

Operation Manual

<EN>

FINA250Q/320Q

<600002290>

Version 1.0

Preface

Thank you very much for purchasing our printer.

- In order to use this printer correctly and safely and understand this product's capability, please read this manual carefully.
- The manual includes equipment structure, description, technical parameters, operation manual, safety information and application of software, etc.
- This manual is subject to change without notice.
- Contents here in contained are believed to be correct, however, please contact us if you find any error or something not clear enough.

To ensure safe and correct use

- To ensure the safe and correct use of your printer, read this manual thoroughly prior to use.
- After reading this manual, store it in a safe place for reference as necessary.
- Do not allow small children to touch the printer.
- The following describes are important points for safe operation. Be sure to observe them strictly.

Conventions used in this manual

To ensure the safe and correct use of the printer as well as to prevent human injury and property damage, the safety precautions provided in this manual are ranked in the three categories described below. Be sure to gain a full understanding of the difference between each of the categories before reading the Manual.

 **DANGER** This category provides information that, if ignored, is highly likely to cause fatal or serious injury to the operator.

 **WARNING** This category provides information that, if ignored, is likely to cause fatal or serious injury to the operator.

 **CAUTION** This category provides information that, if ignored, could cause injury to the operator or damage to the printer.

Description of safety symbols



The symbol indicates information that requires careful attention (including warnings).



The symbol indicates an action that is prohibited.



The symbol indicates an action that must be performed.

Safety precautions

To ensure the safe and correct use of your printer, be sure to observe the following points.

Installation precautions

⚠ WARNING

Do not install the printer in the vicinity of volatile solvents such as alcohol or thinner.



- A volatile solvent coming into contact with any of internal electrical components may result in a fire hazard or electric shock.

Do not place objects such as those listed below on top of the printer.



- Objects such as these coming into contact with any of internal electrical components may result in a fire hazard or electric shock..

·Metallic objects such as necklaces.

·Objects such as glasses, vases, houseplants, etc. that contain water or other fluids.

⚠ CAUTION

Do not use the printer in an unstable location such as on a slope or a location that is subject to a lot of vibration.



- Such locations may cause the printer to tip over and cause injuries.

Do not place heavy objects on top of the printer.



- Such objects may tip over or fall off, causing injuries.

If the printer is mounted on its dedicated stand, be sure to use the caster stoppers to fix the stand in place and prevent it from moving while the printer is being used



- If the stand is not fixed in place, the printer may tip over and cause injuries.

Avoid using the printer in the following locations.



- Use in such locations may result in a fire hazard or electric shock.

·Excessively humid or dusty locations.

- Locations exposed to direct sunlight.
 - Locations exposed to high temperatures.
 - Locations near flames or moisture.
 - Use at the following places may result in malfunction or failure.
 - Near equipment which generate a strong magnetic force or magnetic field.
 - Use this printer in places where the ambient temperature is between 20 to 28°C centigrade and humidity is between 40 to 70%.
-

Leave plenty of space around the printer.

- Leave sufficient space for operations around the printer.(rear and front about 2 meters, left and right about 3 meters)
-

Power supply precautions

⚠WARNING

Do not damage the power cable, or modify it in any way. Moreover, do not place heavy objects on the power cable, pull on the cable, or bend it excessively.

- There may be current leakage from the damaged parts, resulting in a fire hazard or electric shock.
- Do not unplug or plug in the power cable when your hands are wet, such action may result in electric shock.



Do not connect multiple devices to the same power outlet.

- Use of the printer in such a condition may result in a fire hazard or short circuit.



Do not bundle or tie-wrap the power cable.

- Use of a bundled power cable may result in a fire hazard or short circuit.



Make sure that the power cable is firmly inserted into the power outlet.

- Use of a power cable when the plug is not completely inserted into the power outlet



may result in a fire hazard or short circuit.

Do not use a power cable other than the one supplied with your printer.



- Use of a different power cable may result in a fire hazard or short circuit.

Be careful of the following when connecting a ground wire.



- [Items which allow connection to a ground wire]
 - Ground terminals of electric outlets
 - Ground terminals after completion of grounding work (type D)
 - [Items which do not allow connection to a ground wire]
 - Water pipes
Water pipes may have plastic parts in the middle which do not serve as grounding.
It is possible to connect a ground wire to water pipes which are approved by the waterworks department to use for grounding.
 - Gas pipes
They may cause explosions or fires.
 - Ground terminals for telephone lines and lightning conductors
These may get a high-voltage current from lightning which may cause fires or short circuit.
-

CAUTION

Use an appropriate power source and voltage for the specifications of this printer.



- Using this printer with a power source and voltage which are not compatible with the specifications may result in a fire or an short circuit.

When disconnecting the power cable, be sure to hold on to the plug, and not pull on the cable itself.



As a general rule, do not use additional power cables.

- If you use additional cable, please make sure that total amperage of the equipment connecting with cable shall not exceed the amperage of the power supply. Moreover, the amperage of all equipment connecting with wall socket does not exceed the amperage of the wall socket.



Make sure that the power plug can be readily unplugged at any time, and that there are no objects placed in its vicinity.



Be sure to ground the earth terminal.



Avoid the socket in the same circuit with copy machine or air conditioner.

Avoid using the socket controlled by the wall switch or by automatic timer.



Put your computer system away from potential sources of electromagnetic interference.

- Such as reproducers and cordless telephones.



Do not use damaged or attrited power cable.



Handling precautions

⚠ WARNING

Do not disassemble or modify printer.



If the printer makes an unusual noise, generates smoke, overheats, emits a strange odor, or otherwise functions abnormally, immediately turn off the power, remove the plug from the power outlet, and either contact the store where you purchased your printer or your nearest Graphtec representative.

Do not use flammable aerosols or similar products in the vicinity of the printer.



Before moving the printer, make sure that the power switch is in the “off” position and that the power plug has been removed from the power outlet.



Use power switch to close your printer. If the power switch is in the “off” position, power will be cut off. Before cut off the power, do not pull out the printer plug and data lines.



Before moving the printer, make sure that the print heads are fixed on the original locations



Do not touch any metallic parts on the print heads after a printing operation.

- Printing malfunctions may occur.
- There is a risk of damage from static electricity.



⚠CAUTION

Prevent metal objects or liquid contact to the internal electrical components, otherwise will result in a fire hazard or electric shock.

On the print procedure, prohibit putting hand to the printer.



Do not move the print heads by hand, otherwise will result in a damage.



Make sure that power cables be connected correctly.



In the face of the following situations, please cut off the power supply for the experienced maintenance staff to maintain:

- power cables or plug have be damaged;
- liquid splashing into the printer;
- printer fall down or damaged;
- Printer is not in normal operation or performance are changed obviously.

Maintenance and inspection precautions

⚠WARNING

Be sure to turn off the power and remove the power plug from the power outlet before performing any cleaning operations.



- Failure to do so may result in a fire hazard or electric shock.

To clean the printer, use a cloth that has been dampened with neutral detergent and then well wrung out. Do not use volatile solvents such as alcohol, benzene or thinner to clean the printer.

Do not apply any lubricant to mechanical sections of this printer.

⚠CAUTION

At least once a year, remove the power plug from the power outlet and clean the prongs and surrounding areas.

- A build-up of dust may result in a fire hazard.

When cleaning or checking the inside of the printer, make sure that a metallic object such as a necklace or bracelet does not come into contact with any of the internal components.

- Such actions may result in injuries or an electric shock.
-

Precaution on Handling the Consumable Items.

⚠WARNING

Take care not to ingest ink or get it into your eyes.

- This may cause breathing difficulty or damage to your eyes.
- If ink gets into your eyes, immediately rinse with clear water, and consult a doctor.

If you ingest ink accidentally, do not try inducing vomiting; immediately consult a doctor.

Leakage ink may cause damage to the surface coating of this printer.

⚠CAUTION

As a safety precaution, store the print heads and ink cartridges in a location out of the reach of small children.

- If ink is licked or ingested accidentally, consult a doctor immediately.

Do not use any ink other than those specified because it may not only disturb printing quality, but also cause a malfunction which will prevent appropriate maintenance procedures.

Do not use ink after the expiration date because it may cause a malfunction.

Please comply with relative applicable rules to dispose waste ink.

Take care not to get ink on your skin or clothing. If ink gets on your skin, immediately rinse it off by using soap and water.

Periodically check the amount of the waste ink in waste ink bottles to avoid an overflow.

Store ink in a dark cold place. Never store it at locations exposed to high temperatures or direct sunlight. This may affect its performance.

INDEX

| | |
|---|----|
| Preface | 1 |
| To ensure safe and correct use | 2 |
| Safety precautions | 2 |
| INDEX | 10 |
| Chapter 1 Characterizations of FINA250Q/320Q jet printer | 13 |
| 1.1 Technical parameters | 13 |
| 1.2 Structural components | 14 |
| 1.2.1 Printer view | 14 |
| 1.2.2 LCD control panel | 14 |
| 1.2.3 Print carriage | 15 |
| 1.2.4 Media Feeding and take-up system | 16 |
| 1.2.5 X/Y components | 17 |
| 1.2.6 Ink supply system | 17 |
| 1.2.7 Original position | 18 |
| 1.2.8 Capping position | 19 |
| Chapter 2 Introductions of Print head | 21 |
| 2.1 Usage of print head | 21 |
| 2.2 Cleanness and maintenance of the print head | 22 |
| 2.3 How to deal with the print heads of the printers in transit | 22 |
| Chapter 3 Installation of jet printer | 25 |
| 3.1 Install infrared drier system (OPTIONAL) | 25 |
| 3.2 Install print heads | 25 |
| 3.2.1 Preparations | 25 |
| 3.2.2 Method and steps | 26 |
| 3.3 Exterior connection | 27 |
| 3.3.1 Print interface connection | 27 |
| 3.3.2 Connect with power | 27 |
| Chapter 4 Adjustment of jet printer | 29 |
| 4.1 Install software | 29 |
| 4.1.1 Installation of TRY software | 29 |
| 4.1.2 Installation of RIP software | 29 |
| 4.2 Setting of TRY software | 29 |
| 4.2.1 Open TRY | 29 |
| 4.2.2 Choose type of printer | 30 |
| 4.2.3 Print setting | 31 |
| 4.3 Printer parameter setting | 32 |

