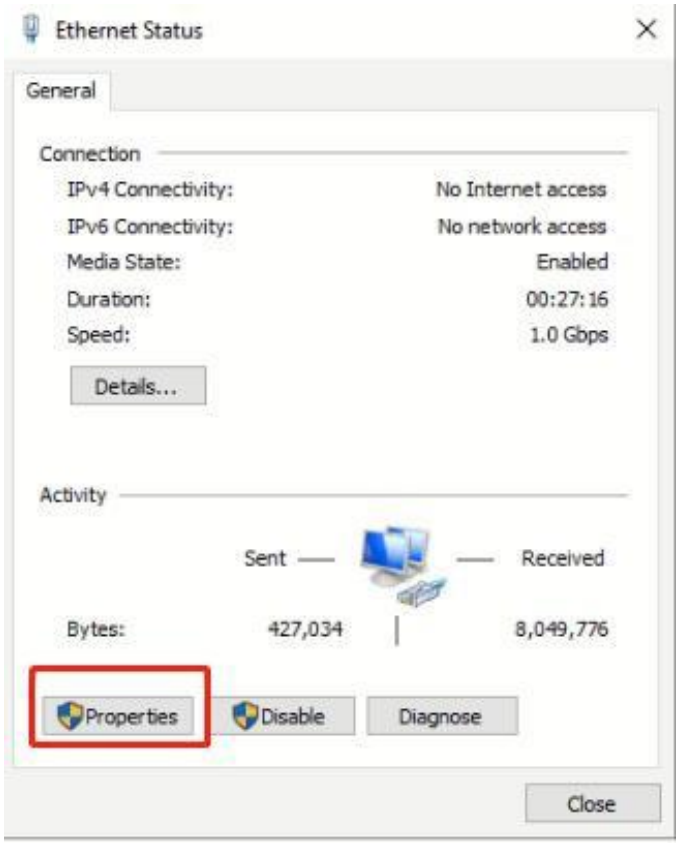


Figure 6.1-3

4. Double-click "Internet Protocol (TCP/IPv4)", as shown in Figure 6.1-4.

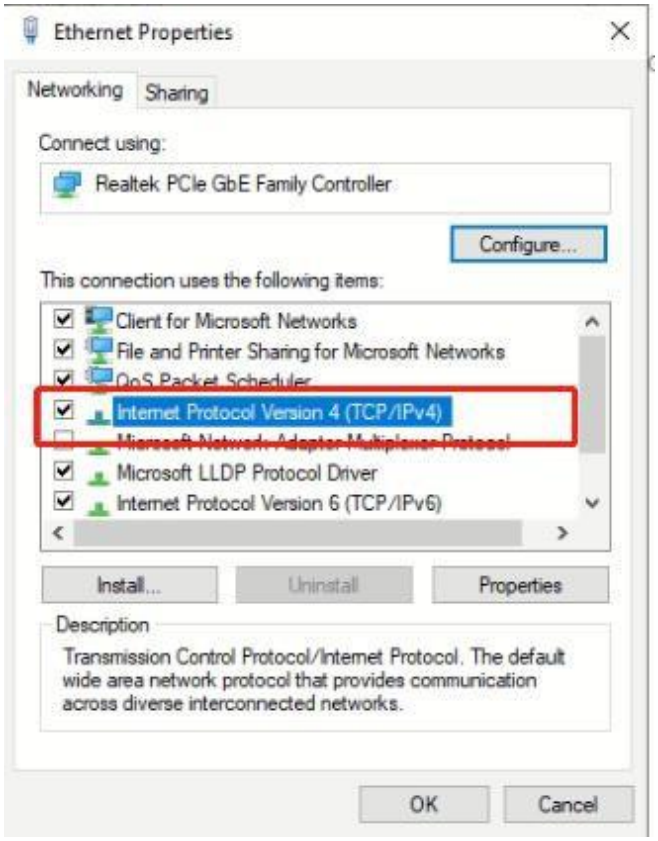
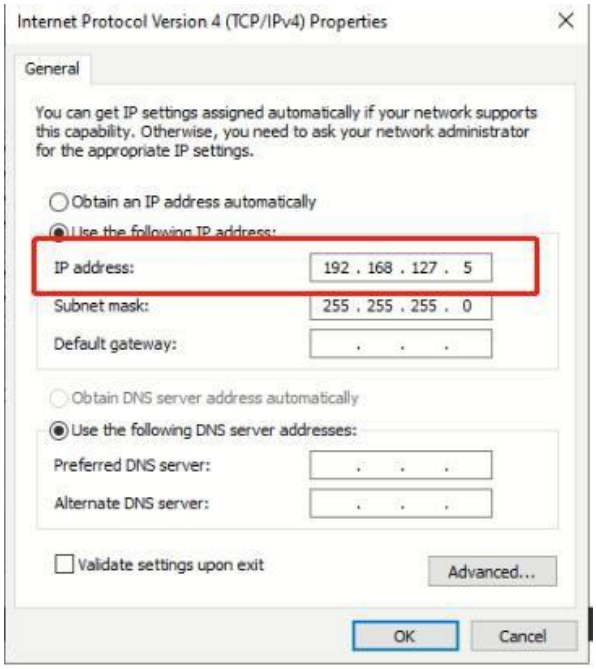


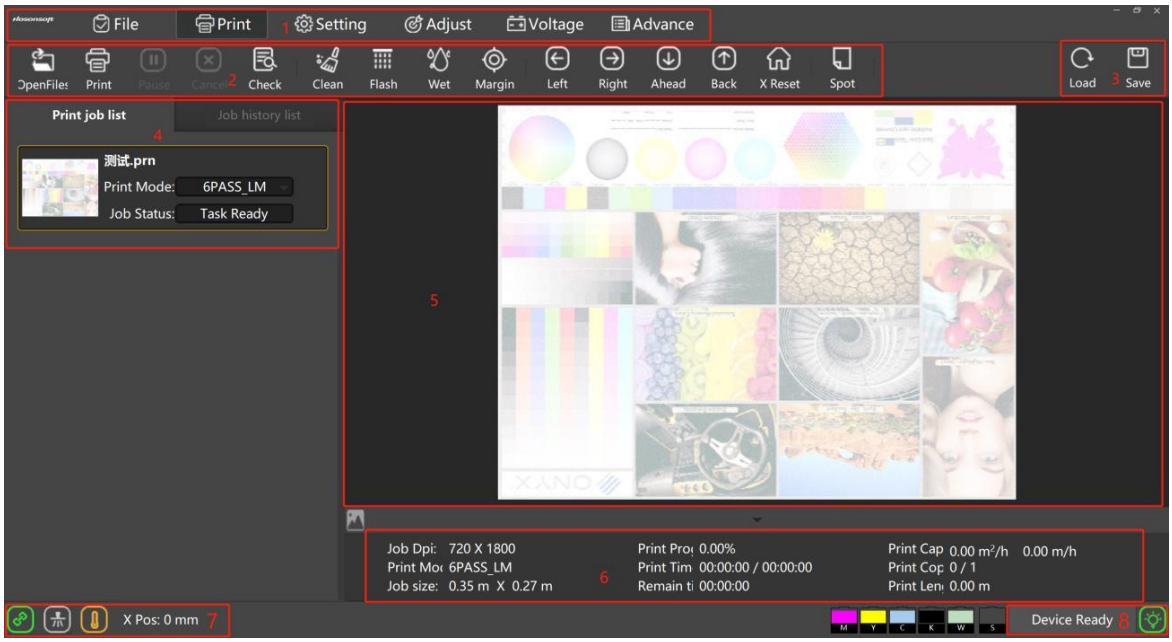
Figure 6.1-4

5. After checking "Use the following IP address", enter 192.168.127.X in the IP address bar, where X is set to be different from the server IP



VII. Online Software Instructions

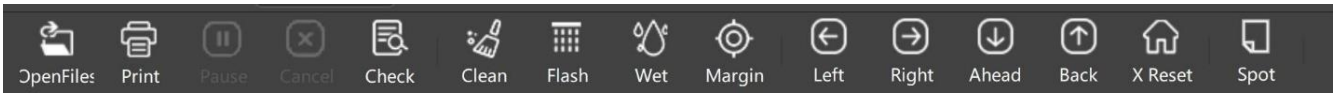
7.1 Online software instructions



NO	Name	Function
1	Shortcut key area	Divided into five modules: file, print, setup, calibration, voltage, and advanced
2	Online control area	Control printer through online software after online
3	Modify parameter area	Save and load after modifying parameters
4	Print list area	Here you can see the print queue and print records
5	Print preview area	Can preview the picture that will be printed
6	Details	Show print details
7	Information display area	Displays information such as connection method, print head connection status, trolley position, etc.
8	Status display area	Show device status

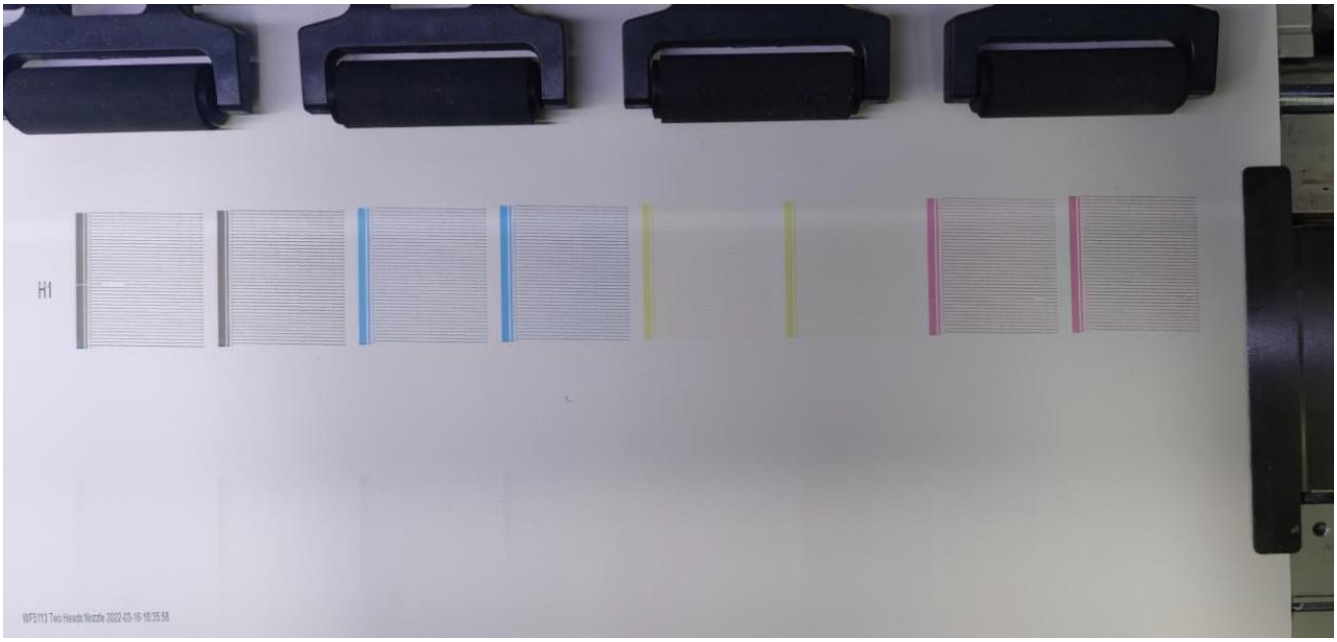
7.2 Common function description

7.2.1 Shortcut keys

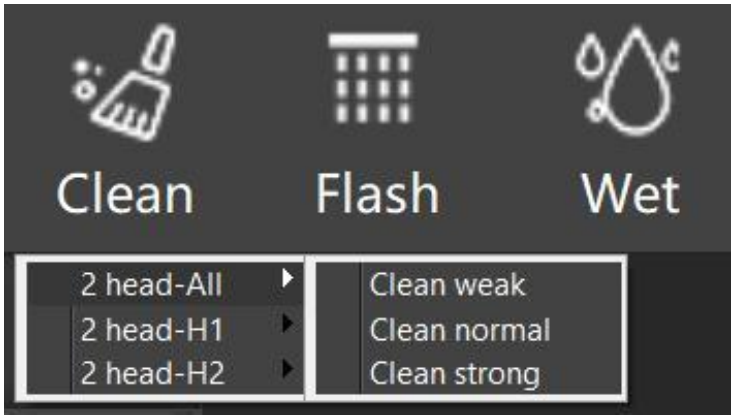


(From left to right: Open Files, Print, Pause, Cancel, Detection, Cleaning, Flash spray, Moisturizing, White border, Shift left, Shift right, Feed paper, Return, X reset, Spot color)

1) Detection, used to print the print head status pattern, observe the status of each channel of the print head.



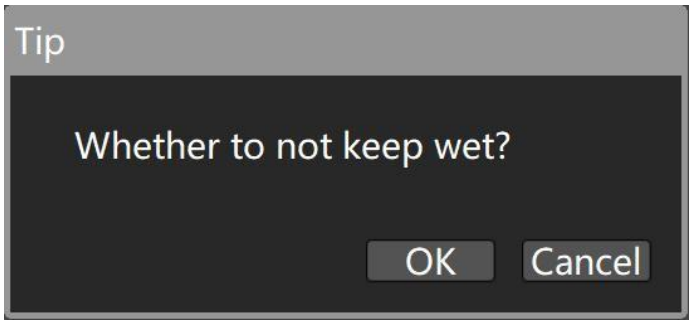
2) Cleaning, click to select the number and intensity of cleaning print heads for daily maintenance and maintenance of the print heads.



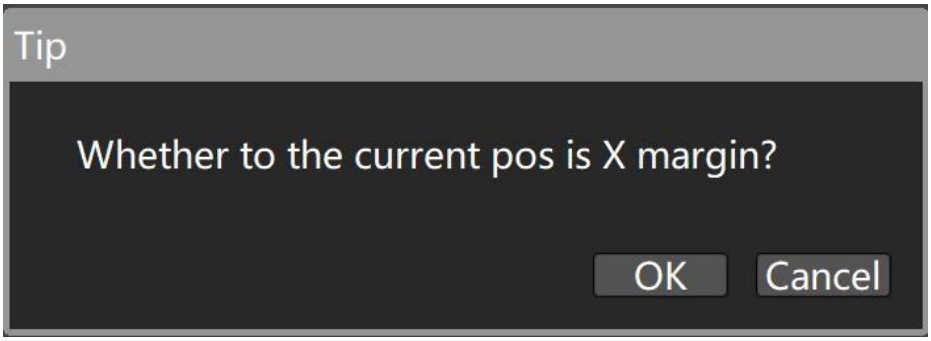
(Left: From top to bottom: double head-whole, double head-sprinkler1, double head-sprinkler2 Right: From top to bottom: cleaning weak, cleaning medium, cleaning strong)

3) Flash spray, used for manual flash spray of the print head. After flash spray, the ink pump will pump the waste ink of flash spray into the waste ink bottle, which is generally turned off.

4) Moisturizing, turn on the moisturizing of the machine, if you need to use other functions, you need to release the moisturizing state of the car.



5) White border, set the position to start printing.

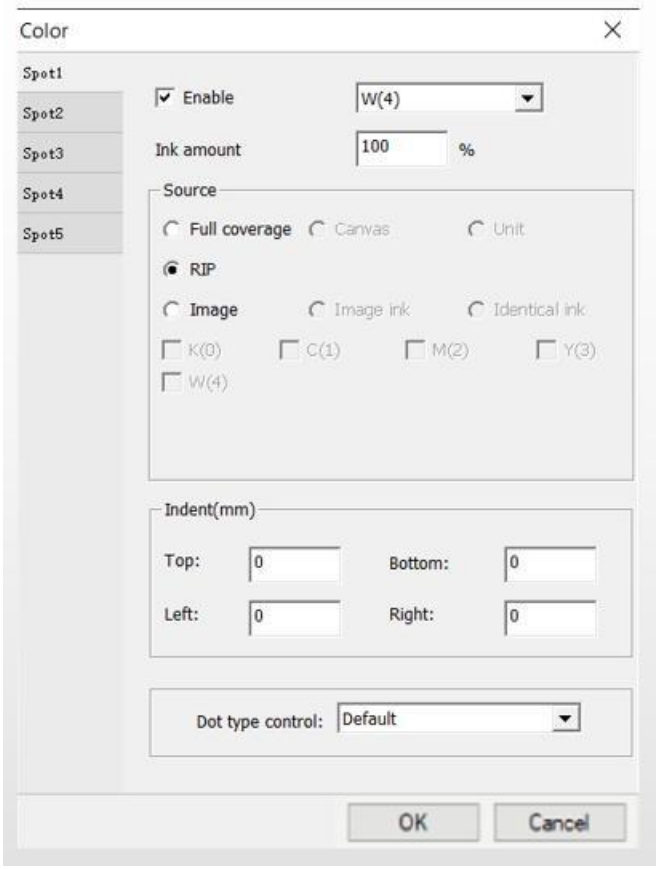


(**Notice:** Whether to use the current position as the white border value? Confirm / Cancel)

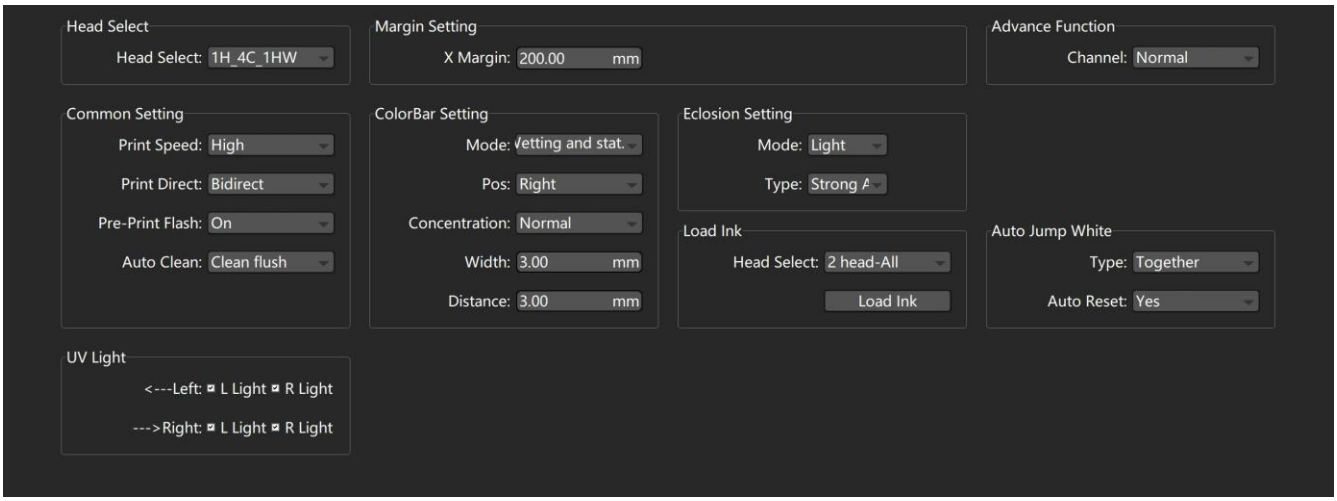
6) Shift left, the trolley moves to the left
Shift right, the trolley moves to the right (the limit position is X=0mm)
Feed, paper forward
Return, back paper

7) X resets, the ink stack moves down, the trolley moves to the origin, and the ink stack returns to the moisturizing position.

8) Spot color, you can control the amount of ink, the method of laying white ink and shrinking, you can press the factory settings.



7.2.2 Setting

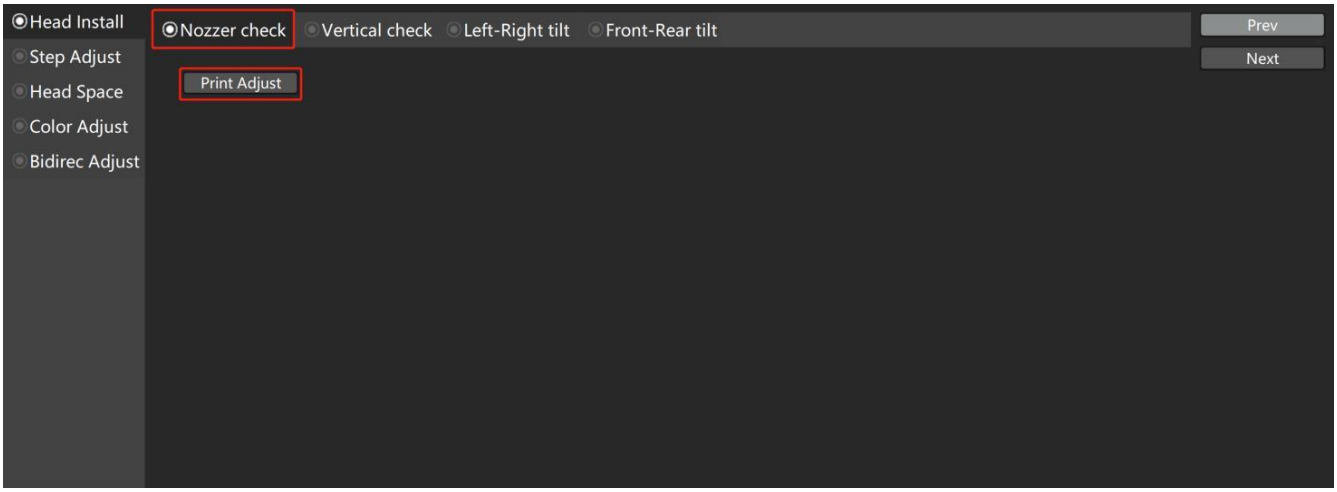


1) **Print head selection:** 1H_4C_1HW, which means that one print head is loaded with 4 kinds of color inks, and the other is loaded with white ink.
2) **White Border Setting:** Shows the starting point of printing.
3) **Channel control:** There are three options: Normal, only color and only white, that is, full ink, only color ink and only white ink.
4) **Printing speed:** you can choose to print high, low and medium speed.

5) **Printing direction:** Divided into two-way printing, right-hand printing, and left-hand printing. Bi-directional printing means that when the carriage moves back and forth, the print head will emit ink.
6) **Pre-printing flash jet:** The general choice is to enable, that is, the print head will flash a certain amount of ink before printing, which is conducive to the smoother ink output from the print head.
7) **Automatic cleaning:** It is divided into shutdown and flash jet cleaning. Generally, flash jet cleaning is selected, which will cause the print head to have flash jet action after the ink is drawn by the ink pump to prevent ink from smearing.
8) **Color bar settings:** You can choose to turn off printing color bars, printing moisturizing color bars, printing status color bars and printing status + moisturizing color bars, and you can choose the density, position and width of the color bars, the color bar distance refers to the distance from the starting point of printing and the distance from the end position of the printed picture. The function of the color bar is to make the print head eject a very small amount of ink when the trolley is printing back and forth. This is to prevent the printed picture from running out of ink or breaking the ink in the case of a poor environment, it is generally used in very cold and dry conditions.
9) **Feather settings:** There are six settings for feathering off, light feathering, normal feathering, deep feathering, super feathering, and custom. Among the feathering types, there are six types: mist spray, mist spray enhanced A, mist spray enhanced B, hybrid, random and asymmetric. Its function is to make the printed picture more beautiful, and it can effectively eliminate the pass caused by the broken needle of the print head. Generally speaking, the higher the degree of feathering, the greater the range of blurring connection, and the user can adjust the feathering mode and type according to the different printed picture status, generally choose mild feathering, mist spray to strengthen A.
10) **Ink loading:** choose double head, print head 1 or print head 2 to load ink.
11) **Automatic white skipping:** You can choose the white skipping method, which can be divided into continuous skipping and stepping skipping, that is, the carriage does not move in the blank part between the picture layouts, and the paper feed motor rotates to skip the printing action of this part.
12) **UV enabled:** uses thermal transfer printing, no treatment is required here.

