NC-UV9060MAX

User Manual

Please read the manual carefully before using for reference in the future.

Catalogue

Notice

Please read these instructions before using the machine

1. Machine should not be used by children or the disabled.If necessary,please under the supervision;

2. Please use original supplier's spare parts and ink under instruction;

3. Make sure the power voltage is same as power cable and machine which shown on the Nameplate;

4. Only suitable to be used indoors and it is better to have air conditioning inside the room to keep stable working temperature and humidity;

5. Dismantle the wooden case and the foot cup fixed frame and put it on a stable table before using;

6. Do not use the machine in a environment which has fire,dust and wetness;

7. Do not use the machine in a humid house;

8. Do not put sundries on the machine itself,the printing table and surroundings;

9. Please keep a stable temperature in the working room,do not use the machine where environment over 30 degrees or below 15 degrees;

10. Do not use any broken cable to provide electricity;

11. If power supply is broken,please stop to using the machine;

12. Power off machine when you clean or fix the machine;

13. Please use the machine according to local legal policy;

14. Make sure the head not touch anything before sending picture.Height sensor do not work when meets transparent materials;

15. When the machine is working, your eyes will feel sick if staring at the UV lamp for a long time, it is better to wear ultraviolet-proof glasses;

16. When needed to move the machine,at least require 4 people to lift.Do not move the machine together with other machine parts. And remember to take take off the power charger when move the machine;

17. When add ink,you may touch ink tube,ink bottle and ink cap and some other parts,please protect yourself in advance;

18. The table which used to put the machine should be make sure its stability to place the machine and protect machine from shaking during working;

19. Do not use UV LED lamp for a long time;

20. Make sure the machine is normally grounded;

21. Do not use the machine in thunderstorm day in order to avoid lightning strikes;

22. If your ink is not come from Nocai,after sale service will not be provided

Machine analysis

1.1 Graphic analysis of the front of the machine

①Suction button: Control the suction for platform and beam

②UV lamp key: open UV lamp

③Power-on key: turn on/off the printer

④Key panel: Display panle for operate on

⑤Waste ink cartridge: Store the waste ink

⑥Printing cart: Used for printing and LED curing

⑦Ink cartridge: Used for store and add ink

⑧Alarm lamp of ink cartridge: indicates that the cartridge is lack of ink.

⑨Machine Beam: Structures supporting trolley movement and trolley lifting and lowering

⑩Printig platform： Place the material while printing
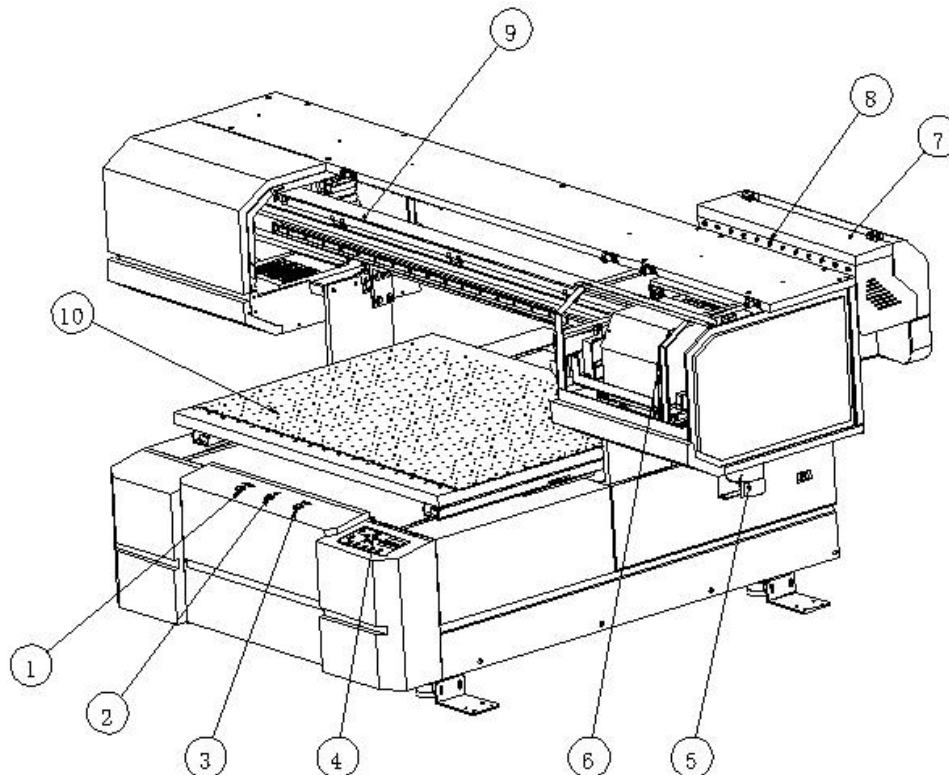
1.2 Graphic analysis of the back of the machine

①Peristaltic pump： Pump waste ink on the cap top

②Machine mainboard： Nozzle plate supply power, X and Y axis motor control signal

③MAX Chassis passive wheel： Y axis motor driven wheel

④Ball bearing screw： Change the rotate motion into linear motion

⑤Motor driving gear： Y axis motor-driven wheel

⑥Platform motor： Control the movement of platform

⑦Plug for power supply： Used for connect 220V power cable

⑧Switch ： For turning machine power on and off

⑨Suction fan on the platform： Adsorption platform print materials
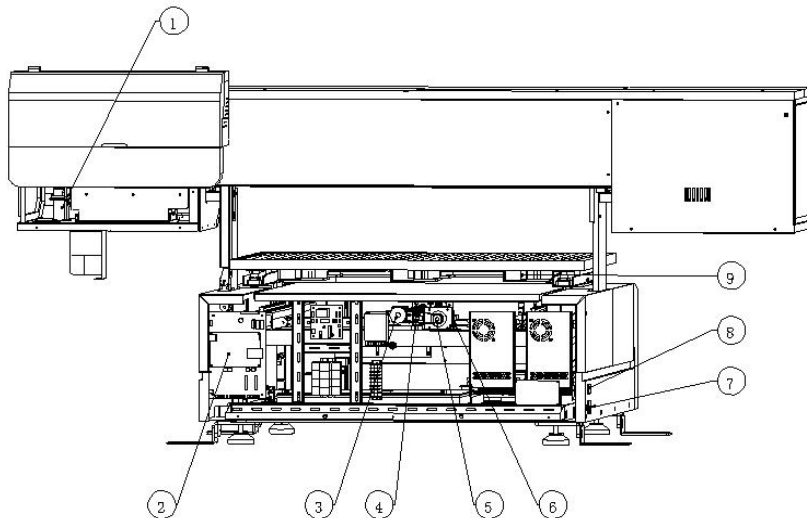
1.3 Graphic analysis of ink station and wiper

①Ink Station Lower Limit Sensor： Control the rise and decline of ink station.

②Ink Station Route Adjustment Sheet Metal: Confirm the decline position of ink station.

③Ink Station Leakage Hopper： Accept the ink absorbed from cap top.

④Cap top： Used for maintain printhead

⑤Ink station motor： Control the rise and decline of ink station
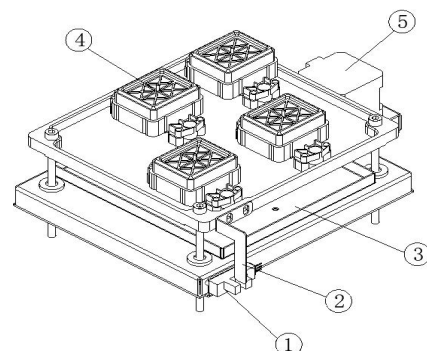
⑥Wiper：Clean the ink residue on the printhead surface after cleaning the printhead.

⑦Wiper motor：Control the motion of wiper.

⑧Wiper sensor：Control the motion of wiper

⑨Response sheet metal of wiper：Confirm the movement position of wiper
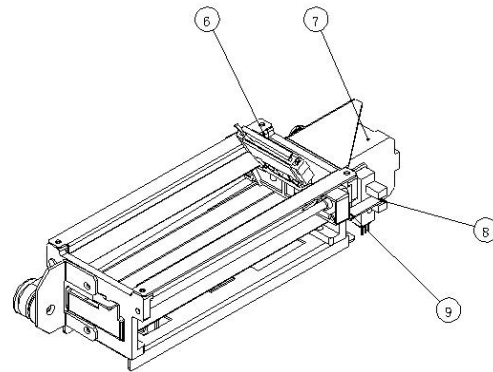
1.4 Graphic analysis of the key panel

①Beam Rising Button：Beam rising

②Beam declining button：Beam declining

③Left shift key of cart：Cart moves to the left

④Front shift key of platform：Platform moves to the front

⑤Back shift key of platform：Platform moves to the back

⑥Right shift key of cart：Printing cart moves to the right and "Maintenance equipment"shortcut key

⑦Display plate：Display data

⑧Suction button switch：Suction platform fan button

⑨Function menu key

⑩Test shortcut key：Nozzle test shortcut key

⑪Print pause key：Cleaning shortcut key

⑫Exit key of set up：Exit key of menu

⑬Setup enter key：Enter key of menu settings
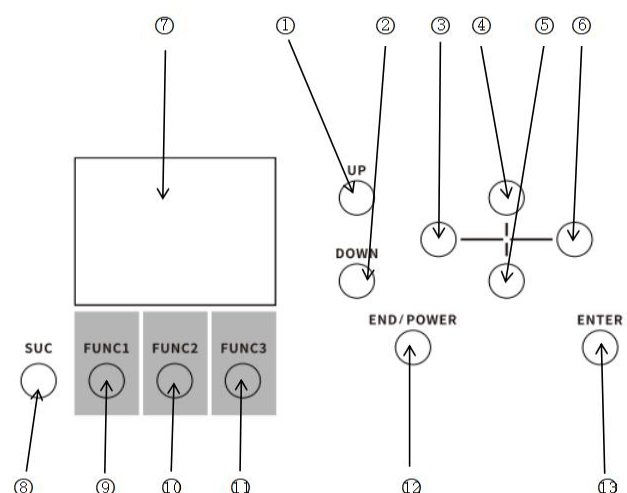
1.5 Graphic analysis of the printing cart

①Printhead：Used for printing and inking

②Damper：Ensure continuous supply of ink and filter impurities

③Anti-collision device for ink cart：Protect printhead

④UV lamp：Accelerate ink curing

⑤Visual shot：Visual positioning

⑥Circuit board for controlling temperature：Ink cart heating control temperature

⑦Cart board

⑧Heat membrane
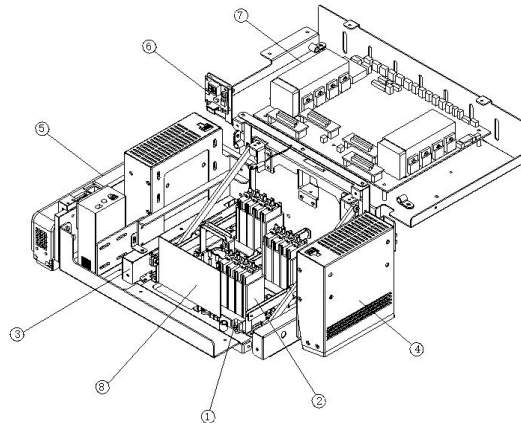
1.6 Graphic analysis of the beam

①Driven gear of beam motor：Driven gear of X axis motor

②Limiting rubber：Ink cart limit

③Ink cart sliding rail：Guiding rail for the ink cart moves to the left and right

④Beam belt ：Ink cart left and right moving parts

⑤Combination wheel for handpiece ：Driven wheel for X axis motor

⑥Beam motor：Make the ink cart move to the left and right

⑦Driving wheel for beam motor：X axis motor power wheel

⑧Original site sensor for cart：Initial position limit of ink cart

⑨Encoder strip：Control X axis precision and size
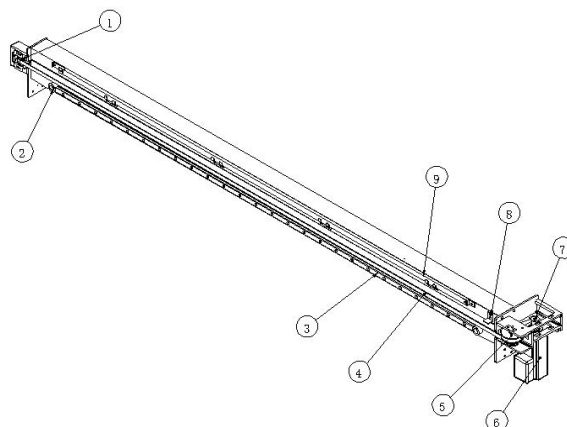
1.7 Graphic analysis of the right side of the machine

①Upper restrictor sensor of beam：The machine rises restrictor

②Lower restrictor sensor of beam：The machine declines restrictor

③Route switch：Dual restrictor

④Z axis screw：Control the rise and decline of side plate

⑤Down slide：Upper and lower lifting rails

⑥Lift side plate and top plate：Head lift support
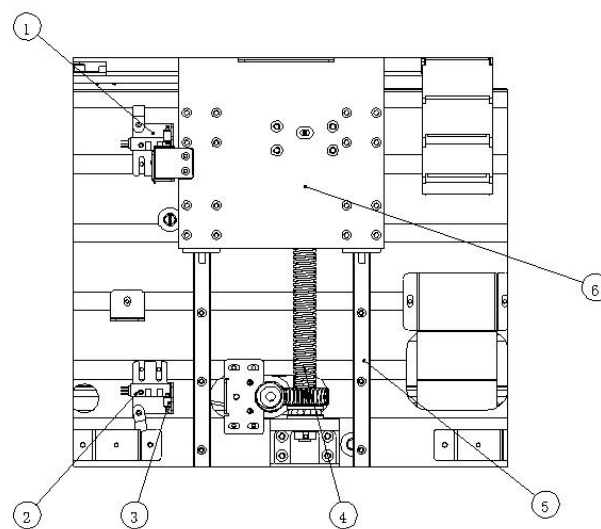
1.8 Graphic analysia of the cartridge

①Cover plate of ink cartridge：Protective plate of ink cartridge

②Cover for ink storage bottle：Add ink and prevent ink leakage

③Ink bottle with 3 holes：Store the ink

④Butterfly filter ：Filter the impurities of ink
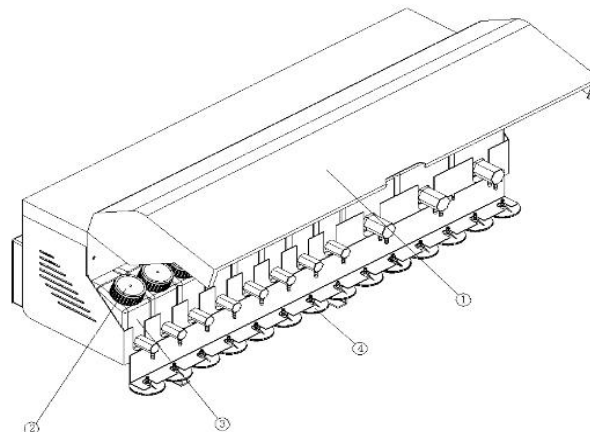
1.9 Graphic analysis of visual positioning

①Visual lens support plate: Fixed support and rotation adjustment the visual lens

②Visual lens lifting adjustment plate: visual lens lifting adjustment

③Visual stiffeners: Adjust the lens to the left and right

④The visual lens is positioned in a fixed position

⑤The visual lens has been upgraded to adjust the position

⑥The visual lens has been lowered to adjust the position

⑦The visual lens has been rotated to adjust the position

⑧The visual lens has been moved to left and right to adjust the position
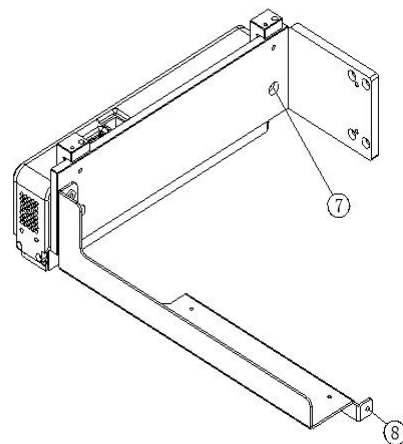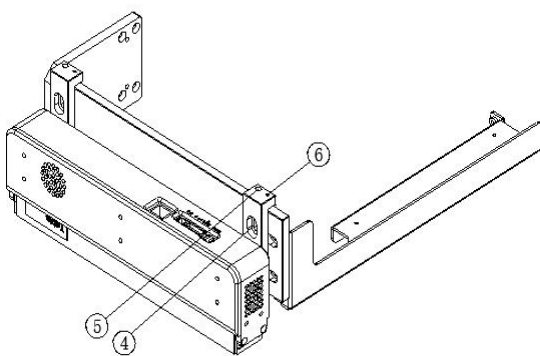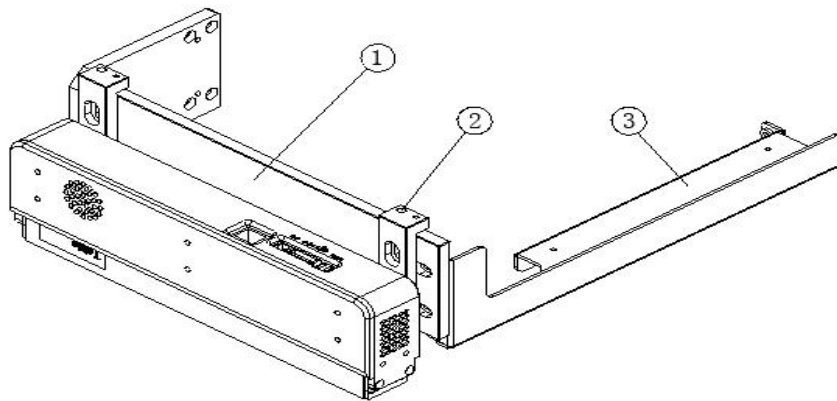
Initialization confirmation

2.1 Preparation

Make sure that the machine is well positioned and looks good, and that the local power supply voltage (220V or 110V) matches the machine.

2.2 Assure operate-on normal

The machine turns on the power supply. Turn on the main power switch at the back of the machine, please click the boot button on the front panel, then the machine starts and performs the initialization action.

he complete procedure is as follows:

[The ink station descends to its lower-limit position→the wiper moves forward , then turns backward to the back-limit position→the cart moves left for a small segment→the platform moves forward for a small segment, then turns backward to the back-limit →the cart moves right to the limit position, then turns left to move directly above the ink station (position of sealing head)→ the ink station seal the head→OK]

2.3 Confirm that the motion is normal

【Connect the computer and the machine with the optical fiber →open the driving software→ online is normal→control the left, right and front and back inside the driver, Z-axis control up and down→the machine can feedback normally 】

（More instructions for online driving software are described following）

Add ink

1.Follow the tips to add the corresponding ink as the picture on the right side.