| | |
|---|----|
| 4.3.1 Interface of printing parameter setting | 32 |
| 4.3.2 Explanations of “printing parameter setting” | 32 |
| 4.4 Adjustment of print head | 33 |
| 4.4.2 Four color overlap | 35 |
| 4.4.3 BID overlap | 38 |
| 4.4.5 Feeding compensation adjustment..... | 41 |
| Chapter 5 Operations of control panel..... | 43 |
| 5.1 Control panel | 43 |
| 5.2 Display of opening the printer | 43 |
| 5.3 Display of printer online..... | 44 |
| 5.4 Menu tree..... | 45 |
| 5.4.1 Menu tree..... | 45 |
| 5.4.2 Function description | 47 |
| Chapter 6 Ink supply system | 54 |
| 6.1 Summary | 54 |
| 6.2 System diagram | 54 |
| 6.3 Structure | 54 |
| 6.3.1 Main tanks | 55 |
| 6.3.2 Ink pumps | 55 |
| 6.3.3 Filters..... | 55 |
| 6.3.4 Sub ink tank..... | 56 |
| 6.3.5 Assistant board..... | 56 |
| 6.4 Function description | 56 |
| 6.5 Operation description | 57 |
| 6.6 Intelligent Detection Function | 57 |
| Chapter 7 Cleaning system..... | 58 |
| 7.1 Summary | 58 |
| 7.2 System diagram | 58 |
| 7.3 Working Principle of Positive Pressure Cleaning..... | 58 |
| 7.4 Operation Description of manually capping system..... | 59 |
| Chapter 8 Heating system..... | 61 |
| 8.1 Summary | 61 |
| 8.2 Working Diagram | 61 |
| 8.3 Functions | 61 |
| 8.4 Working Process and Characteristics..... | 62 |
| Chapter 9 Maintenance..... | 63 |
| 9.1 Daily maintenance | 63 |
| 9.1.1 Maintenance after each printing | 63 |
| 9.1.2 Daily work | 63 |

| | |
|--|----|
| 9.1.3 Weekly work..... | 63 |
| 9.1.4 Monthly work..... | 63 |
| 9.1.5 Yearly work | 64 |
| 9.2 Maintenance of print heads | 64 |
| 9.2.1 Print heads cleaning..... | 64 |
| 9.2.2 Moisturizing of print head | 64 |
| 9.2.3 Unload print head | 65 |
| 9.3 Maintenance for ink supply system..... | 65 |
| 9.4 Maintenance for other parts..... | 66 |
| 9.4.1 Print heads rail..... | 66 |
| 9.4.2 Feeding and take-up rollers | 66 |
| Addendum..... | 66 |

Chapter 1 Characterizations of FINA250Q/320Q jet printer

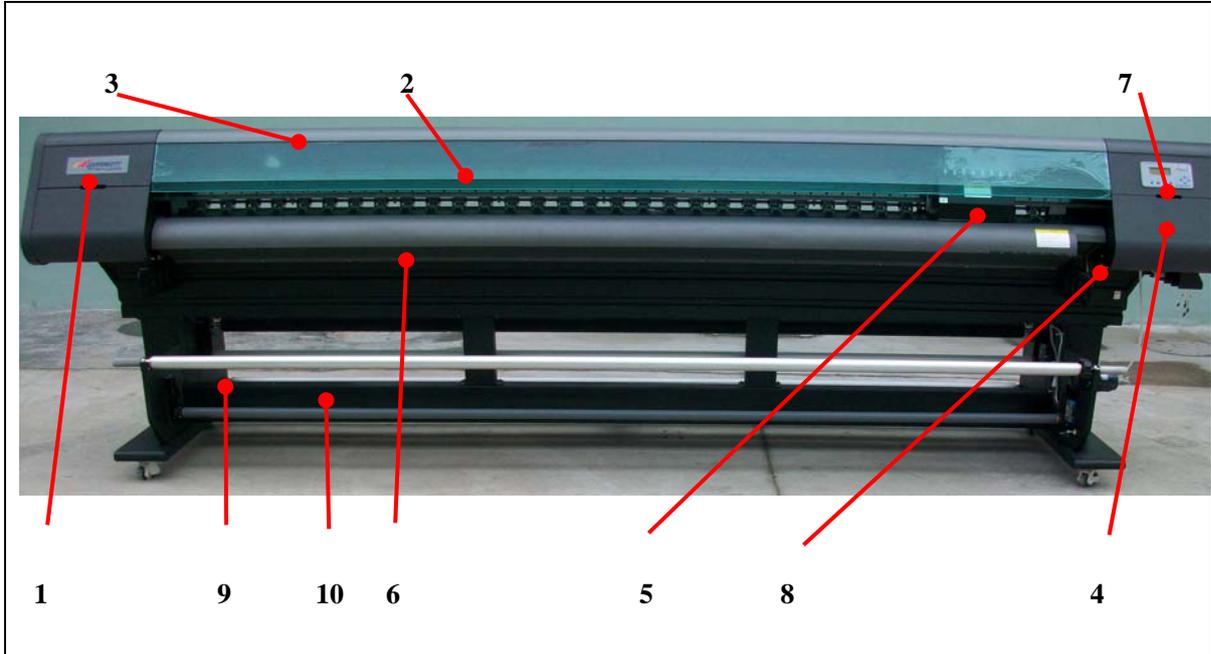
1.1 Technical parameters

| | | |
|---------------------|--|------------------------|
| Product Mode | FINA250Q/320Q | |
| Print Head | PQ-512-15PL, 2 print head | |
| Drop size | 15pl | |
| Speed & output | 2 PASS | 44 m ² /h |
| | 3 PASS | 31 m ² /h |
| | 4 PASS | 22 m ² /h |
| | 6 PASS | 15 m ² /h |
| | 8 PASS | 11.4 m ² /h |
| Max Media Width | 3300mm | |
| Media Transmission | Auto Media Feeding & Take-up system(Take-up is OPTIONAL), «50kg/Roll | |
| Media Type | PVC , Flex , Vinyl , l window film , polyester , etc | |
| Max Printing Width | 3250mm | |
| Media Feeding | Auto Media Feeding & Take-up system(Take-up is OPTIONAL) | |
| Color | 4color,CMYK | |
| Display | LCD display with 8 key panel, self-diagnosis available | |
| Ink type | Eco-solvent and Solvent-base ink | |
| Main feature | front-rear heater, P/H heater Infrared drier(OPTIONAL) positive pressure cleaning, Manual capping system LED lamp | |
| Print head Height | 2.5 mm-4.5 mm above media adjustable | |
| Operation Platforms | Support many RIP drivers & Multi-operation platforms (Window2000,NT,XP etc.) | |
| Print Interface | USB2.0 interface (Window2000、 NT、 XP etc) | |
| Printer Drive | RIP Normal FINA RIP, support multiform third-party RIP | |
| Power | AC100 or 240V , 50HZ/60HZ | |
| Working Environment | Temperature: 20°C ~ 28°C Humidity: 40% ~ 70% | |
| Printer Size/Weight | Net Weight: 4470mm(L) X 830mm(W) X 1180mm(H) 330KG Gross: 4500mm(L) X 925mm(W) X 1200mm(H) 368KG | |

The parameters above are subject to change without notice.

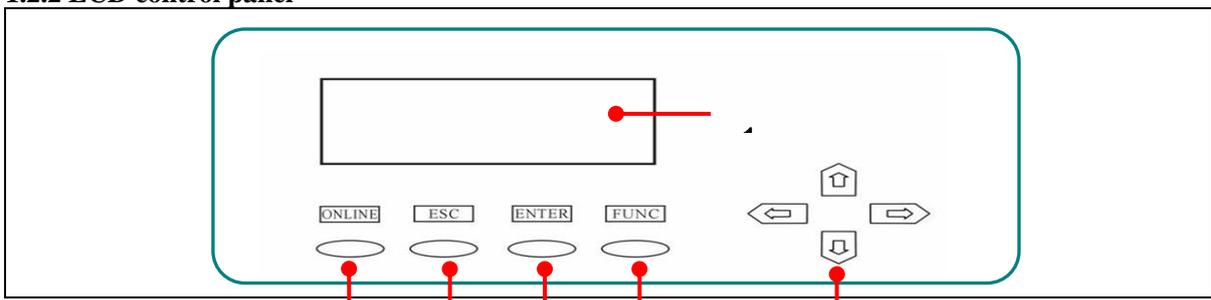
1.2 Structural components

1.2.1 Printer view



| No. | Name | Function |
|-----|----------------------|---|
| 1 | Left trunk assemble | Left supporting trunk |
| 2 | Front clear cover | Front clear cover. |
| 3 | Mid-rear cover | Mid-rear cover |
| 4 | Right trunk assemble | Right supporting trunk |
| 5 | Print head cover | Print head cover |
| 6 | Front cover | Front cover. |
| 7 | LCD Control Panel | Confirmation of the printer status and various settings can be performed with this panel. |
| 8 | Press spanner | Put up and down pinch roller.Used for feeding media. |
| 9 | Media take-up Roller | Take up the media. |
| 10 | Feeding Roller | Feeding media |

1.2.2 LCD control panel

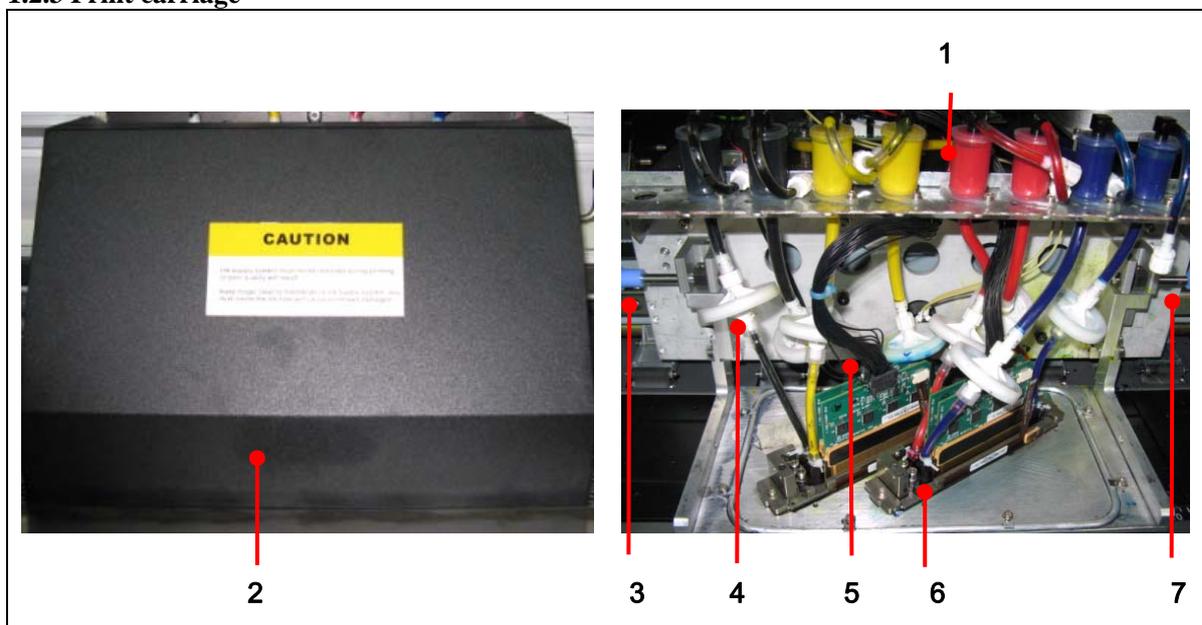


FINA250Q/320Q Operation Manual

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| | 2 | 3 | 4 | 5 | 6 |
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| No. | Name | Function |
|-----|--------------|--|
| 1 | LCD Display | The LCD Display shows various menus. |
| 2 | ONLINE Key | This key switches Online/Offline. Press this key to toggle between Online and Offline, and [Online] or [Offline] is shown on the LCD Display. When this key is pressed for several seconds during printing, the printing is paused and the Online menu is displayed. |
| 3 | ESC Key | This key cancels the current job, and returns the menu display to one position above. |
| 4 | ENTER Key | This key confirms the selection of an item or the setting of a value. |
| 5 | FUNC Key | This button switches functions of this printer. Press the [FUNC] key + [↵] key simultaneously to execute test print when no printing is performed. |
| 6 | Position Key | ↑↓ These keys scroll the menu. They are also used to increase or decrease the set value of the selected item. ←⇒ These keys move the cursor on the menu. |