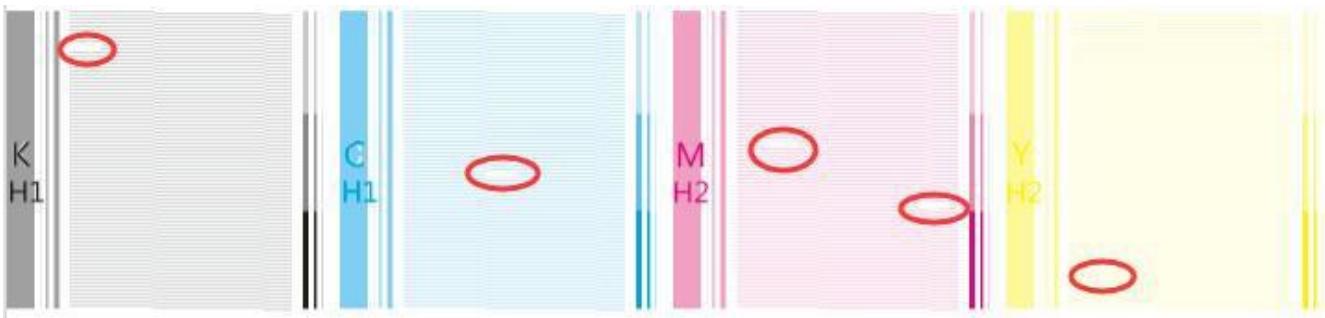
7.3 Calibration

1. Print head detection

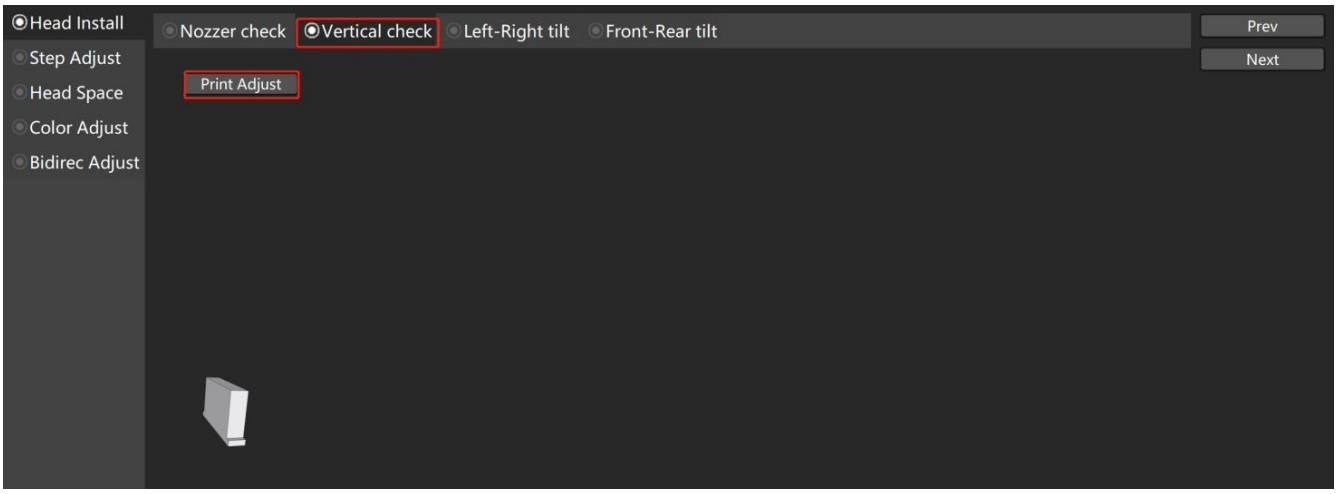


Each horizontal line represents a print head. Under normal conditions, the horizontal lines are evenly arranged. The pattern sample diagram is as follows:

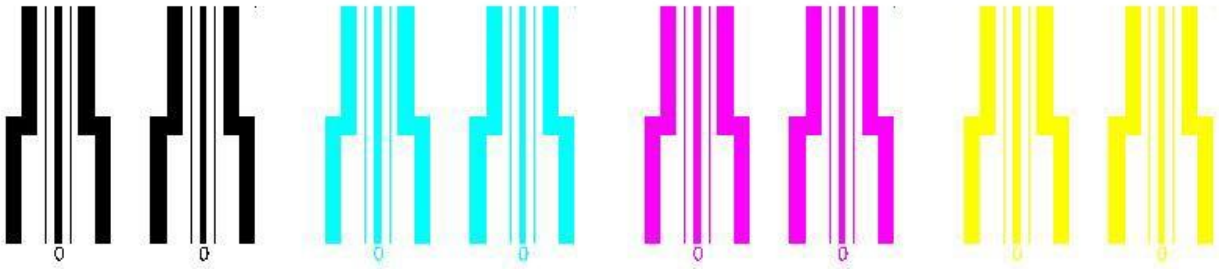
In the abnormal state, there may be missing needles, oblique needles, etc. The state diagram is as follows, if there is no horizontal and uneven state, it needs to be cleaned until the print head inkjet reaches the best state. If all are not found, check whether the wiring or the board and the print head are normal.



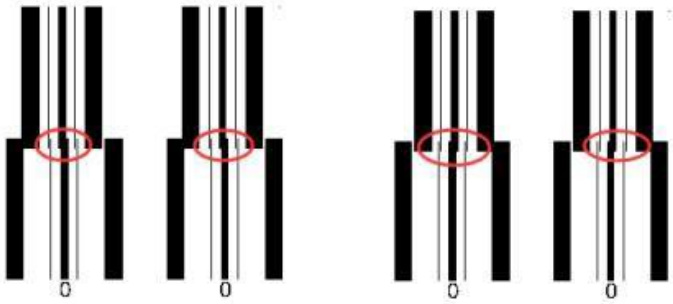
2. Vertical inspection



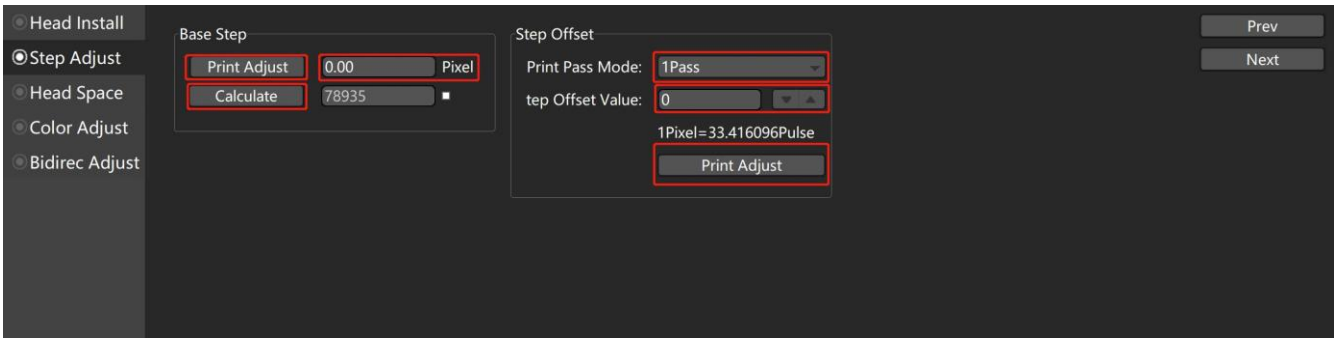
Click "Vertical Calibration" to make a vertical calibration pattern. It is used to detect whether the print head is vertical or not. When the print head is vertical, the calibration chart will be aligned at the 0 position. The calibration chart is as follows:



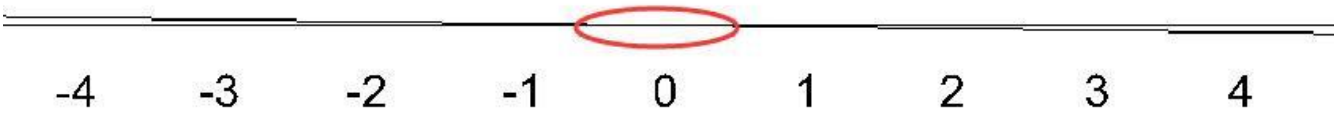
In the case of non-vertical, the calibration will be misaligned at 0 position, indicating that the head and tail are not in the same vertical position, and the physical print head needs to be adjusted to be vertical. The calibration diagram is as follows: vertical left offset and vertical right offset respectively.



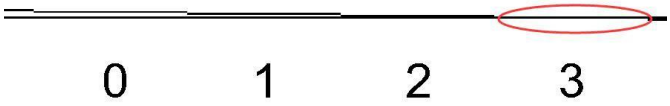
3. Step calibration



Click the datum step "Print" to print the datum step calibration chart. Confirm the calibration, if the step calibration has been calibrated, the baseline and the scale marks are completely overlapping at the zero point. The calibration diagram is as follows:

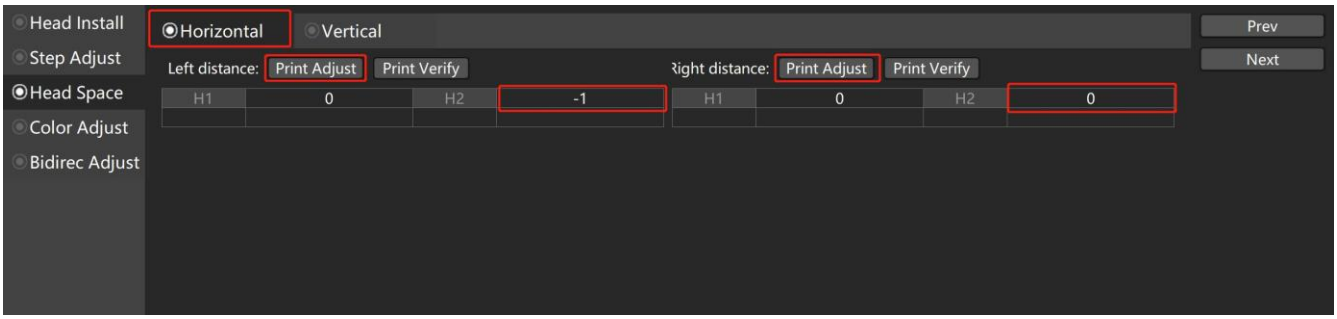


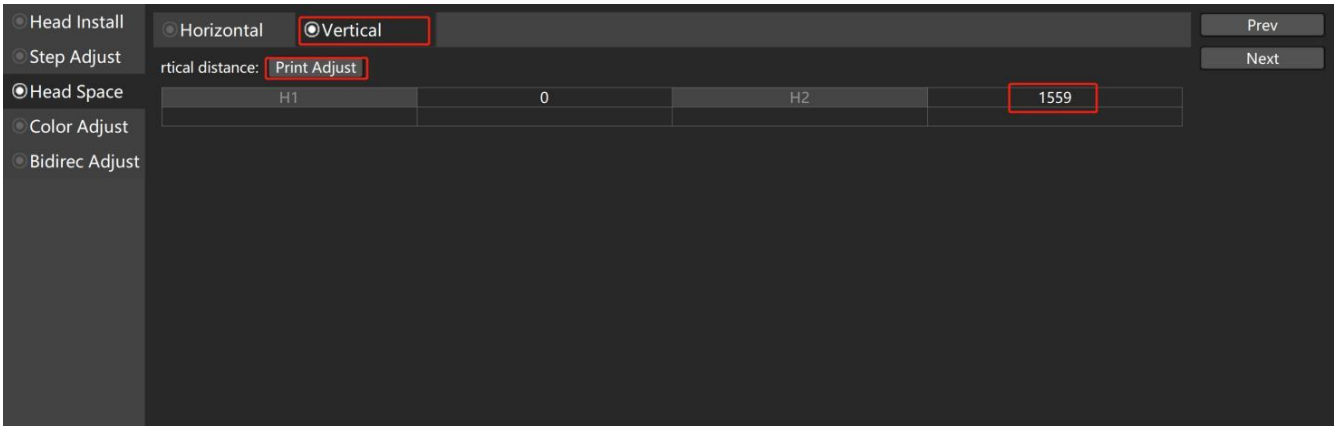
If the step calibration is not calibrated parameters, the baseline and tick marks will not overlap at the zero point. The calibration diagram is as follows, you need to adjust the calibration according to the calibration situation, input the value of the coincidence of the baseline and the scale mark at this time, click Calculate, print again, and confirm the situation after calibration until the baseline and the scale mark are completely overlapped at the zero point.



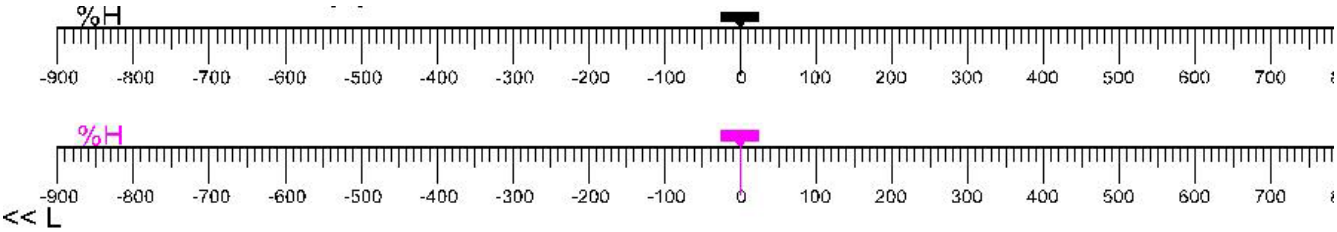
Supports step offset calibration with different number of passes, the calibration situation is the same as the reference step, enter different step offset values after calibration, print again, and confirm the situation after calibration until the baseline and the scale mark are completely overlapped at the zero point.

4. Spacing calibration

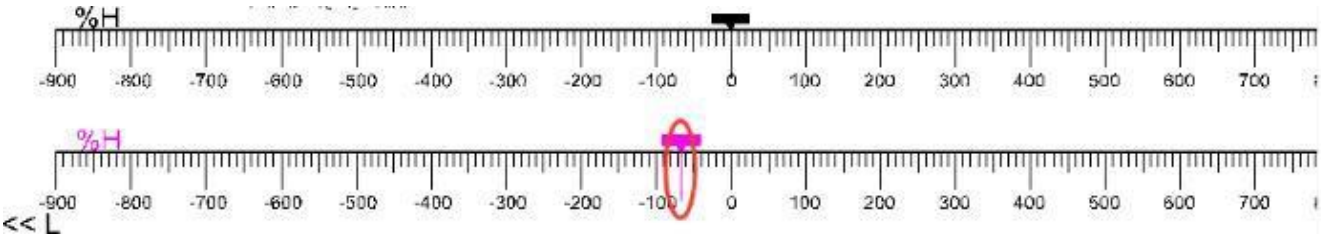




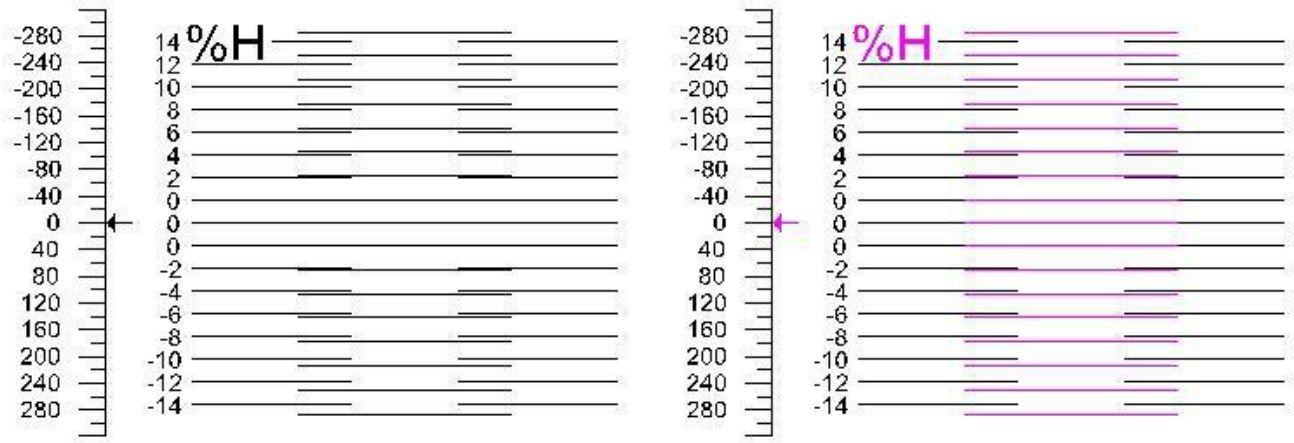
Click "Left Calibration" or "Right Calibration" to calibrate the horizontal spacing of the print heads to print the horizontal spacing calibration chart of the print heads. Confirm the calibration, if the horizontal spacing calibration of the sprinkler is calibrated, the baseline and the scale mark are completely overlapped at the zero point. The calibration diagram is as follows:



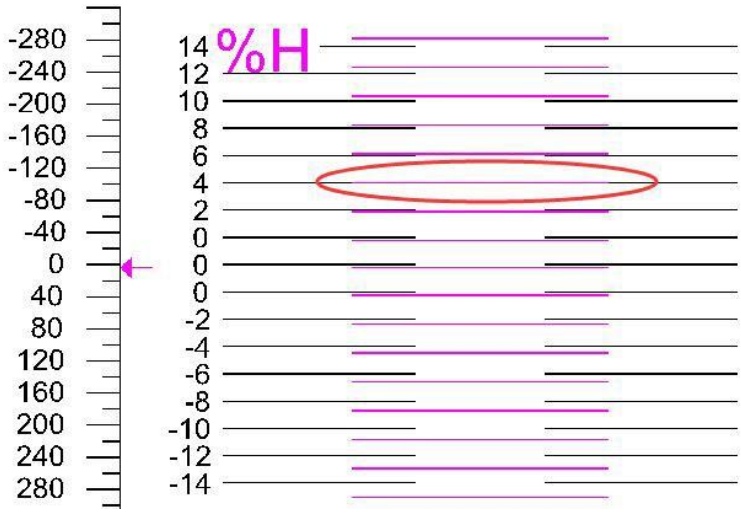
If the print head horizontal spacing calibration is not calibrated parameters, the baseline and scale marks will not overlap at the zero point. The calibration diagram is as follows, you need to adjust the calibration according to the calibration situation, enter the value of the coincidence of the baseline and the scale mark into the print head position calibrated in the corresponding direction, print again, and confirm the situation after calibration until the baseline and the scale mark are completely overlapped at the zero point.



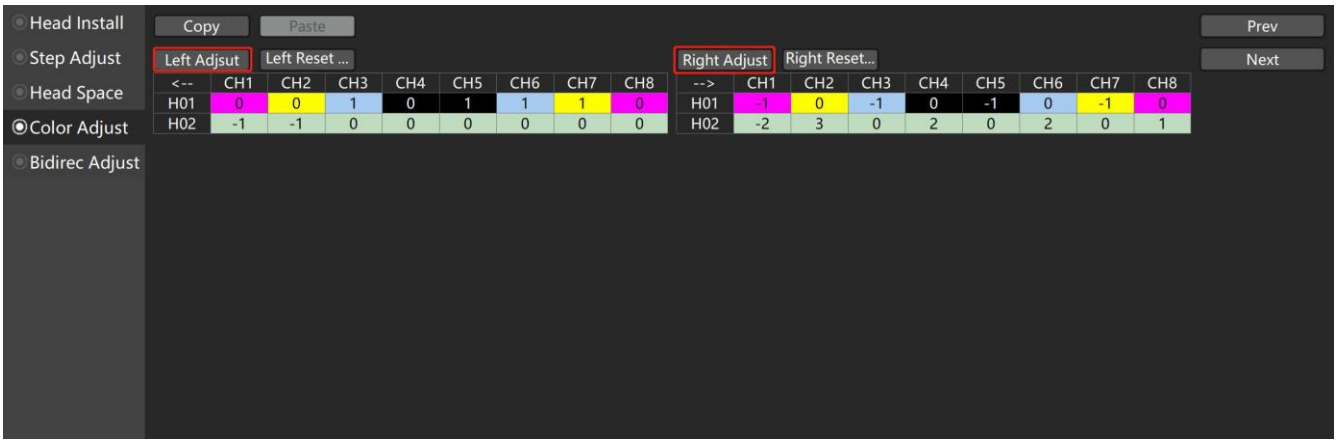
Click "Print" to print the vertical distance calibration chart of the print head. Confirm the calibration, if the longitudinal spacing of the sprinkler is calibrated, the baseline and the scale mark are completely overlapped at the zero point. The calibration diagram is as follows:



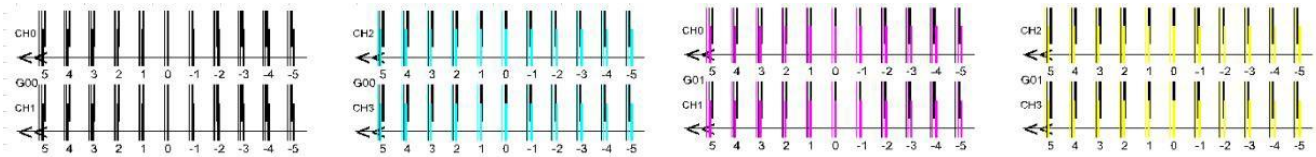
If the longitudinal spacing calibration of the print head is not calibrated, the baseline and the scale mark will not overlap at the zero point. The calibration diagram is as follows, you need to calibrate and adjust according to the calibration situation, enter the value of the coincidence of the baseline and the scale mark into the corresponding print head position, print again, and confirm the situation after calibration until the baseline and the scale mark are completely overlapped at the zero point.



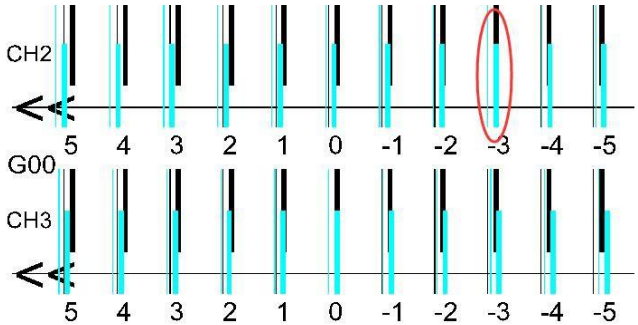
5. Color calibration



Click "Calibrate Left" or "Calibrate Right" to print the color registration chart of the print head. Confirm the calibration situation. If the print head color spacing calibration has been calibrated, the baseline and the scale mark are completely overlapped at the zero point. The calibration diagram is as follows: the calibration parameters have different calibration values according to different speeds, all need to be calibrated.

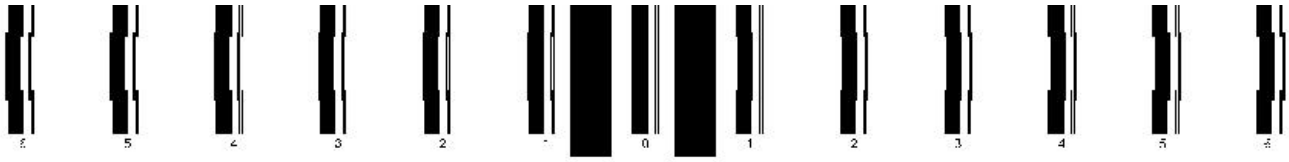


If the color calibration is not calibrated parameters, the baseline and scale marks will not overlap at the zero point. The calibration diagram is as follows, you need to calibrate and adjust according to the calibration situation, enter the value of the coincidence of the baseline and the scale mark into the corresponding print head channel position, print again, and confirm the situation after calibration until the baseline and the scale mark are completely overlapped at the zero point.

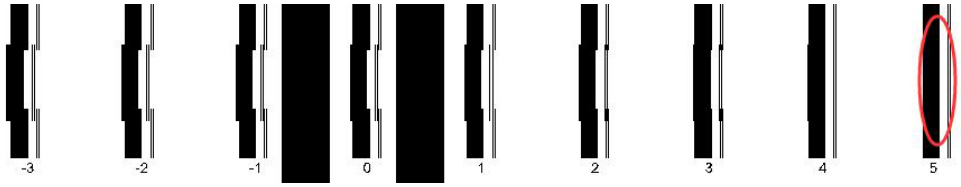


6. Bidirectional calibration

Click Bidirectional Calibration "Print" to print the Bidirectional Calibration Chart. Verify the calibration, if the bi-directional calibration is parameterized, the baseline and tick marks overlap exactly at the zero point. The calibration diagram is as follows: the calibration parameters have different calibration values according to different speeds, all need to be calibrated.



If the two-way calibration is uncalibrated, the baseline and tick marks will not overlap at zero. The calibration diagram is as follows, you need to calibrate and adjust according to the calibration situation, enter the value of the coincidence of the baseline and the scale mark into the bidirectional offset value position, print again, and confirm the situation after calibration until the baseline and the scale mark are completely overlapped at the zero point.



VIII. RIP Software Operation and Printing Process Description

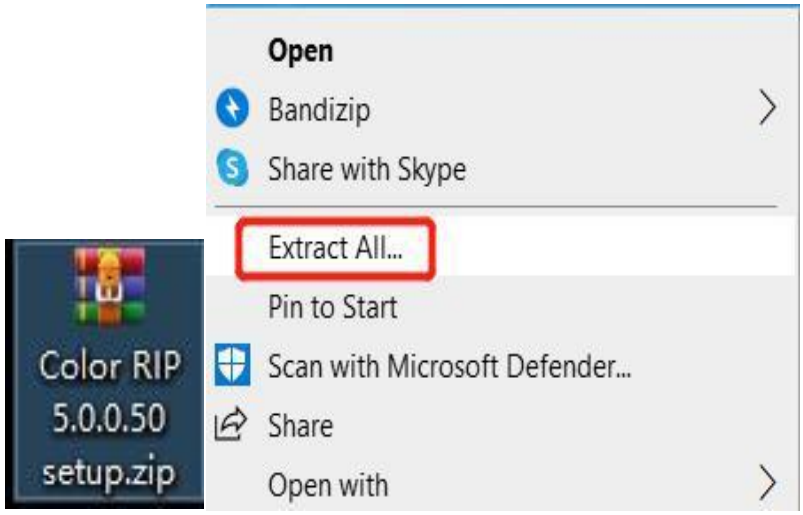
8.1 Computer configuration instructions

Windows Version: Windows 10 Chinese/English version, Windows 7 Chinese/English version System Hardware Requirements:
Processor: i5h and above Running memory: 8GB
System type: 64-bit operating system Hard disk memory: 100GB or more

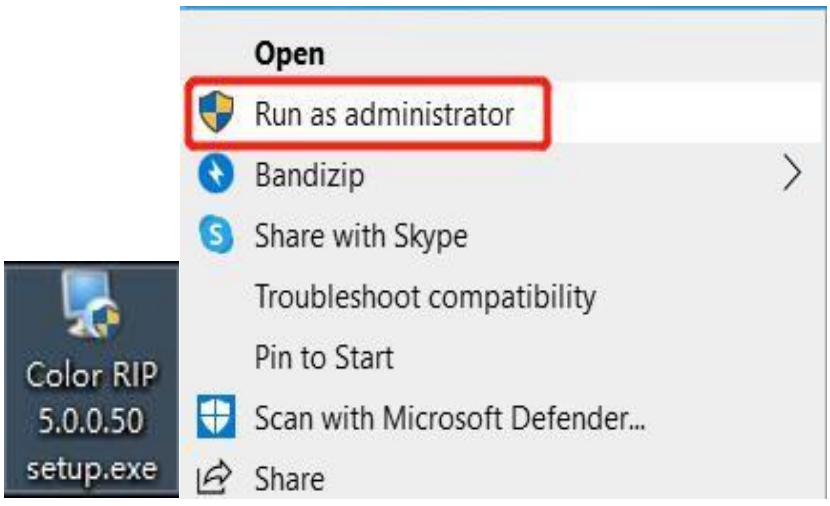
8.2 RIP software installation

Software installation steps

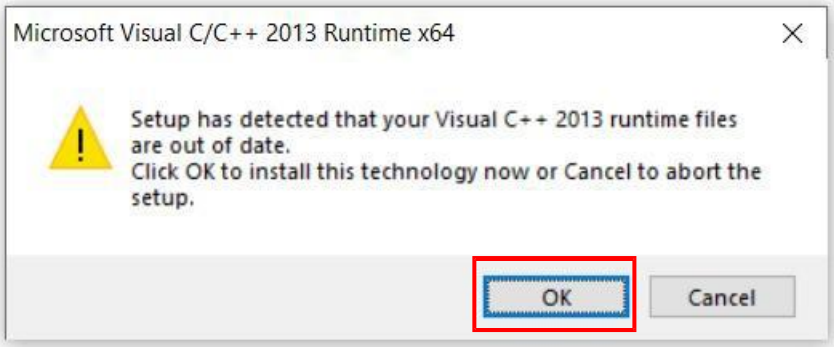
1） Extract the "Color RIP" zip file to the desktop.