2.In order to prevent the ink from leaking out and contaminating the shell sheet metal when adding the ink protective measures need to be taken The bottle mouth can be wrapped with paper. Tighten the ink bottle after adding ink.

3.Then add ink manually, as is shown in the picture：
Click right button while under "Standby", enter the device maintenance to find "add ink manually ", click the "Enter" button to add ink
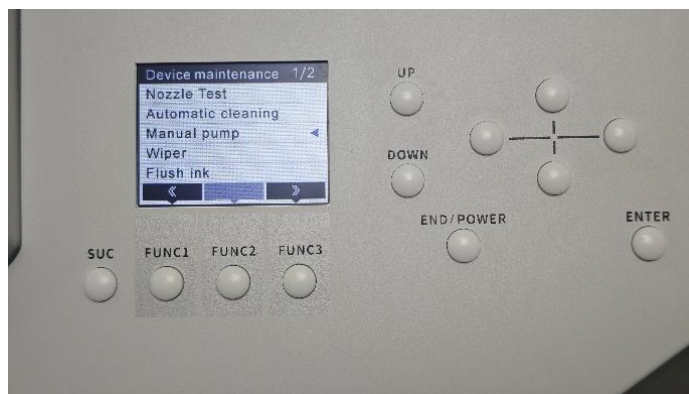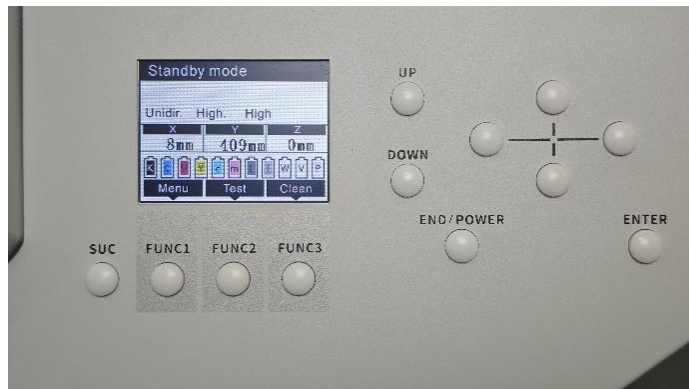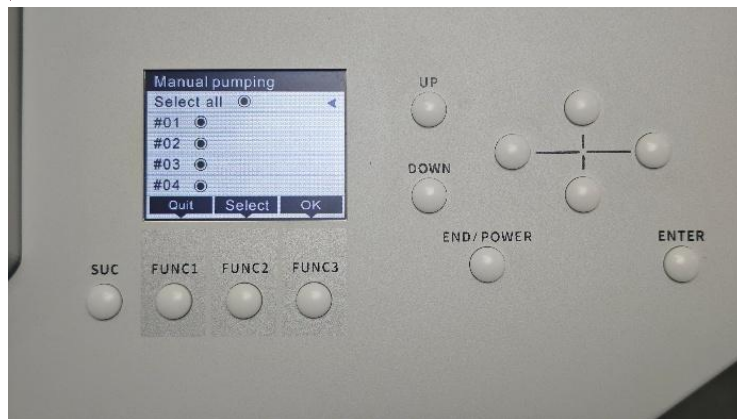
4.Press the confirm button and the machine will start to pump ink. Observe the waste ink bottle until the ink is pumped out to confirm that the ink path is clear，the ink storage is completed, as is shown in the picture:

5.Pay attention that the ink from waste ink bottle flow out of the ink tube smoothly, click the "Exit" button andink-pumping will stop.

6.Then click "Automatic cleaning", click"Enter", select the corresponding printhead, the machine will clean the printhead automatically
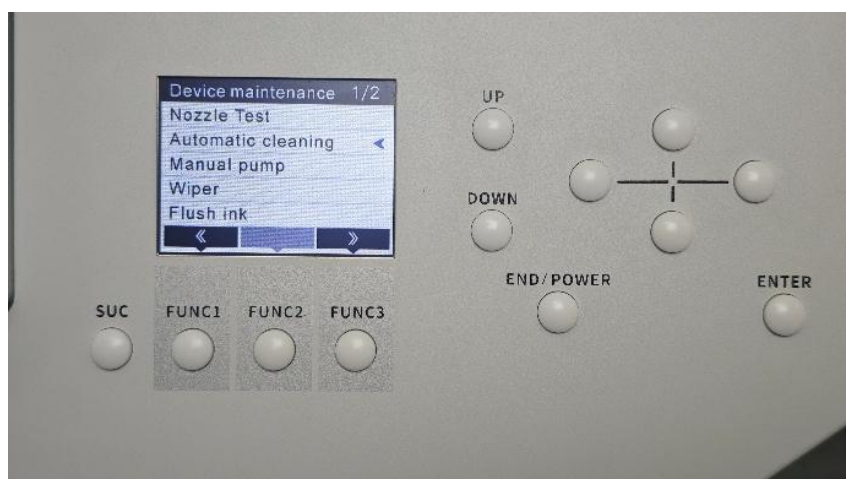
7.The <u>sampling operation</u> is as the following, place a transparent plastic sheet (or other suitable material for observation, such as glass) on the platform and click"Nozzle test" to print the test strip. If there is a lack of color or ink-suspension phenomenon, please continue to clean the printhead until test strip out completely, it means ink installation completed.

Intermittent test strips: ink-suspension，continue to "clean automatically"
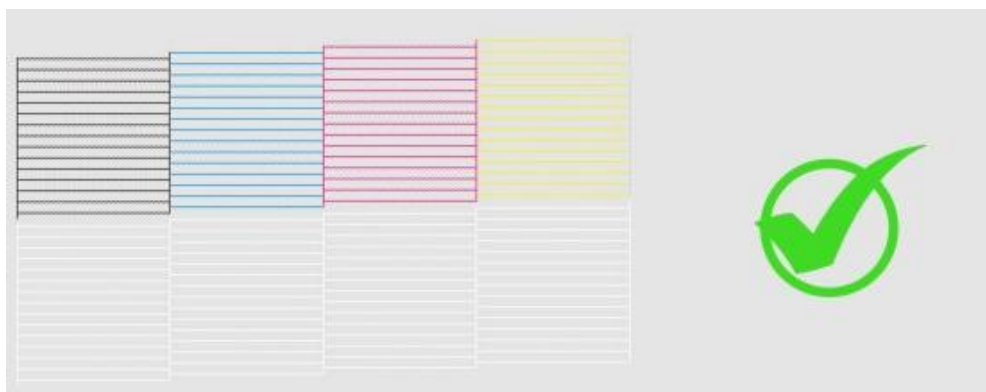
Normal test strip

Install and illustrate the driver

4.1 Computer configure

①System version must be Win7, Win8, or Win10 on a 64-bit system. RAM: larger than 4GB; Hard disk: greater than 250GB.

②Computer must be equipped with Gigabit network card and gigabit network cable, only in this way software can be normal online.

③IPv4 address is set to be obtained automatically

4.2 Install the runtime environment software

Open the UV9060MAX device file on your computer (download it from the official website or have it sent by after-sales technician) and find vcredist_x64.exe and WinPcap_4_1_3.exe.

4.3 Install vcredist_x64.exe

Find vcredist_x64.exe , operate with right-click as an administrator, choose "Agree" and click Install in turn, just as the following：

Choose the"I agree with permissive conditions", click Install
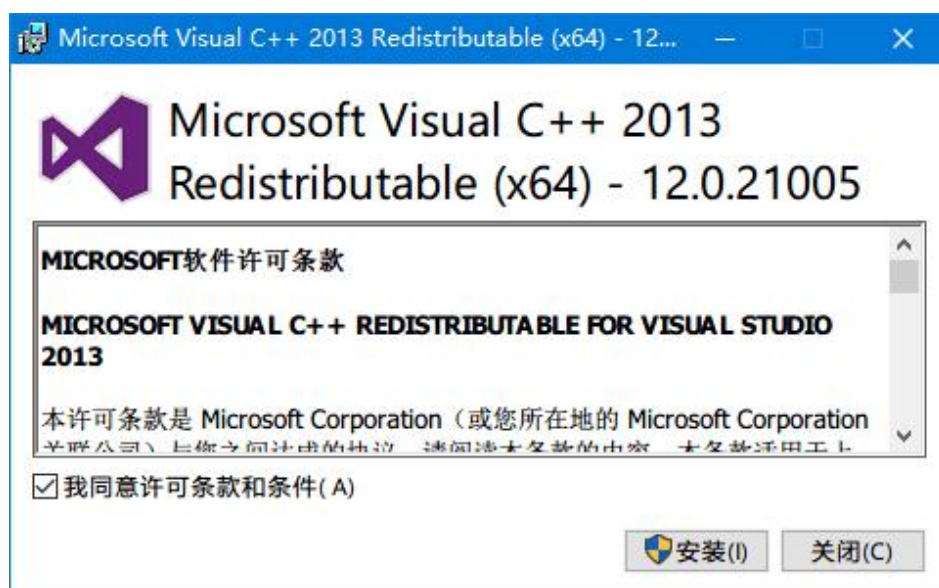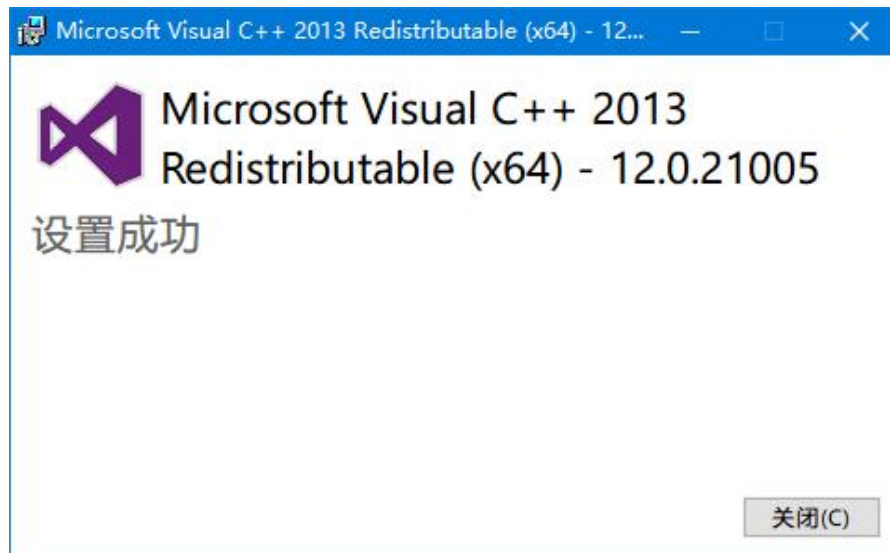
Pop-up Window will hint that the setting is successful, click "Close", then it is completed.

4.4 Install WinPcap_4_1_3.exe

Find WinPcap_4_1_3.exe ， operate with right-click as an administrator， just as the following：

①Next   As shown in the picture， Click Next
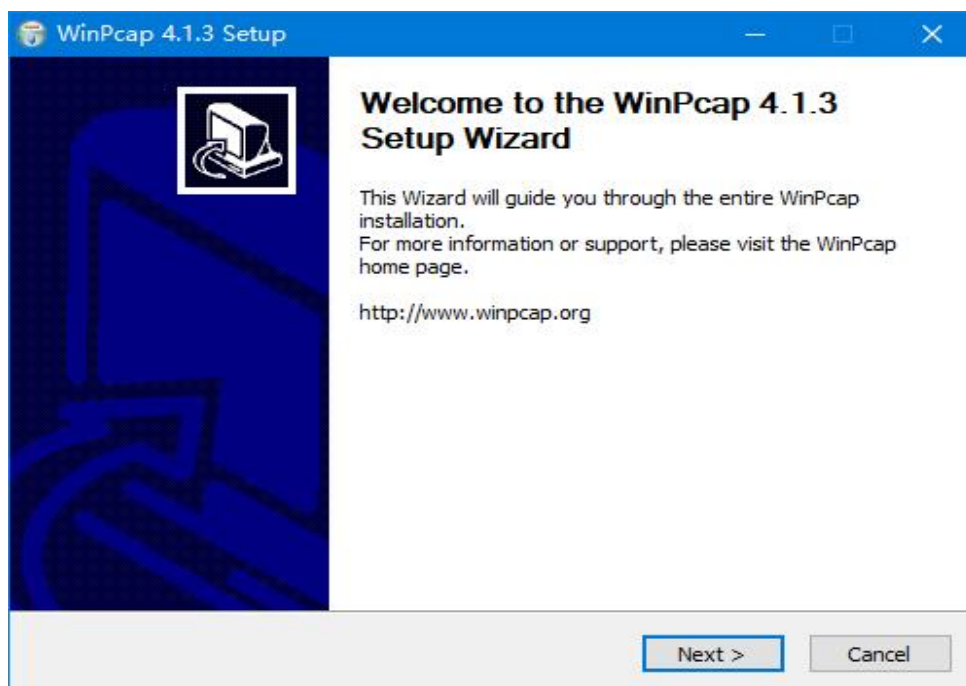
②Click "I Agree"
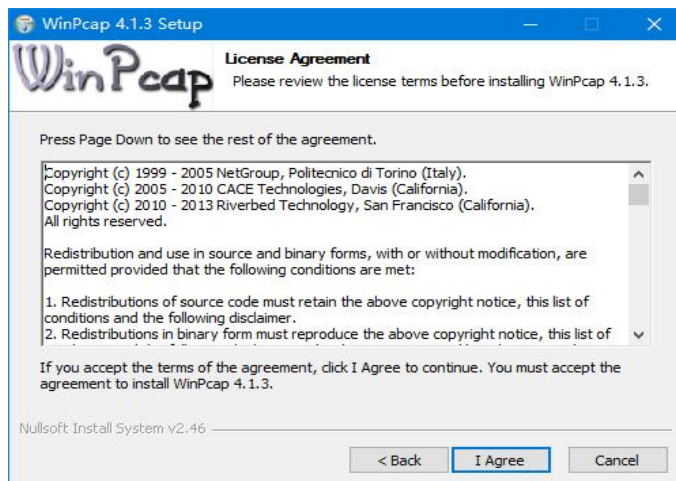
③Install Click Install
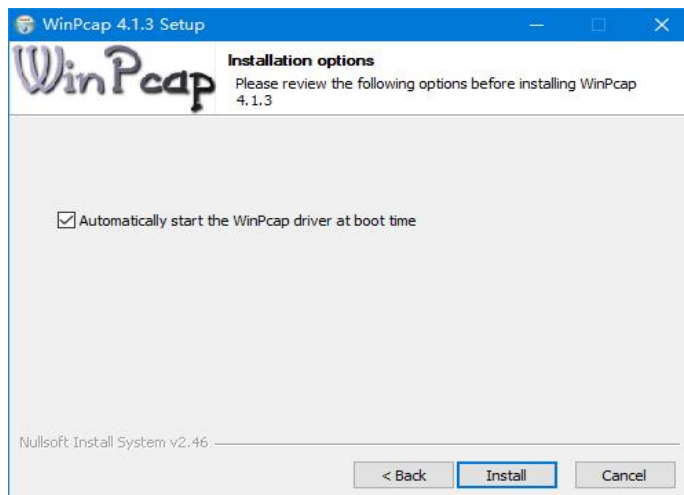
④Click Finish,installation is completed.
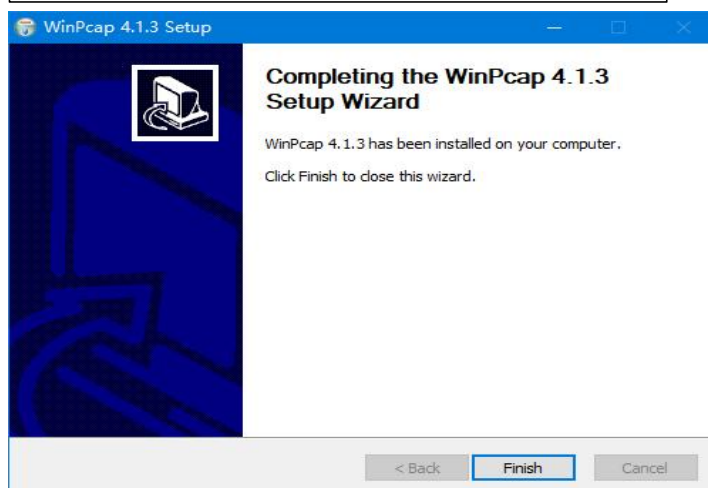
4.5 Install the driver

Connect the printer to the computer by the network cable included in the standard bag and find the driver software of Nuocai

【NC_MAX_I3200(3-4H)_ATools_V203.2GL_20241015.exe】 (download it from the official website or have it sent by after-sales technician) Double-click

【NC_MAX_I3200(3-4H)_ATools_V203.2GL_20241015.exe】 The picture is as follows, then click the button at the left corner.