1.2.3 Print carriage



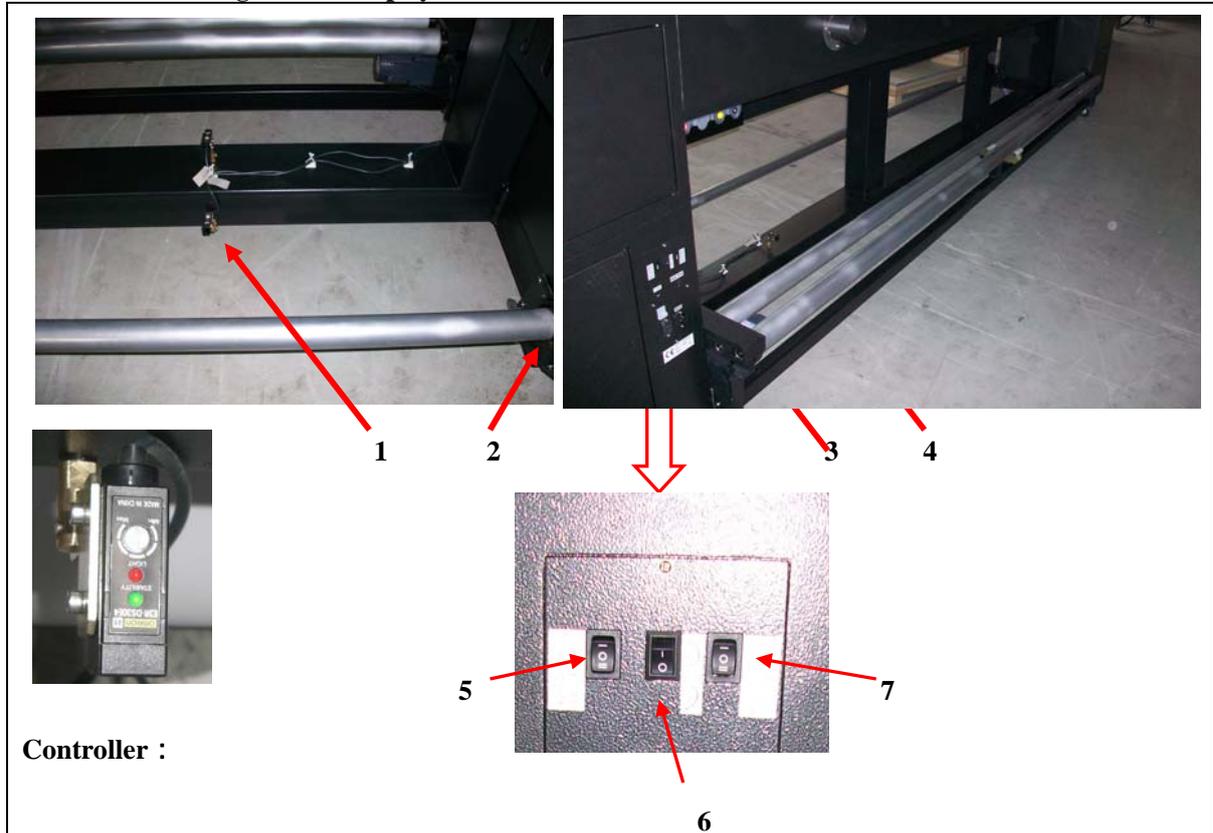
| No. | Name | Function |
|-----|----------------------------|---|
| 1 | Inlet tube | These tubes supply ink to the print heads. |
| 2 | Print head cover | The cover to protect the print heads. |
| 3 | Left P.H. Adjustment lever | The left lever and the right adjustment lever to adjust the |

FINA250Q/320Q Operation Manual

| | | |
|---|------------------------------|--|
| | | height of the print heads. |
| 4 | Print heads filter | Filter impurities in ink |
| 5 | Print head data-driven Cable | Print head data-driven Cable |
| 6 | Print heads | Print heads |
| 7 | Print Head localizer | fix the Print Head |
| 8 | Right P.H. Adjustment lever | The right lever and the left adjustment lever to adjust the height of the print heads. |

⚠ CAUTION To keep all print heads parallel with the platform, please adjust the left and the right adjustment lever to the same location.

1.2.4 Media Feeding and take-up system

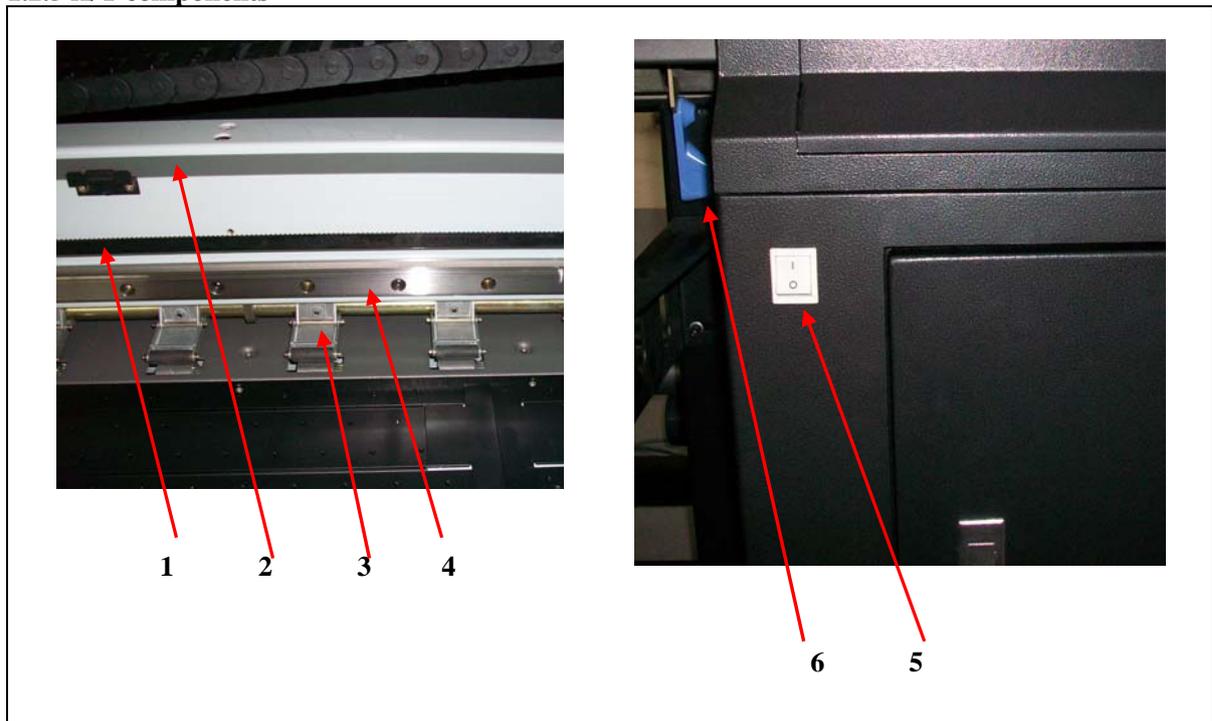


| No. | Name | Function |
|-----|----------------------|---|
| 1 | Media take-up sensor | Provide control signal to auto take-up media system |
| 2 | Media take-up motor | Take-up Roller driver |
| 3 | Media feeding motor | Feeding Roller driver |
| 4 | Media feeding sensor | Provide control signal to auto feeding media system Note: For some fabrics need to adjust the sensitivity of photoelectric sensor, please use the method of fine-tuning. |

FINA250Q/320Q Operation Manual

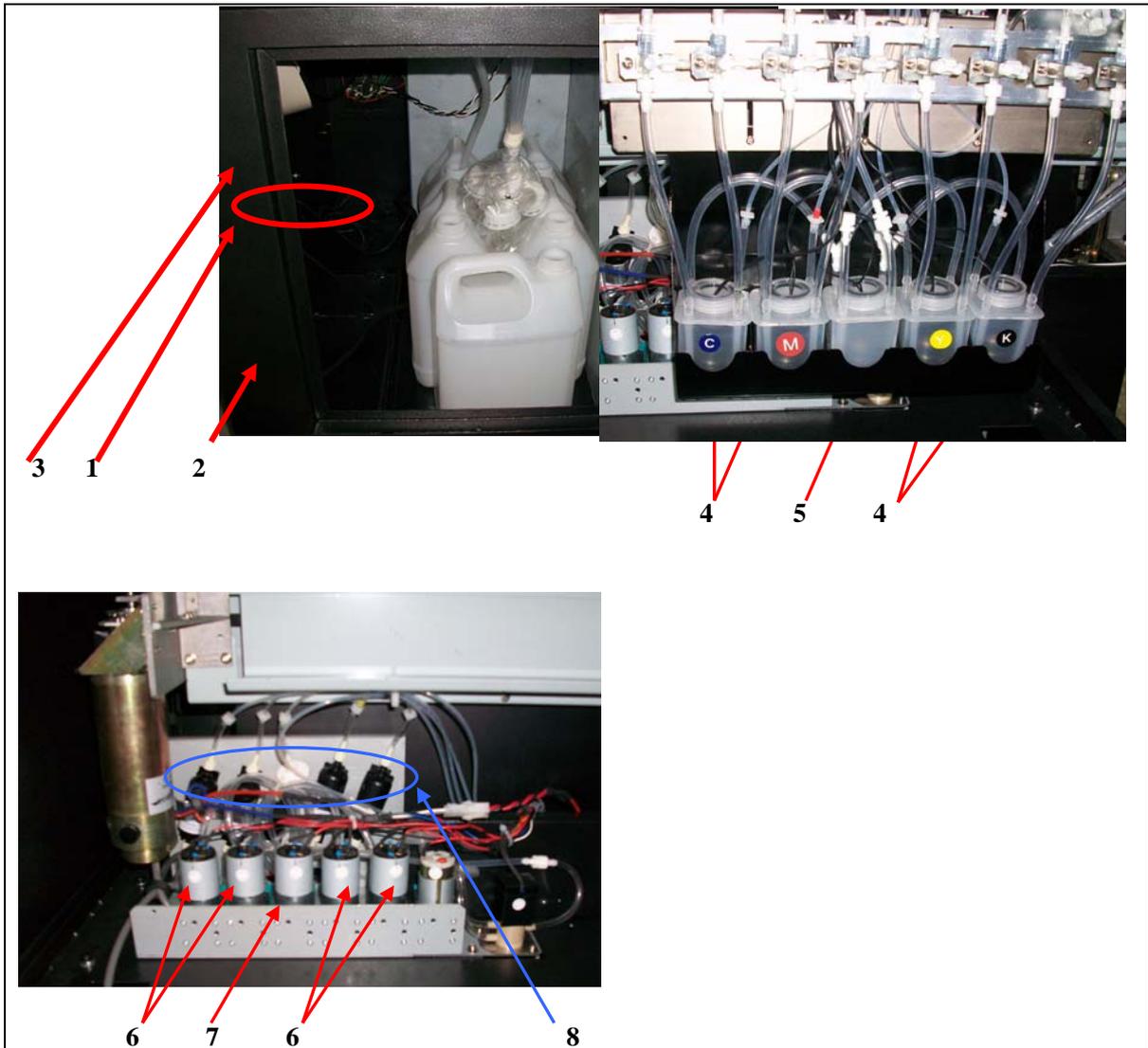
| | | |
|---|----------------------------------|---|
| 5 | Media feeding control switch | Switch way of feeding media (automatic/manual/halt) |
| 6 | Media feeding commutation switch | switch motor rotation directions |
| 7 | Media take-up control switch | Switch way of take-up media(automatic/manual/halt) |