2） Run the unzipped file as "administrator".

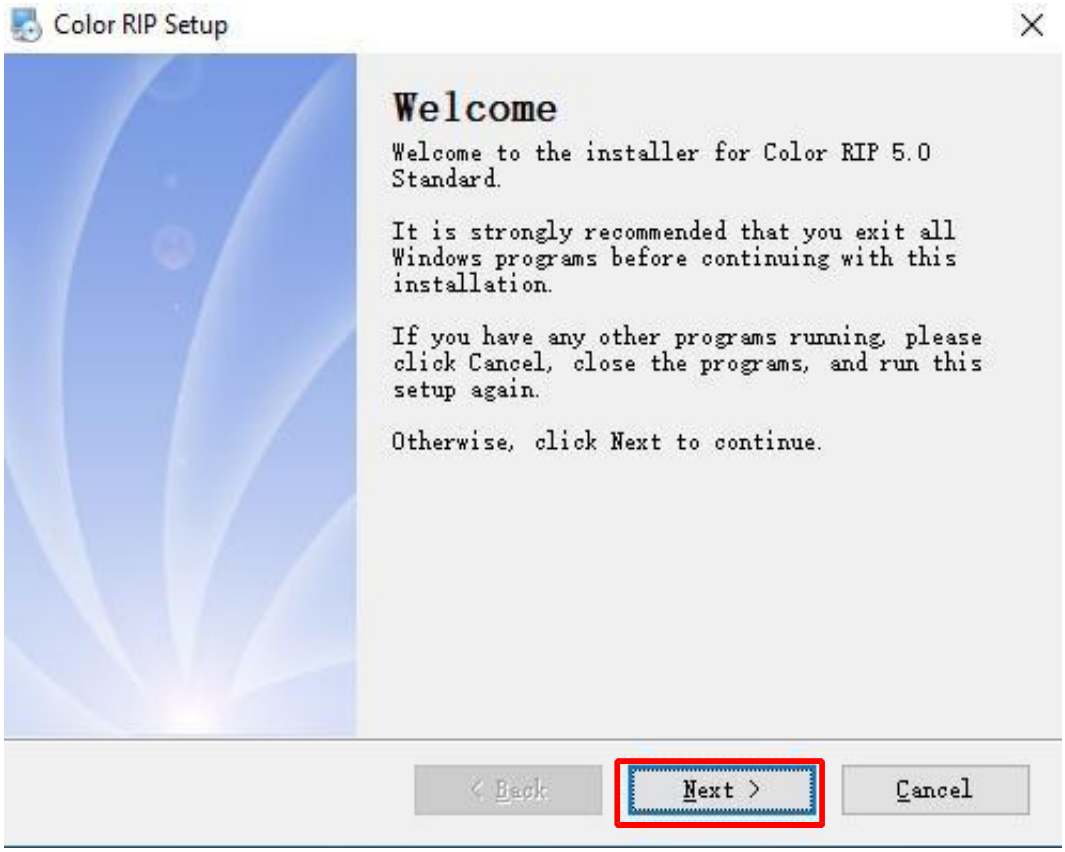


3) Select "OK".

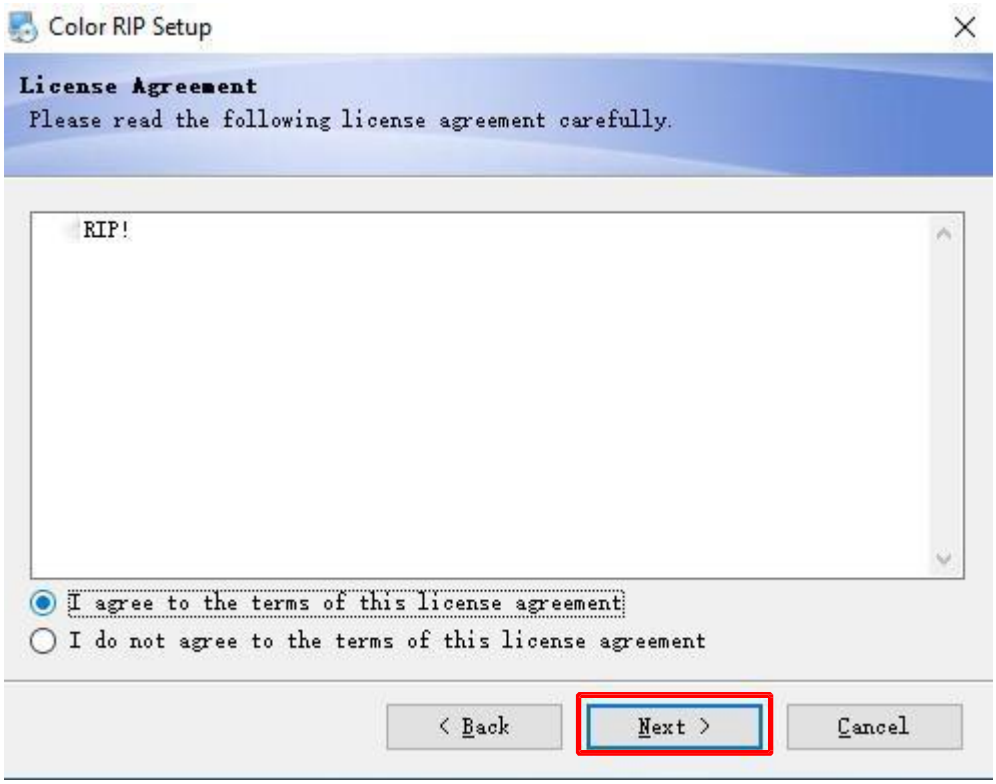


4) Select the installation language and click "OK".

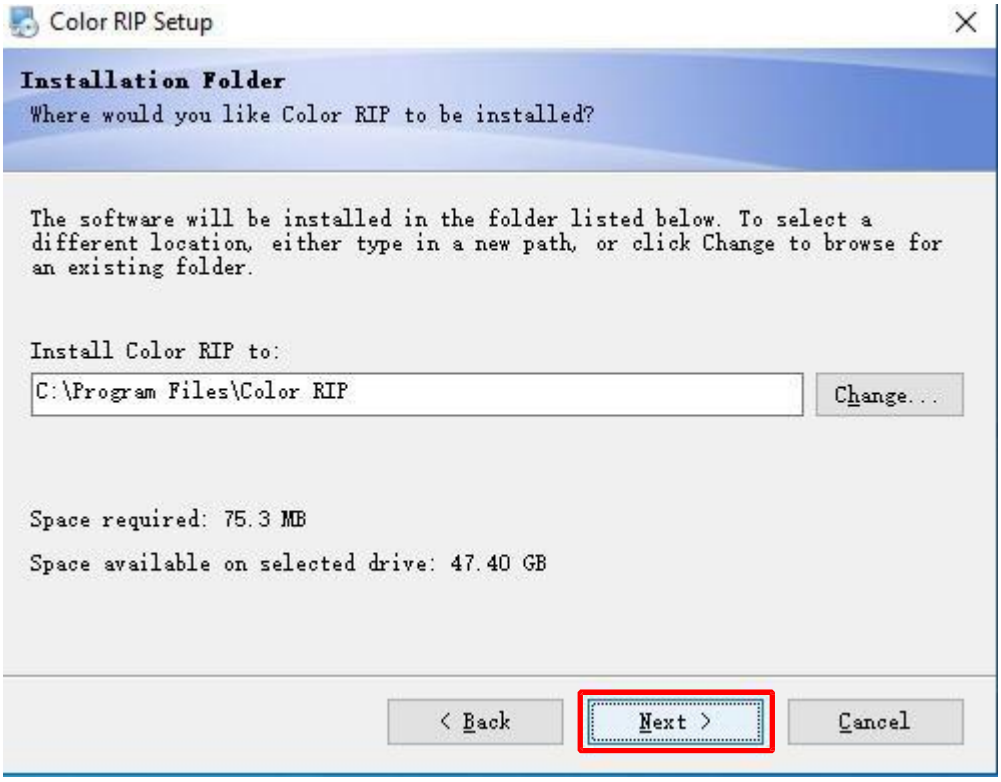
5) Click "Next".



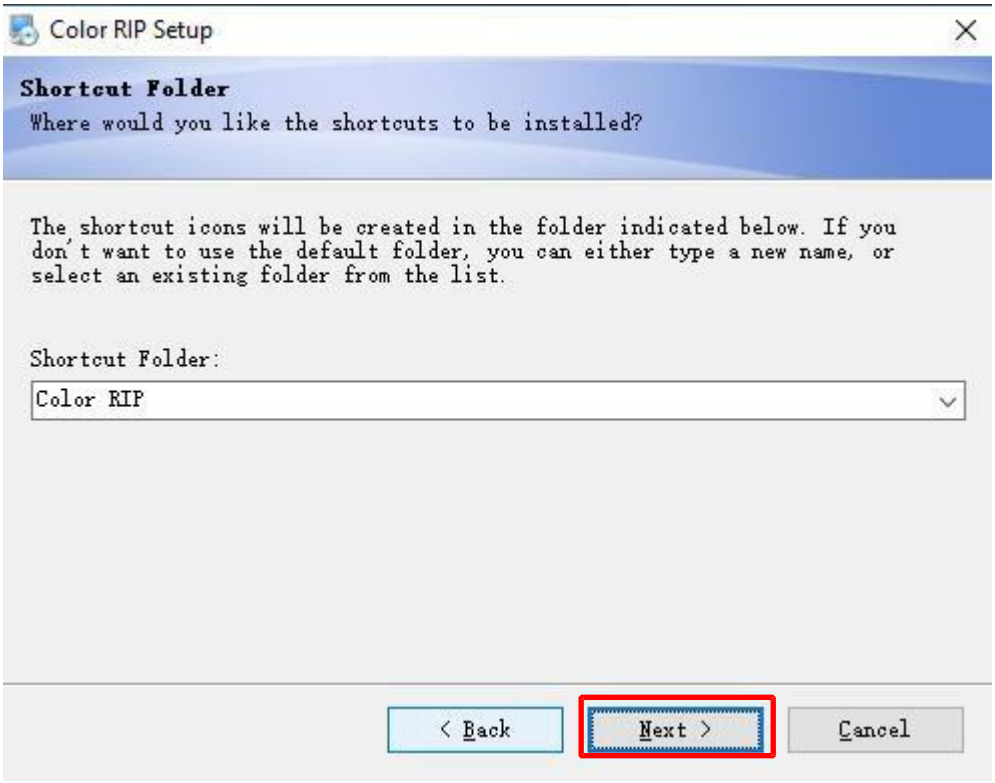
6) Check "I agree to the terms of this license agreement" and click "Next".



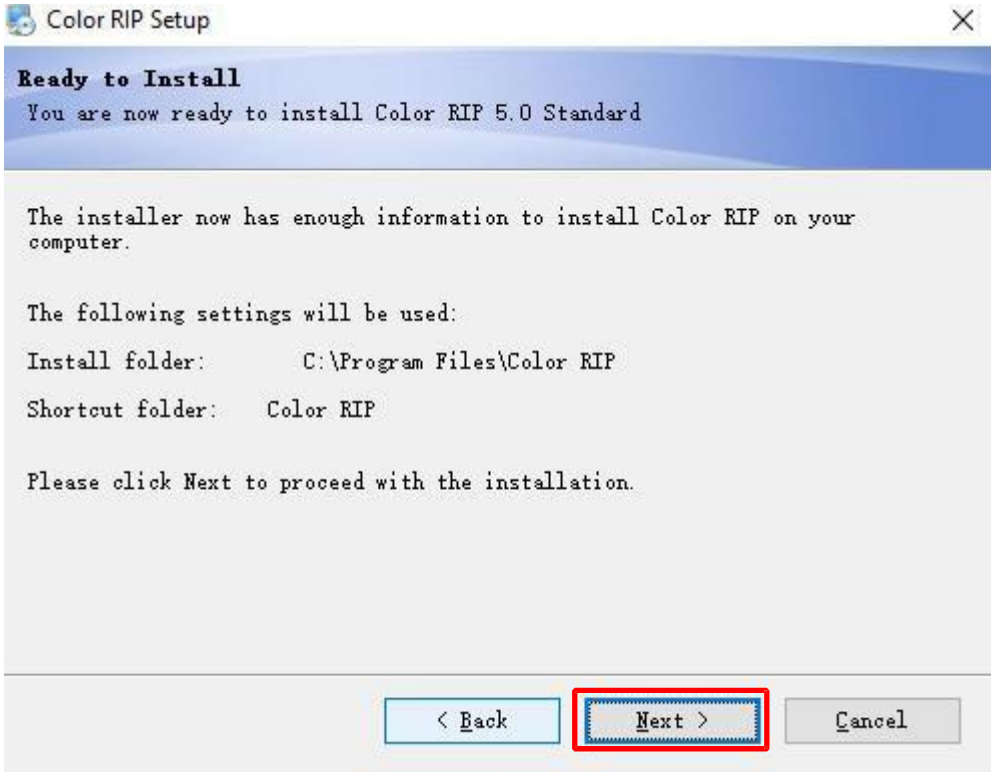
7) Select the installation path, it is recommended to install in the default path, click "Next".



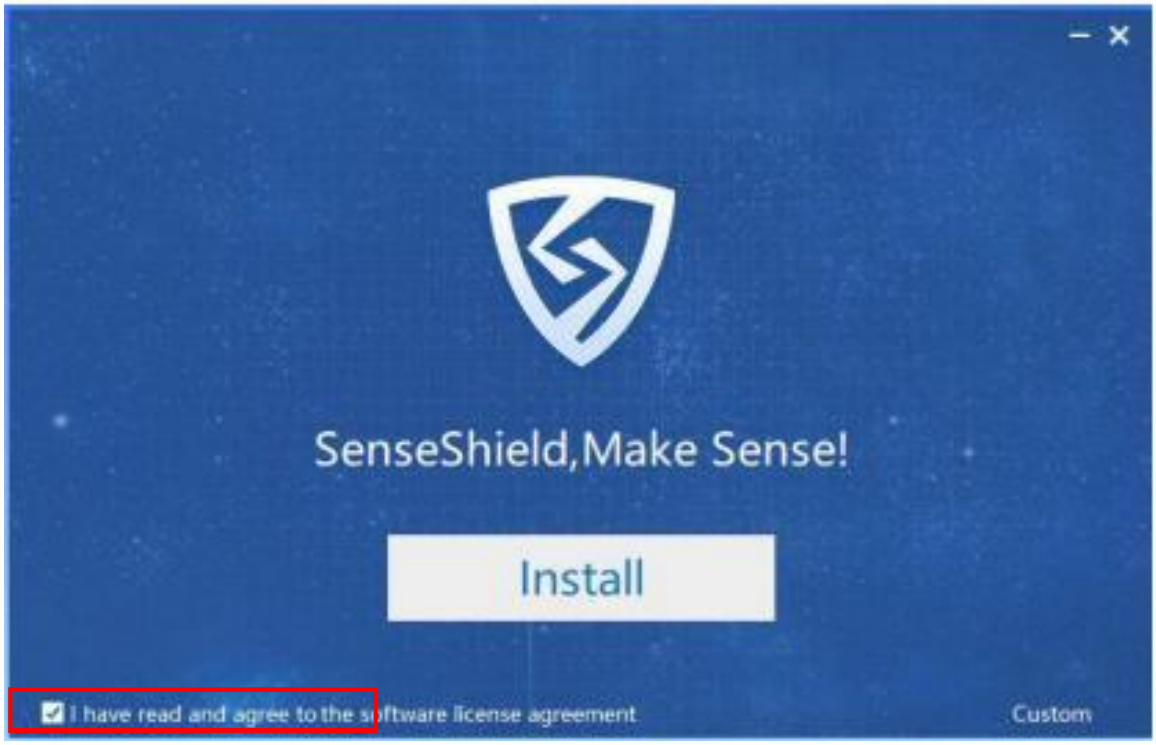
8) Shortcut creation.



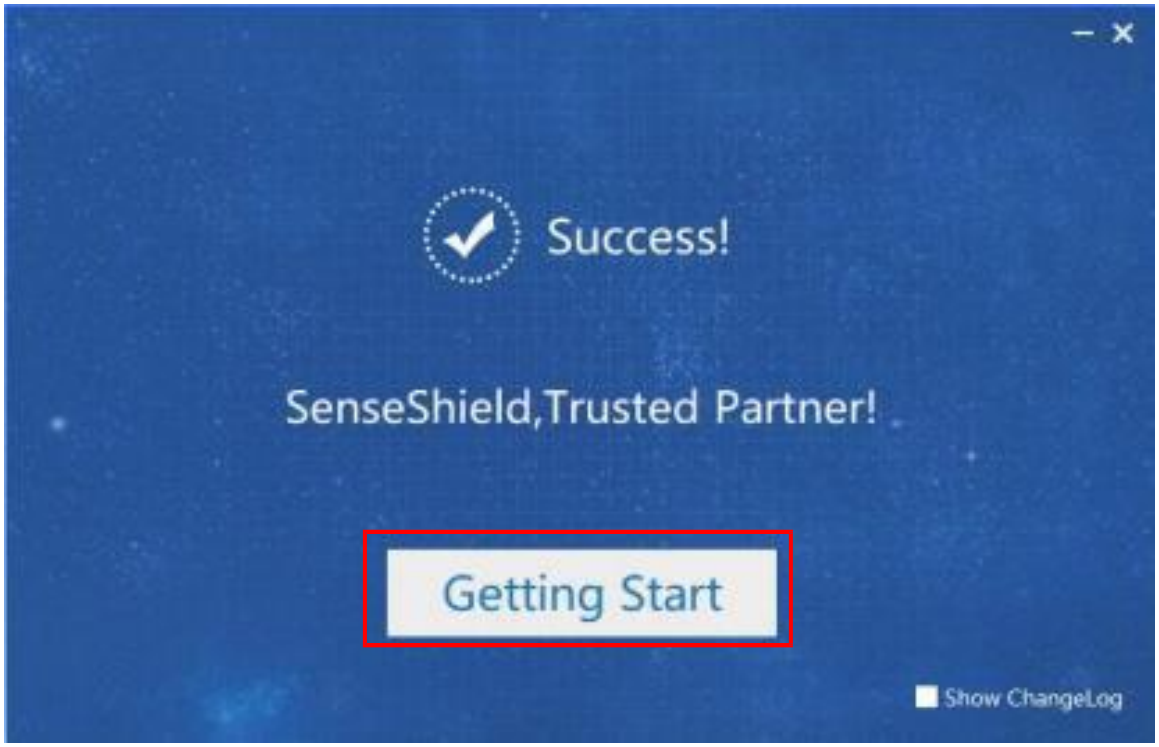
9) Click "Next" to start the installation.



10) After the installation is complete, the software environment installation will pop up automatically, check "I have read and agree to the software license agreement" and click "Install Now".



11) Wait for the installation to complete, click "Experience Now" to complete the installation.

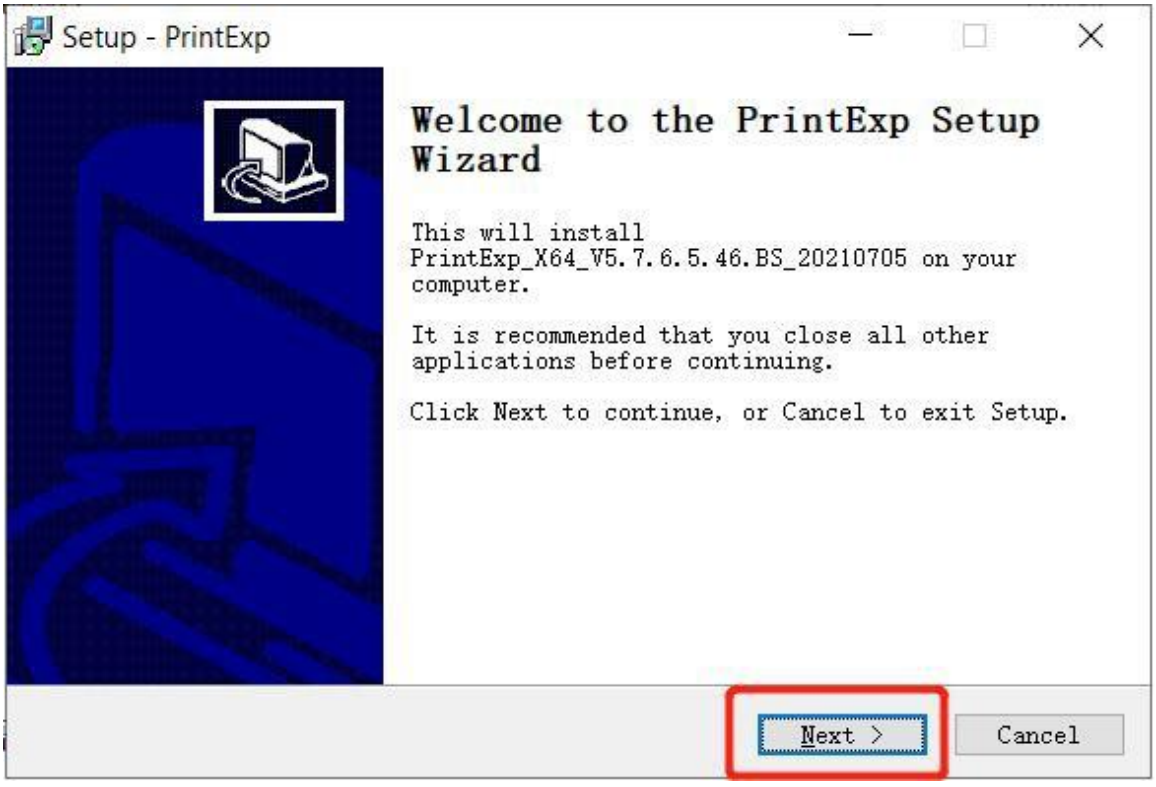


8.3 Online software installation

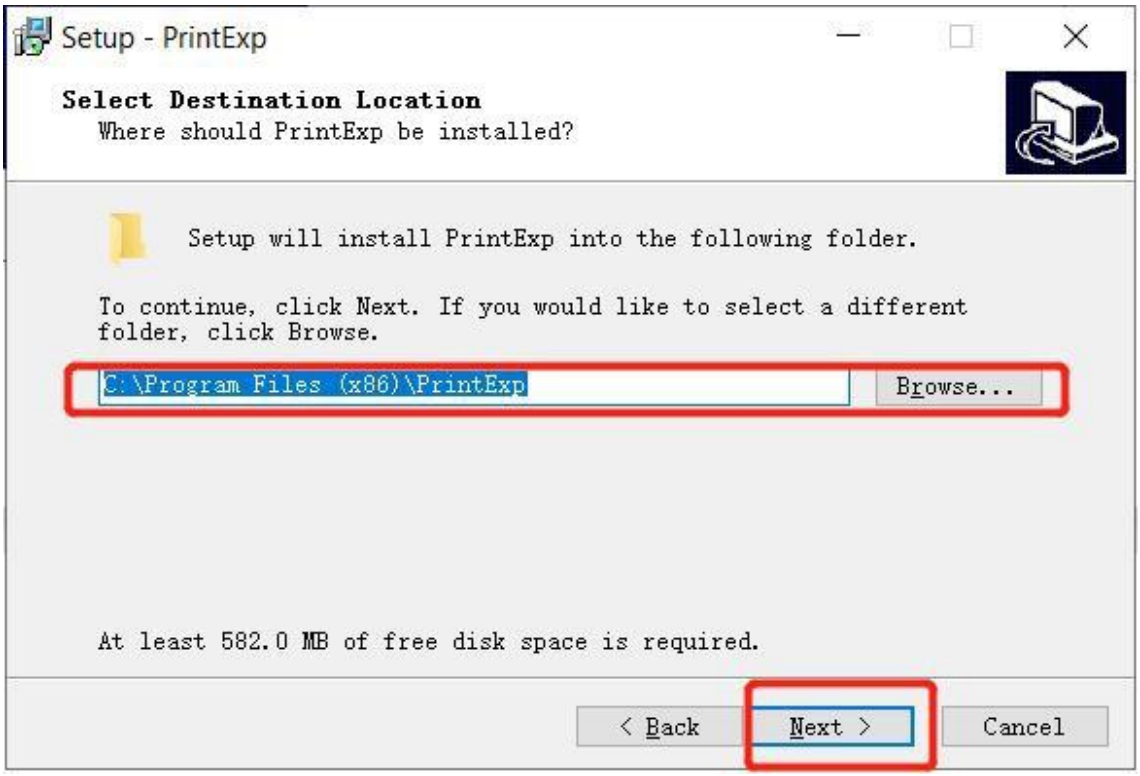
Run the calibration software installation package "Run as administrator" as administrator.