Display online(successful), just as the following:
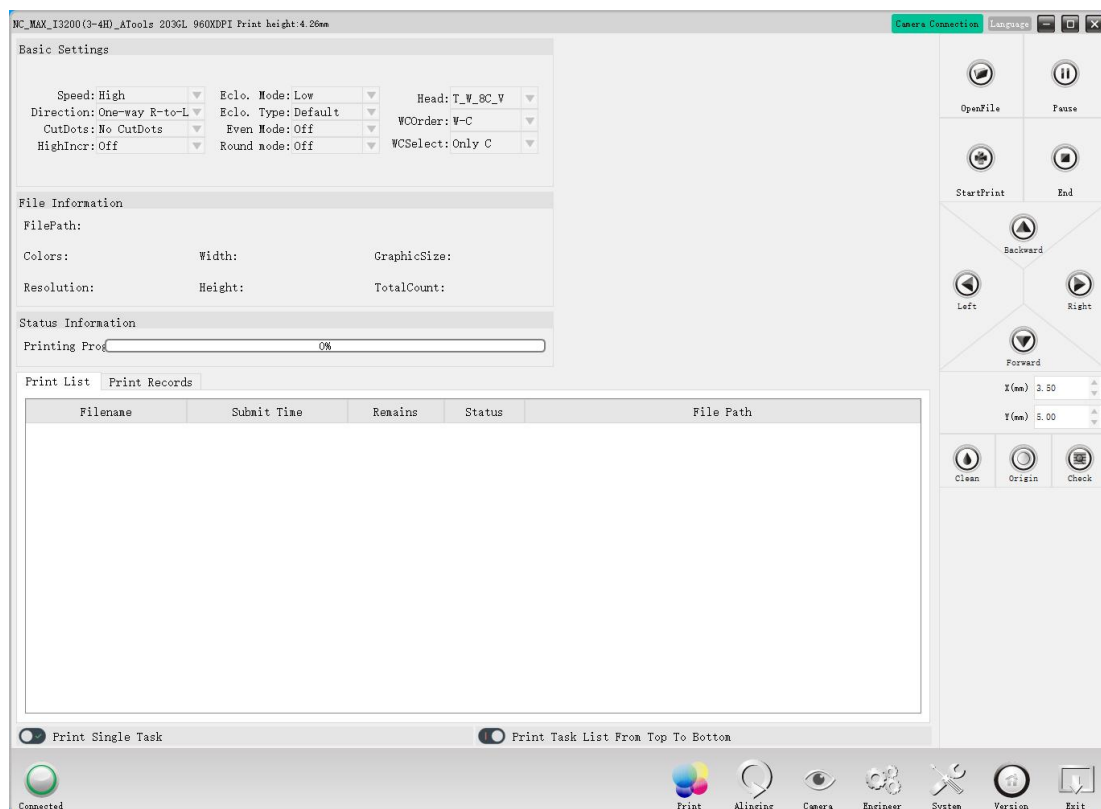
Introduction to driver settings

5.1 Classification of function

The following will introduce the details, as shown below:

There are four parts: the software display interface is divided into title column, menu display area, function shortcut click, and menu column.
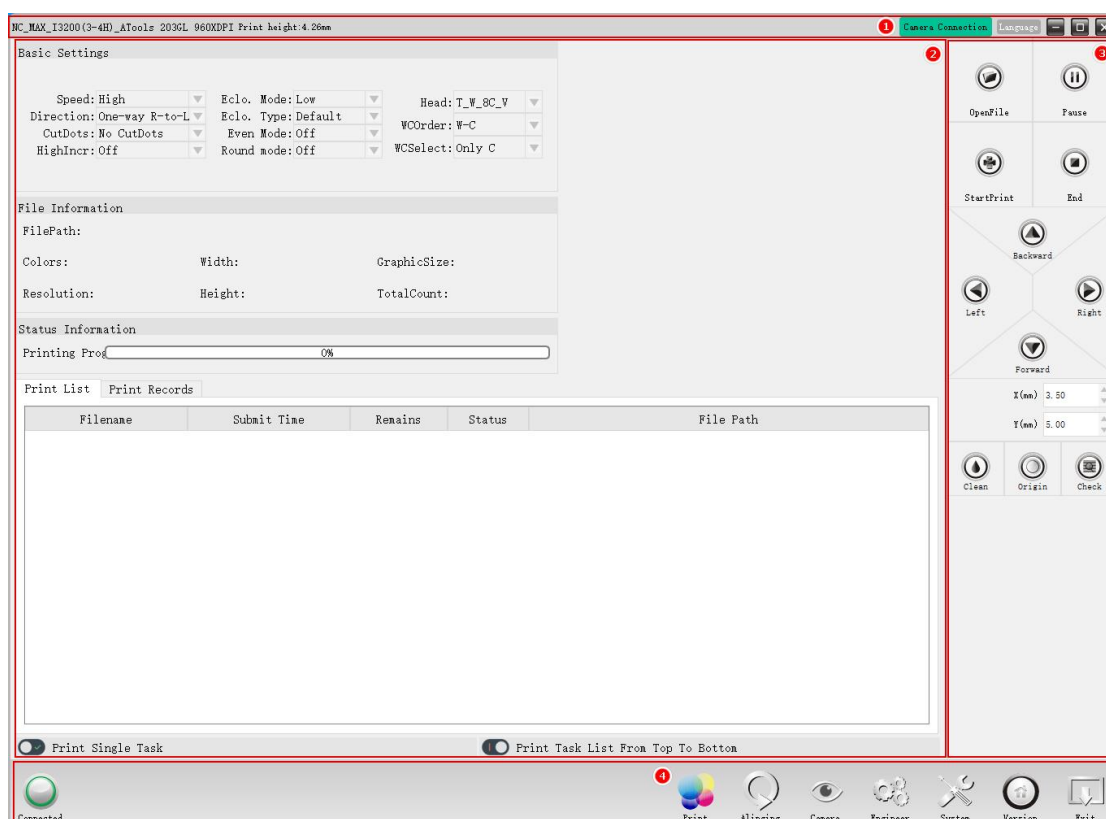
①Title column：Display content from left to right: the driver name (including nozzle model, quantity, version number and printing accuracy), Chinese and English interface [Laguage] , hide, enlarge, exit shortcut icon, etc..

②Menu display area：display five parts: basic settings of printing, file information, status information, file list and file preview.

③Function shortcut key：The right side of driver is fixed to display the commonly used function area. Including open
the file, start printing; move the button to the front, back, left and right; settings of X and Y movement white edge ; cleaning, nozzle back to zero, nozzle detection and other commonly used functional areas.

④Menu column： Left: online button; Right: printing control, callibration and guidance, engineering pattern, system maintenance, version information and exit function.

Menu column includes the following icons :printing control, callibration and guidance, engineering pattern, system maintenance, version information and exit function.The details are as following:

5.2 Printing control

The default printing settings are as following:
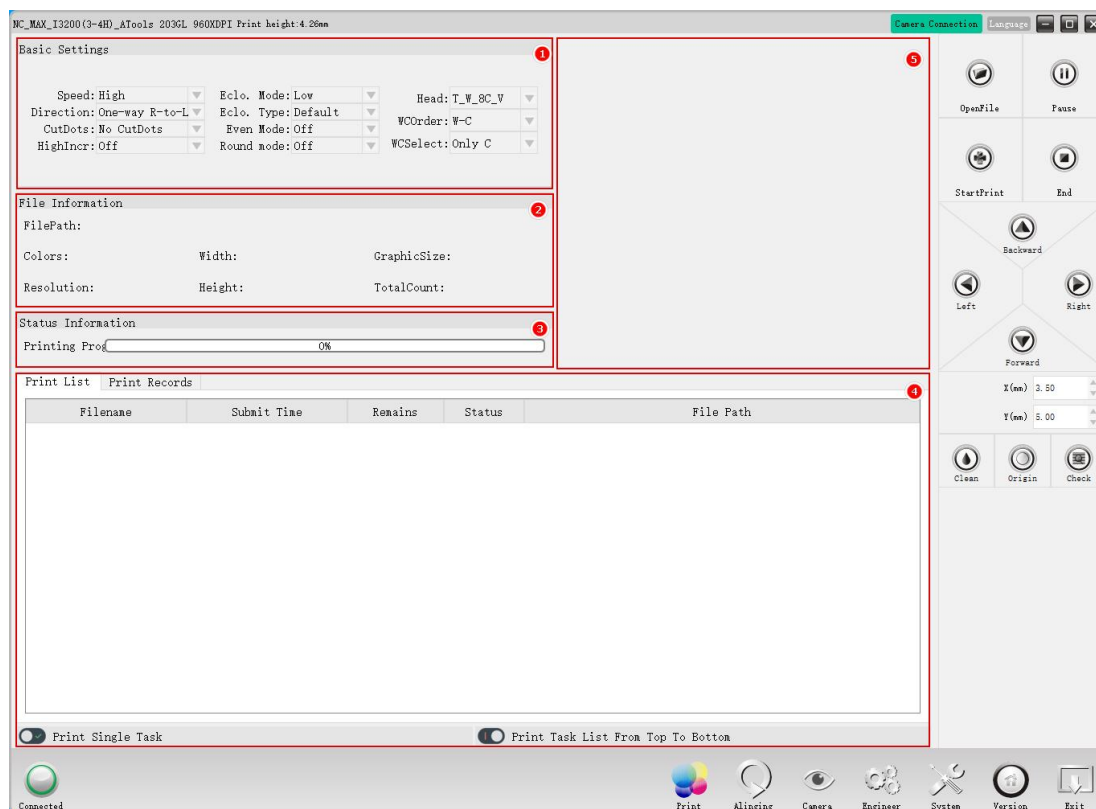
The printing settings are shown above:

①**Basic settings:**

Printing speed： high-precision, low-speed, standard-speed, high-speed; printing speed will get faster in turn. In general, you can choose hign-speed to print;

Printing direction: two-way, one-way from right to left, one-way from left to right;

Eclosion type: default, not optional.

Eclosion： close, low, medium and high. The higher the eclosion, the better the print quality is, but the slower the print speed is.

Order of white and color： white color, color white and color white color.

Setting of white and color： the selected color while printing , if only choose white, the printing process will only print white; if only select color the printing process will only print color, other settings the same as above.

Printhead: printhead should match the printer; If the printer is equipped with 4 printheads, please choose primer, white, 8 color and varnish; if the printer is equipped with 3 printheads, please choose white, 8 color and varnish.

Even patterns: Yes or No.

Interception: there are no interception, 1/2 reservation and 1/4 reservation. Choose not to truncate in flat mode; choose to remain 1/4 in round bottle mode; you can choose to remain 1/2 for the case of low precision.

Round bottle mode: Yes or No.

High increment: Yes or No; 4PASS print in normal mode, approach the effect of 6PASS and eclosion mode.

②**File information:**

File path, number of colors, resolution, width, height, graphics size, total score and other prn/prt information.

③**Status information:**

Display the percentage of the current print progress.

④**Print task window:**

Including file name, submission time, number of copies remaining, status, file path and other file information. You can check the box below to print a single task, or print a classification table in order from top to bottom.

⑤**Prn/prt preview window:**

Displays a preview of the effects of the currently selected task.

5.3 Engineer mode
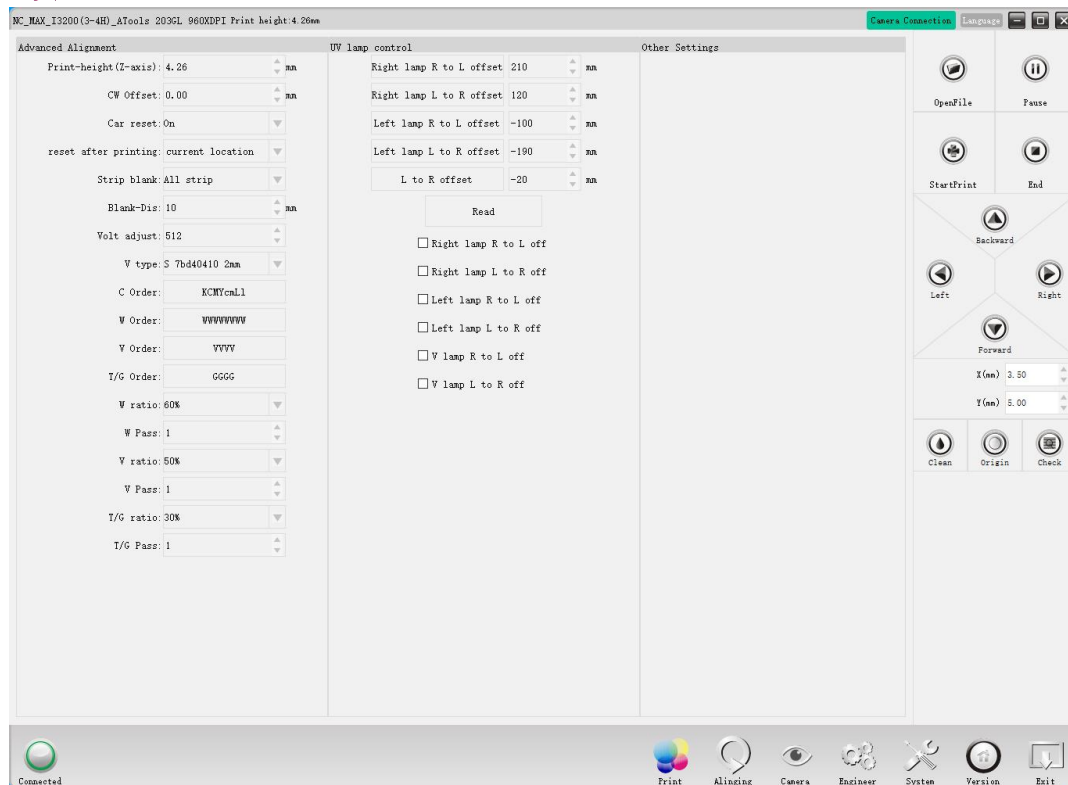
Advanced settings

Whether to skip blank area or not: turn on and off. It will skip when printing for blank areas in the picture.

Empty print distance: the car go back more distance after printing, unit distance is mm.

Voltage adjustment: default 512. According to the actual printing situation, under the guidance of after-sales technician to add and subtract values.

Voltage type: default S. Suitable for standard print height 2-3mm.

White ink ratio: 10% , 20% , 30% , 40% , 50% , 60% , 70% , 80% , 90% , 100% . Reduce the amount of white ink out in proportion.

Time of white ink : 1Pass, 2Pass, 3Pass, 4Pass, 5Pass.

White ink sequence: default WWWWWWWW.   When W is changed to N, the corresponding channel is closed.

Color ink sequence: KCMY. The channel can not be closed, otherwise the test strip cannot print.

Varnish ratio: 10% , 20% , 30% , 40% , 50% , 60% , 70% , 80% , 90% , 100% . Reduce the amount of varnish ink out in proportion.
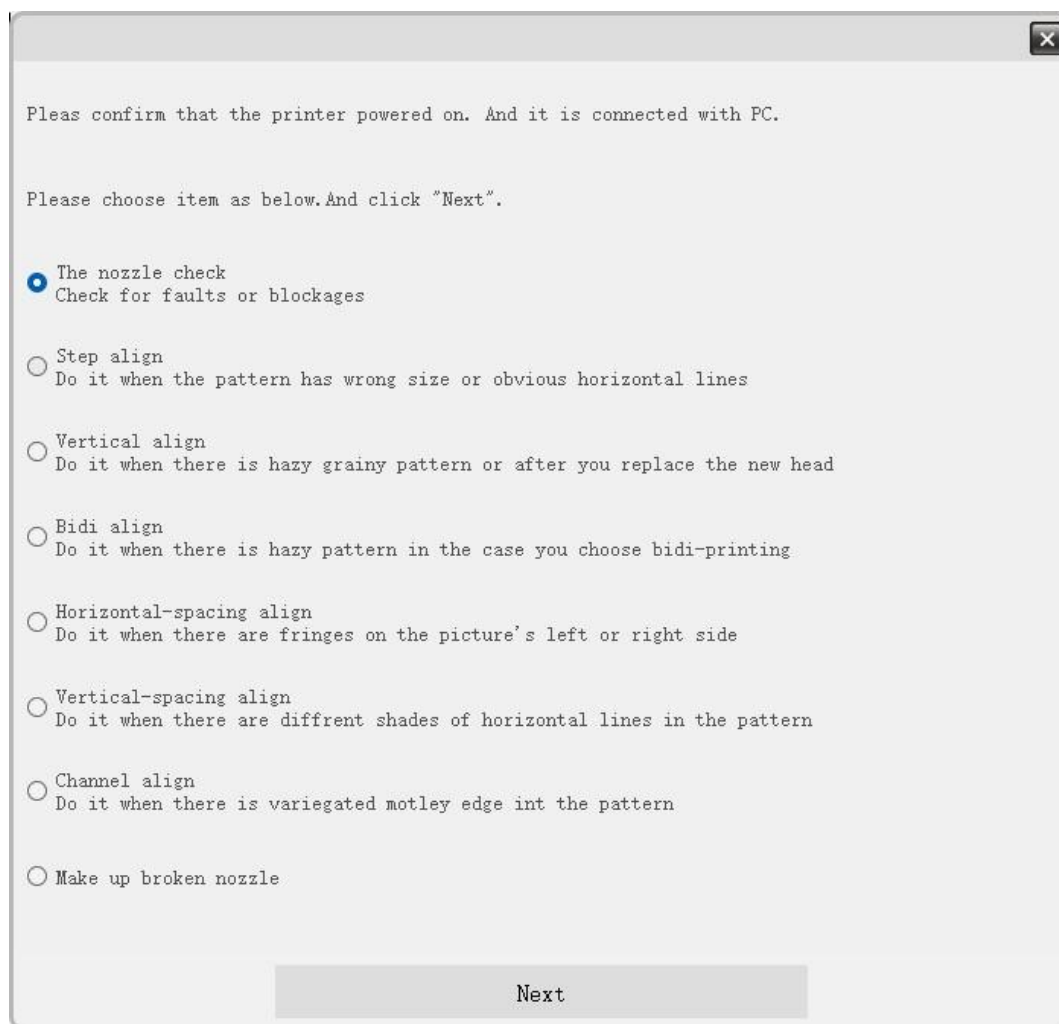
Varnish frequency: 1Pass, 2Pass, 3Pass, 4Pass, 5Pass.

Primer/glue ratio, primer/glue frequency: the same to the varnish.

UV lamp control: Look more details about UV lamp calibration instructions.

5.4 Calibration

Click Calibration guidance, the software will pop up the following calibration process interface.

Pleas confirm that the printer powered on. And it is connected with PC.

Please choose item as below. And click "Next".

- ● The nozzle check
  Check for faults or blockages

- ○ Step align
  Do it when the pattern has wrong size or obvious horizontal lines

- ○ Vertical align
  Do it when there is hazy grainy pattern or after you replace the new head

- ○ Bidi align
  Do it when there is hazy pattern in the case you choose bidi-printing

- ○ Horizontal-spacing align
  Do it when there are fringes on the picture's left or right side

- ○ Vertical-spacing align
  Do it when there are diffrent shades of horizontal lines in the pattern

- ○ Channel align
  Do it when there is variegated motley edge int the pattern

- ○ Make up broken nozzle

Next

When you need to install new printer, replace the printhead or the printhead is hit, calibrate the printer from the top down in order.

①Check the nozzle

Click next step, go to the page of nozzle detection details, operate according to the prompt.

After confirming that the printhead is OK, click Next. The software enters the main calibration interface and selects the step calibration automatically.

②Step calibration
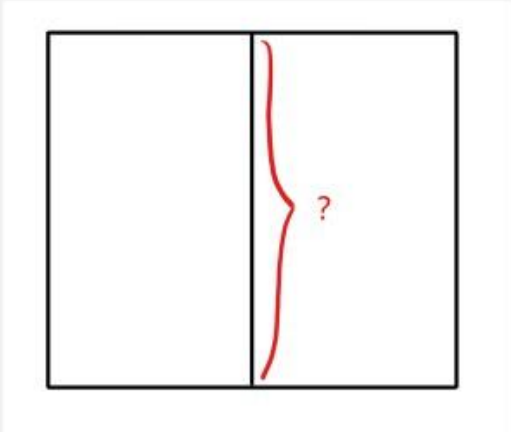
Click Next and the software will enter the detailed screen. Click on the print step calibration diagram, coarse calibration; then click on the print step fine-tuning pattern.