1.2.5 X/Y components



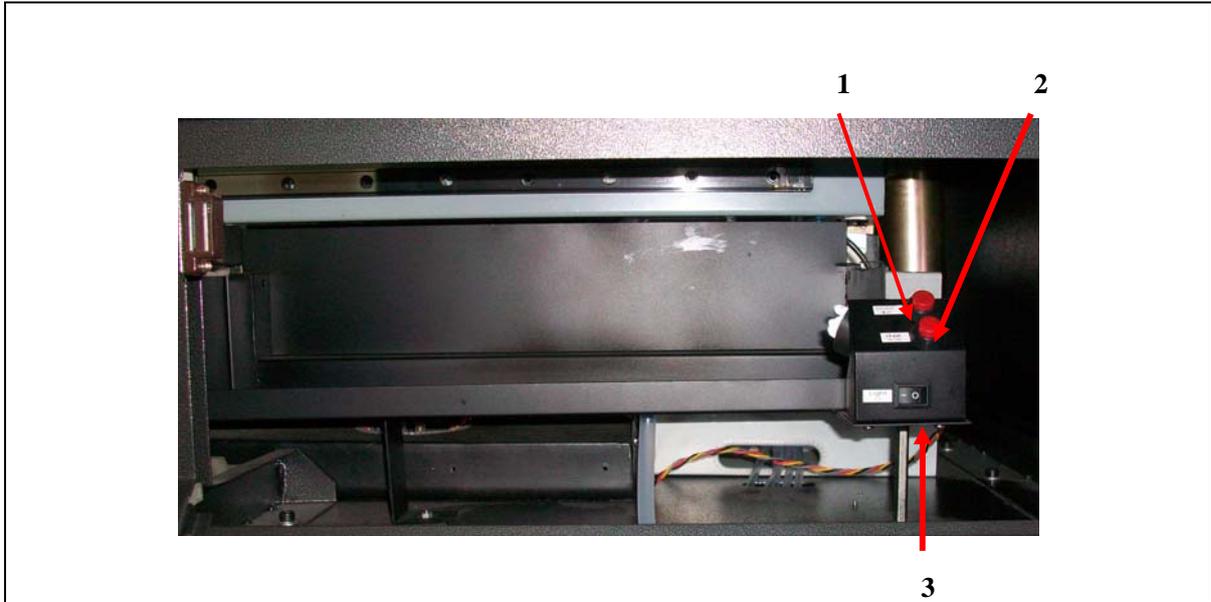
| No. | Name | function |
|-----|---------------------------|---|
| 1 | Y drive strap | Drive print carriage horizontal moving. |
| 2 | Y-raster strip | Take count of print head horizontal moving, so as to insure of Y-direction image precision. |
| 3 | Pinch Roller | Press media and make media smoothly. |
| 4 | Guide track | Lead the print head carriage do linear moving |
| 5 | Power switch | Switch on/off the power supply. |
| 6 | Press Roller Control Pole | Control press roller up / down |

1.2.6 Ink supply system



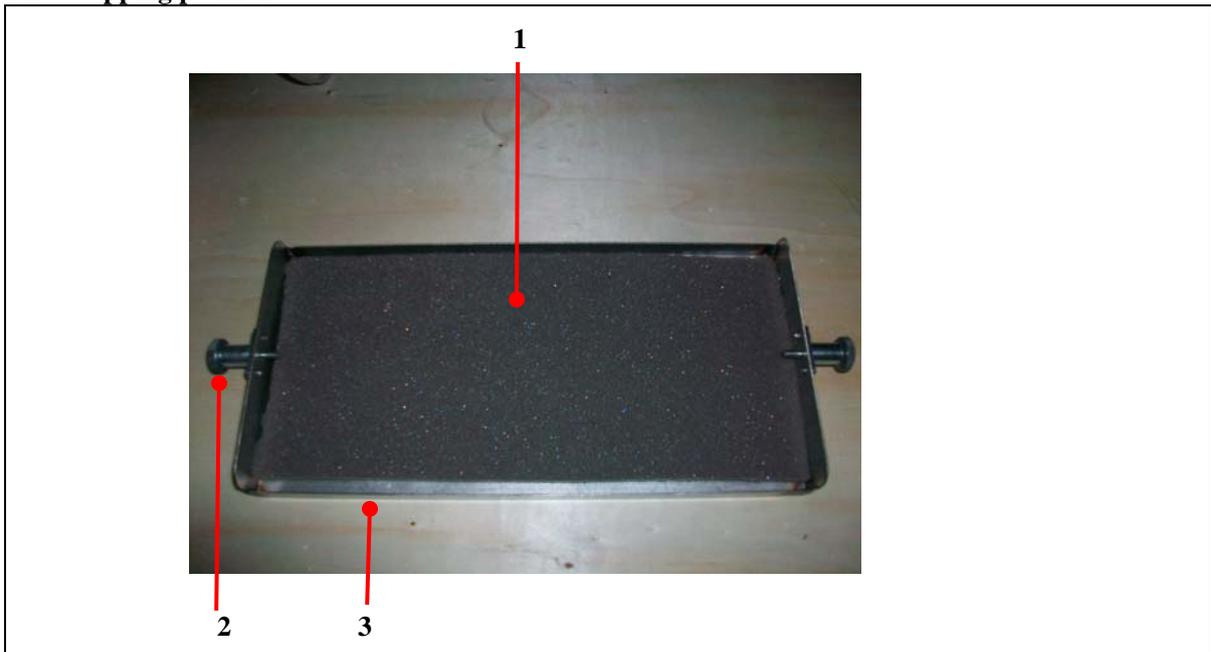
| No. | Name | Function |
|-----|---------------------|---|
| 1 | Main ink tank | Store ink for printing |
| 2 | Flush solution tank | Store flush solution tank |
| 3 | Waste ink tank | Store waste ink |
| 4 | Assistant ink tank | Store ink for print head |
| 5 | Safety tank | |
| 6 | Ink pump | provide ink from main tank to sub tank |
| 7 | Flush solution tank | Inject flush solution into print head to clean the print head |
| 8 | Filter | Filter out the impurities in ink |

1.2.7 Original position



| No. | Name | Function |
|-----|-----------------------------------|--|
| 1 | Positive pressure cleaning button | Turn on positive pump and press ink out from print head |
| 2 | Flush solution button | Turn on flush solution pump and press flush solution out from print head |
| 3 | LED switch | switch on/off LED lamp |

1.2.8 Capping position



FINA250Q/320Q Operation Manual

| No. | Name | Function |
|-----|----------------|---|
| 1 | capping sponge | supply a wettish environment to print heads |
| 2 | capping handle | adjust the print head to press it into or out from capping sponge |
| 3 | capping tray | uphold capping equipment |

Chapter 2 Introductions of Print head

2.1 Usage of print head

1. Flush liquid out of the print head (before installing print head)

For print head protecting, lots of liquid is injected into the print head before it is used. The liquid must be flushed out for the first time using. Before fixing the print head on the print head frame, operate as follows: joint a filter on the In-tube of the print head, and then joint an injector--which fills with flush solution--on the filter. Inject 50 ml flush solution into the print head to eject the liquid inside. If you find the printing line is not straight, flush the print head again until the printing line become a straight line.

Make sure to operate on a stable and clean platform.

Notice:

- Operate on a clean and convenient platform.
- Do not touch the surface and socket of the print head with your fingers.
- The injector should be filtrated with a filter.
- Do not touch the print head surface with other objects.

The force to inject cleaning solution can't exceed 0.3kg.(It is correspond to holding a injector with one hand and use the thumb of this hand pushing the injector)

2. Extrude air from the print head

After fixing the print head on the print head frame , remove the Cap from the Out tube. Then infuse ink to print head by positive-pressure to extrude the air from the print head.

3. Clean print head surface

After extruding air from the print head and the ink flowing back to print head completely, scrub the print head surface with a cleaning stick.

4. Test printing

Design some color blocks as 20 x 20 cm with some image operating software, and set color luminance as 100%, 50% and 10%. Print the color blocks under test mode and check the print result. If the print result is normal which means no ink-break and no ink spots on the mediums, the printer can work normally.

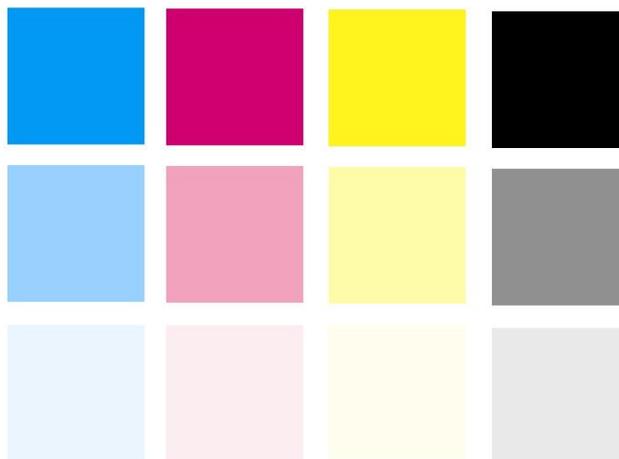


Chart5-1 Test printing picture

2.2 Cleanliness and maintenance of the print head

1. Ink replacing

Flush the print head with the original ink first, and then flush it again with new flush solution which matches the new ink. To make the original ink and original flush solution in the print head least.