1） Install language select "English".

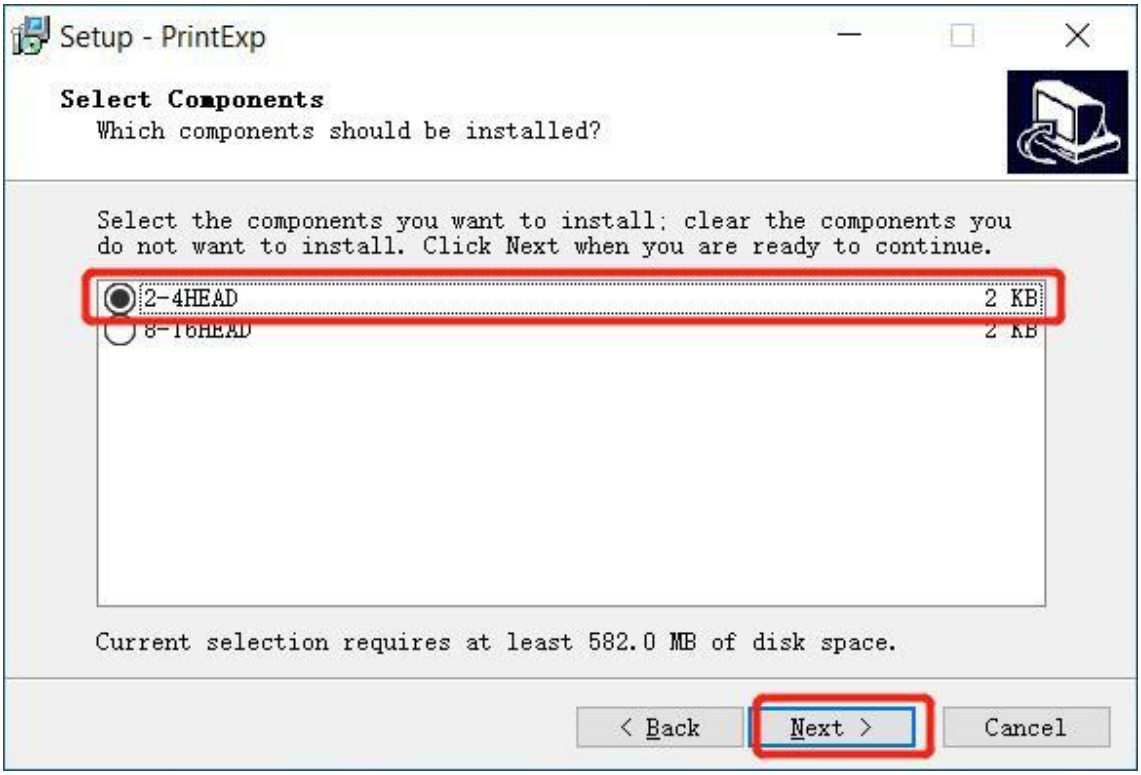
2） Select the next step "Next".

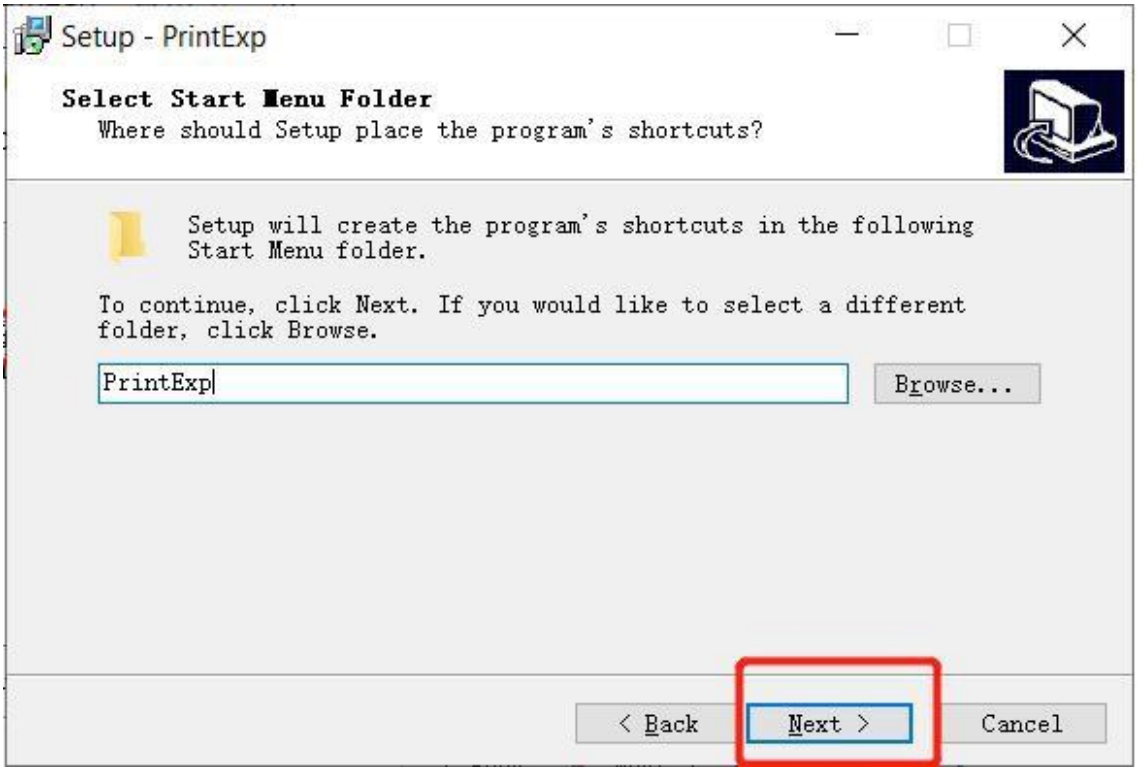


3) Select the installation folder, it is recommended to install in the default folder.

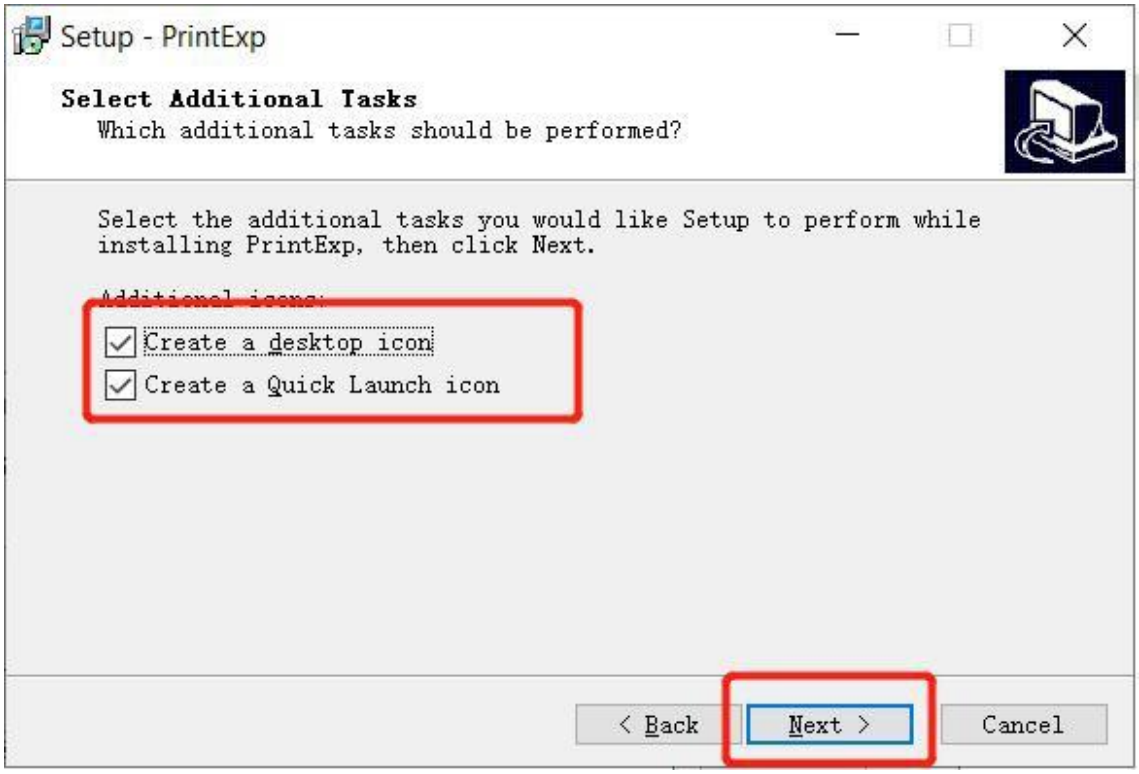


4) Select 2-4head and click "Next".

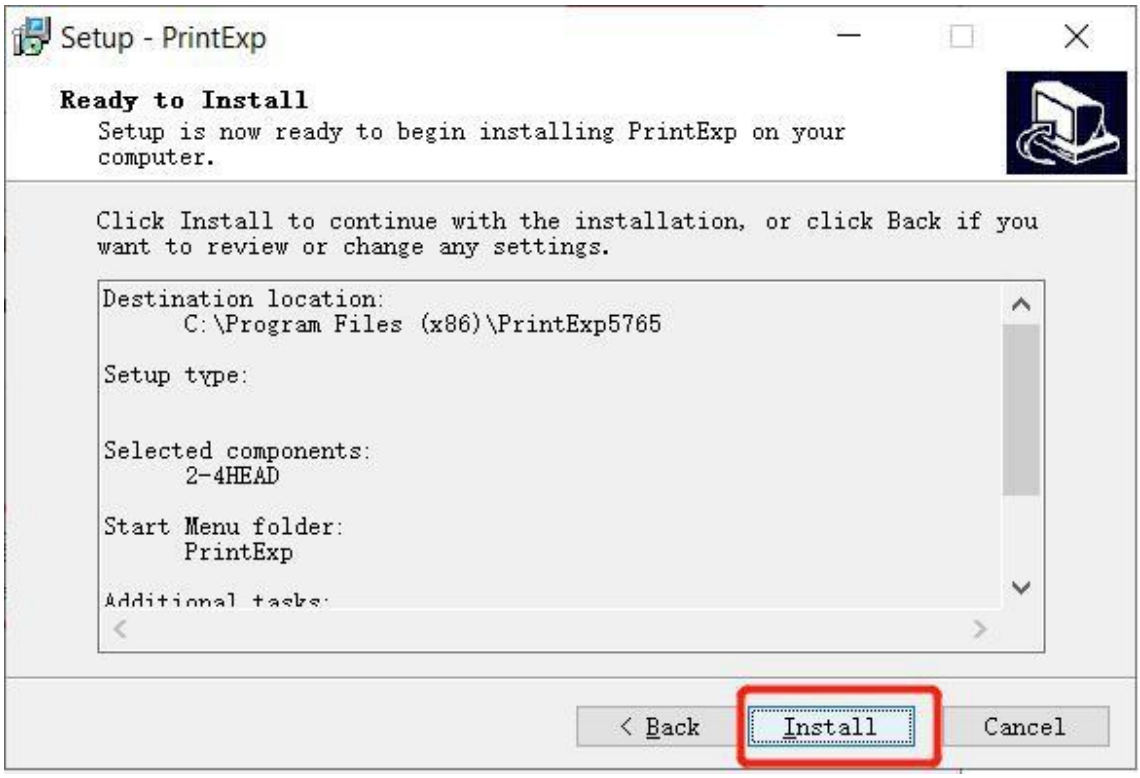


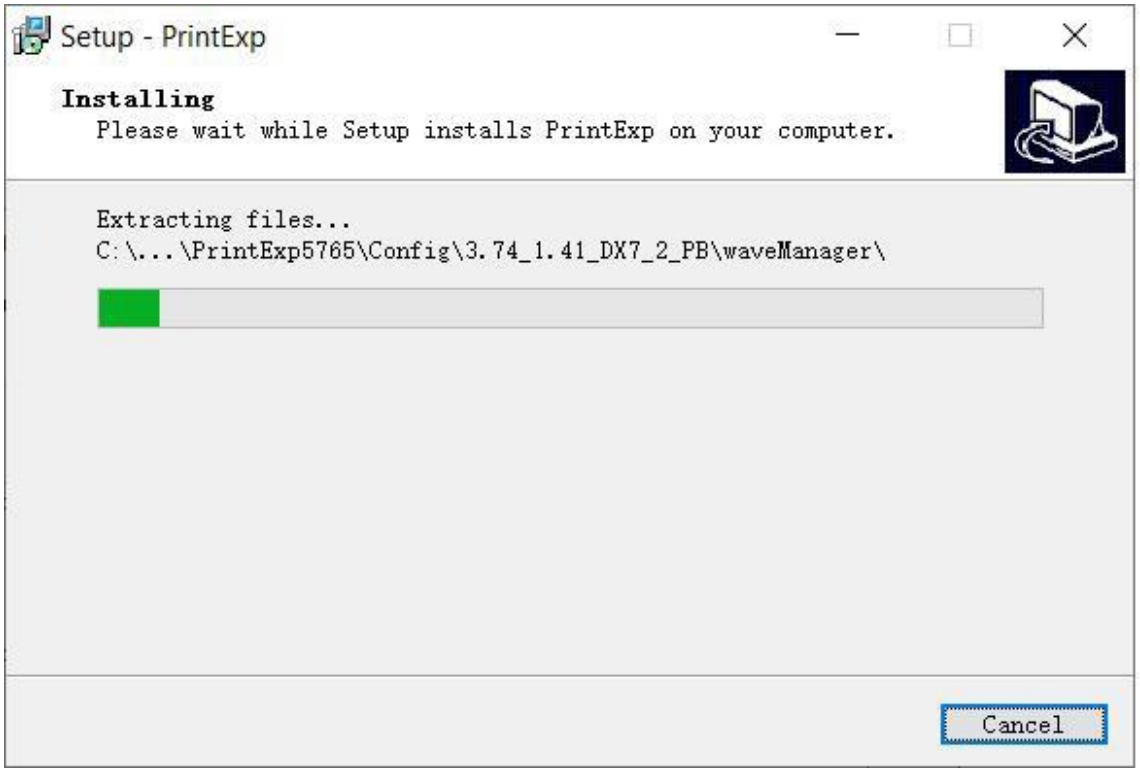


5) Create an icon on the desktop and click "Next".

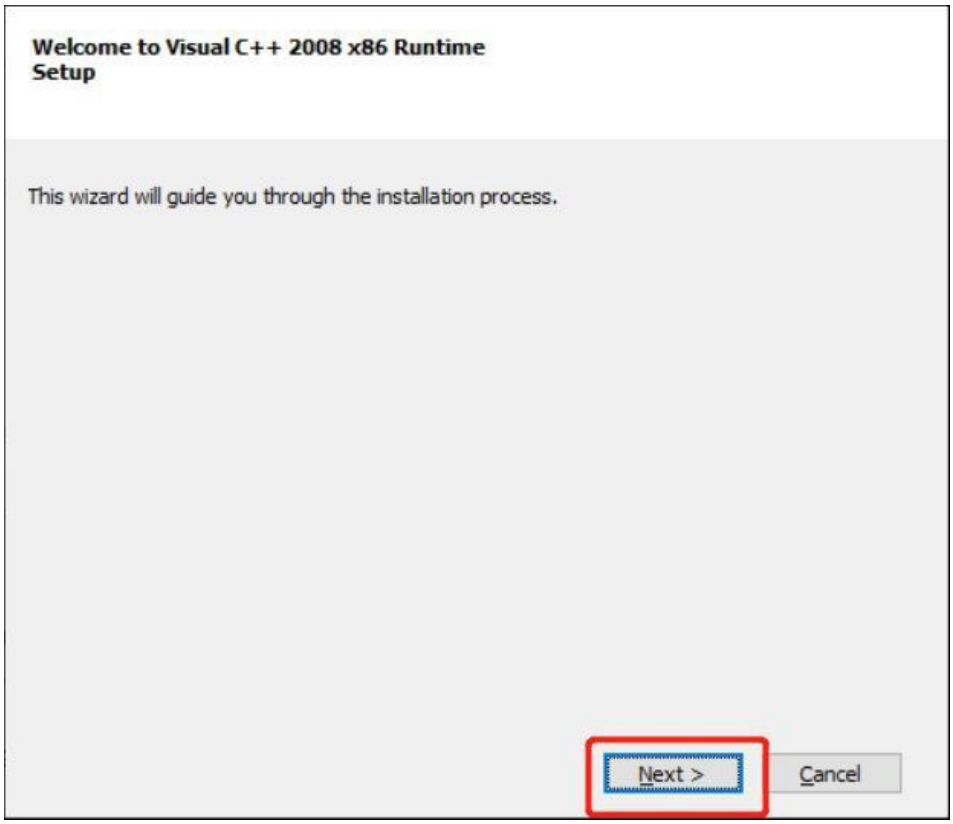


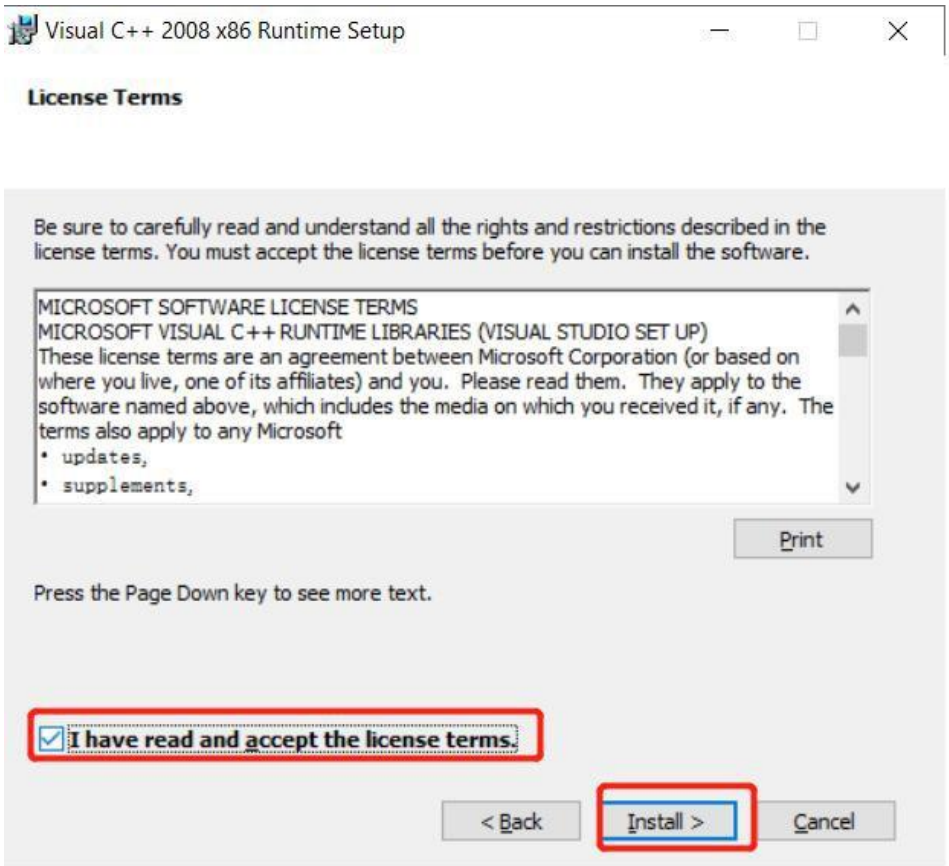
6) Confirm installation.

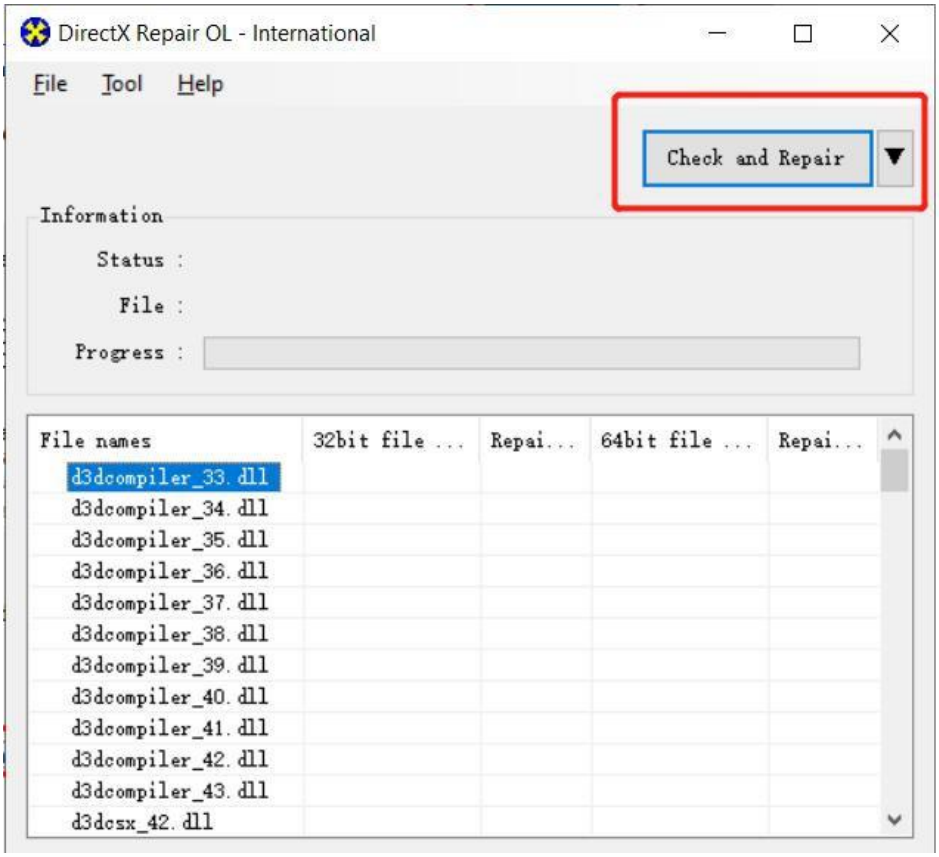


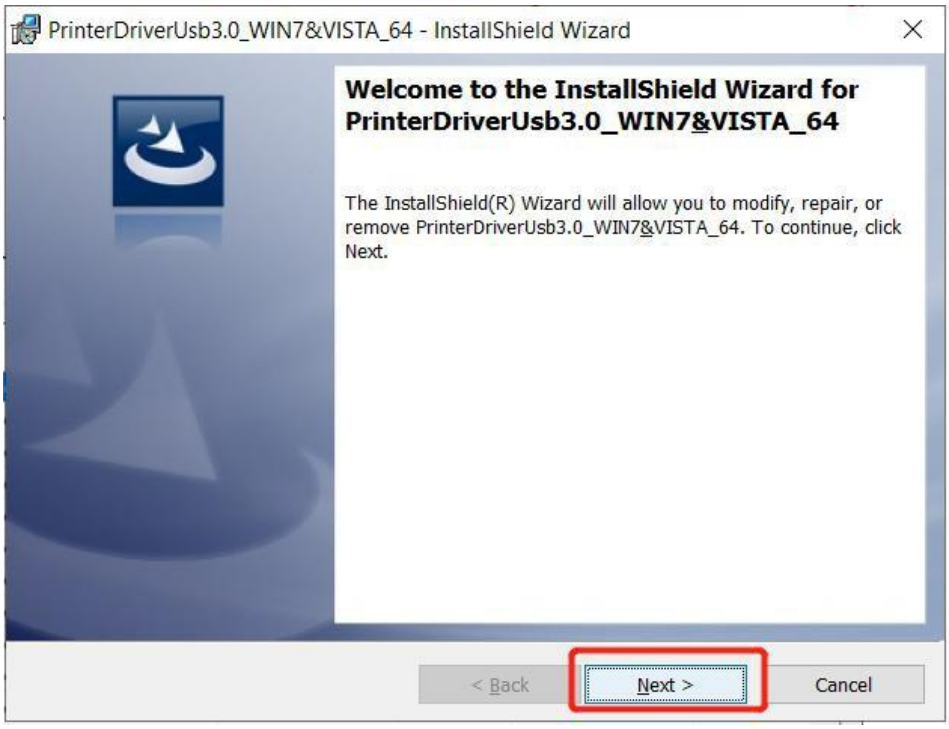


7) Need to install "c++2008", click "Next".