步进微调图案如下： The diagram is as following:
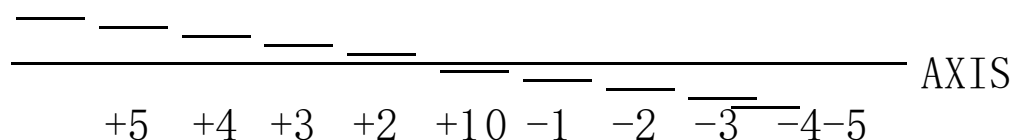
Final goal: Make corresponding line of 0 and baseline coincide best.

After calibration, click Next, the software will enter the main calibration interface, select vertical calibration automatically.

③Vertical calibration

Click Next and the software will enter the screen of vertical calibration details.
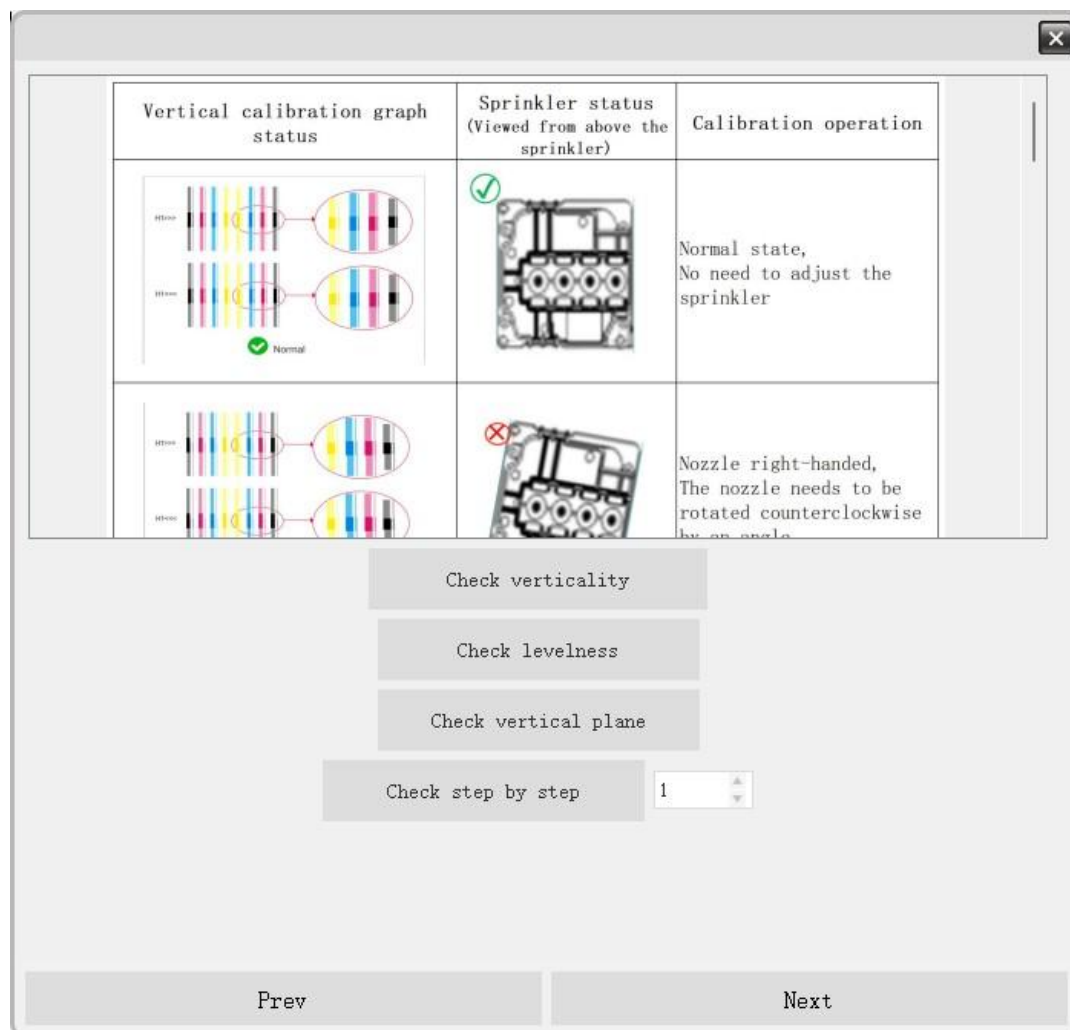
Click"Print vertical calibration pattern", as shown in the above. The white and color printhead adjusted OK, click Next, the software will enter into the main calibration interface, select two-way calibration automatically.

Click the"Horizontal alignment calibration pattern", you can follow the method shown above, the white and color printhead adjusted OK.

Click the "Vertical alignment calibration pattern", according to the method shown above, the white and color printhead adjusted OK.

④Bi-direction calibration

Click Next to enter the two-way calibration details interface.

Click "Print two-way calibration pattern", as shown in the above, adjust and then click Next, the software will enter into the main calibration interface, select the head horizontal spacing automatically.

⑤Horizontal spacing calibration of printheads
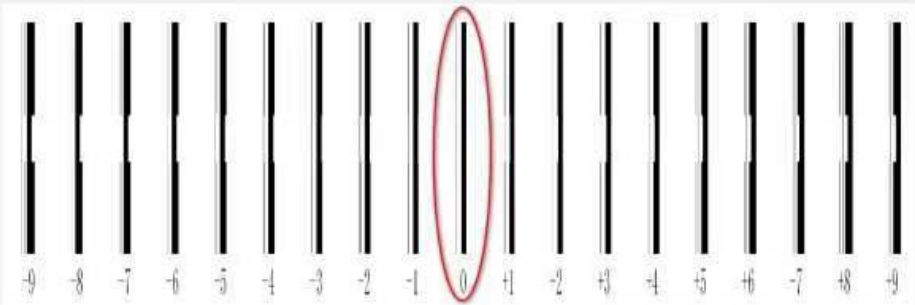
Click Next and the software will enter into head horizontal spacing calibration.

Judge the print result. Please add or subtract the param based on the orig

Select reference head

⦿ Head1   ○ Head2   ○ Head3   ○ Head4

Head1 base	H1 Horizontal spacing:	0
H1H2	H2 Horizontal spacing:	1134
H1H3	H3 Horizontal spacing:	3
H1H4	H4 Horizontal spacing:	1133

-9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9

1. Click button to print the calibration test pattern
2. Modify the coefficient value according to the pattern to align it at position 0

Prev   Next

In the case of nozzle 1 as a benchmark, observe the calibration diagram after printing to see the coincidence of black and white lines. For example, "+ 3" black-and-white line adjustment coincidence is the best, the current horizontal spacing coefficient + 3; if"-3" black-and-white line adjustment coincidence is the best, the current horizontal spacing coefficient will minus 3. Debug until the number"0" corresponds to the black-and-white line, it is a straight line.

Click and save when debugging is completed.

Click Next, the software will enter the main calibration interface, select the head vertical spacing calibration automatically.

⑥Vertical spacing calibration

Click Next and the software will enter into head vertical spacing calibration.

Calibration diagram and method are as the following:
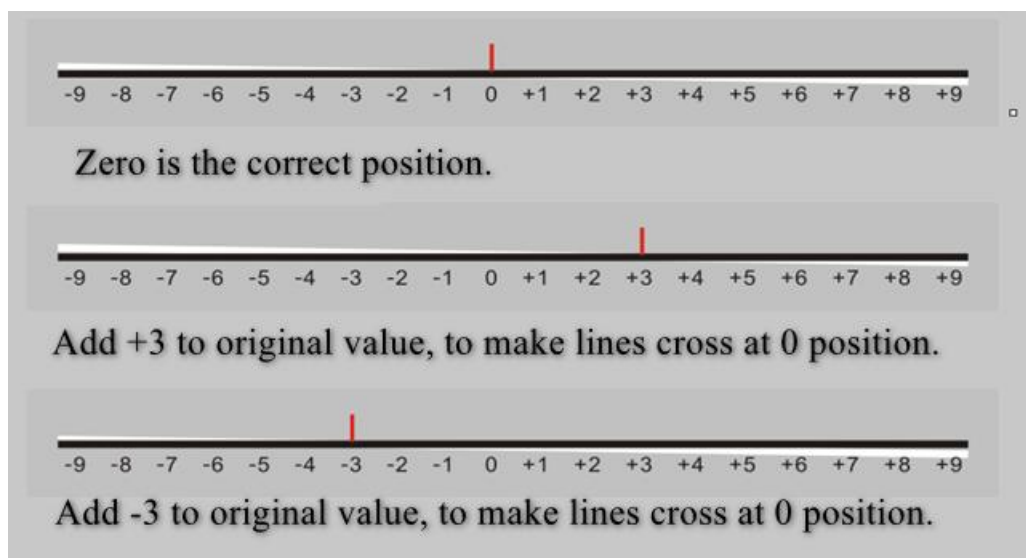
Click and save when debugging is complete.

Click Next, the software will enter into the main calibration interface, select color registration calibration automatically.

⑦Color registration calibration

Click Next, the software will enter into the Color registration calibration interface.

Calibration diagram is as the following:

Check the printing calibration diagram to see the coincidence of color line and black line. Take CH1 red-black color as an example: if"+ 3"red-black line adjustment coincidence is the best, the current horizontal distance coefficient plus 3; if"-3" red-black line adjustment coincidence is the best, the current horizontal distance coefficient minus 3. Debug until the number"0"corresponds to the best coincidence of red and black lines, it is a straight line.

Click and save when debugging is completed. Click Next, the software will enter into the main calibration interface, select broken needle compensation automatically .

⑧Broken needle compensation

Click Next, the software will enter into the broken needle compensation interface.
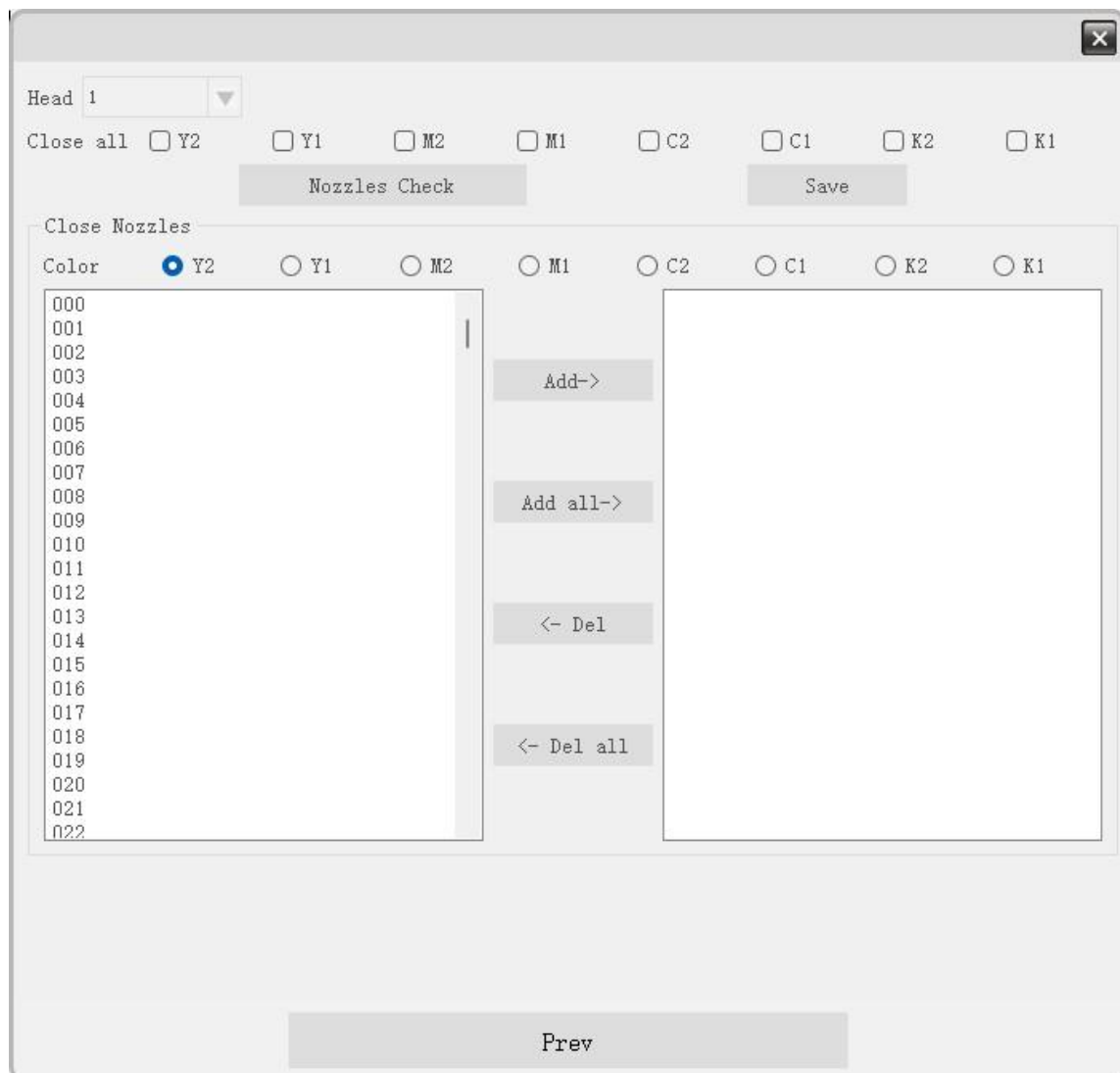
Color: K、C、M、Y、c、m、L、l, Printhead 1,2,3,4.

Click Nozzle detection, print the corresponding color calibration diagram, check and record the corresponding values of broken needle, fill in the hole in turn to add the check.

The calibration process is completed and then closes the calibration window.

5.5 System maintenance

Click System maintenance and the software will enter the screen of System maintenance.
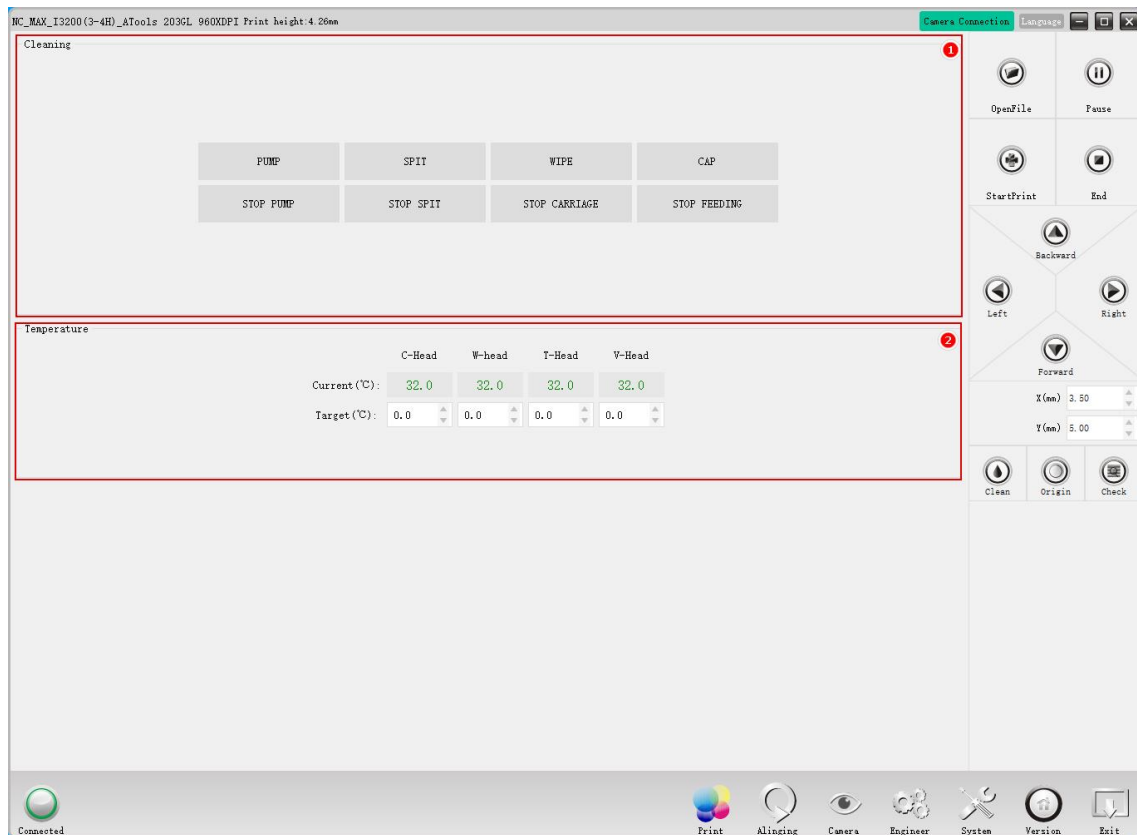
The page is divided into 2 parts: cleaning and maintenance, nozzle temperature maintenance;

①Cleaning and maintenance: pump ink manually, stop pump ink maunally, scraping, ink-washing, stop ink-washing, cover , stop cart, stop papering, start positive pressure test.

②Nozzle temperature maintenance: observe the real-time temperature of the nozzle.