2. Moisturize print head

Use wet keeping frame to moisturize the head if the printers is left unused. Put a clean non-woven fabric on the sponge of wet keeping frame and drop some flush solution on it because the sponge usually has dust on it. If no wet keeping frame, adhere a clean non-woven fabric with some flush solution on the print head and wrap it with a fresh keeping polyester film

Notice: This method is just used for moisturizing the print head which unused in a short time.

2.3 How to deal with the print heads of the printers in transit

1. Prepare tools and spare parts for cleaning print heads and preventing print head from static damages .

Use anti-static wrist strap and nitrile glove to do this works. To keep glove clean, the nitrile glove need to be replaced frequently. And use fabric with the cleaning room grade to wipe print heads in the last.

2. Cleaning with air pressure

- a、 Use air pressure with 275mbar (4 psig) to clean the two print head module until ink and air is excluded. And use fabric with the cleaning room grade to wipe print head faceplate.
- b、 If the ink working temperature is higher than 40°C , please heat print heads to reduce the viscosity of Ink.
- c、 Wait a minute and then repeat. If there no ink expelled from print head, please go into the next process. Otherwise, need to repeat the process of air pressure cleaning until there is only air

excluded from print heads.

3. Clean print head modules and filters

- a、 Use the flush solution supplied from ink factory, and the chemical property of flush solution should be compatible with ink and print head.
- b、 Throwing away used filters and using a new filter which had been cleaned after transport is a better way. If can't do so, need to clean print head with filter.
- c、 Use the positive pressure with 14-28mbar (0.2 to 0.4 psi) , or use the flush solution which its flux is about 20ml per minute to clean print heads and filters slowly.
- d、 Continue to clean print heads and filters for some minutes until the flush solution from PH module look colorless.
- e、 Wait two minutes again.
- f、 Use 20ml flush solution to clean per PH module again and the color of flush solution from PH module need to care.
- g、 Repeat the process of e to f until the flush solution from PH module look colorless.
- h、 Please complete the process patiently. As a reward, the print head transported will be keep a perfect printing effect.

4. Take print head down: (if the process is not complete before)

- a、 cover the sealed print head module or the connecting of filter
- b、 cover the ink pipe which connect with print head
- c、 clean the ink route if it is not clean up before, and then seal it
- d、 please refer to "AN000053 Flushing an Ink Delivery System and a Printhead Having a Last Chance Filter"

5. Pack print head:

- a、 use clean non-dust cloth with flush solution to wrap print heads and make all nozzles cover with Humid non-dust cloth
- b、 wrap the print head including non-dust cloth with cling film. Need a test to make sure that the chemical characteristic of cling film is compatible with the flush solution

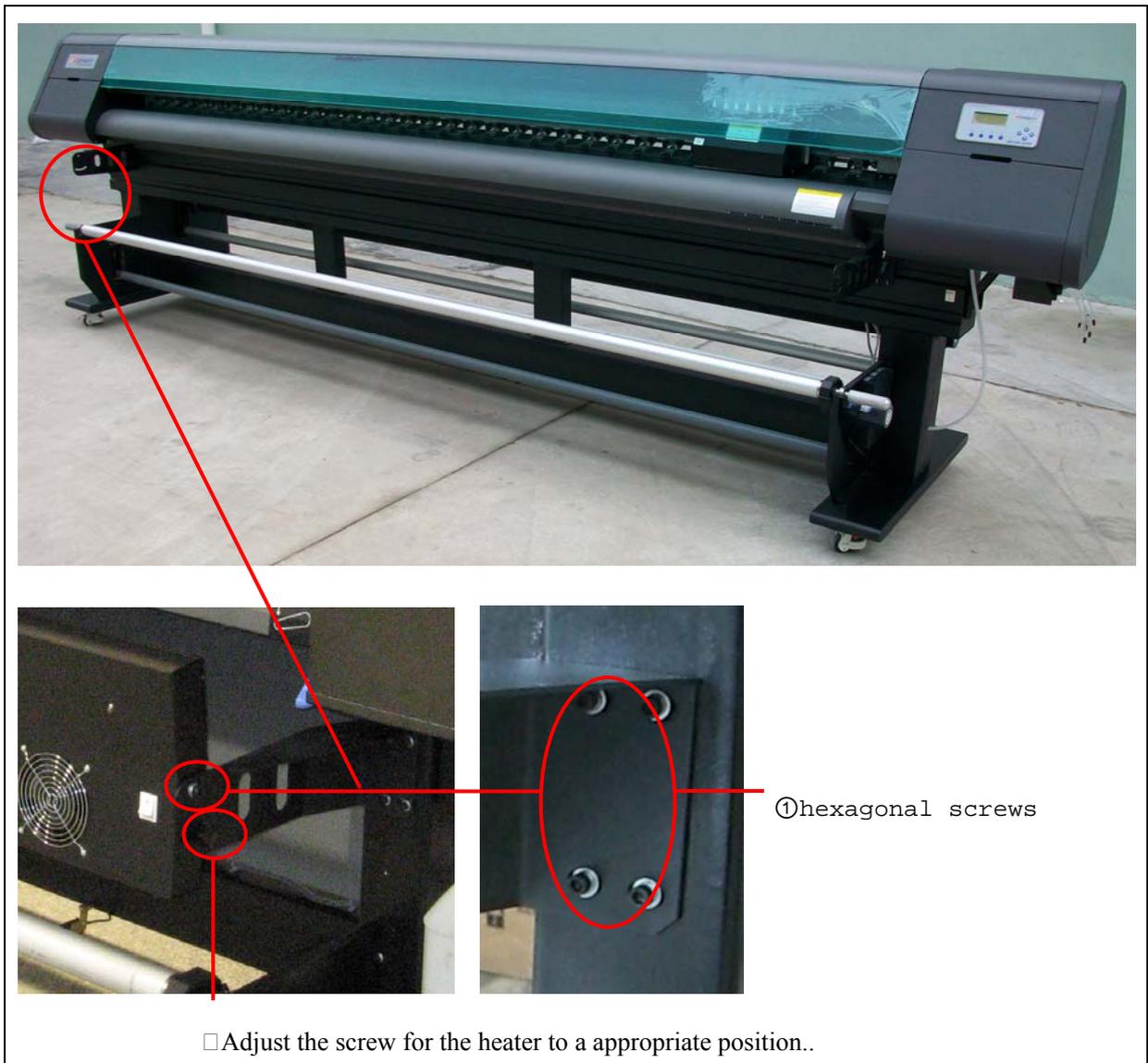
- c、 put the wrapped print head into ESD anti-static bag. Seal the bag
 - d、 And then, put it into sealed gluey bag and make sure that the gluey bag is hermetic. Also need a test to make sure that chemical characteristic of the gluey bag is compatible with the flush solution
6. Safe transport
- a、 put the wrapped print head into hubble-bubble bag, and then, put it into packaging box to avoid collision

Chapter 3 Installation of jet printer

Introduce the installation and issues of attentions in this chapter.

⚠ CAUTION Please read the safety information in this manual thoroughly before installing printer.

3.1 Install infrared drier system (OPTIONAL)



3.2 Install print heads

The installation of the print head refers to the operation introduction as below.

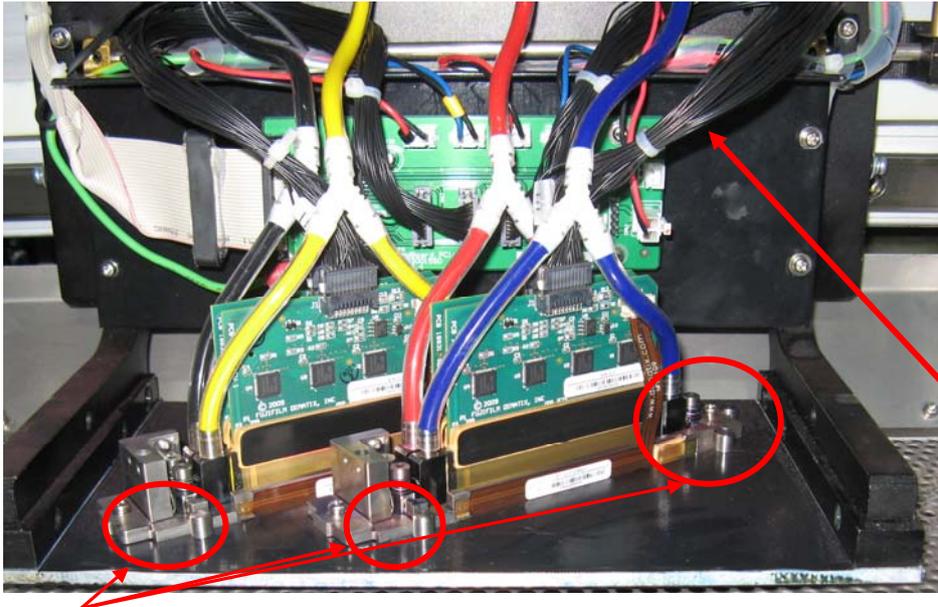
3.2.1 Preparations

1) Please prepare following items:

- Flush solution
- Non-woven fabric.

2) Wear anti-static wrist strap, in order to prevent damage to print head circuit boards.

3.2.2 Method and steps



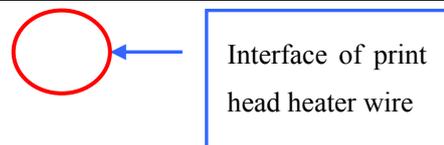
fixing dowel

data wire

Installation steps:

- Flush out all new print heads with flush solution.
- Insert fixing dowel into a corresponding position.
- Install print heads onto soleplate and each side must abut against the fixing dowels.
- Print heads fixing: Fix print heads onto print head plank with three M3 screws and pull out the fixing dowels.
- Repeat the action of to install the all print heads by turn.
- Connect data wires of print heads.
- Connect heater wires and temperature sensor wires.