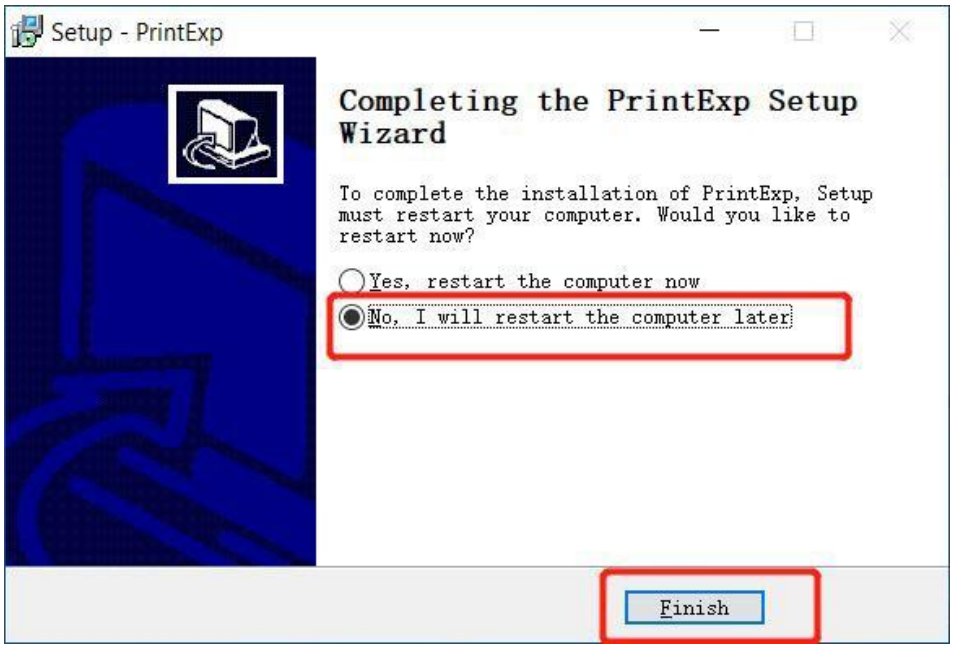




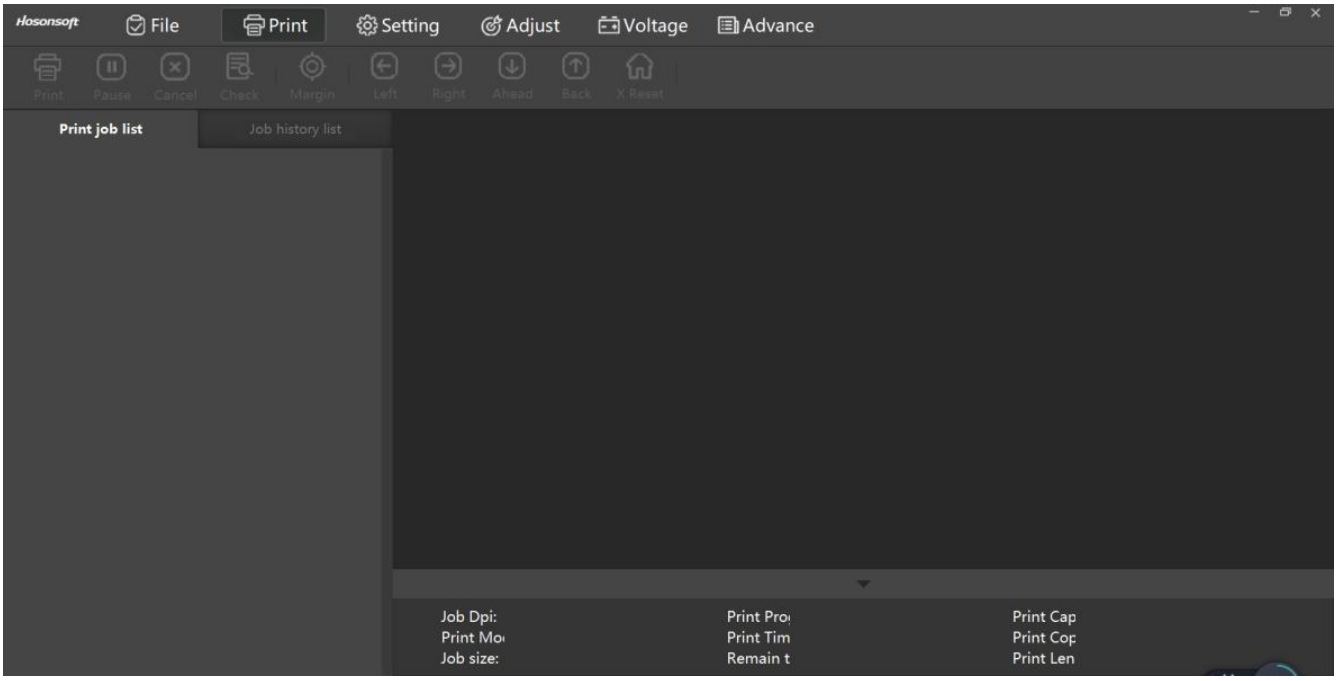

DirectX Repair OL - International
File
Tool
Help
Check and Repair
Information
Status :
File :
Progress :
File names
32bit file ...
Repai...
64bit file ...
Repai...
d3dcompiler_33.dll
d3dcompiler_34.dll
d3dcompiler_35.dll
d3dcompiler_36.dll
d3dcompiler_37.dll
d3dcompiler_38.dll
d3dcompiler_39.dll
d3dcompiler_40.dll
d3dcompiler_41.dll
d3dcompiler_42.dll
d3dcompiler_43.dll
d3dcsx_42.dll


PrinterDriverUsb3.0_WIN7&VISTA_64 - InstallShield Wizard
Welcome to the InstallShield Wizard for PrinterDriverUsb3.0_WIN7&VISTA_64
The InstallShield(R) Wizard will allow you to modify, repair, or remove PrinterDriverUsb3.0_WIN7&VISTA_64. To continue, click Next.
< Back
Next >
Cancel

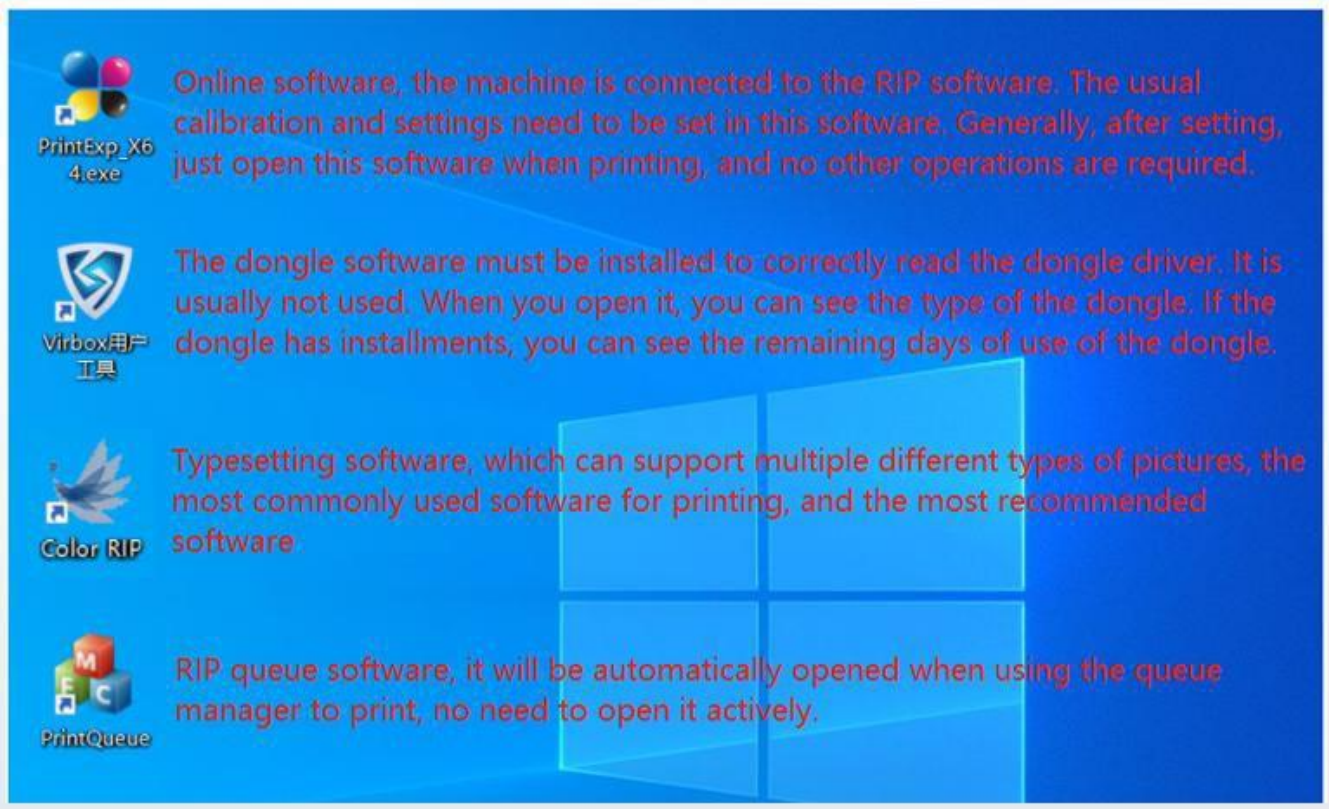
8) After the installation is complete, choose whether to restart the computer.



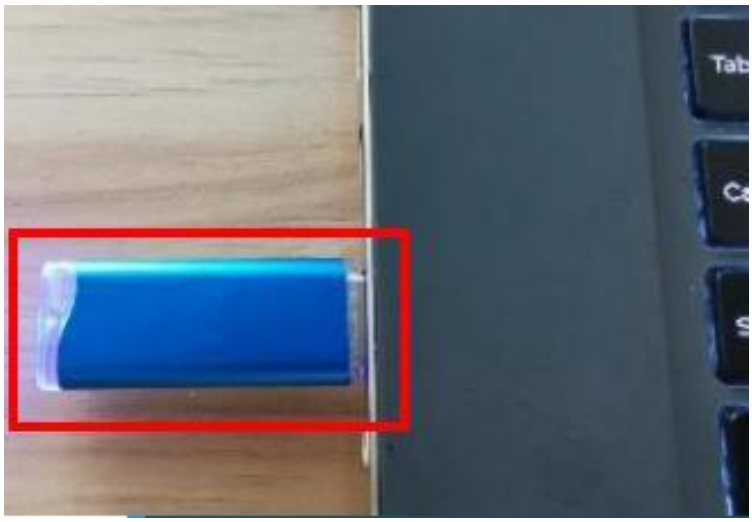
9) Click the desktop icon to run.



The above completes the installation of all software.



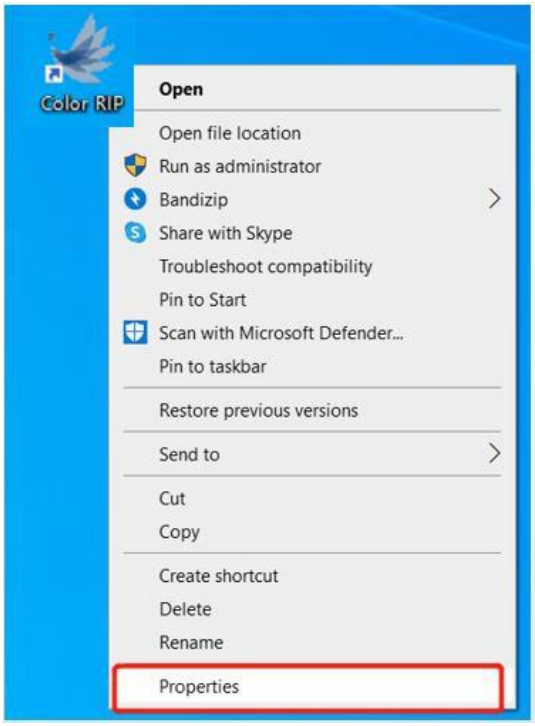
Note: A dedicated driver lock is required to open the RIP software, otherwise it will not be able to open.

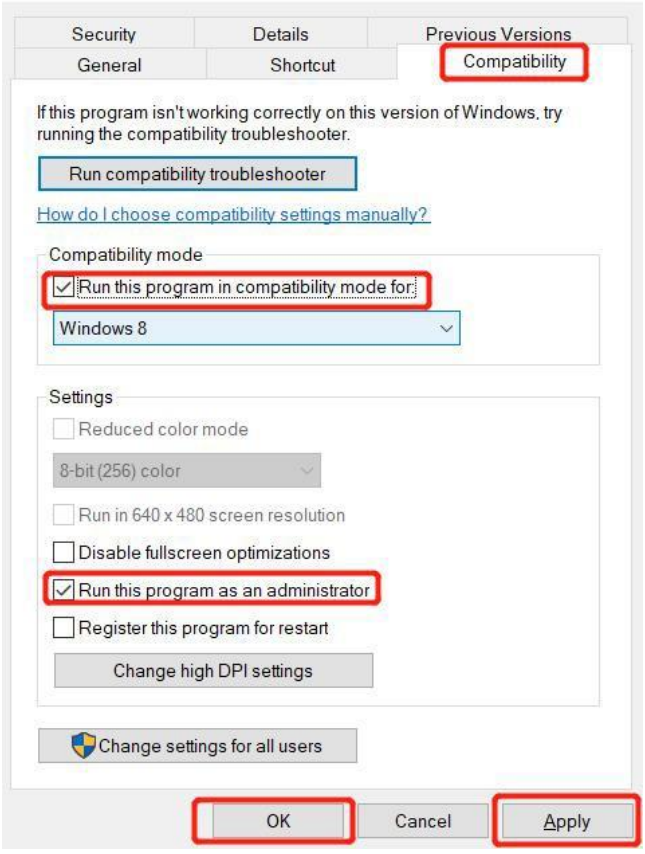


8.4 Software operation and function instruction

8.4.1 Software Compatibility Settings

Right-click the software icon and click "Properties" to set.



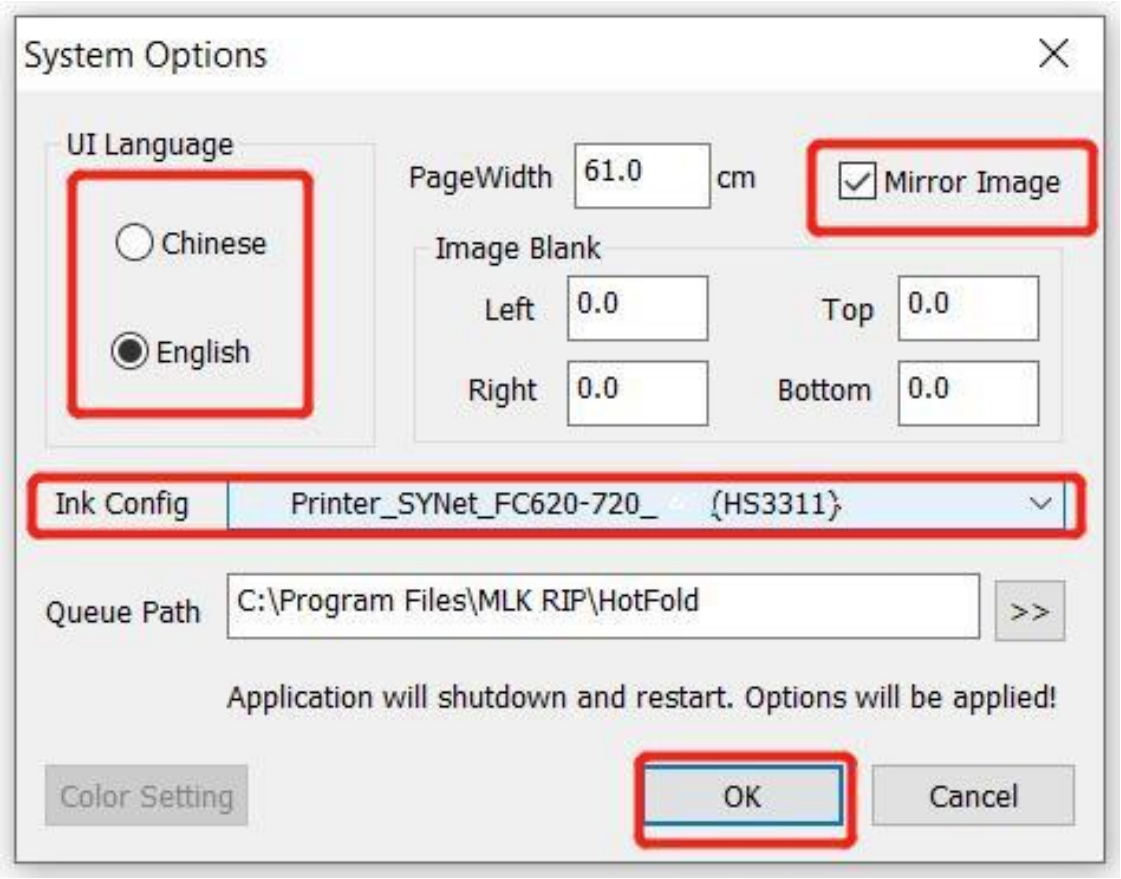


Note: Due to computer differences, administrator mode settings are required after installing the software, please follow the above 5 steps to set.

8.4.2 Enter the software

1） Double-click the desktop shortcut icon to enter the software

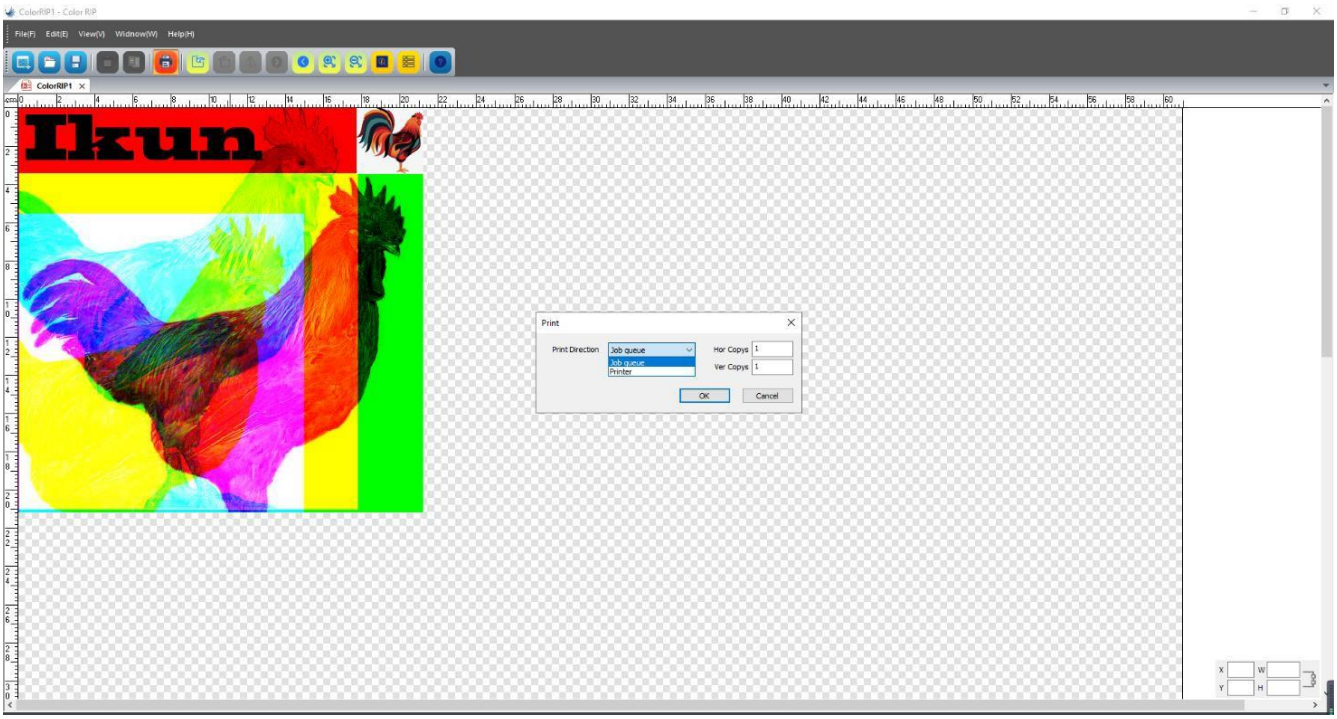
2） Configuration options



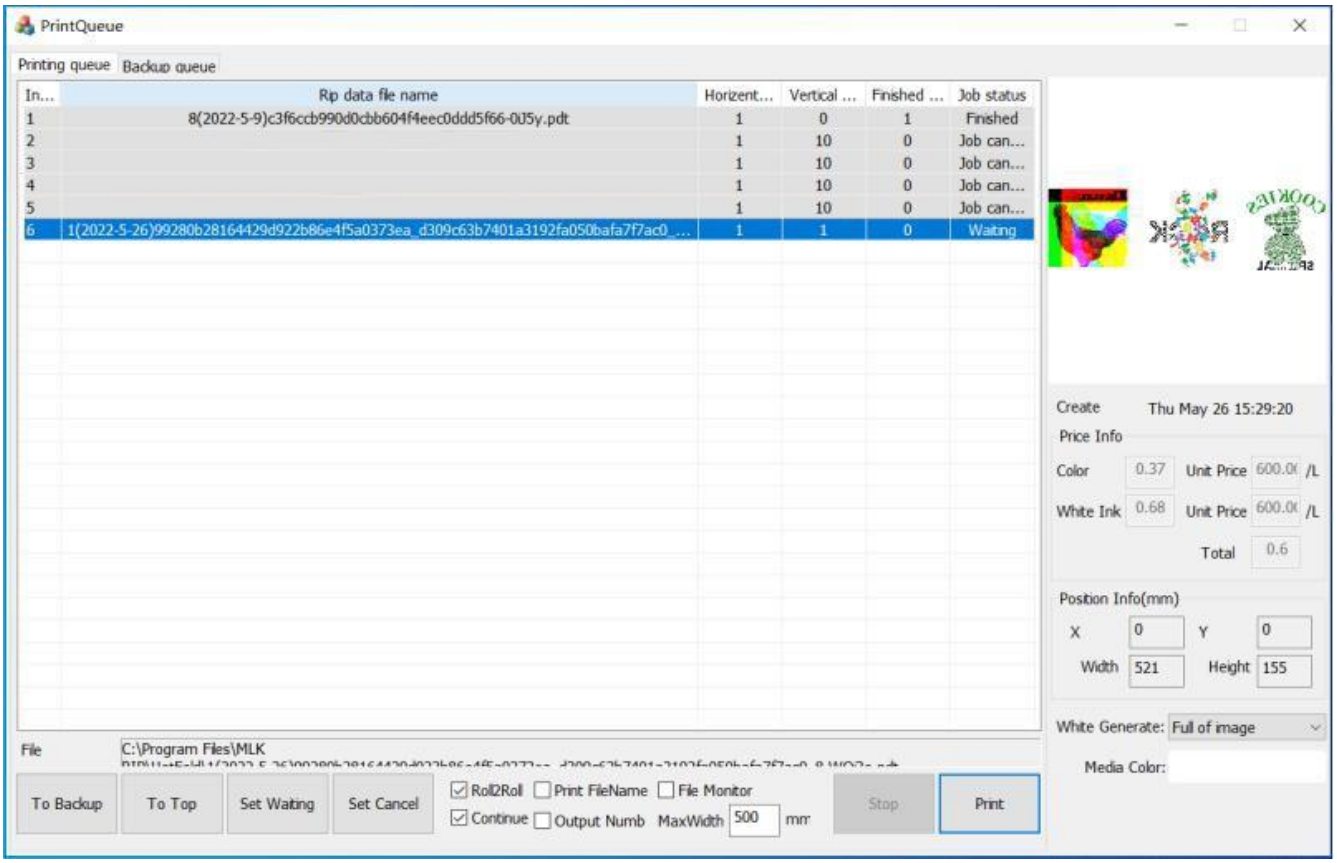
Note: When you enter the software for the first time, the system will prompt you to select the required configuration. After the configuration selection, you need to restart the application to take effect. Click to confirm and the software will exit. You need to double-click the software icon on the desktop again to enter the software.