5.6 Version information
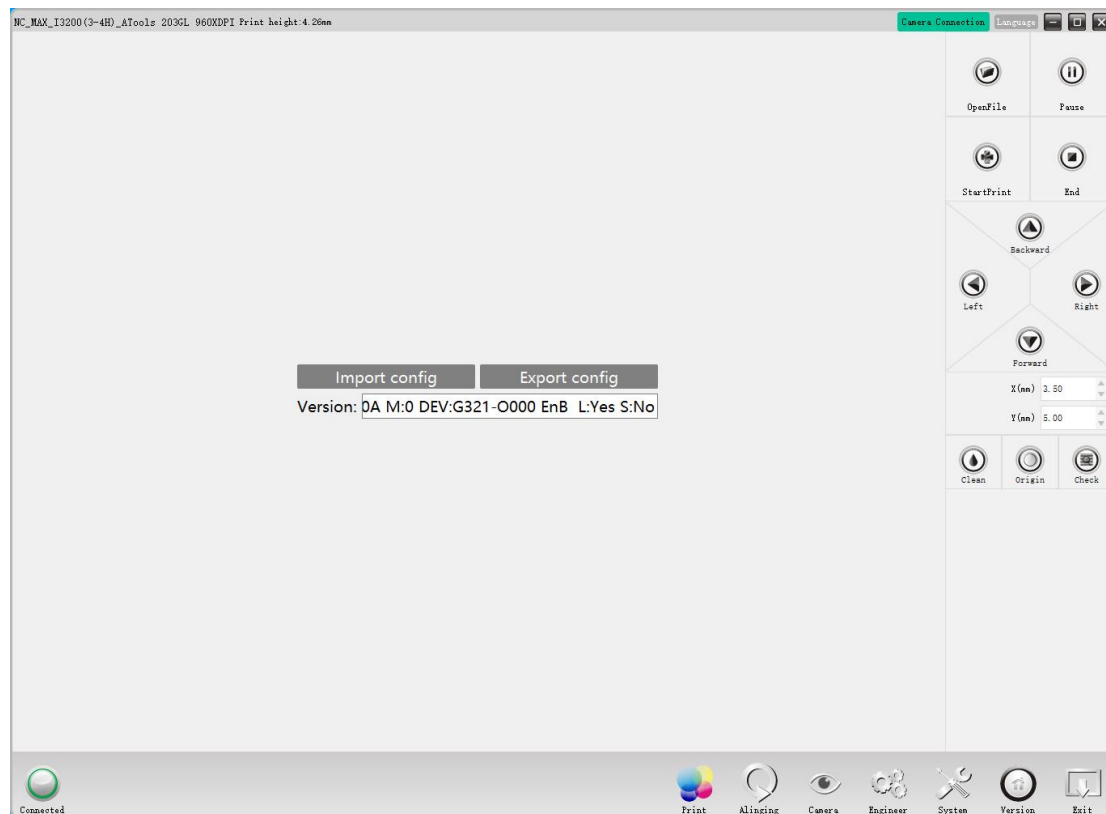
Click Version information and the software will enter the screen of Version information.

Export Configure File: set the parameters in online software and export it as a file with the suffix PFG format for backup.

Import Configure File: import the parameters file from the previous export backup to restore the parameters.

Version information: Specific information.

FlexiPRINT 22 Install software

6.1 Hardware introduction

1.The front, back and inside are as follows:

Front

Back

Inside

2.A software USB stick inside.

6.2 Install software

1. Open the software box, take out the software USB-disk and plug it in the computer USB interface,(the USB-disk will light blue). Open the computer and double-clisk the file FSNOCAI19, as shown in the following:

2. Find the program FlexiPRINT+22+Nocai+Edition-B****.exe, click right button, operate as an administrator, as shown below:
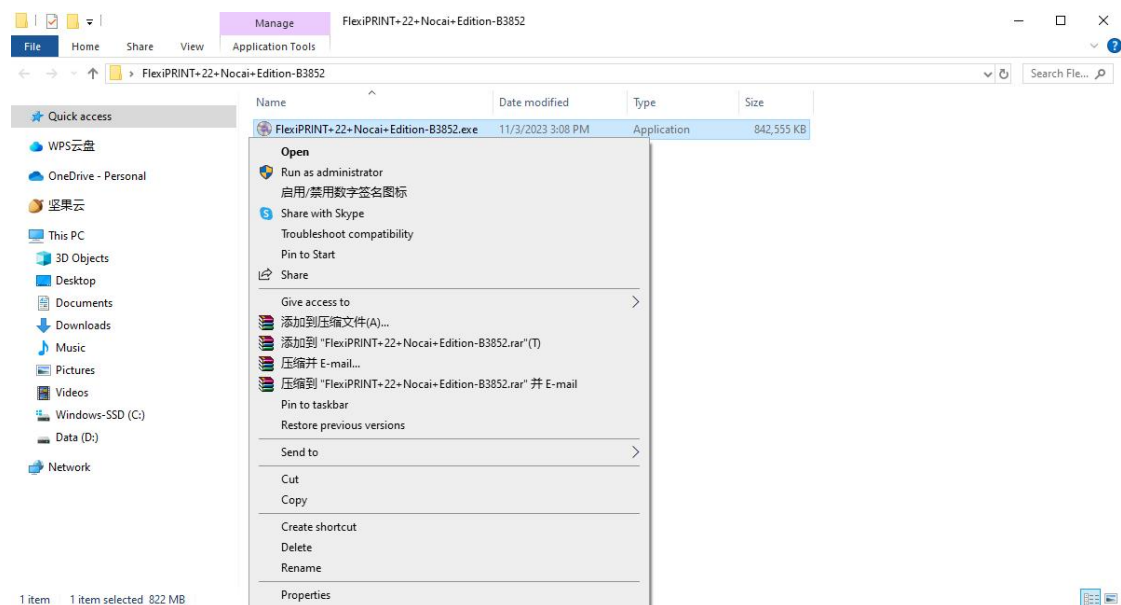
3. Pop-up dialog interface, select the language required to install the software (default is Chinese) , and then click OK:
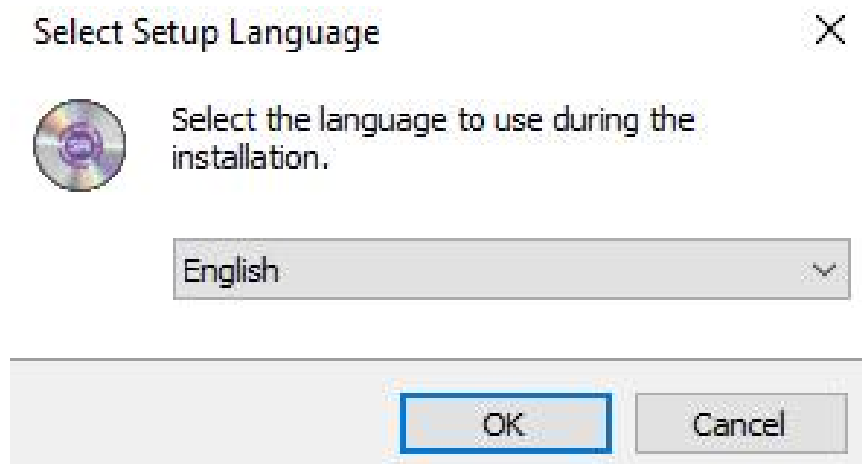
4. Accept the aggrement and click Next:
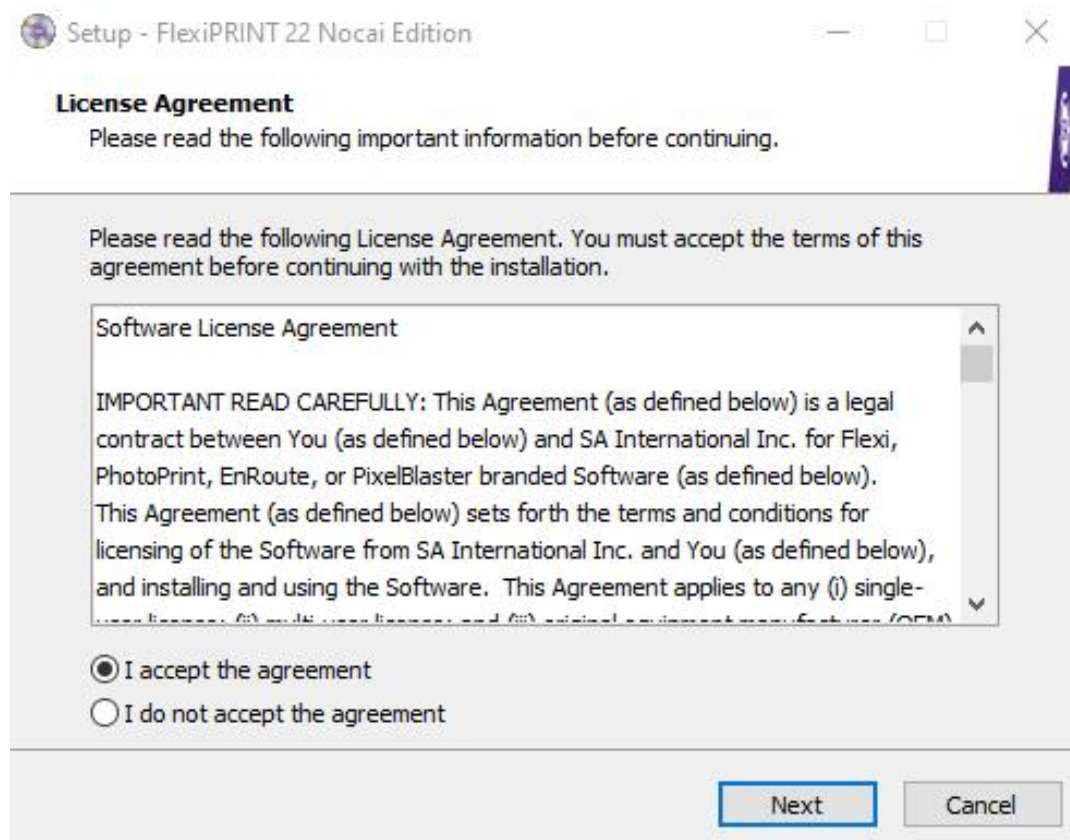
5. Click browse to set the installation path of the software. The default installation is on disk C.　Click Next:
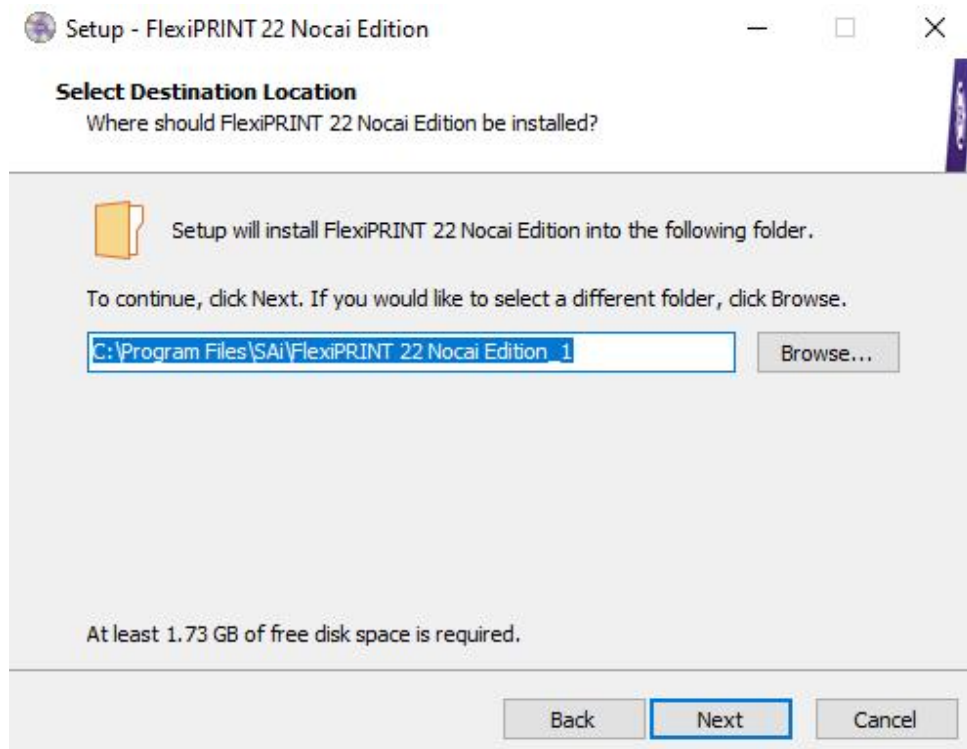
6. Check the main program to be installed (not to check the SafeNet Sentienel System Driver program) and Click Next:
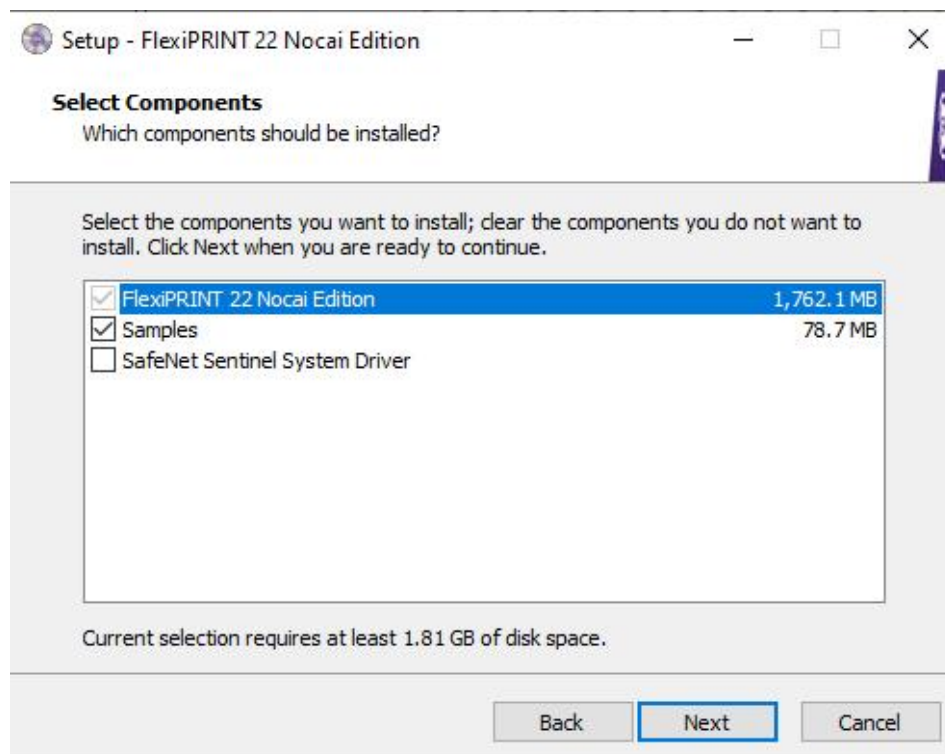
7. Pop-up dialog interface, click Next:
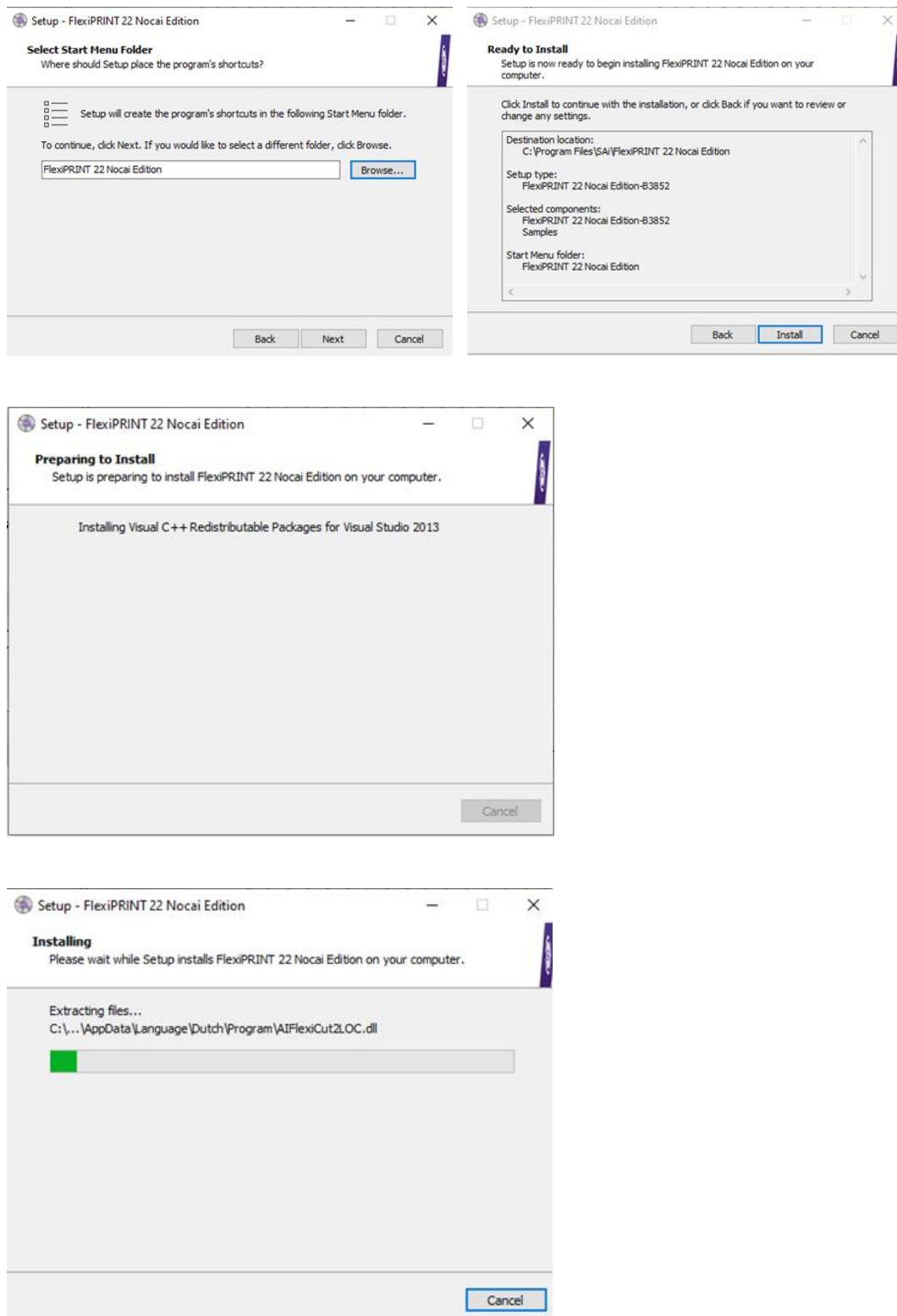
8. A dialog will pop up, enter the Activation Code, find the Activation Code on the back of the cd-rom box ： XXXXXXXXXXXXXXXX and put it into the following dialog, then click Next:
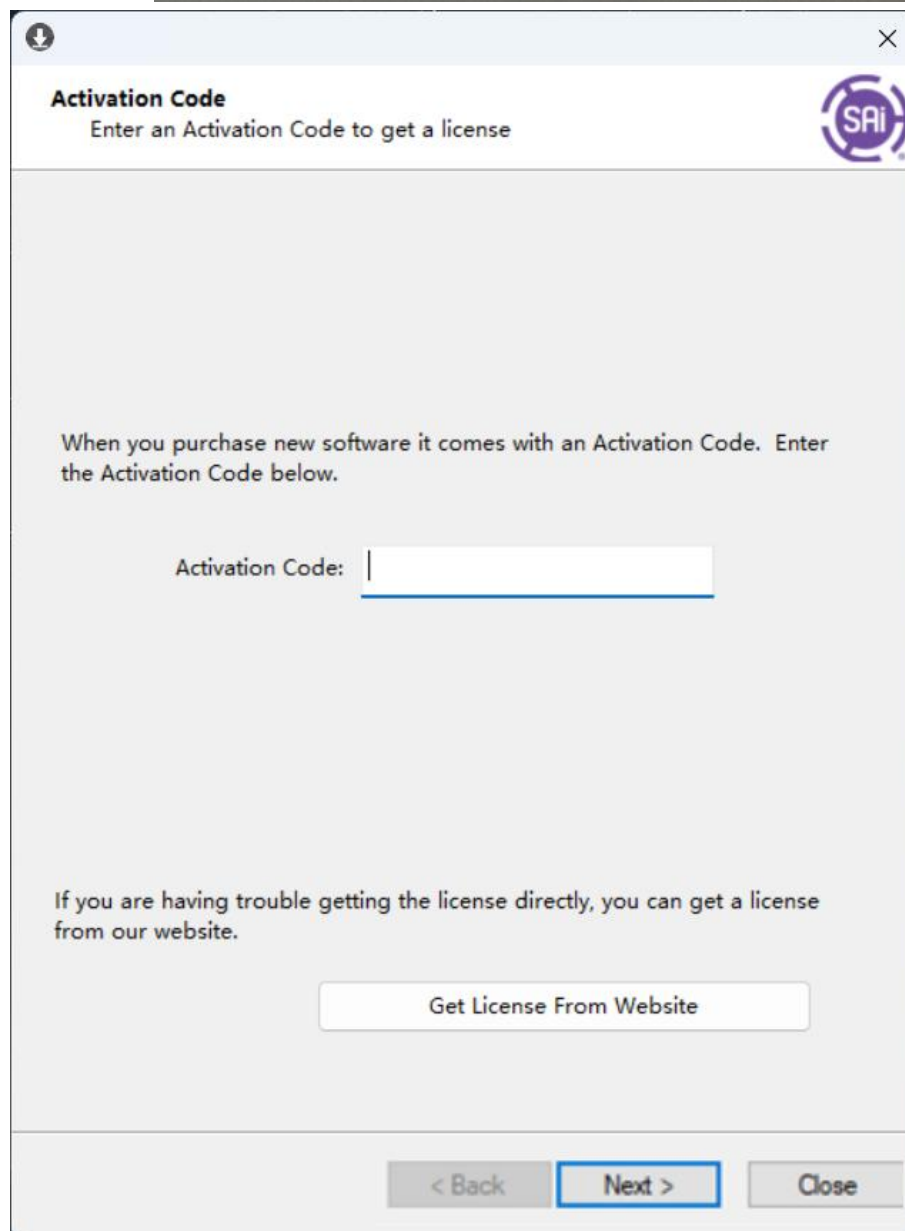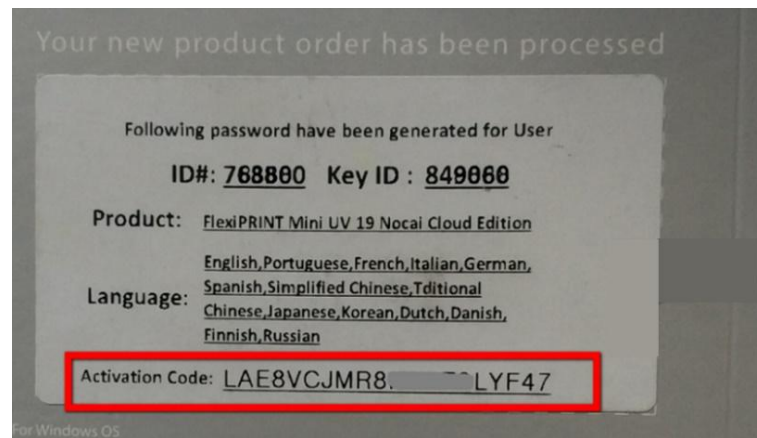
9. The first activation of the site will pop-up the following tips of activation steps, please enter the tip site to activate.