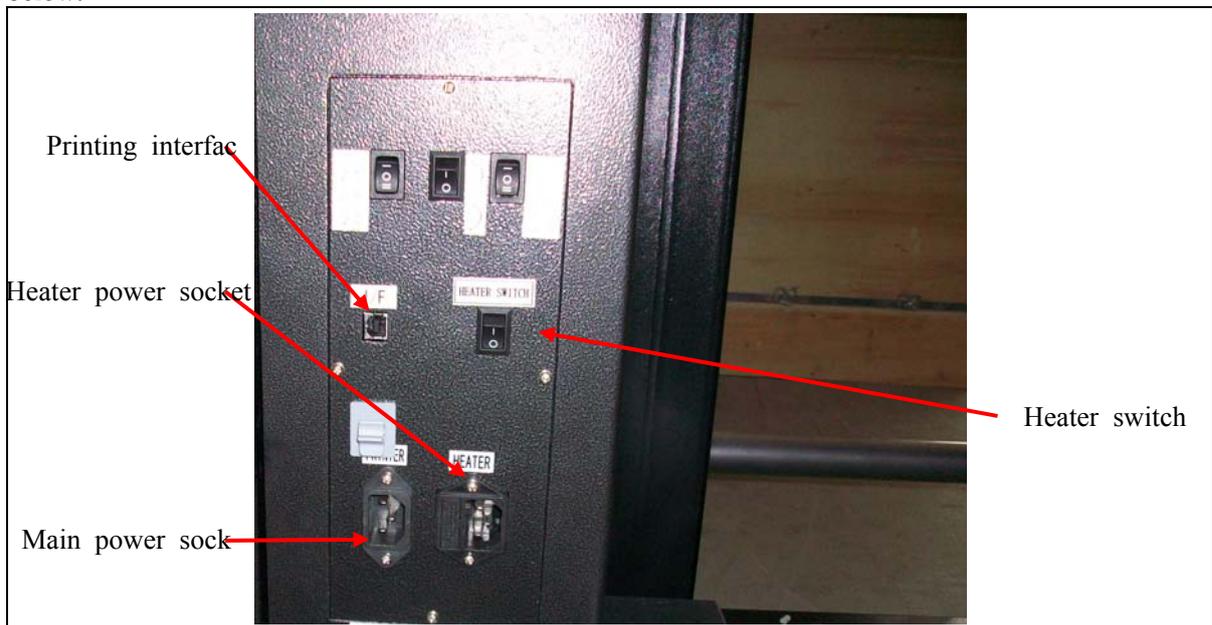
See the following picture:



⚠ CAUTION Make sure to wearing anti-static wrist strap when connect print heads to driven board, otherwise will result in a damage to print heads and print heads driven board. Please pay attention to the direction of notches and make sure to inserting the assembles entirely to notches, otherwise will result in a damage to the print heads.

3.3 Exterior connection

Include print interface connection and corresponding power connection. The exterior interface board as below:



3.3.1 Print interface connection

1) Interface type: USB2.0

2) Installation:

- Connect the printer's USB interface to computer's USB interface directly with data wires.
- USB drivers procedure finishes automatically when Try Setup is installed.

3.3.2 Connect with power

1) Power supply:

- Please select for different countries or regions:

Control power supply: AC 220V 50Hz or AC 110V 60Hz

Heating/Feeding/Cleaning power supply: AC 220V 50Hz or AC 110V 60Hz

- For the printer, make sure the printer is well grounded.
- It is better to use UPS stable-voltage power.

⚠CAUTION Please choose the type of power shown on the printer in case of damage to the printer.

- 2) Removing carefully all the packaging materials like foam, adhesive tape and so on before connect with power supply.
- 3) Connect power wires and data wires. Power protective switch can only control heating power and it is at open status in normal condition (It's in the open status when far from red point).
- 4) After everything is ready, switch on main power supply.
- 5) Load media and the printer onto the standby status.

⚠CAUTION Check the feeding media if pressed by the left and the right pressing clamp, and the media on the feeding roller if level off. To avoid disturbing the moving of the print head carriage.

- 6) Test to check if printer heads is good to print. If the test result is unsatisfactory, you should clean print head.

Chapter 4 Adjustment of jet printer

4.1 Install software

4.1.1 Installation of TRY software

- Insert the installation CD into computer's CD-ROM.
- Run Aprint Try
- Follow the instruction to finish the installation.

⚠ CAUTION Generally, please don't change the default install directory optionally.

4.1.2 Installation of RIP software

- Insert the installation CD into computer's CD-ROM.
- Run Aprint RIP
- Follow the instruction to finish the installation.

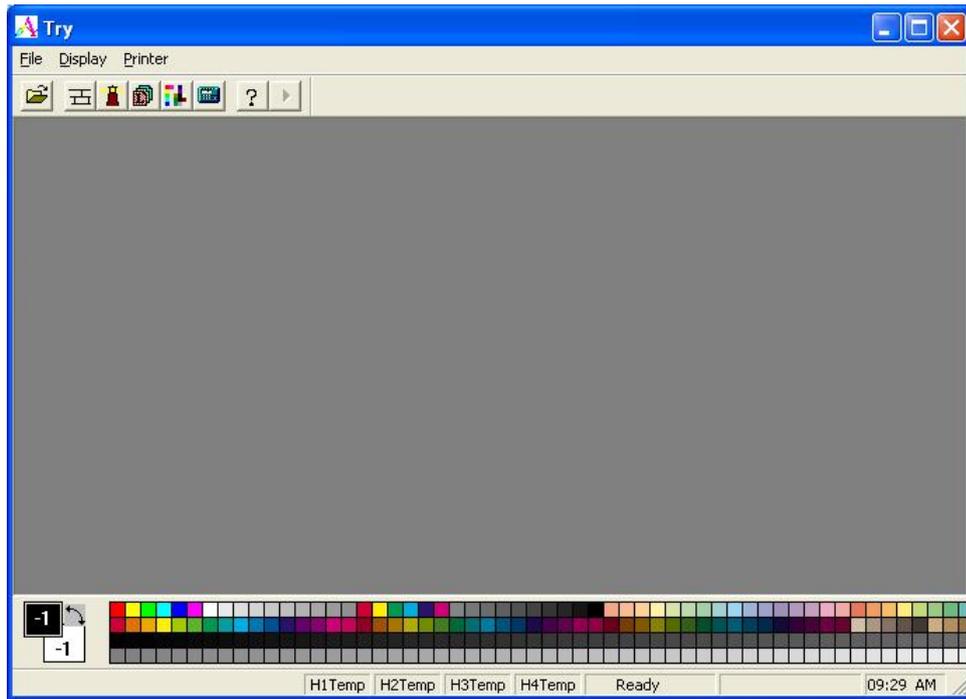
The detail instruction refer to the < RIP software user's manual >

4.2 Setting of TRY software

⚠ CAUTION The driver program is only for engineer to adjust the print head, and not necessary for normal operation.

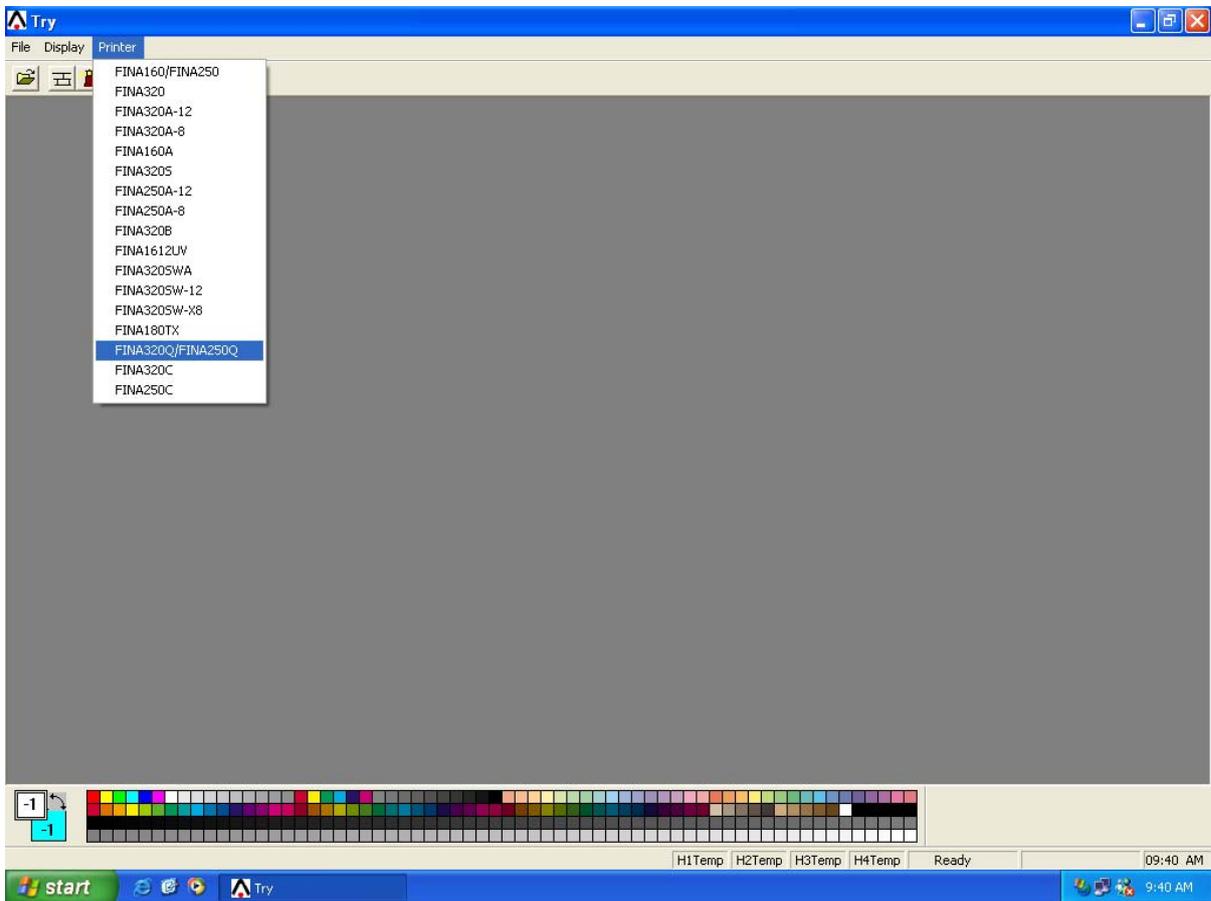
4.2.1 Open TRY

Click Start\Program\Try, enter Try system. The interface as below:



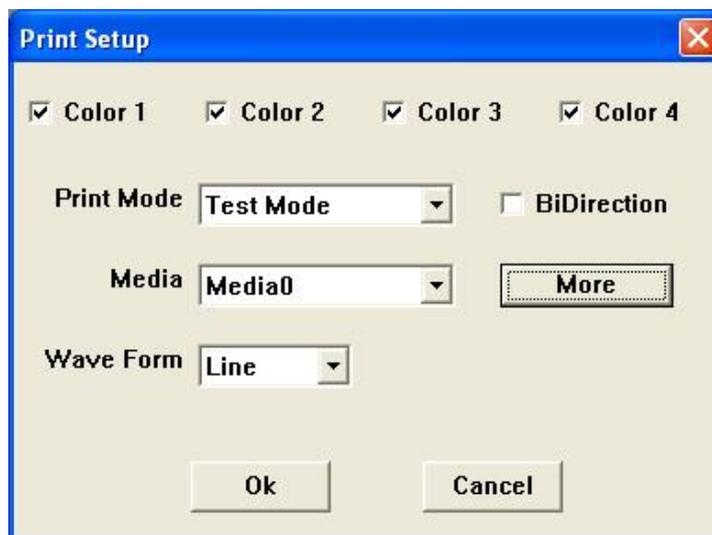
4.2.2 Choose type of printer

Click “printer”, choose type of printer:



4.2.3 Print setting

Click “File”-> “Print setting”, open print setting window:



1) This window is to set the printing parameter, print mode, uni-direction, BID and the color of ink.