8.4.3 Software operation page instruction

1） RIP instruction

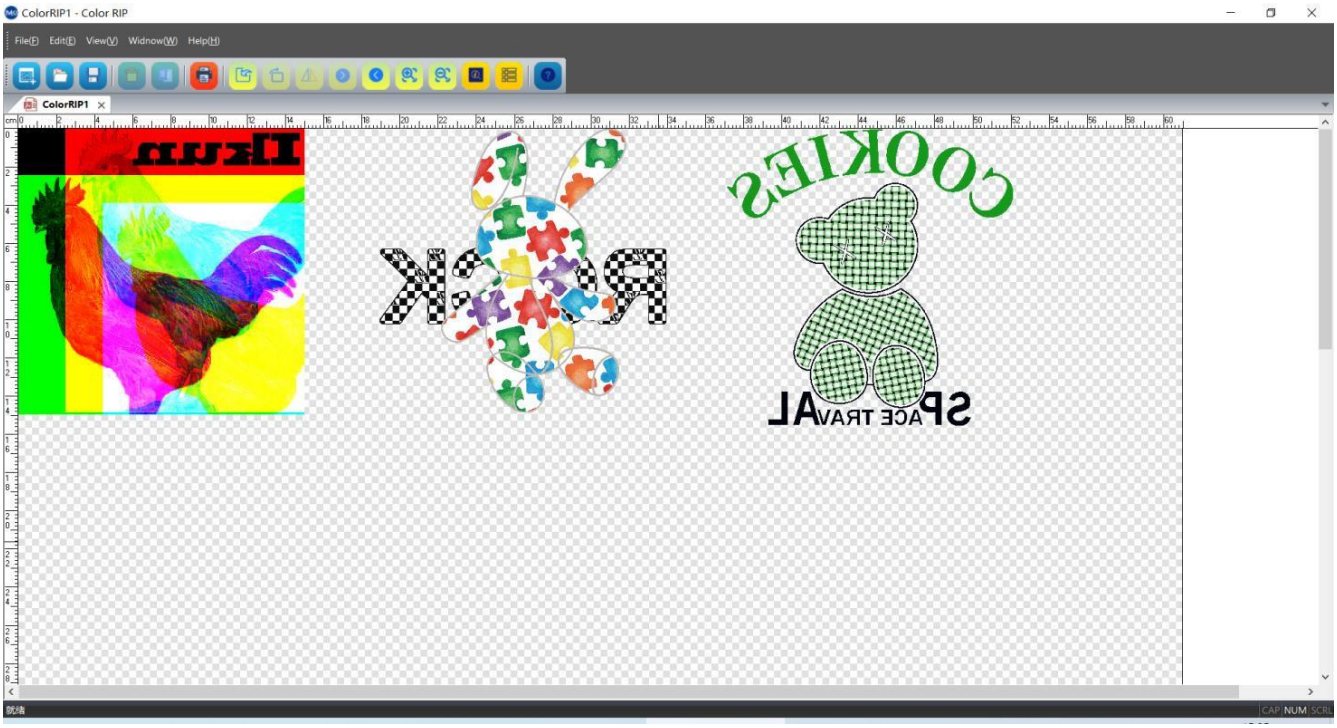


2） Print Queue instruction



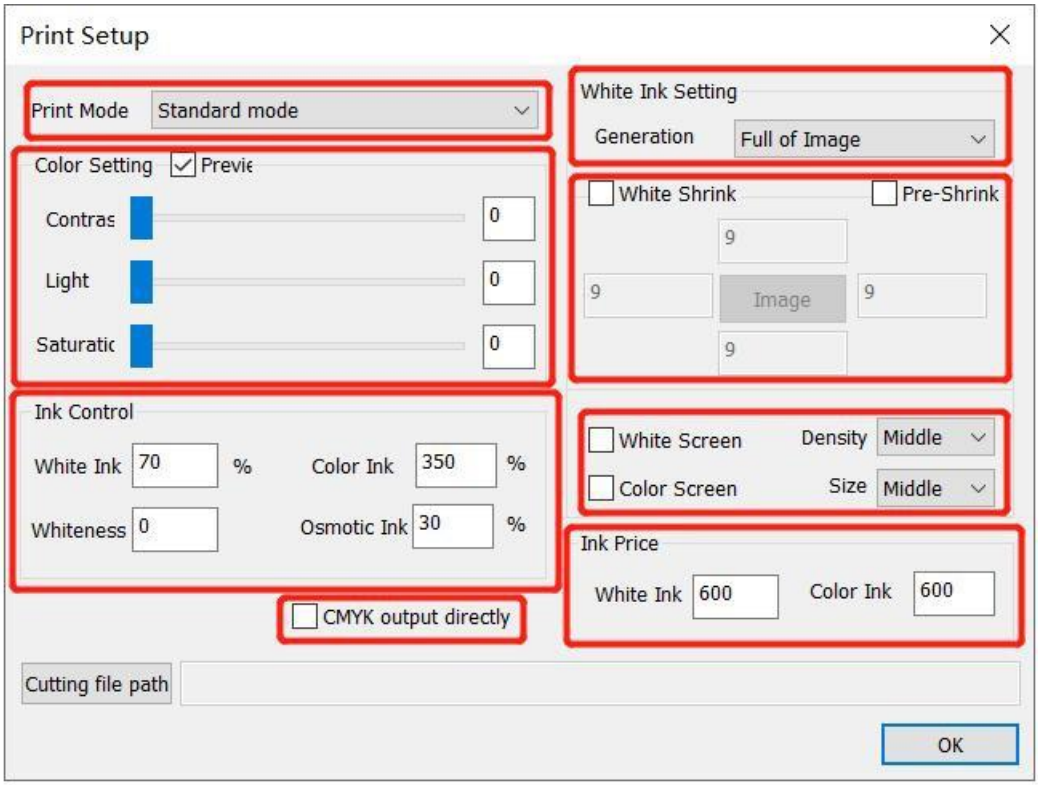
Print queue	Display current job status
Back-up queue	The completed job can be moved to the backup queue for storage. When it needs to be printed again, it can be moved to the print queue for printing. The completed job can be deleted from the backup queue.
Horizontal copies	temporarily unavailable
Vertical copies	Customizable number of prints
Number of copies printed	Displays the number of copies printed
Job status	Display the status of the current job
Move to standby queue	The selected jobs can be moved to the backing queue for saving
Put job on top	Adjust the order of printing jobs
Waiting status	Change the status of the job, for example, you can change the canceled state to waiting for printing
Cancel status	Change the status of the job, such as changing the waiting state to cancel printing
Roll-to-roll output Continuous printing	If the continuous printing is selected, the jobs remaining in the waiting state in the queue will be automatically printed.
Stop/print	Stop printing and start printing
To print queue	The task after printing can be called to the print queue again for printing
Delete	Delete a task from the standby queue
Clear	Clear all tasks in the backup queue

3) Description of Color RIP (color RIP is recommended)

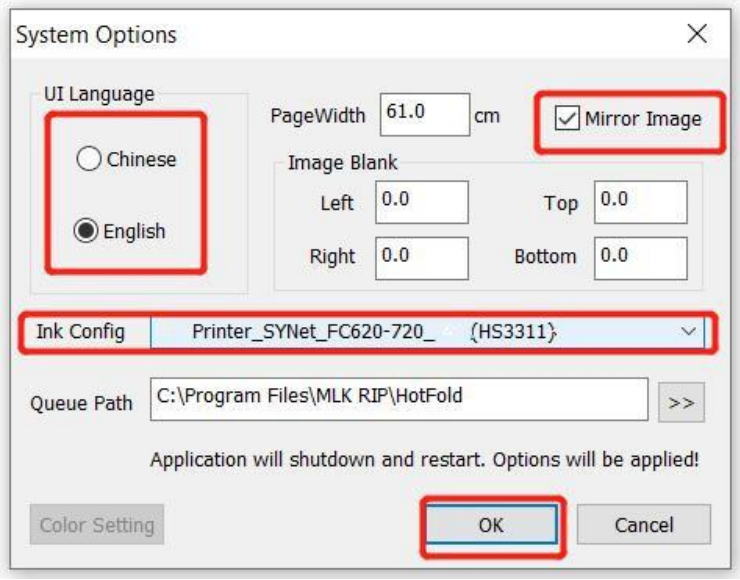


Icon	Hot key	Effect
	ctrl+N	Create a new map page
	ctrl+O	Open the saved .crp print file
	ctrl+S	Save the current job file as a .crp file
	Delete	Delete selected pictures
	ctrl+V	Paste selected image
	ctrl+P	Print the current document
	ctrl+I	Import image
	ctrl+R	Rotate selected picture

	ctrl+M	Mirror image
	ctrl+Y	Redo the last undone action
	ctrl+Z	Undo the previous action
		Zoom in to show the page
		Zoom out
		Show/hide image size
	Ctrl+Q	Full page automatic layout
		About displays program information, version number and copyright information



Print mode	Corresponding to the selected curve, generally only one mode is to print 6pass
Color settings	Contrast, brightness and saturation can be adjusted according to the actual printed effect
Ink volume control	Select the amount of white ink and color ink to be used. The shade of white ink is used to reduce the amount of ink in the dark part of the picture. The function of the amount of permeate ink is not used for.
CMYK image direct output	Generally, this option is not checked. If you find that the overall color of the printed picture is dark, this option may be checked.
Methods of producing white ink	For pictures with generally transparent background color, check the image and cover it with white ink.
White ink shrink	Customize the image up, down, left, and right
White/color ink dots	The density and size of the dots can be set
Ink price	Set the price of white ink and color ink to calculate the cost of printing pictures



Language selection	Support display Chinese and English
Page width	Set the maximum print width
Image mirroring	To ensure that the pattern transferred to the fabric is correct, this option needs to be checked

Image blank	Set the distance between the imported image and the image, the unit is cm
Device configuration	The so-called ink density curve
Queue path	Where to save history files printed using the queue manager

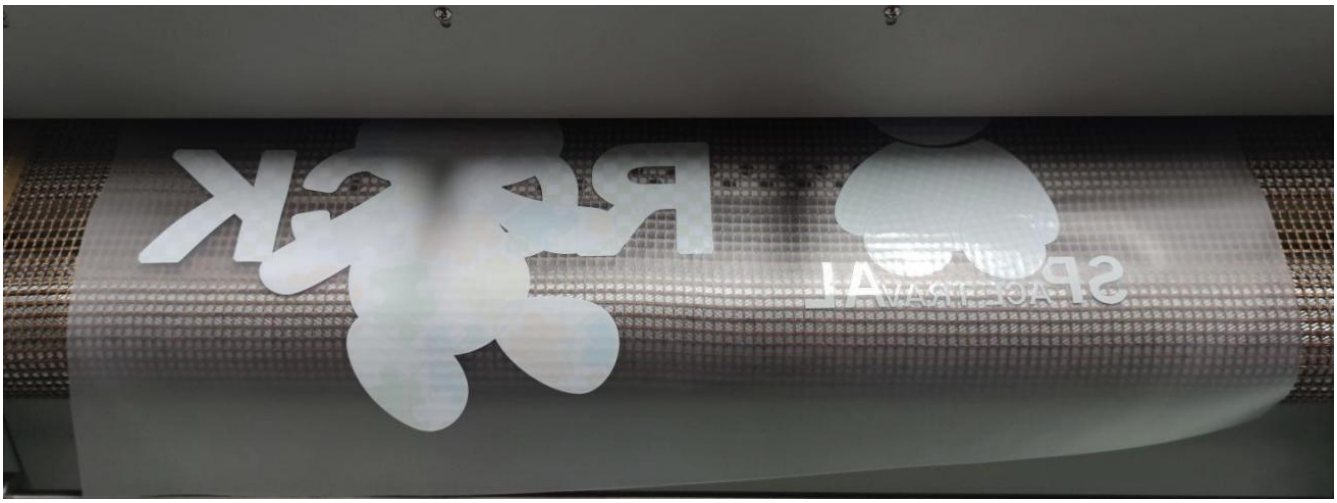
8.5 Print out

1) When the test strip printed by the print head test is in good condition, you can start to print. The printer will print out the color pattern first, and then spread a layer of white ink for powder transfer.

Note: Since there is a lot of oily moisturizing liquid inside the new print head, it is normal that the moisturizing liquid may continue to remain in the print head at the beginning of cleaning, causing the needle to break in the print head hole. If the needle is still broken after several times of cleaning, it is recommended to leave it for 1-2 hours to allow the moisturizing liquid to be slowly taken away by the cleaning liquid and ink before cleaning.

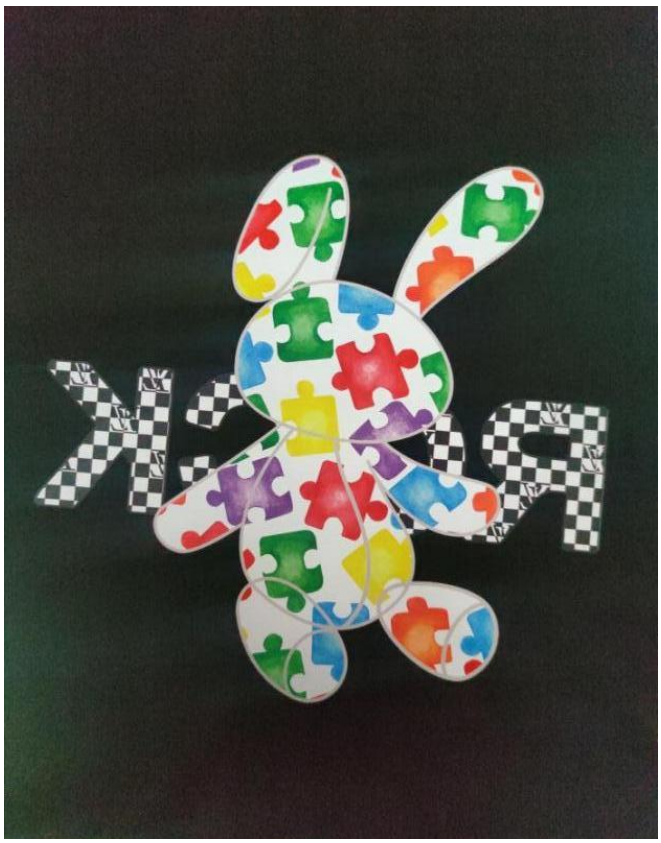
Note: Please check the image mirroring option when printing to ensure that the final image transferred to the fabric is correct.

2) Cut the printed pattern, set the parameters of the powder shaker, and put the powdered film into the powder shaker for baking powder.



Note: It is necessary to check whether the hot melt adhesive particles are completely baked. The fully baked hot melt adhesive particles should be smooth and patterned to the touch. If there is an obvious particle touch, it is not completely baked.

3) Show transfer effect



IX. Common Malfunctions and Solutions

9.1 Common malfunctions

No.	Common malfunctions	Malfunctions cause analysis	Solutions and Troubleshooting
1	After the power is turned on, the machine does not start or does not respond.	A. There is a problem with the power plug B. The power cord plug is not in good contact	Check whether there is any problem with the power plug, the plug of the power cord must be inserted and unplugged in place, and the plug of the power cord must be in good contact
2	The boot starts normally, but the computer shows that it is not online or the output does not print when printing.	A. The printexp and the IP address settings on the computer do not match B. There is a problem with the quality of the network printing line C. Poor plug contact at both ends of the communication cable on the main board on the printEXP and the trolley board	When setting the IP address of the printEXP and the computer, be sure to follow the "instructions", the network printing line will also have quality problems, and sometimes the plug of the network printing line may have poor contact with the network interface on the motherboard. Similarly, the plugs of the communication cables of the main board and the trolley board on the printEXP are in poor contact, and the computer cannot be connected to the printEXP.
3	PASS track or white leaks track appear when printing inkjets.	A. Step calibration not done or done incorrectly. B. The paper feeding state during step calibration is	When doing step calibration, be sure to read accurate data according to the correct measurement method, then input the corresponding position, and then perform

		different from that when printing inkjet (drawing state/natural state).	"calculation" and "save". When printing the inkjet output, it must be consistent with the paper feeding state during the step calibration, otherwise there will be printing overlap or white leakage (PASS track).
4	When printing inkjet, the left and right ends of the paper run diagonally or the size and length of the two ends of the paper are inconsistent.	A. The torque adjustment of the jammed paper at both ends of the feeder device is inconsistent B. Uneven pressure on the paper platen on the guideway platen mechanism	Adjust by manually adjusting the torque of the paper jammer (the side where the paper feed is long has a small torque, and the side where the paper feeds is short has a large torque). In addition, the causes of inconsistent lengths at both ends of the paper are also affected by the inconsistent pressure of the paper press on the guide rail mechanism.
5	Poor printing accuracy	A. The height of the print head from the platform surface of the body is too high (normally 1.8 - 2.5mm), B. print head calibration not calibrated	The poor accuracy of the spray painting effect is generally caused by the height of the print head from the platform surface of the body, and the calibration of the print head is not calibrated according to the correct method. When calibrating, be sure to carefully calibrate each step.
6	Ink breaks when printing inkjet	A. Indoor temperature and humidity problems B. Ink Quality problem C. Printhead board problem	The phenomenon of ink breakage in printing inkjet is mainly caused by the influence of indoor temperature environment (normally required temperature is 20°C-30°C). The quality of the ink is

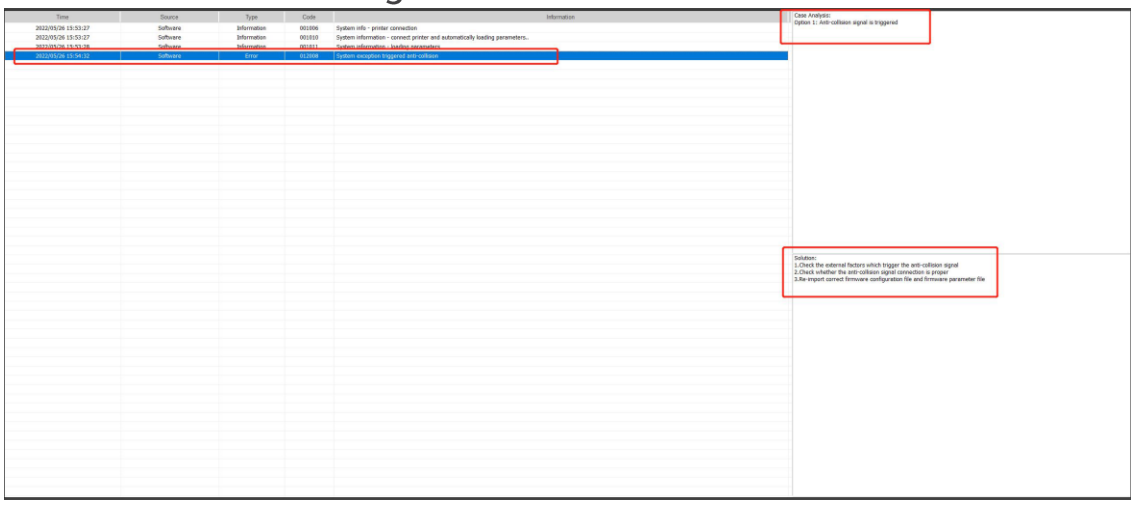
			also very important, and it can also cause serious ink breakage in the machine. At the same time, the overheating or high temperature of the print head board can also cause the ink to break for a period of time during printing.
7	Ink flying when printing inkjet	A. The distance between the print head and the platform surface of the body is too high B. Indoor temperature is too low C. Ink carriage is moving too fast	If there is flying ink in the printing inkjet painting, it is generally better to lower the ink level. If the indoor temperature is too low (below 15°C), the machine will also appear the phenomenon of flying ink. If the speed of the ink car is too fast, it will also cause ink to fly. It can also be solved by reducing the speed.
8	Color cast when printing inkjet colors	A. Because of ink B. Because of the dielectric material C. Because of the Monte printer curve	Different inks print different colors, different media materials print different colors, and different curves of Montai printers print different colors. That is, the ink, material and print curve must correspond to ensure that the printed color is not off-color.
9	When the print head is tested, the test status is abnormal. (Slanting or random spraying, etc.)	A. Print head data cable problem B. Ink cart print head plate problem C. Print head quality problem	Check whether there are burrs at both ends of the data cable or short circuits in the adjacent lines, and whether the two ends of the data cable are inserted obliquely Check the quality problem of the ink car print head board

			Because of natural damage to the quality of the print head itself
10	Machine printing does not go online or does not print output	A. computer network card problem B. The IP address of the computer is not set correctly C. There is a problem with the network cable D. There is a problem with the communication cable between the main board of the machine and the print head board.	The computer network card has quality problems or the network card driver is not installed properly. It is recommended to reinstall the computer system or replace the network card. Check to make sure that the IP address of the computer is set correctly Check if the network cable is normal Check whether the communication cable is connected normally
11	No ink from the print head	A. Print head hole is clogged B. There is air in the pipe	Use the various cleanings that come with the printer (strong pumping, weak pumping, etc.) Clean Cap, scraper, make sure it's clean Squeeze the ink damper Cleaning fluid filling, soaking After printing the 50PL waveform (not suitable for normal printing), print the test strip directly Drain the ink, refill the ink, and repeat the above 1-5 operations

9.2 Detailed explanation of display error messages

When the printer reports an error, the small light bulb in the lower right corner of the online software will turn red and flash, click it to view the specific error message.

Then click on the error message to view the cause of the failure and the solution.



9.3 Safety Precautions

- **First Note:**

Make sure the input AC voltage is 220±5V when the machine is powered on, otherwise a voltage stabilizer above 1000W or a UBS uninterruptible power supply must be installed.

- **Second Note:**

A. When installing the machine, it is forbidden to place the machine on the window sill of the room to avoid the circuit board of the machine being damaged by lightning in rainy days.

B. When installing the machine, it is forbidden to put the machine together with high-power electrical appliances (above 3000W) (within a distance of 2 meters or the same power supply) to prevent garbled printing caused by grid interference.

C. When installing the machine, the ground wire of the machine must be firmly connected as required. Ground wire requirements:

1) The wire must be multi-strand copper wire or single-strand copper wire, and the diameter must be more than 2.0 square meters.

2) The grounding end must be connected to an iron rod or triangle iron about 1 meter long into the ground and filled with salt water with a concentration of 65%.

- **Third Note:**

When installing the print head, pay attention to the installation sequence of the print head data cable to ensure that it is correct; at the same time, ensure that there is no liquid (ink, water, etc.) where the print head and the data cable are connected to avoid short circuit of the print head.

- **Fourth Note:**

When replacing the ink damper, it is necessary to prevent the ink from flowing out, to ensure that the connection between the print head and the ink damper is clean, and to prevent the ink from flowing along the data line of the print head to the socket of the print head and the data line, resulting in a short circuit or burnt out of the print head.

- **Fifth Note:**

A. When disassembling and assembling the ink car cover and trolley board (print head board), make sure that the data cable of the print head, the plug of the data cable connecting the print head board and the main board are correctly connected to the slot, and there should be no virtual connection or oblique insertion. (If it is inserted obliquely, it will be easy to short circuit and burn the print head or circuit board), check that everything is normal before powering on.

B. When performing normal printing work after overhauling the machine, be sure to ensure that the data cable is firmly pressed or fixed by the pressing plate of the trolley board (print head board) and the main board, and then you can work with confidence.(Otherwise, it is easy to print garbled characters or short-circuit the print head after the machine works normally for a period of time).

- **Sixth Note:**

When plugging and unplugging the network cable port on the motherboard, it is forbidden to plug and unplug with power. In addition, when plugging and unplugging the network cable port on the motherboard, it is strictly forbidden to twist left and right, otherwise the chip on the network port will be easily burned out.

X. Care and Maintenance

Notice: In order to prolong the life of the printer and give full play to the performance of the printer body, please ensure the following points:

1. Pay attention to the environment in which the printer is used. (Temperature: 68°F-86°F (20°C-30°C), Humidity: 55%~85% without condensation)
2. Strictly follow these instructions to maintain the printer.
3. Please use original ink and cleaning fluid.
4. Before operation, please consult the equipment factory technician about the content not covered in this instruction.

10.1 Daily maintenance (frequency: daily)

10.1.1 After booting before printing.

1) Clean the blade to make sure there is no residual ink on the blade.
2) Clean the ink felt cap to ensure that there is no residual ink caked around the ink felt cap
3) Perform a cleaning around the underside of the print head to ensure that there is no residual ink caked or fabric fibers around the underside of the print head.
4) Clean the print heads, check the state of the print heads, and ensure that the print heads are in a normal state. If there is any abnormality, please clean them again until the print heads are in a normal state.

10.1.2 During printing.

1) If it is found that the print pattern has no print head holes, please clean the print head in time to prevent the print head from being permanently blocked after a long time.
2) When printing individual color patterns, it is recommended to perform print head cleaning every 30 minutes to avoid clogging of the ink-out print heads.

10.1.3 Before shutting down after printing.

1) Make sure that the print head is in normal state. If it is not normal, please clean it until it is in normal state before shutting down.
2) Clean around the print head blade and ink felt cap to remove residual ink.
3) Make sure that the ink felt cap and the print head surface are close to each other, and use the naked eye to observe.

10.2 Weekly maintenance (frequency: weekly)

1. Maintenance after starting the machine needs to be done once a day.
2. Use the original cleaning solution to soak the print head once for more than 12 hours.

10.3 Maintenance of equipment not used for a long time (stop for 2 to 7 days)

1. Use the original cleaning solution to soak the print head.
2. It needs to be turned on every two days to clean the print heads, and keep photos of the normal state of the print heads.

10.4 Maintenance of equipment not used for a long time (stop for more than 7 days)

1. The whole equipment is hygienic and clean, especially when it comes to the place with ink, it needs to be cleaned up.
2. The pipeline is cleaned with the original cleaning solution, until the pipeline and ink bag are transparent, and the color of the cleaning solution of the print head has no ink color.
3. Places with ink residues around the print head, scraper, ink felt cap, etc. must be cleaned up.
4. Use original cleaning fluid to maintain the print head in the ink felt cap.

10.5 Precautions

1. Please use the ink and cleaning solution within the warranty period. If it is expired, please do not use it, so as to avoid irreparable damage to the print head.
2. Do not use alcohol, drinking water, tap water and other liquids other than special cleaning solution to wipe or soak the print head, otherwise it will chemically react with the ink and cause abnormal phenomena such as caking and plugging.
3. Please use special non-woven fabrics or special cotton swabs to clean the three important parts around the print head, ink pad cap and scraper. Do not use napkins, towels and other cleaning products that will produce fluff.
4. When printing monochrome patterns, please clean the print heads or print a print head check every 60 minutes, especially when white ink is not printing.