10. Click the link https://www.saicloud.com/   As shown below, apply for registering email address, log in and turn off the web page after activation. Follow the prompts to proceed to the next step:
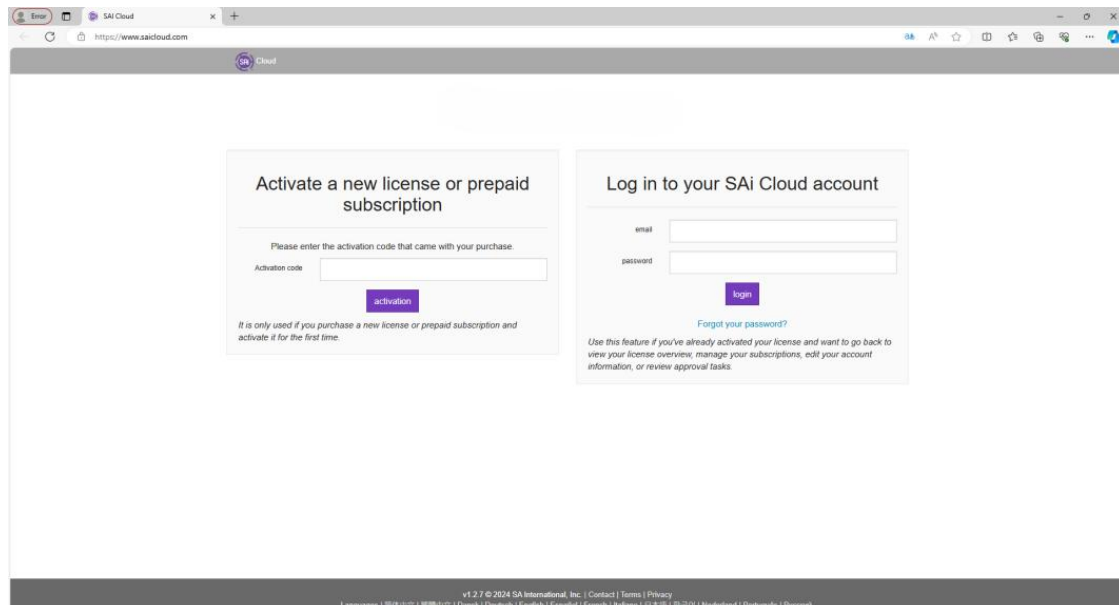
11. If there is no prompt for activation, then skip step 9 and 10. Click Next, it will go directly to the successful authorization section.
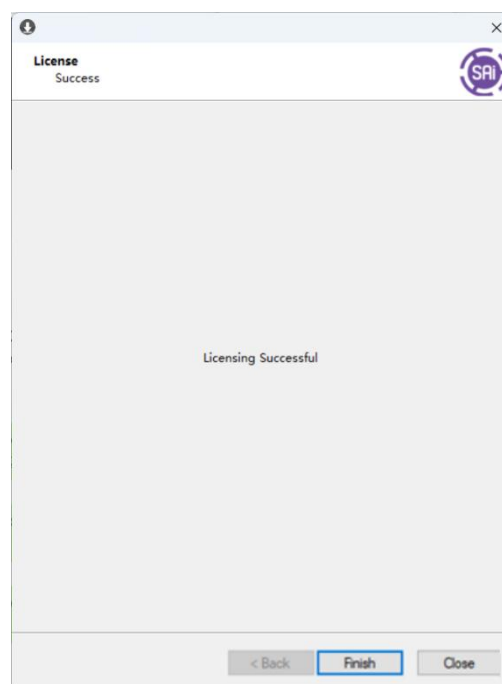
12. Click Finish. Wait a few minutes, click the dialog.
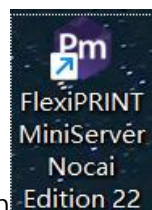
Two icons will appear on the desktop to indicate that the software installation is completed.
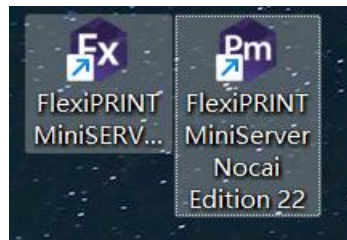
6.3 Port settings
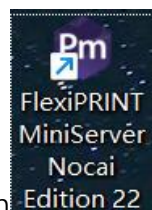
Click the icon , operateas an administrator and open the software. The desktop pops up port to add device, as shown below: brand name"Nocai", the model number is "Nocai-UV9060.

Click Next

Select TCP IP as the connection mode, put into 127.0.0.1 and then click OK, as shown in the figure below:
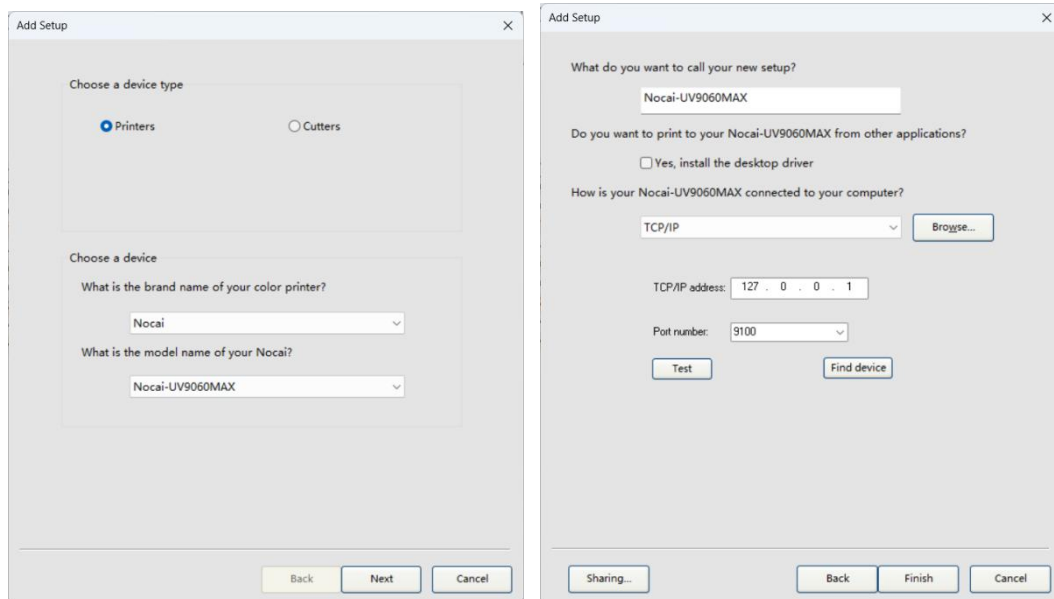
The diagram is as shown below after setting :
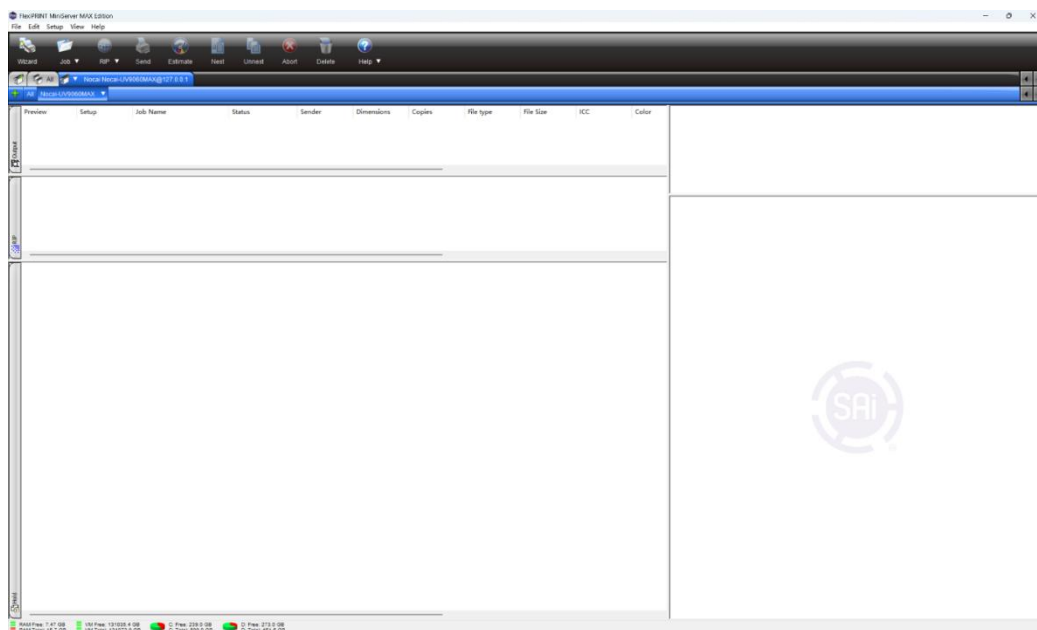
6.4 Introduction to sampling of software
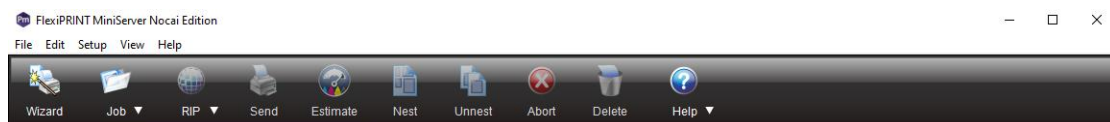
①**Add work graphics**

1."Work"select the file path to add the file for the job；

2"Encoder strip image processor" pre-process documents that need to be printed.

3."Send" is to send the edited work;

4."Suspend job" is to interrupt a work that is printing;

5."Delete" is to delete the work file inside
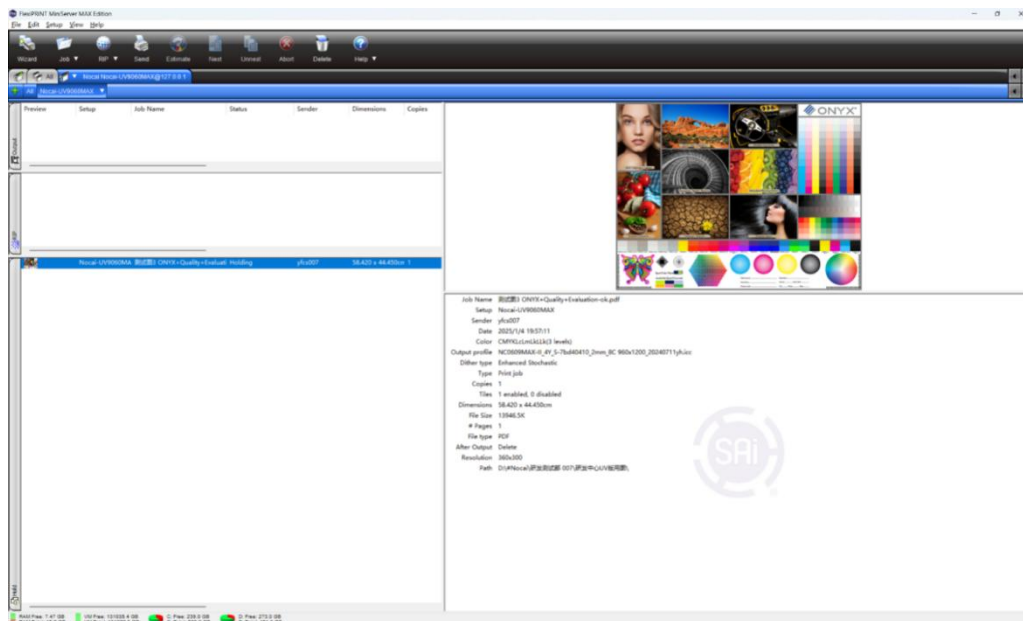
   Click"work" to add the file, (you can also pull the picture into the frame directly) as shown below:

②**Arrangements**

Double-click the imported image to enter the work interface, as follows:
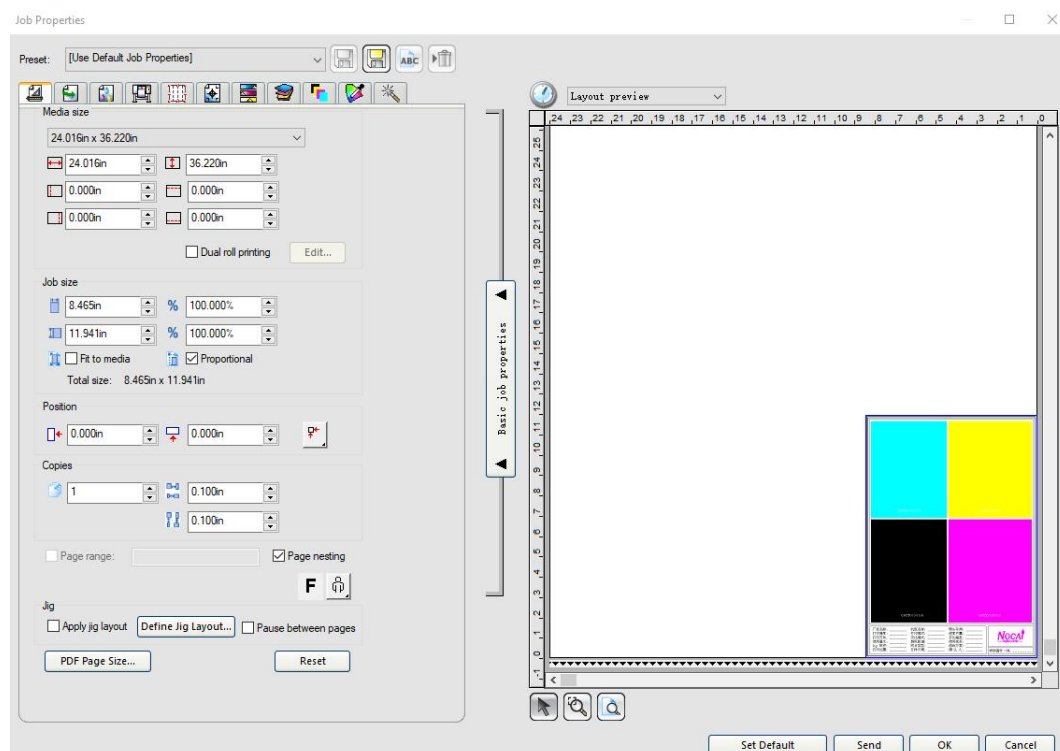
1.Medium size: printing format;

2.Work size: it refers to the size of the picture, choose according to the ratio;

3.Position: it refers to the adjustment of the picture on the printing platform, the printing position can be selected

according to the arrow;

4. Copy: it refers to the setting of copies , the spacing settings is on the right side.

5. Area settings: the "F" on the right is the mirror setting, and the"Human" button is the pattern orientation adjustment.

③Work panel
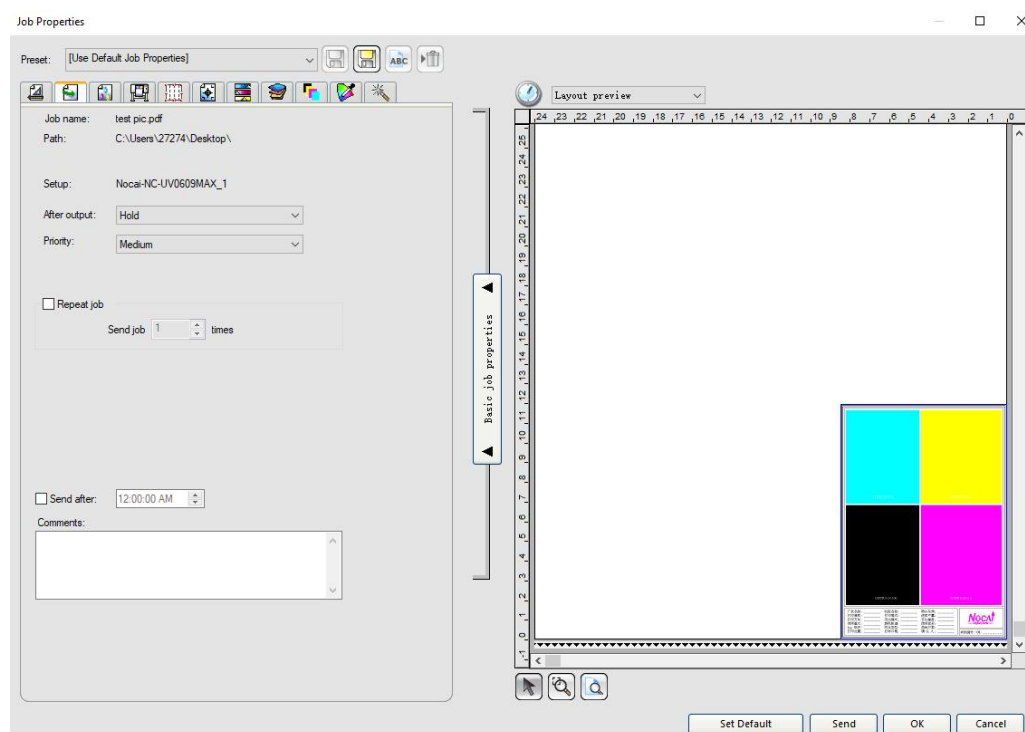
1.After the output: the following options are processing the pictures after printing, save means to retain the print after printing, delete means not preserved after printing;

Repeat work: Repeat refers to the time for sending work, choose the work repeatedly, such as send job settings 2 times, the machine will print twice.

④Color arrangement

1.Click"Output profile"in the Color arrangement and add it. Find the ICC folder internal (curve file) to add it, the following profile is generated automatically;
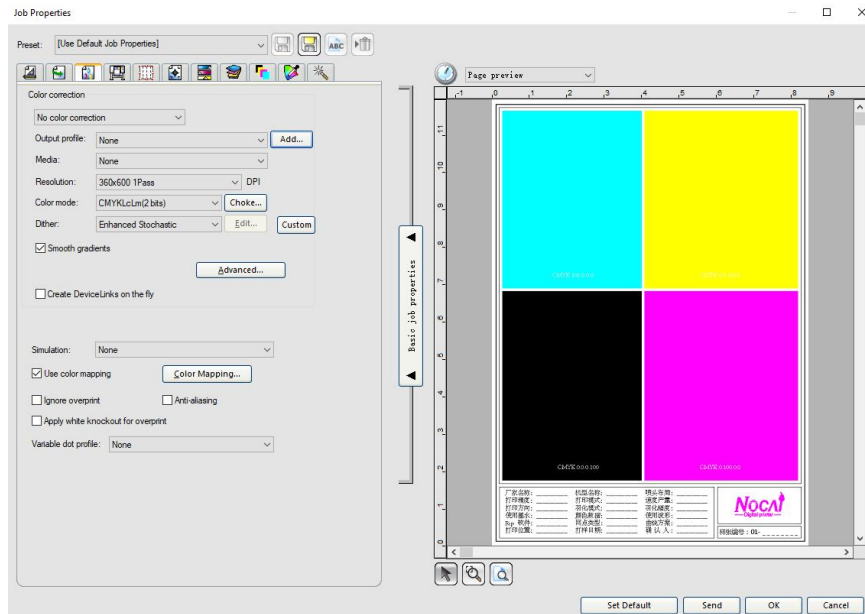
NC_UV0609MAX_I3200_DZ_R_2_544-7...	2022/6/13 16:30	ICC 配置文件	1,291 KB
NC_UV0609MAX_I3200_DZ_S_1ad_28...	2022/3/22 15:59	ICC 配置文件	1,281 KB
NC-UV0609MAX-S d3f70400 0~3mm...	2022/8/11 11:58	ICC 配置文件	1,261 KB
UV0609MAX_DZ_Soft_1ad06_720x900...	2021/7/15 21:58	ICC 配置文件	1,251 KB
UV0609MAX_DZ_Soft_3e71-761_10m...	2021/7/16 11:53	ICC 配置文件	1,310 KB
UV0609MAX_DZ-Soft_544-4b8_720x9...	2021/7/16 10:35	ICC 配置文件	1,306 KB
UV0609MAX-DZY(Sd3f-2.5mm) 25.7...	2022/8/6 11:05	ICC 配置文件	1,288 KB

When the curve is added successfully, the picture is as the following :
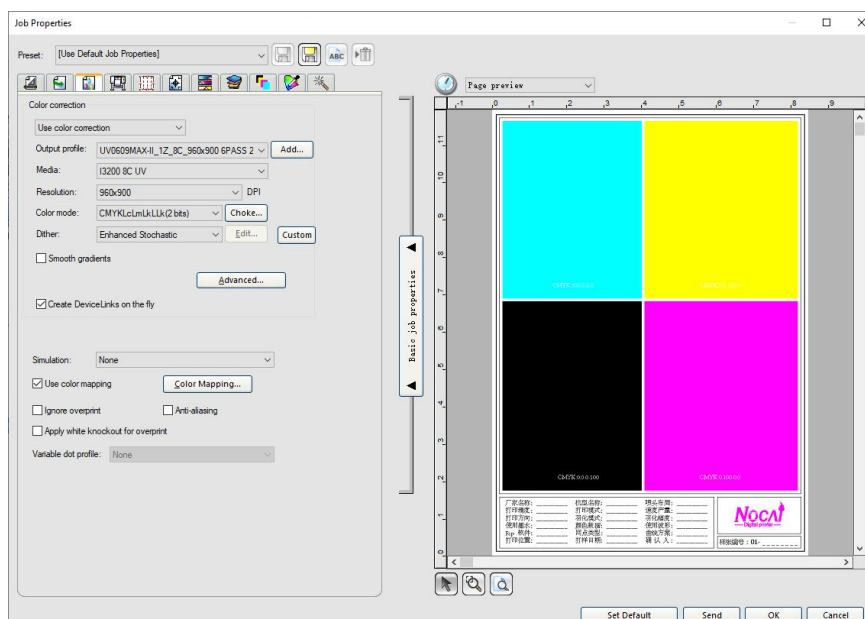
⑤**Printer selection**
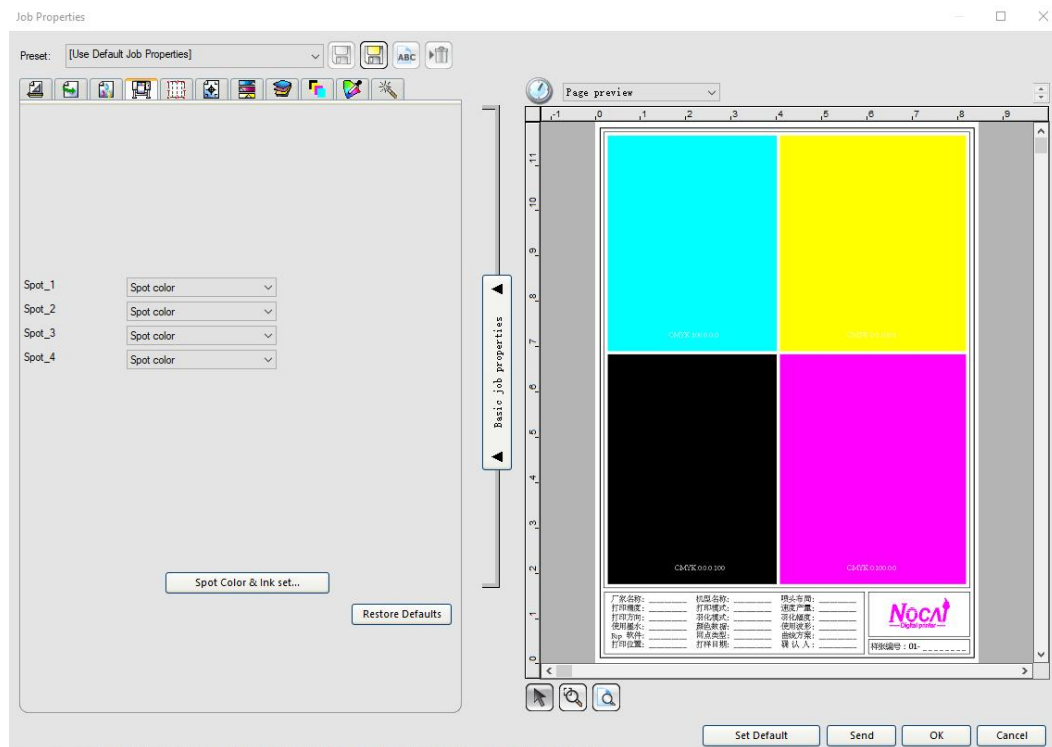
Color 1, Color 2, Color 3 and color 4 on the panel.

None-None means only print white color;

Spot color is Spot color printing (please check out the Spot color video for Spot color applications)

Under color software prints the amount of white ink according to the color of an image. The darker the color, the thicker the amount of white ink, and the lighter the color, the thinner the amount of white ink.

Fill color software prints the amount of white ink based on the color of the image. The darker the color, the thinner the white ink, and the lighter the color, the thinner the amount of white ink.

Substrate- substrate prints the white.

The customer selects options based on reality.

⑥Collage and clip selection

Collage inside the size adjustment and custom screenshot printing, the right mouse can directly clip to increase or decrease.
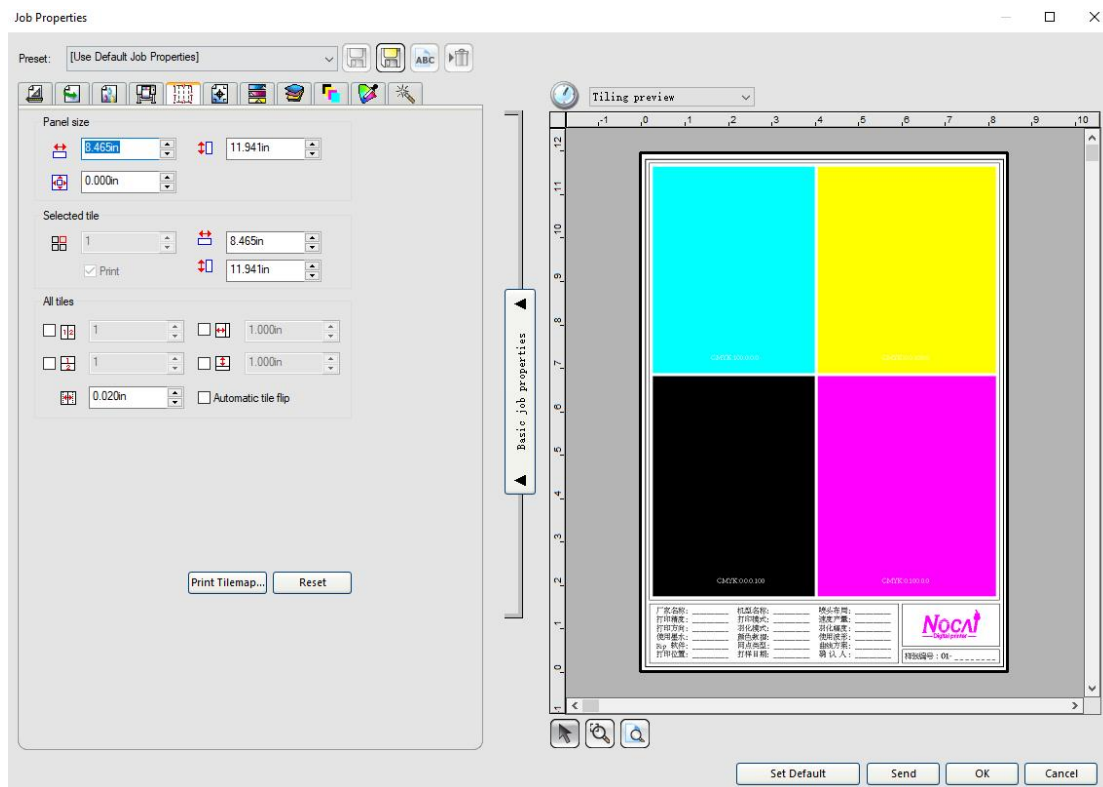
⑦Set default and print

Click on the default setting, the settings above will be saved as the default settings.When re-add the picture of work file, the parameters will be the same as this setting.

Once the settings are complete, click "save" the settings defaults, and then click OK. The picture is as the following:

Then enter the online driver to print color settings, set white color according to their requirements. Click "Save" after finishing.

After setting up the products on the platform, and adjust the printhead of ink cart and the height to print (generally about 2-3 mm) , and then click Send, you can print pictures.

Maintenance method and announcements of machine

7.1 Maintenance method of printhead

①There is a card inside the printhead, which is directly inserted with the printhead wiring. Pay attention to the contact parts between wiring and printhead and prevent ink from dropping. Shut down immediately once found that the water-like substance between wiring part and printhead, remove and dry it quickly. Test again whether it is burned or not, remember not to use the printer with water, otherwise it will burn the printhead and the headboard.

②The wiring is integrated with the plug closely. Please not put out plug, so there will be contact oxidation, damage, dislocation or combine line at other contact after a long time. So you should pay attention to check whether these problems appear or not, and eliminate or replace the printhead cable, otherwise it will cause the printhead or the printboard burned.

③If you do not use the machine, please maintain the machine and adhere to the daily power-on once and print test strip, the printer will clean automatically to ensure that the test strip is normal if the ink is intermittent. You can print a small picture. If there is no care more than 3 days, pour 3-5 drops of the cleaning fluid into the cap top, and then combine the printhead with cap top. This will play a certain role in the protection.

④When the ink is added to the cartridge, you'd better add less diligently, the expiry of the ink is 3 months after opening. Otherwise it will produce deterioration, which will affect the printing effect and cause clogging of the printhead, it is recommended that the customer stir the ink and open the cartridge at the white ink mixing switch when using the machine.

⑤The height of the printhead from the material should be 2-3mm. Confirm the print height timely in order to avoid printhead is damaged.

⑥Nozzle sheet metal of cart must be cleaned regularly to avoid effects on the nozzle.

⑦Avoid printing reflective materials that can cause printhead clogging.

7.2 Maintenance method of ink station

Due to the combination of printhead and cap top for ink pumping or cleaning, there will be droplets on the inside of the ink station or on top of the sheet metal. Be sure to scrub with alcohol on a regular basis or in a timely manner to keep the ink station clean.

7.3 Maintenance method of encoder strip

Encoder strip is mounted in the card slot in the control of the accuracy of the components. When the encoder strip is out of the slot, it will be scratched by encoder sensor during the work, and there is a direct scratch in the future and the accuracy will reduce or the cart will be crashed by not reading data correctly. So be sure to check the encoder position in the use of the machine, whether the encoder sensor in the middle of the position or not, and whether there is friction or not. In the dust or dirty air the encoder will appear misalignment and other issues, so please clean it up(using alcohol), keep the encoder clean and undamaged. If there are scratches caused by misalignment, please replace it in a timely manner.

7.4 Maintenance method of rail

There is a basis of lubricant between guide rail and slider, please add it into the guide rail in a certain period of time, in order to avoid corrosion and astringency of the guide rail for lacking of oil. If you find that there is black oil in the guide rail, you need to use alcohol to wipe firstly and then add lubricant.

7.5 Maintenance method of suction platform

This kind of platform possess suction function, there are a lot of dense holes on the platform to produce suction on the platform to the print material, so please keep the platform clean to avoid blocking the suction holes caused by the suction is not smooth or the suction is not strong, and water sucked into the wind holes to harm the fan is possible.

7.6 Change damper

Replacement is recommended once every 3 months.

7.7 Change the cap top

Replacement is recommended once every 3 months.

7.8 Maintenance of the shell sheet metal

Keep the shell clean, if there is any droplet, please scrub it to avoid ink corrosion on the outer paint surface of the sheet metal.

Common trouble-shooting method

8.1 Examples of intermittent ink

Test strips are all out
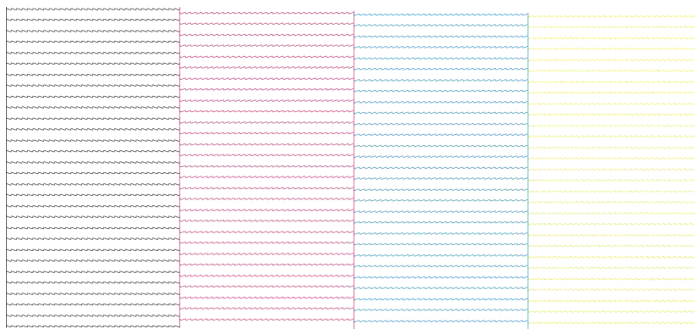
Partial intermittent ink of the test strip

Explanation: This is caused by the corrosion damage to ink on the printhead. You can clean it automatically. If automatic cleaning can not resolve this problem, you can continue to use, it does not affect the results.
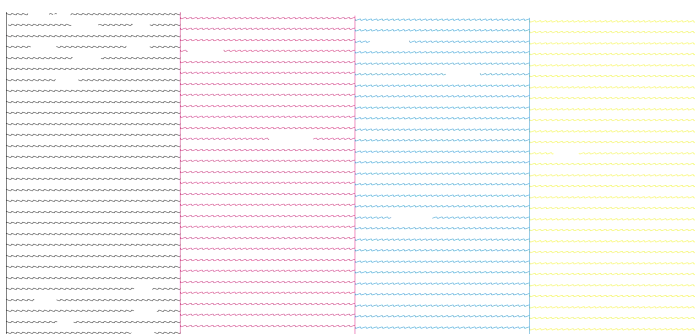
Severe intermittent ink of test strip partially

Solution:

1.Use a syringe to draw the ink from damper, it can test whether the ink can flow normally. Exclude the possibility of clogging and leakage. If there is a problem, please replace the damper.

2.After replacing the damper, if you extract ink from the damper, there is still a clogging phenomenon, please test whether the ink tube and head connector of damper is clogged or not.

3.Clean the printhead manually to ensure that the printhead is not clogged.