5. Please read this instruction carefully before use and operate in strict accordance with the regulations to ensure the normal operation of the equipment.

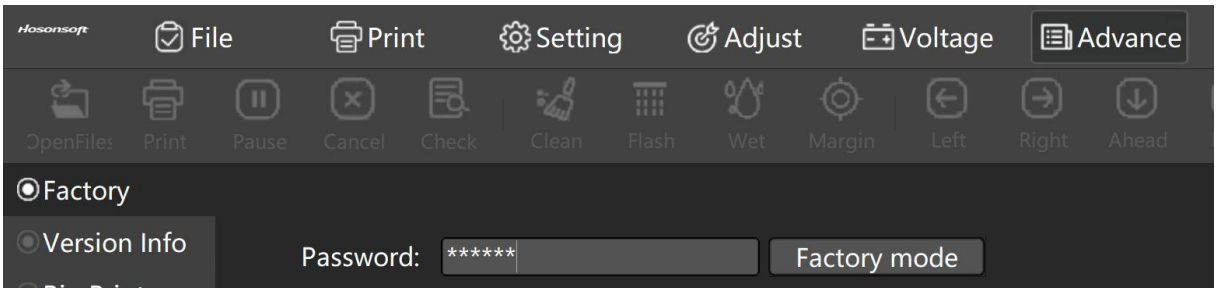
Note: The scraper and ink felt cap must be kept clean without residual ink. If the residual ink causes agglomeration, it will directly damage the print head.

10.6 Print head cleaning and maintenance

1. Cleaning and maintenance of print heads using paint ink: When the print head is installed for the first time, use the factory-specific filler to clean the pipeline, and then use the corresponding cleaning solution to clean.
2. Make sure that only one type of ink is used for the print head, and cannot be mixed, otherwise the print head will be blocked, and the factory will not be responsible for it.
3. If the print head is not used for a long time, it needs to be cleaned and moisturized with a cleaning solution and ensure that it does not dry for a long time.

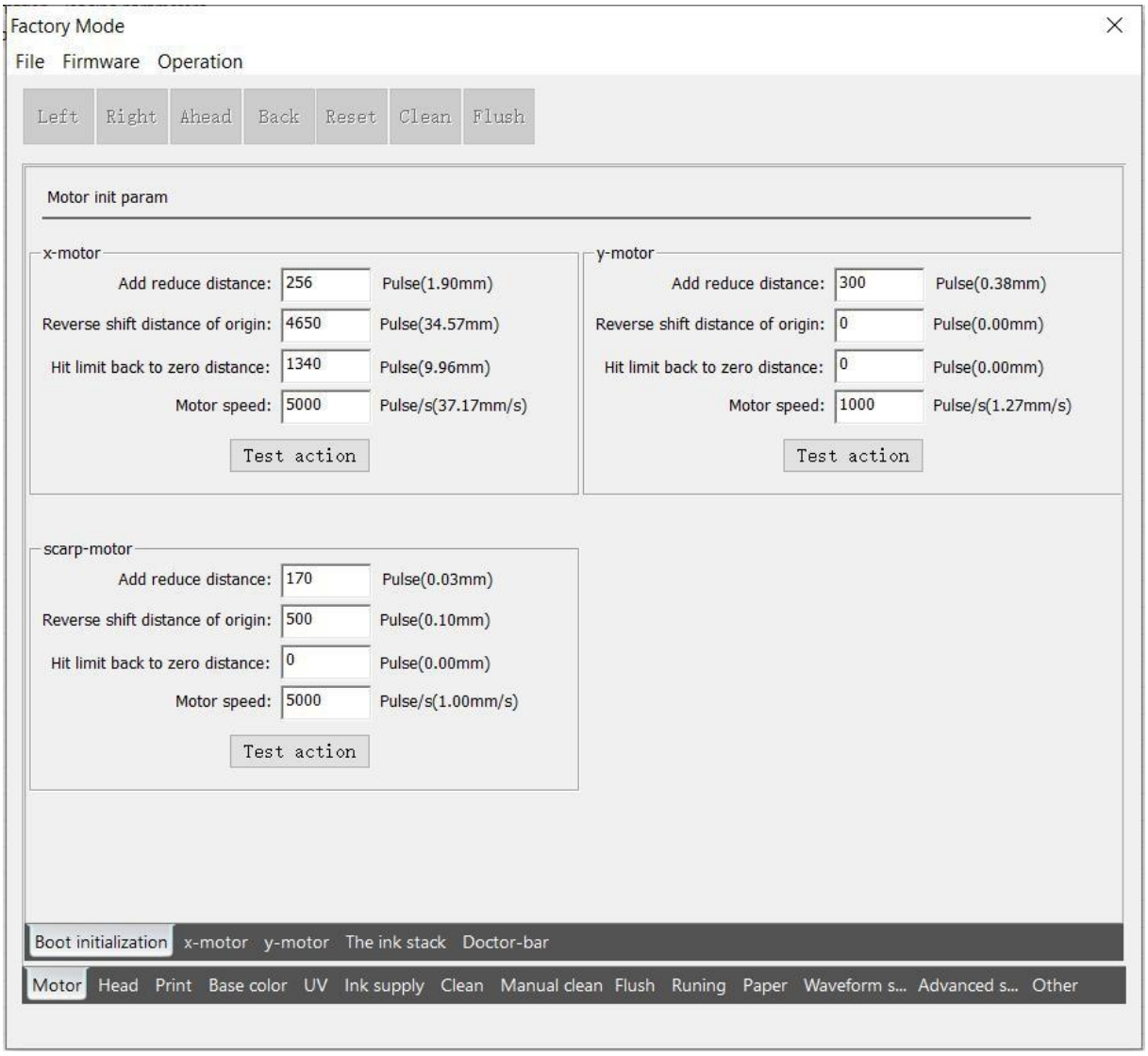
XI. Factory mode

11.1 Enter factory mode



In the advanced factory settings, press "Ctrl+F12 ", enter the password " 222222 " to enter.

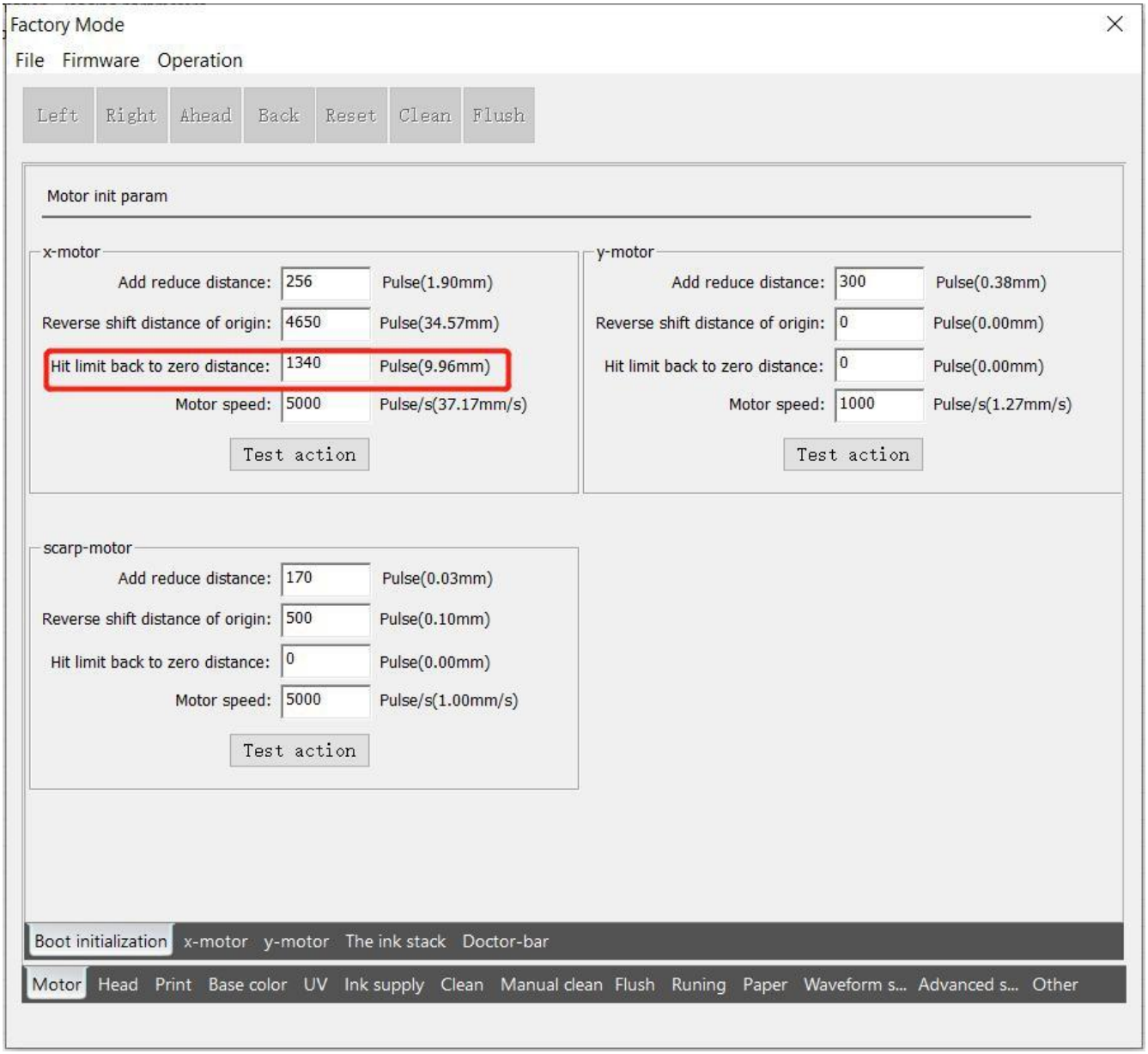
11.2 Factory mode description



Action bar	Name	Function
Document	Download Data	Load parameters from board
	Save	Save parameters to the motherboard
	Restore back to factory settings	Restore the factory parameters set by the factory
	Quit	Exit advanced mode
Firmware	Importfirmware configuration	Import the firmware configuration under the matching version *bsfx
	Export firmware configuration	Export the currently used firmware configuration *bsfx
	Importfirmware parameters	Import the firmware parameters under the matching version *xtfx
	Export firmware parameters	Export the currently used firmware parameters *xtfx
	Import wave files	Import the corresponding wave file *waf
Operate	Initialize	The system continues to initialize
	Reset	X-axis reset to the origin

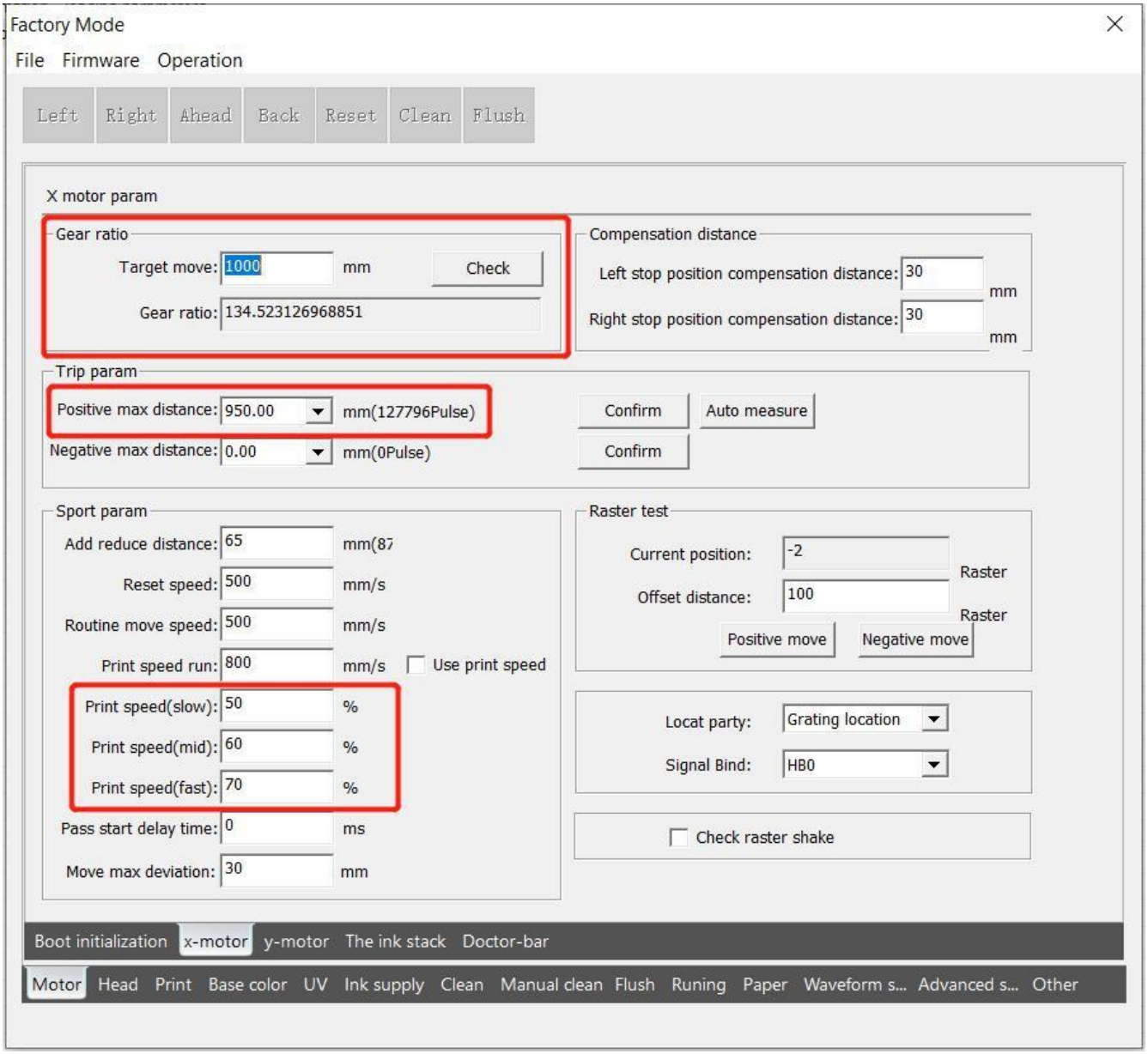
The control bar can perform trolley motion operation, flash spray operation (this flash spray is click to perform flash spray, not limited by the platform position), no cleaning function.

11.2.1 Boot initialization



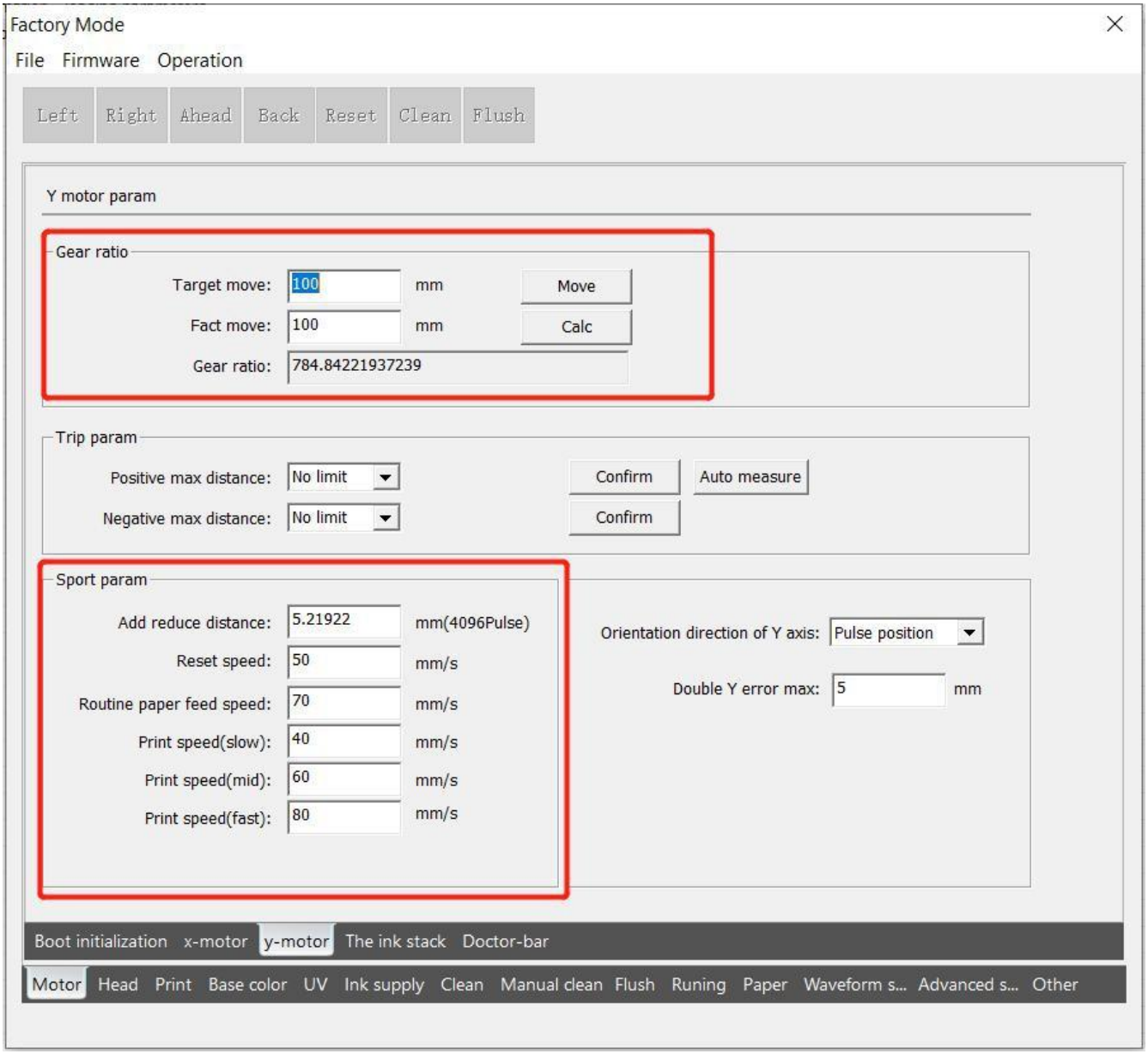
It should be noted that the return to zero distance after hitting the limit is the way to confirm the origin position of the trolley. If it is found that the print head and the ink stack cap are not aligned in the X direction, you need to adjust here, Generally, when the origin sensor, origin probe, ink stack cap position or X motor gear ratio change, this value needs to be adjusted accordingly.

11.2.2 X motor



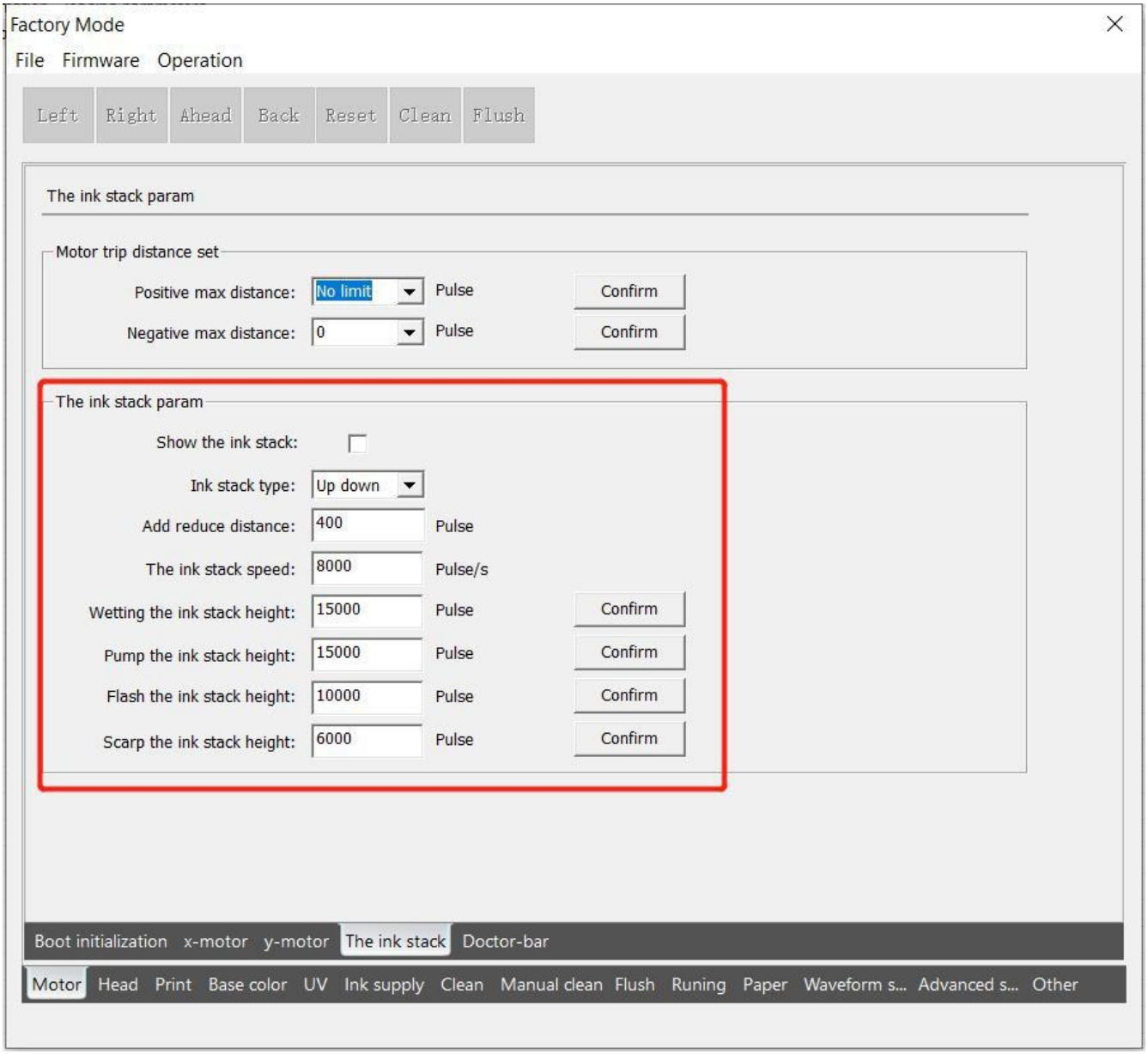
It is necessary to pay attention to the gear ratio setting, the maximum distance in the forward direction and the printing speed. When calibrating the gear ratio, pay attention to the target movement value not too large, generally 300. The farthest forward distance is generally determined to be 10mm from the left anti-collision device, and the printing speed can be adjusted by custom, with a benchmark of 1200mm/s.

11.2.3 Y motor



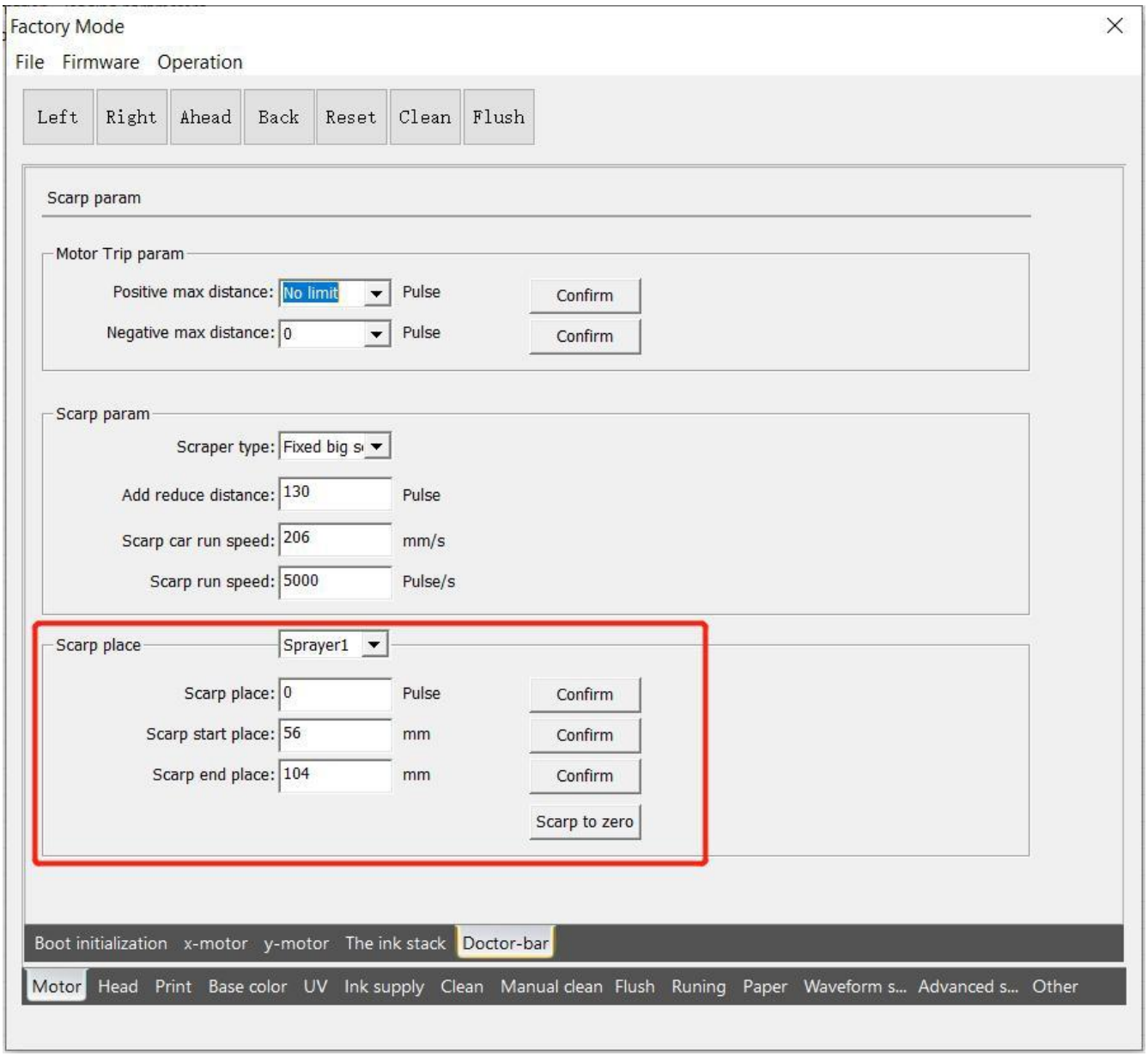
The Y motor setting is basically as shown above. It mainly controls the paper feeding. Generally, it will be fine-tuned in the step calibration in the calibration.