Summary: If there are the problems above, it is because of the clogging of damper or printhead , please test them firstly.

Almost total intermittent ink of the test strip
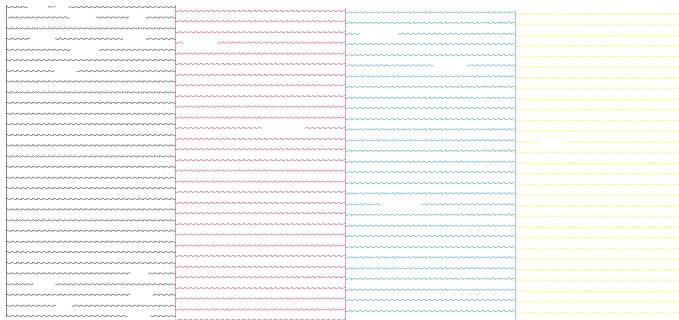
Solution:

1.Auto-cleaning, check whether it can draw ink out or not, if it can not draw ink out normally , please replace the new cap top or re-adjust the position.

2.Check whether there is residue on the surface of the printhead: if there is a droplet for a single color, please replace the corresponding damper; if there is a multi-color droplet, please check whether the wiper can scrape the mirror surface of the printhead normally during the automatic cleaning process.

3.Replace the headboard.

Summary: There is ink in the the printhead plug or the customer misuse the printhead after replacing the printhead, resulting in a short-circuit of the printhead, burned the headboard or the printhead, because the printhead will damage the headboard, but the headboard does not damage the printhead. It is recommended to replace the printhead and headline firstly.

Color blending: large scale of color blending
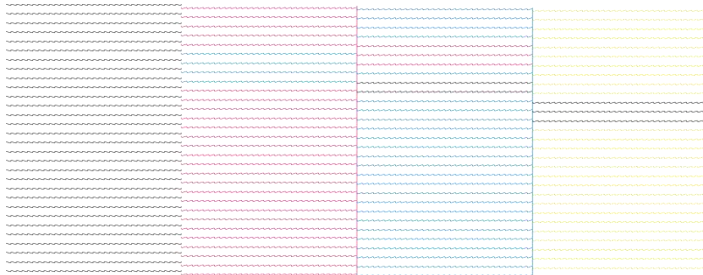
Solution:

1.Please flush the ink first, and then print the test strip to observe whether the situation of color blending improves or not, if not, please check whether there is any residue on the surface of the printhead, if there is a separate color droplet, please replace the corresponding damper, if there is a multi-color droplet, please check whether the scraper can scrape the printhead mirror surface normally or not during the automatic cleaning process.

2.Replace the printhead.

Summary: When the above problem occurs, detecting whether there is residue on the printhead surface or not firstly.
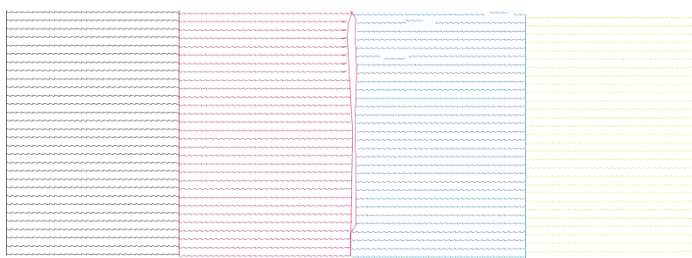
Test strips of floating ink

Solution:

1.Check whether the height of the printhead is within 2-3mm from the medium.

2.Printing environment in the range of 15 ℃ ～ 30 ℃.

3.Check whether the cap top can pump ink normally.

4.Stir the floating ink evenly, and pump ink 10ml or more from damper by syringe, and then clean the printhead. If it can not be resolved, replace the ink.

Summary: When you meet the above problems and there is no special change in the surrounding environment, it is probably because the machine is left for a long time.

8.2 Clean without pumping ink

Solution:

1.Pour the cleaning fluid into the cap top, and make sure whether the cleaning fluid can be pumped out, if not, replace the ink pump.

2.Check whether the connecting tube of the cap top is detached or clogged, if so, please reconnect or replace it.

3.The cap top is damaged or aging, please replace it firstly.

4.Check the position of the cap top and the nozzle, the cap top can not seal the nozzle as shown below:
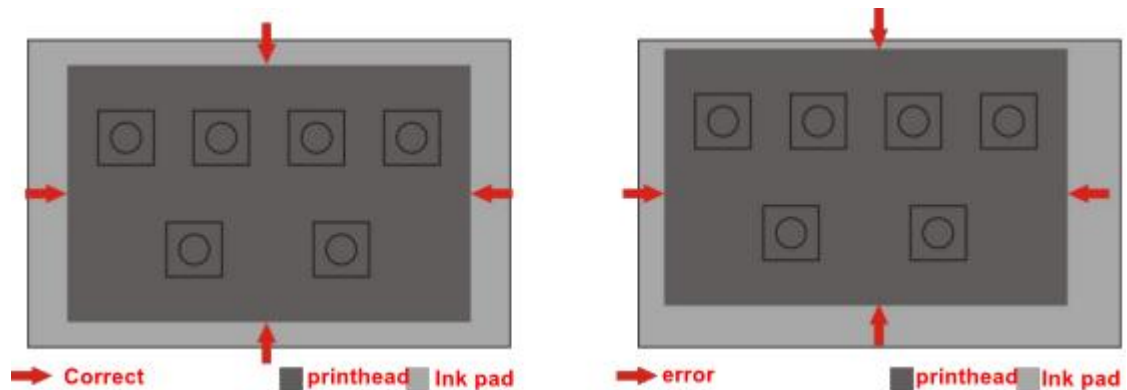
Adjust the position of the cap top and the printhead mirror, you need complete it patiently. The square edge of the cap top is generally located inside the edge of printhead mirror(inside the iron sheet); if it is located outside the edge of the iron sheet, as shown in the figure on the right, it means that the printhead and the cap top is leaking and can not pump ink, the test strip can not be adjusted to normal.

Refer to the legend to adjust it.

5.The method to adjust the cap top to the left, right, before and after is shown in the figure below:
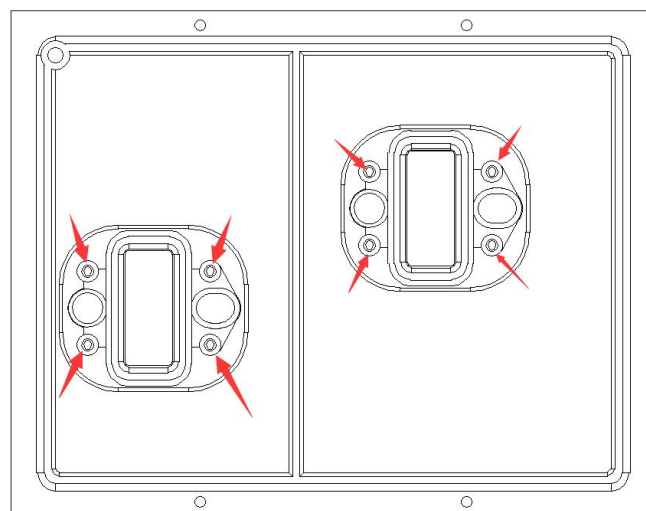
As shown in the picture above, if there is misalign to the printhead, you need to adjust the position of the cap top. It is easy to complete by loosening the screw of cap top.

6.The printhead is slightly adjusted before and after

Summary: The machine has been used for a long time, and reinstall the printhead and cap top. Therefore the position of printhead is deviated, then you need to adjust the position between printhead and cap top. The specific deviation must be combined with difference between the bottom of the nozzle and the cap top and then clean automatically. If there is droplets on the mirror of printhead during automatic cleaning process, which stands for the pumping of the ink is normal.

8.3 Great resistance of cart

1、The cart moves to the center of the machine and operate on, the cart does not move and reports error.

1.1Under power-on condition, move the nozzle carriage by hand to see if it can be pushed, if it can be pushed easily, please check whether the X-axis drive motor indicator light is on or flashes red to report an error, and whether the KIMI screws of the motor pulley are tightened.

1.2Check whether the cart board is light, if not, replace the data cable.

1.3Replace the cart board.

1.4Check the pulse signal line of X-axis motor. Loose connections, breakage, and aging and so on.

1.5Replace the headboard.

Summary: consider the hardware problem of the machine.

2、The cart moves to the center of the machine and operate on, the printhead cart move to the left and reports error.

2.1Replace the cable.

2.2Replace the headboard.

2.3Replace the mainboard of the printer. (Almost impossible)

Summary: The cart board cannot accept the commands from the mainboard.

3、The cart moves to the center of the machine and operate on, the printhead cart move to the right and reports an error.

3.1Check if the encoder sensor is illuminated, if not, replace the encoder

sensor.

3.2Whether the encoder strip has obvious scratches or not, if so, please replace a new one.

3.3Whether the encoder strip has ink, grease, dust, if so, please clean it with alcohol.

3.4Whether the encoder strip stuck in the middle of the encoder sensor, centered in the machine, moving back and forth without scratching.

3.5Whether the encoder strip stuck in the encoder sensor.

3.6Replace the cart board.

Summary: When the above problem occurs, the trolley has received commands from the mainboard, but the encoder sensor does not read the grating movement data correctly.

4、During the printing process, the machine does not report an error

4.1Whether the encoder strip scratched visibly, if so, please replace it.

4.2Whether there is ink, grease, dust on the encoder strip, wipe it by alcohol.

4.3Whether the encoder strip stuck in the middle of the encoder sensor, centered in the machine, moving back and

forth without scratching.

4.4Whether X-axis motor belt is loose or not.

4.5Whether the KIMI screws of the motor pulley are tightened.

4.6Replace the cable.

4.7Check if the temperature of the X-axis drive motor is above 50 degree, if so, reconnect the X-axis drive signal wire or check if the X-axis drive motor is parallel to the transverse belt (50 degrees or less is within the normal range)

Summary: When the above problem occurs, the encoder sensor can read the data, but there will be error data.

5、Move the cart to the center, turn it on, move the ink cart to the left a bit, then move it to the right, when the cart gets to the ink station, bump it to the left quickly and return to the center to report the error

5.1Detects whether the origin sensor plate is mounted offset.

5.2Replace the origin sensor.

5.3Replace the cable of origin sensor.

5.4Replace the cart board.

6、Front and rear limit sensor error

6.1Re-plug the connecting wires of front and rear limit sensor.

6.2Replace the front and rear limit sensors.

6.3Check whether the limit sensor connecting wire has loose, broken, aging phenomenon.

6.4Replace the mainboard.

8.4 Ink is not dry

All products are not dry:

1.Check whether the UV lamp is light while printing, if not, please solve it(refer to the UV lamp is not lighted solution)

The left and right edges of the product are not dry:

1.Confirm the version number of the equipment information (pull down the machine setup menu to find the equipment information)

2.Manufacturer need to confirm the version number, upgrade the machine version.

3.Adjust the UV lamp irradiation distance in the advanced settings of the driver panel.

Error code

Error message 104: Cart resistance is large, encoder signal is abnormal, motor or motor signal is abnormal.

Error message 105: Cart reverse, encoder AB phase opposite, motor direction opposite

Error message 106: Width exceeded, check the width of the picture at the starting point of printing.

Error message 107: Zero point of cart sensor error, abnormal origin cart sensor signal

Error message 108: Encoder detection error, encoder signal abnormal

Error message 109: SDR detection error, return to factory for maintenance

Error message 110: PC driver error, usage of PC print tool error

Error Message 111: Insufficient number of squares, Insufficient number of registered squares

Error Message 112: Lifting and lowering ink station sensor error, Lifting ink station sensor abnormal

Error message 113: Cart board of main board communication error, fiber optic wiring or program problems

Error Message 114: Printing square number is 0, registered square number is used up

Error Message 115: Fiber optic cannot communicate, fiber optic wiring abnormal

Error message 116: Empty paper alarm, material exhausted

Error message 117: Parameter table ID does not match with registry ID, parameter exception error

Error message 118: Parameter table invalid, parameter abnormality error

Error message 119: The cart board did not write the main program, program abnormality error

Error message 120: Nozzle lift motor error, head lift motor sensor abnormality

Error Message 121: Paper seeding limit, table board limit sensor abnormal

Error message 122: Paper seeding initialization error, table board limit sensor abnormal

Error Message 123: Anti-collision, Anti-collision triggered or not connected

Error message 124: Collision avoidance, collision avoidance triggered or not

connected during initialization

Error message 125: Ink overflow, check the safety bottle

Error message 126: Cart gear ratio too small, motor gear ratio too small

Error message 127: Cart transmission ratio too large, motor gear ratio too large

Error message 128: Nozzle type of cart board error, mainboard parameter table can not match the cart board "FPGA"

Error message 129: Printing in the counter sensor to pause printing, infrared sensor to check the foreign body

Error message 130: External ram error, board error and return for repair

Error message 131: Position overrun error when cart stops, 200mm motor or encoder abnormal, motor or encoder abnormal, motor power abnormal

Error message 132: Position error when cart moves, 5000mm motor or encoder abnormal, motor power supply abnormality

Error message 133: Multi-machine system startup abnormality error, multi-machine system startup abnormality, not detected

Error message 134: SDR power-on detection abnormal, detection can not be detected, SDR detection abnormal reoperate-onplease return to the maintenance after many times

Error message 135: Ink station diffusion board is not connected, check whether the ink station diffusion board is connected normally

Error message 136: Temperature alarm

Error message 137: Humidity alarm

Error message 138: FPGA reset timeout, restart the machine, please return to repair for many times

Error message 139: Failed to apply external SRAM for 485 initialization.

Error message 140: 485 communication failure in multi-machine system

Error Message 142: Main Ink Bottle Empty

Error Message 143: Waste Ink Bottle Full

Error Message 154: Cover Open Alarm

Error Message 171: Wave Meter Empty

Error Message 173: Printhead cord anti-plugging reversed

Introduction to board circuit

J1	J2			J4
SIG	SIG	GND	24V	GND S4
Upper limit	Lower limit			Waste ink alarm

J5

X-axis motor signal	Y-axis motor signal	Z-axis motor signal	Y1 bottle motor signal
J12	J13	J14	J36
PUL+	PUL+	PUL+	PUL+
PUL−	PUL−	PUL−	PUL−
DIR+	DIR+	DIR+	DIR+
DIR−	DIR−	DIR−	DIR−
			EN+
			EN−

J6	J7	J8	J9	J10
GND SIG 5V	GND SIG 5V	SIG	GND SIG 5V	GND SIG 5V
Front limit	Back limit	Laser	Ink Station Lower Limit	Scraper limit

Panel board

RS-485 JP5

4	B
3	A
1	GND
2	GND

network interface

Fiber optic

UV9060MAX
Mainboard

J19
Main board power supply 24V

GND
24V

J37
Scraper motor

GP
BP2
BM2
AP2
AM2

J38
Ink station motor

BP2
BM2
AP2
AM2
MZ

Ink stir		UV light vamish	Right UV light	Left UV light		Pump V		Suction platform	FAN	Pump Pr	Pump white	Pump color
J22		J24	J25	J26		J28		J30	J31	J32	J33	J34
GND 24V		GND 24V	GND 24V	GND 24V		GND 24V		GND 24V	GND 24V	GND 24V	GND 24V	GND 24V

Nocai
Digital printer

5V GND STG
JP9
Anticollision
【Normally open 5V limit】

CHB CHA 5V GND
J10
Encoder strip
sensor

TX
Fiber optic
RX

3.3V COM GND IO 5V

JP1
Camera hardware trigger
5→3.3V
7→GND

JP22
Origin sensor

Car board J28
power supply(42V)

HV
GND
GND
HV

UV9060MAX
Carriage board

#3_Pr   I1600-U1
#2_W   I3200-U1
#1_C   I3200-U1HD
#4_V   I1600-U1

Radiator

Radiator

#1_C
L_UP   CN1   R_UP   CN2
14P
L_DOWM   CN3   R_DOWM   CN4
I3200_NHEAD_V7

#2_W
L_UP   CN1   R_UP   CN2
14P
L_DOWM   CN3   R_DOWM   CN4
I3200_NHEAD_V7

GND
21V
JP20
FAN

#3_Pr
L_UP   CN1   R_UP   CN2
14P
L_DOWM   CN3   R_DOWM   CN4
I3200_NHEAD_V7

#4_V
L_UP   CN1   R_UP   CN2
14P
L_DOWM   CN3   R_DOWM   CN4
I3200_NHEAD_V7

GND
21V
JP21
FAN

4 A 3 B 2 GND 1 GND   R-458

Panel board

The front of the Key Board

4 B 3 A 1 GND 2 GND
R-458_1
Connect
mainboard

The back of the Key Board

24VIN
GND
GND
24VIN

J2
24V
Power
supply

Maintenance rules

11.1 After-sales and quality warranty policies

From the date of contract, we provide customers with one-year warranty, but the printhead, cap top, ink pump, ink tube, ink cartridge and damper and other accessories in contact with the ink are not covered by the warranty. If a technician is required door-to-door service,the customer shall pay for the transportation, food and accommodation cost for the technician.

11.2 Seeking for help

If you have any problems with the machine, please follow the steps below for assistance:

11.2.1First check user manual.

11.2.2 Please visit the official website for more product information.

（http://www.happycolor.com.cn/）

11.2.3Contact your local dealer for assistance.

11.3 Customer information column: Refer to the following table

Customer information column	
Name：	
Product：	
Model：	
Detailed address：	
Telephone number：	

11.4 Non=warranty items

11.4.1 Failures and damages are due to the use of inks that are not produced by Nuocai.

11.4.2 Product failures and damages are due to the use of the product in an operating environment other than that specified by Nuocai (e.g. power supply, temperature, humidity).

11.4.3 Malfunctions and damages caused by improper storage (e.g. rodent, insect, liquid infiltration, foreign object entry, etc.)or loss of parts by the user.

11.4.4 Human-caused failures and damage

11.4.5 Damage and malfunctions are caused by not following the instructions for use and main points noted on the user manual.

11.4.6 Malfunctions and damages caused by carrying.

11.4.7 Failure and damage due to force majeure.

11.5 Warranty policies

11.5.1 Loss or damage of random accessories (manuals, software) is not guaranteed to be provided.

11.5.2 We will not be liable for indirect loss or future revenues incurred by users as a result of product failure.

11.6　Announcements

11.6.1 Move.

11.6.1. Do not pull the ink carriage beam and platform when moving the printer.

11.6.1.2 2 people to hold the printer's foot cup in their hands and move it smoothly.

11.6.2 Operating environment

Operating environment	Temperature	25℃-28℃
	Humidity	35%-65%