11.2.4 Ink stack



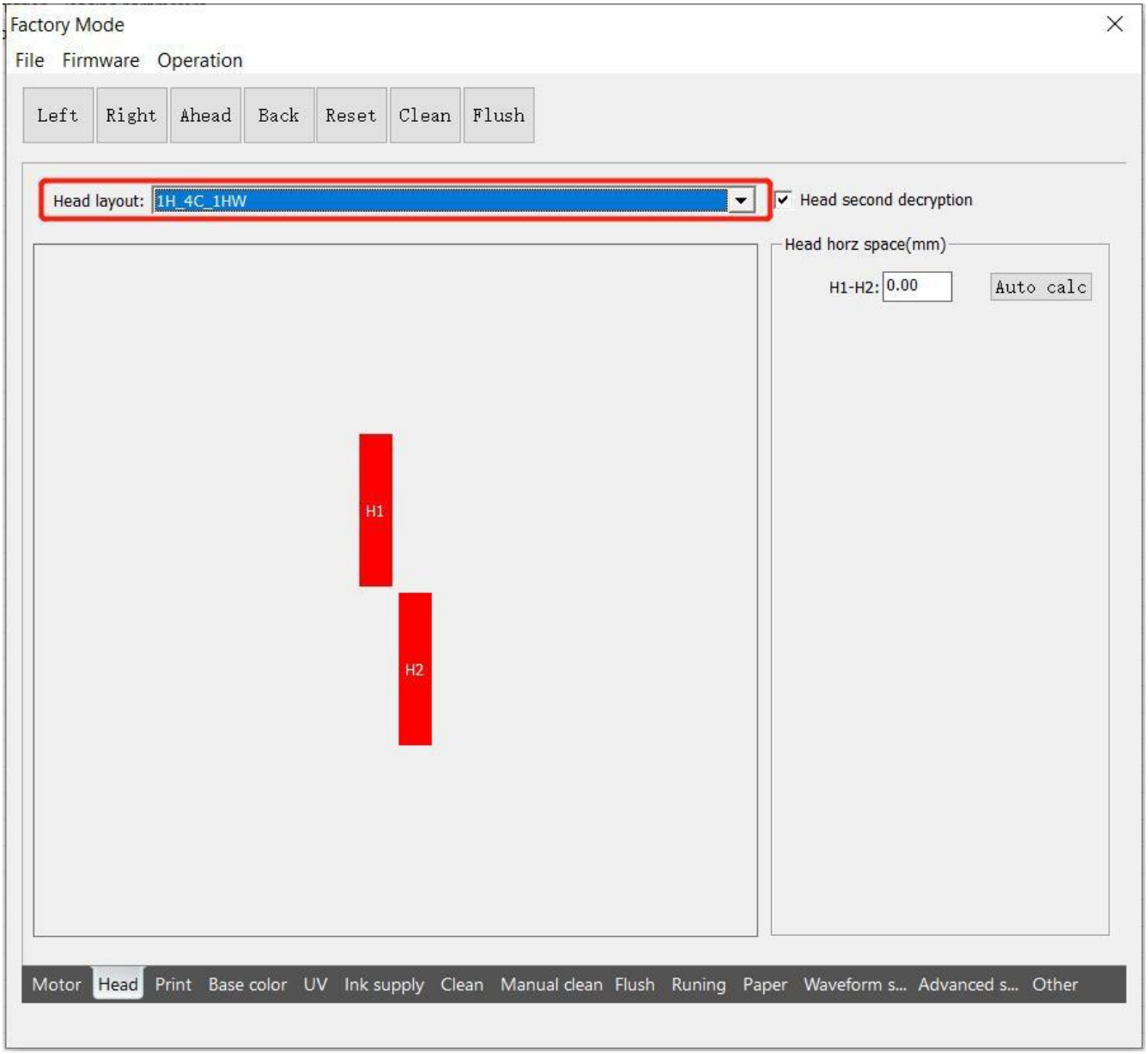
In the ink stack settings, you need to pay attention to the ink stack type in the ink stack parameters, as well as various parameters. If the parameter settings are unreasonable, it may directly affect the cleaning effect and normal printing.

11.2.5 Blade



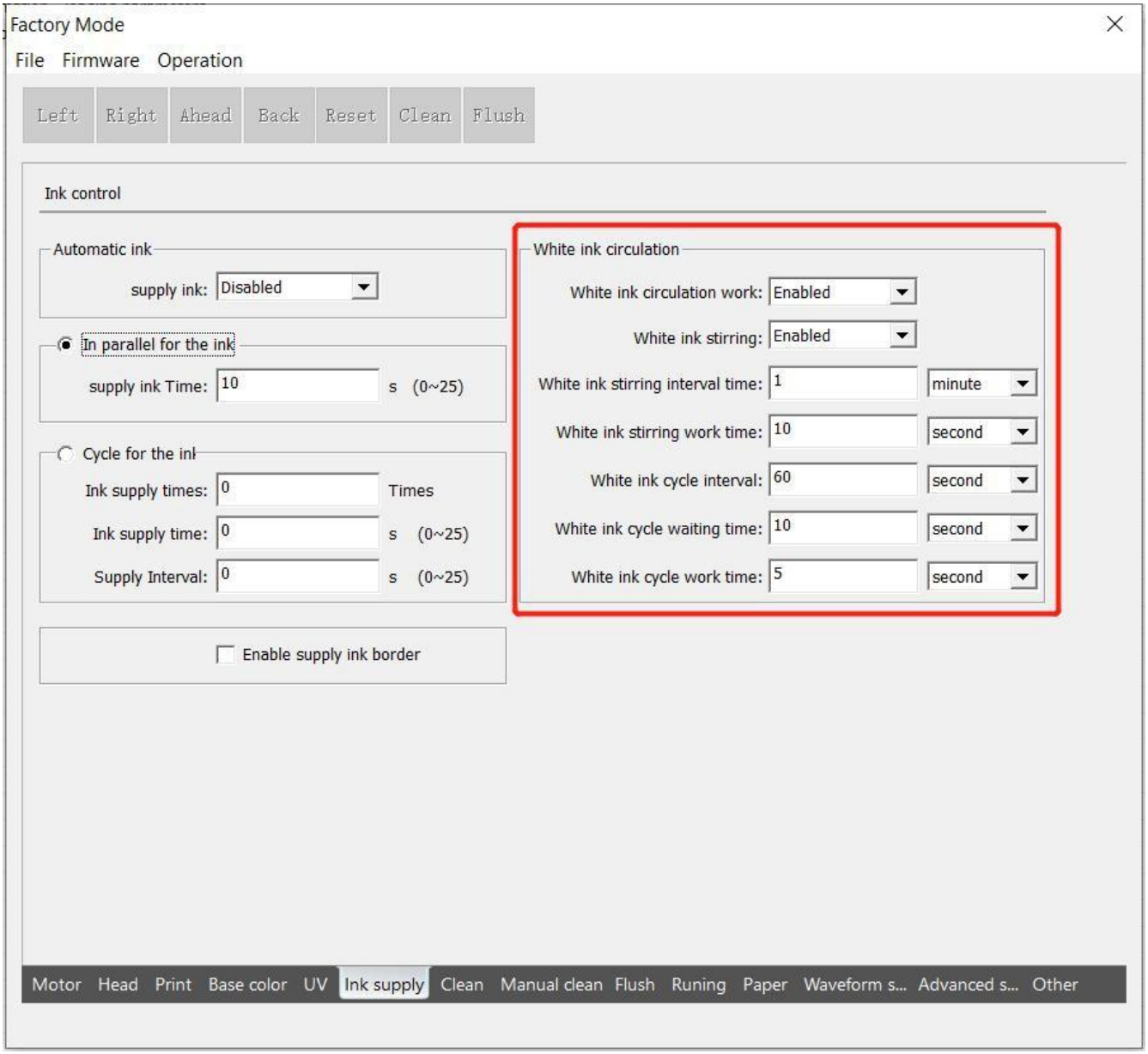
The scraper needs to pay attention to the correct start and end positions of the scraping ink to ensure that the scraper can correctly scrape the residual ink on the surface of the print head after cleanin

11.2.6 Print head combination



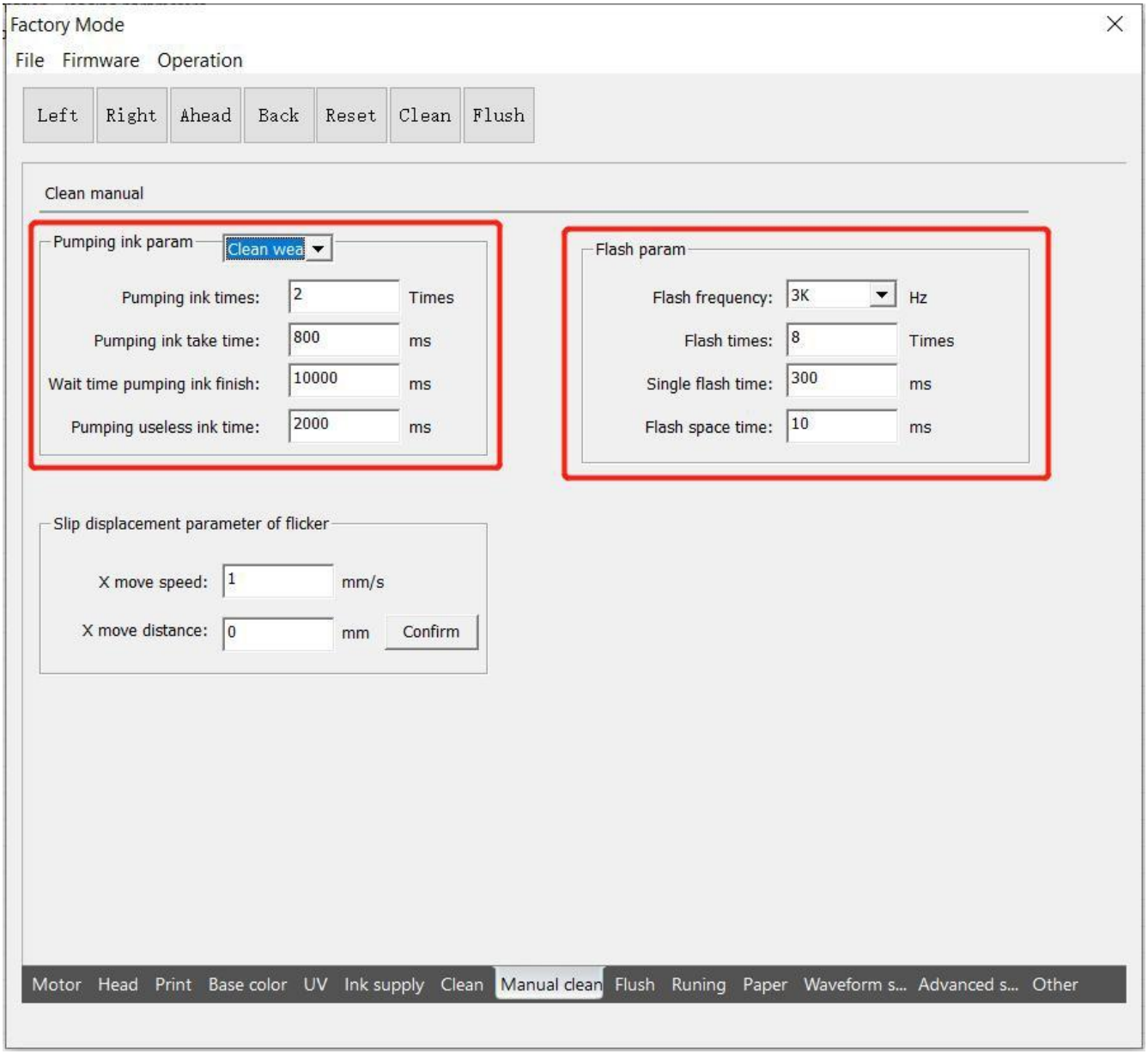
Select 1H_4C_1HW, which means that one print head is loaded with 4 colors of color ink, and one print head is loaded with white ink.

11.2.7 Ink supply



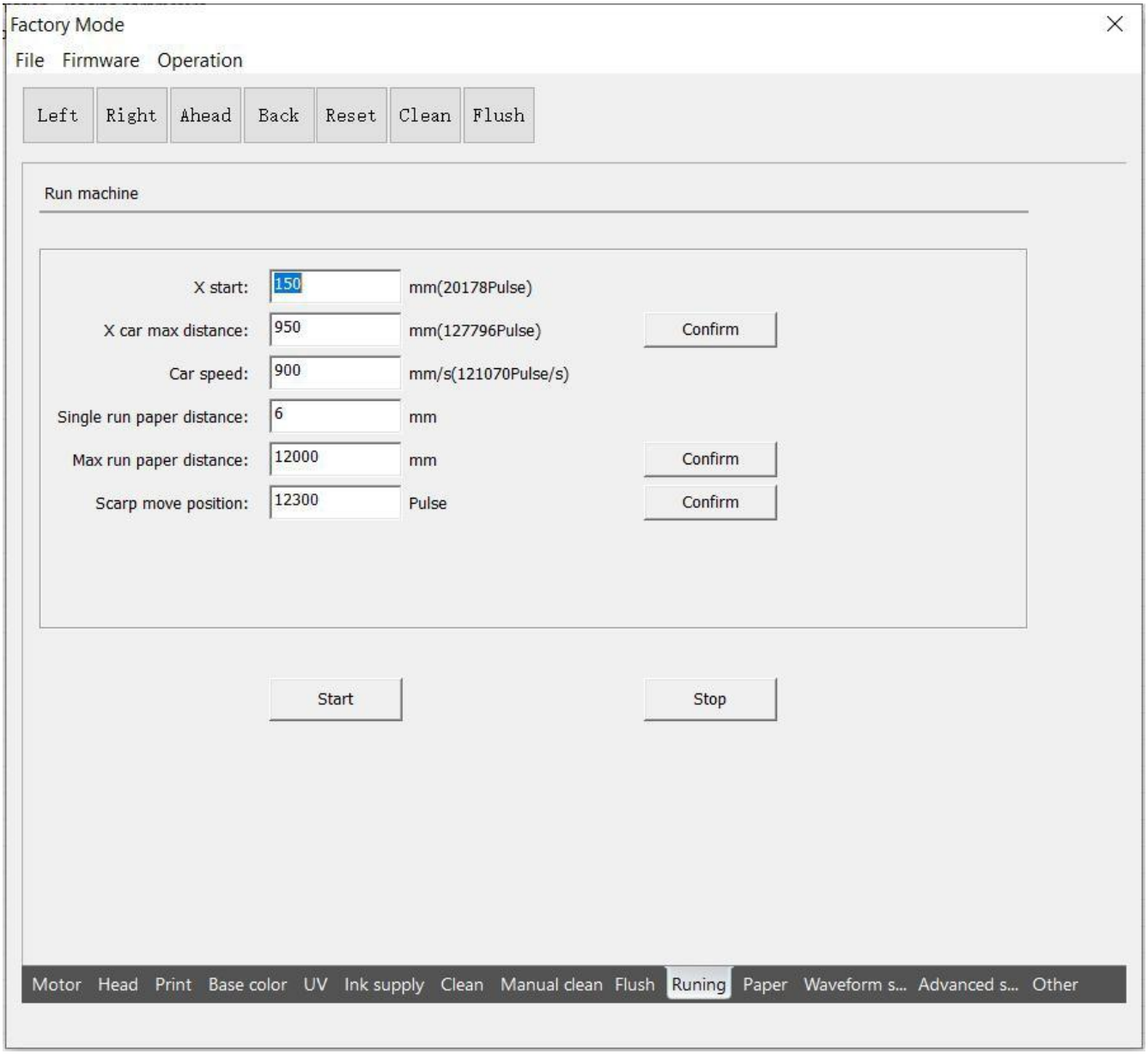
This part mainly controls the circulation and stirring of white ink. The waiting time of white ink circulation refers to how long it waits after the trolley is reset and then starts white ink circulation.

11.2.8 Manual cleaning



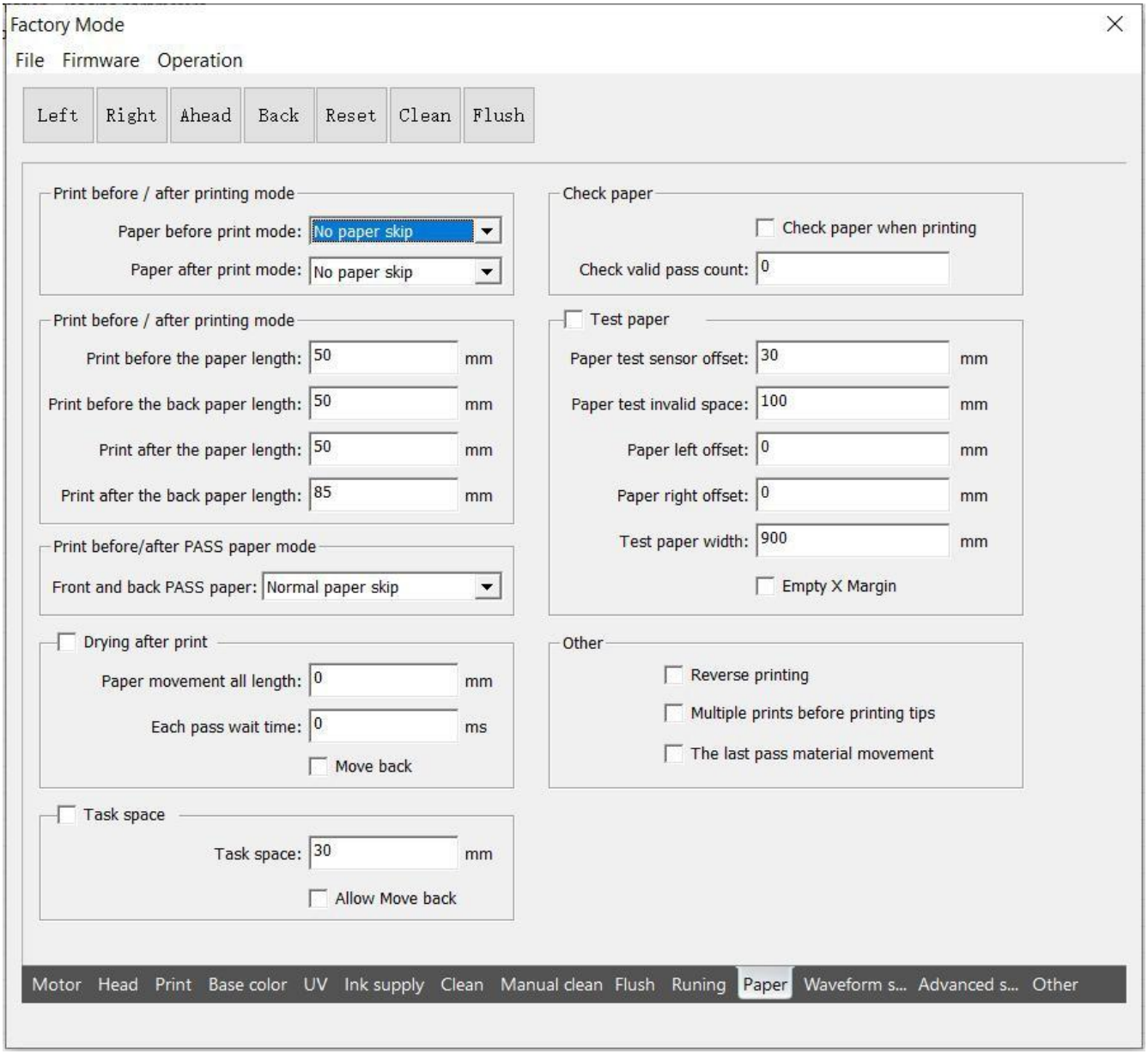
You can customize the number and time of ink extraction for cleaning to define the intensity of cleaning. Flash spraying will be carried out after the end of the print head. If the test strip after cleaning is colored, it may be that the amount of flash spraying is not enough.

11.2.9 Run machine



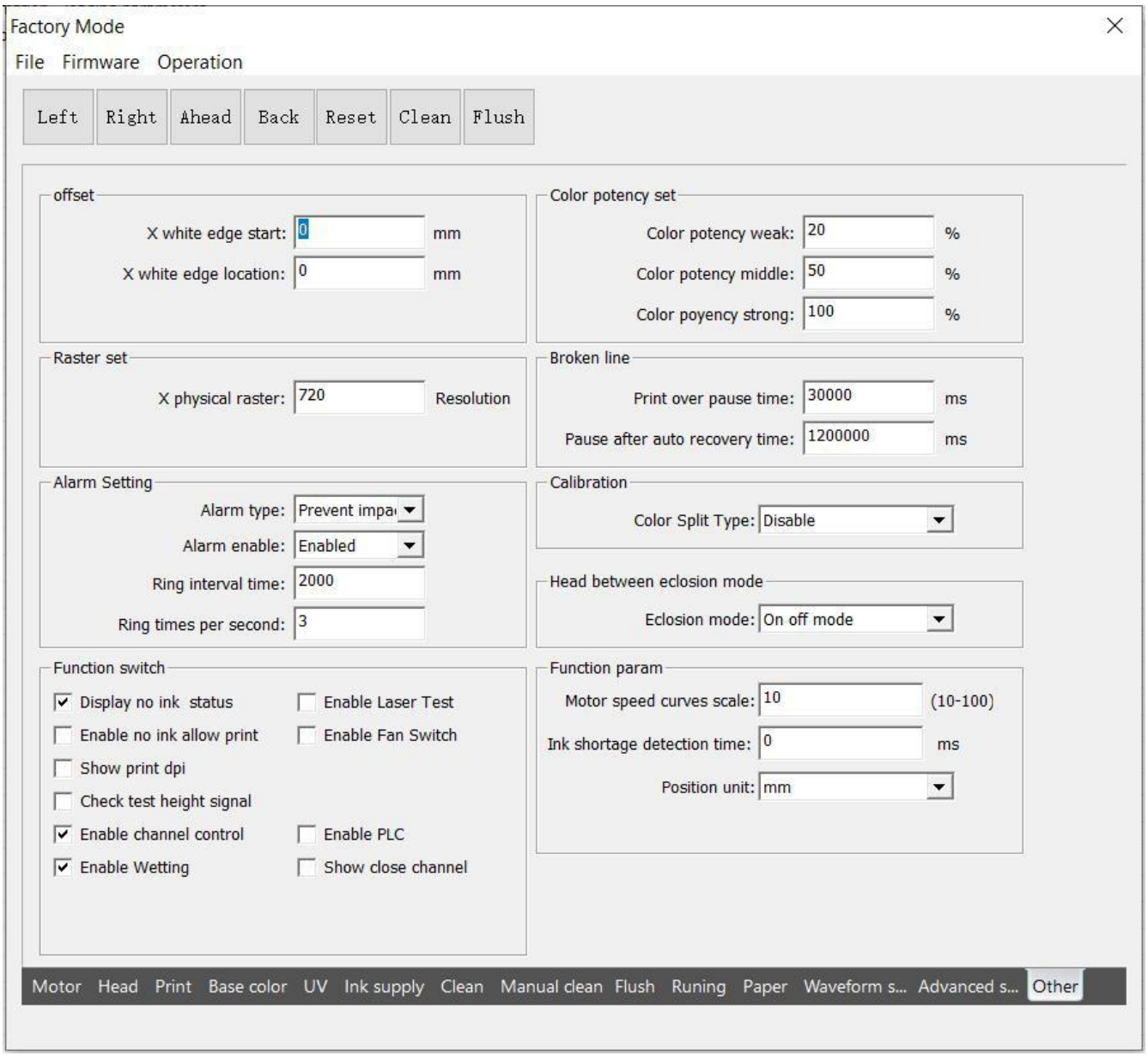
Generally used for inspection before leaving the factory, no detailed description is given.

11.2.10 Paper feeds



The paper feeds or returns before and after printing, and the settings can be customized according to the actual situation to save paper or facilitate printing.

11.2.11 Other



Mainly pay attention to the offset setting and alarm setting. If the actual printing starting point does not match the set printing starting point, it may be that the starting offset value is not 0. In the event of a car crash but no alarm, it may be that the collision avoidance alarm is disabled.

Note: Incorrect factory mode setting may cause the printer working improperly, such as incorrect paper feeding direction may lead to inability to print pictures correctly, etc. After the factory mode setting is completed, it needs to be saved in the file to take effect.