⚠ CAUTION Usually, the four colors should all be selected. Only when the engineer adjusts the position of print head, one certain color is chosen to modify the printing parameter.

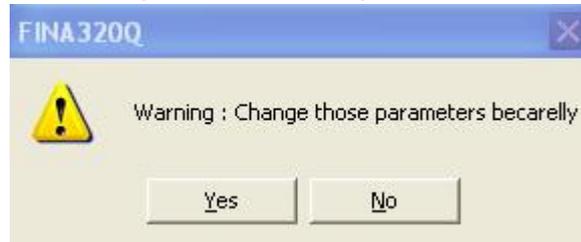
2) Print Mode:

| P.H QTY | Print Mode | Explanation of print mode |
|---------|------------|---|
| 2 | Test Mode | Horizontal printing precision is 720 dpi. Printer will print 180dpi precision once at feeding direction. |
| | 720×360 | Horizontal printing precision is 720 dpi. Printer will print 180dpi precision two times at feeding direction. |
| | 720×540 | Horizontal printing precision is 720 dpi. Printer will print 180dpi precision three times at feeding direction. |
| | 720×720 | Horizontal printing precision is 720 dpi. Printer will print 180dpi precision four times at feeding direction. |
| | 720×1080 | Horizontal printing precision is 720 dpi. Printer will print 180dpi precision six times at feeding direction. |
| | 720×1440 | Horizontal printing precision is 720 dpi. Printer will print 180dpi precision eight times at feeding direction. |

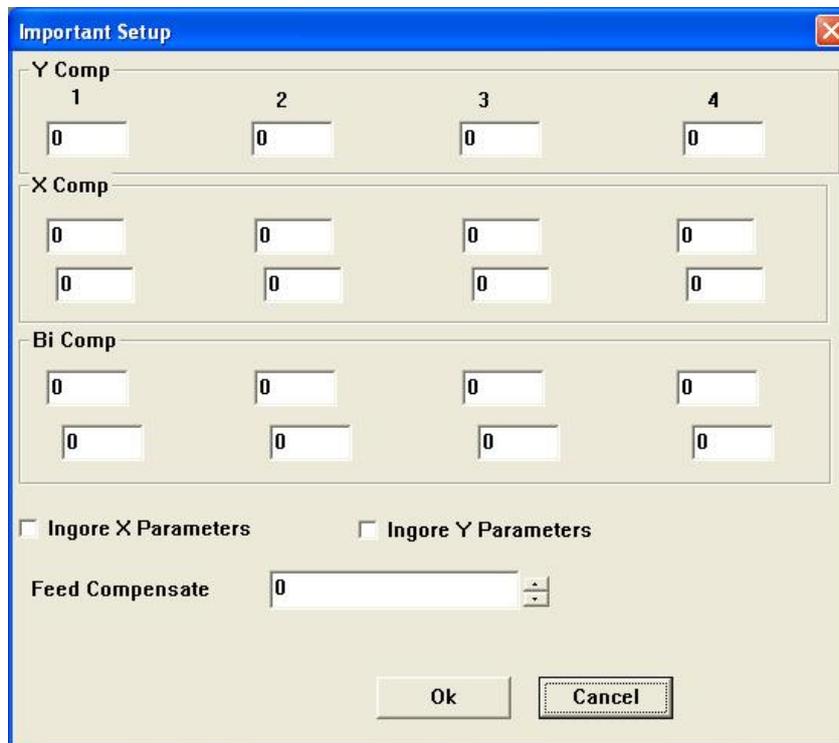
4.3 Printer parameter setting

4.3.1 Interface of printing parameter setting

1) Pressing “Printing parameter setting”, it shows warning as below:



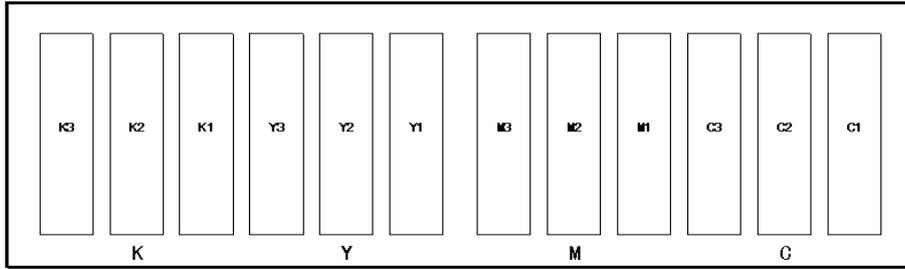
2)After pressing “Yes”, you can see the “printing parameter setting” dialogue box:



4.3.2 Explanations of “printing parameter setting”

Adjust the print heads position to gain a better print quality by setting the printing parameter. The explanations of printing parameter as below:

- 1) Vertical space: the vertical space between print heads of all kinds color. It’s used for emending vertical space overlapping of all kinds color print heads.
- 2) Horizontal space: the horizontal space between every print head. It’s used for emending overlapping of four colors. The print head range chart lists as below:



3) BID Rectangle: To adjust the BID rectangle tolerance value. Generally, modify BID rectangle value first in BID adjust. If the difference is not big, adjust here.

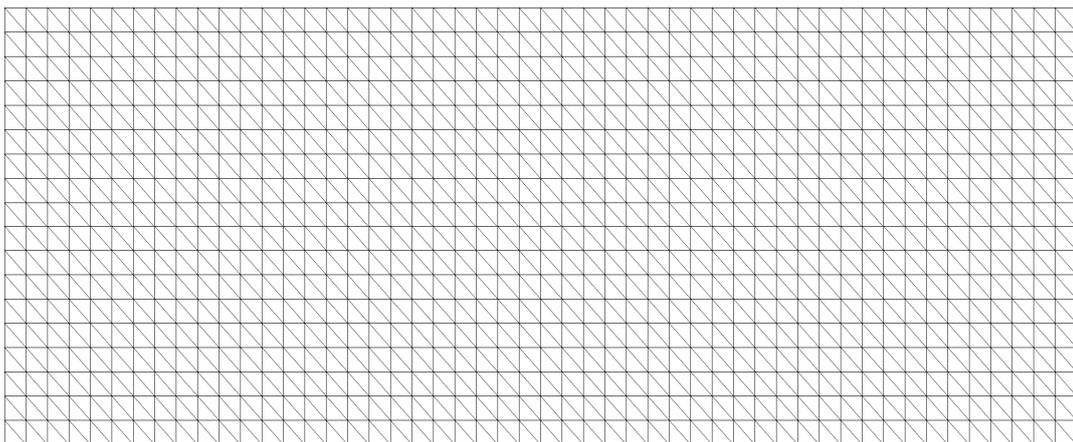
4) Ignore horizontal and vertical deviation: No adjustment. Only for inspect printer status.

5) Feed Compensate: Used to adjust the feeding on the Y direction. The amount of feeding is different with different Pass. After adjusting, it can correspond relevant rectangle automatically by different printing mode and media types.

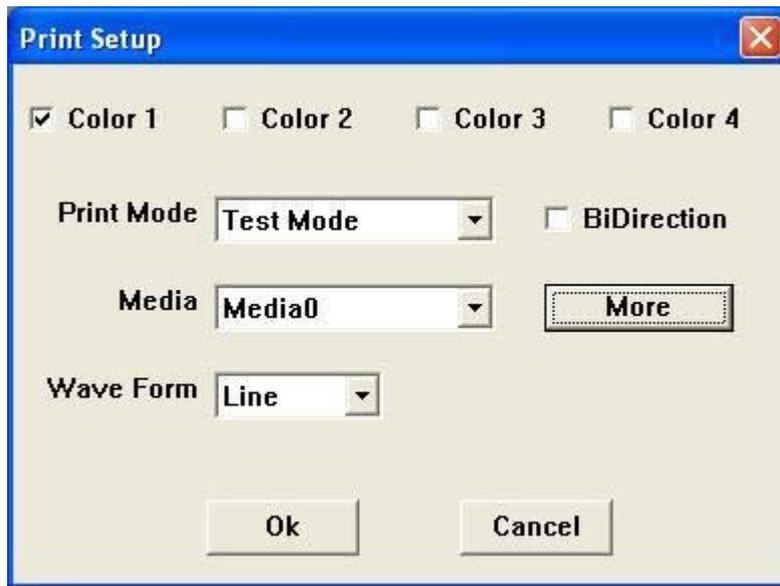
4.4 Adjustment of print head

Software adjustment have 4 steps : Two print heads one color adjustment, four color overlap (horizontal and vertical), BID overlap , Feeding compensation adjustment. It should be used “SmallGrid126.group” file to adjust these parameter under the TEST Mode. Below is the detail steps :

- 1、 Select Open/File, load the file C:\try\SmallGrid126.group

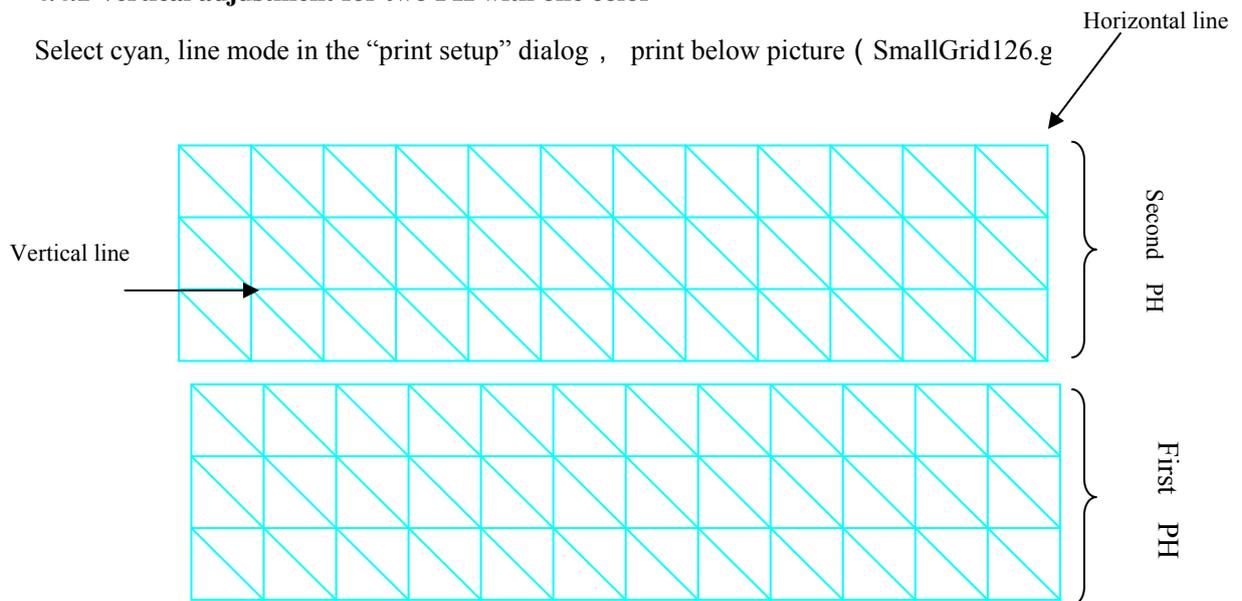


- 2、 Adjust the 4 color overlap : Open TRY and go into the “print setup” dialog. Select the corresponding quantity of print head(eight or twelve or sixteen) and corresponding color ,Cyan is the benchmark color, The four color overlap is beginning with cyan:



4.4.1 Vertical adjustment for two PH with one color

Select cyan, line mode in the “print setup” dialog , print below picture (SmallGrid126.g

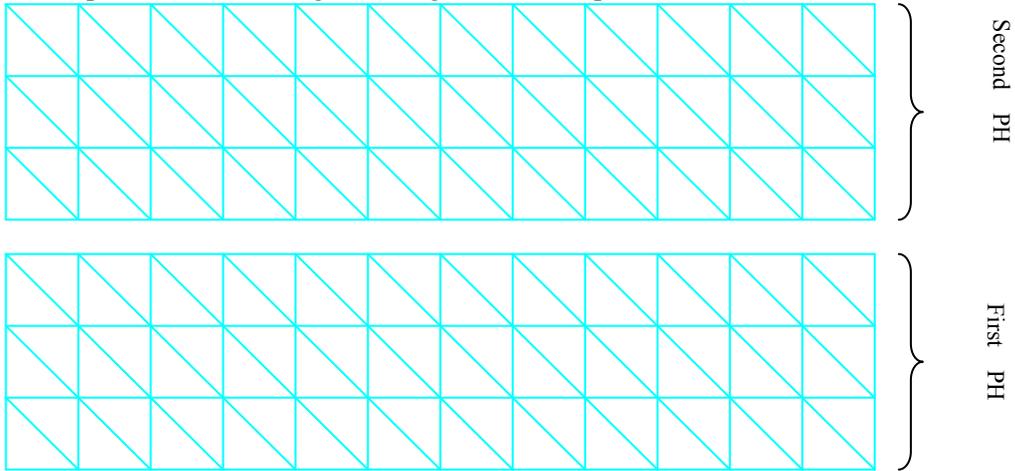


From this picture you can see the vertical line printed by the first PH and the second PH is not in a same line.

So you should adjust the vertical compensation for the first PH, minus number: the first PH printing line will move left direction and plus number: the first PH printing line will move right direction. For this picture you should put plus number 4 in the “Para setting” dialog(number 4 is just a sample you should set repetitious then get the correct number)



After set the parameter Print again then get the below picture:

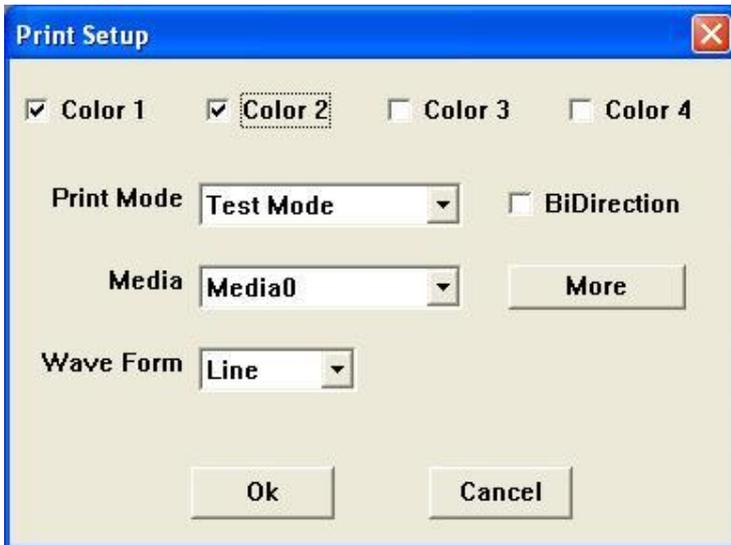


We get the perfect picture after the vertical adjustment. **It is the same method for other three color (magenta yellow black) vertical adjustment.**

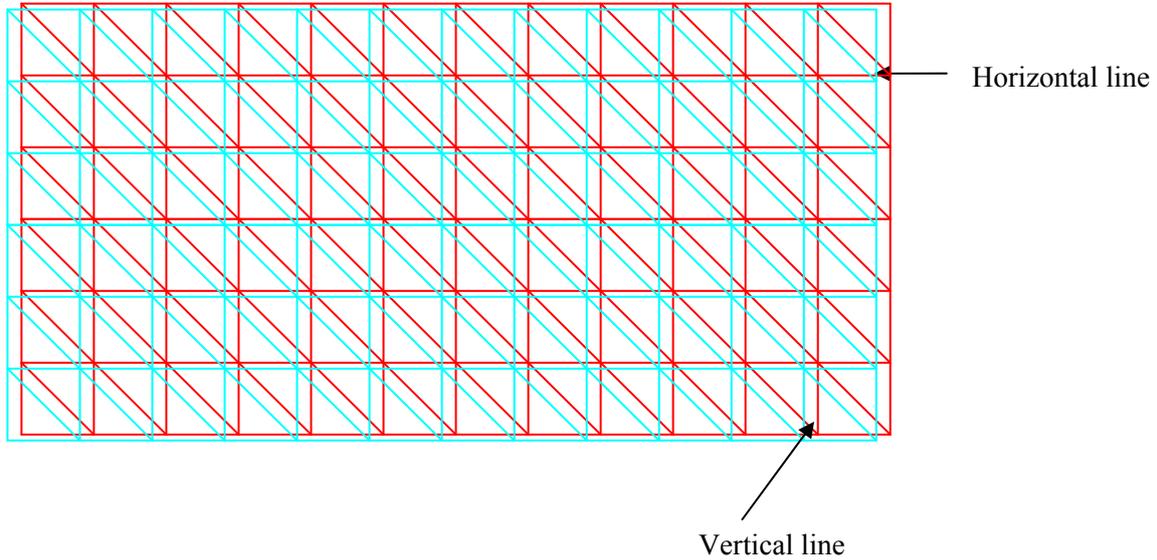
4.4.2 Four color overlap

After the first step for two print heads vertical adjustment, The second step is the four color overlap.

- 1、 Please go into the “print setup” and select CYAN:



2、 Printing (SmallGrid126.group) file:

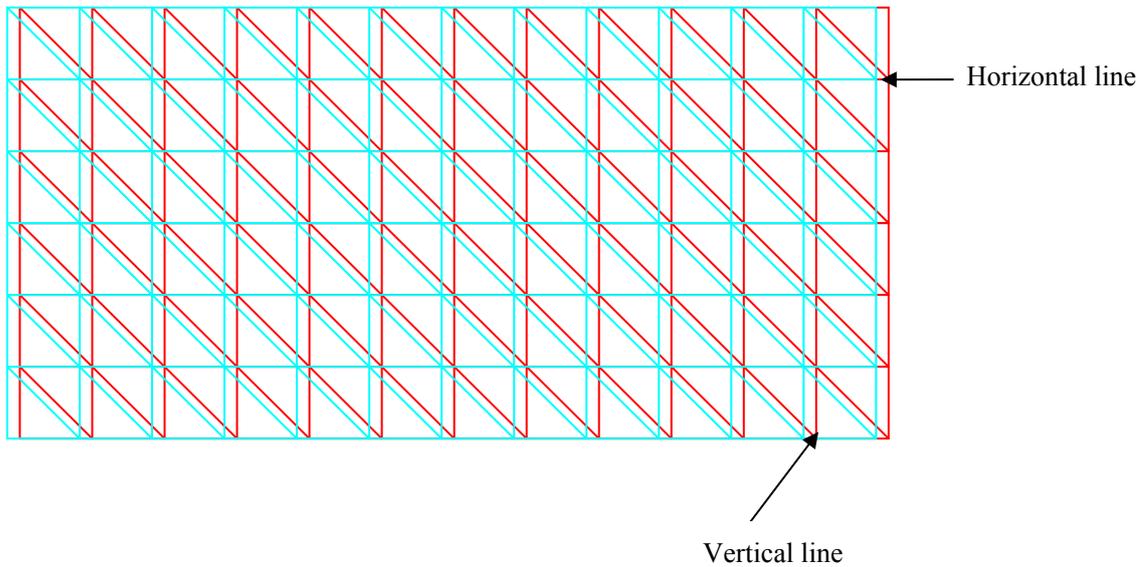


The horizontal line and the vertical line of the two color is not in a same line. So you should adjust the horizontal compensate and the vertical compensate parameter for this two color and let the two color in a same line.

From this picture you can see the magenta horizontal line is a little bit upper than cyan, So you should adjust the horizontal compensate for magenta PH。 Plus number: magenta line will go down。 Minus number : magenta line will go up。 For this picture you should put plus number 2 in the “Para setting” dialog(number 2 is just a sample you should set repetitious then get the correct number):

| Y Comp | | | |
|--------|---|---|---|
| C | M | Y | K |
| 0 | 2 | 0 | 0 |

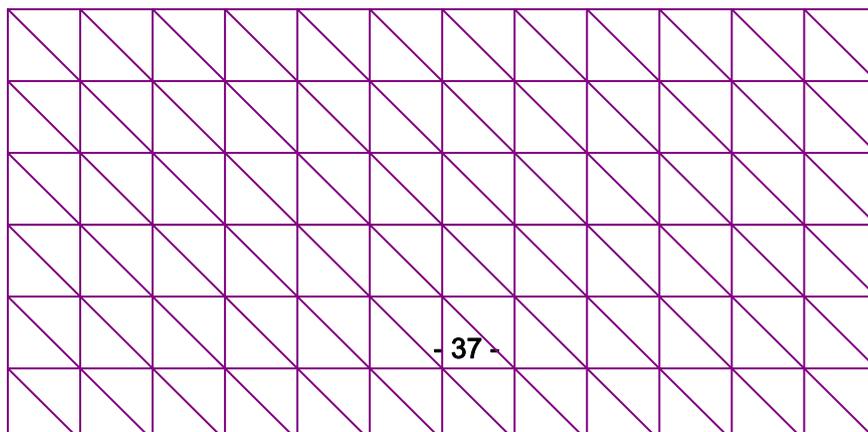
After set the parameter Print again then get the below picture:



From this picture you can see the magenta vertical line is a little bit right than cyan, So you should adjust the vertical compensate for magenta PH. Plus number : magenta line will go right. Minus number : magenta line will go left. For this picture you should put minus number 4 in the “Para setting” dialog(number 4 is just a sample you should set repetitious then get the correct number):

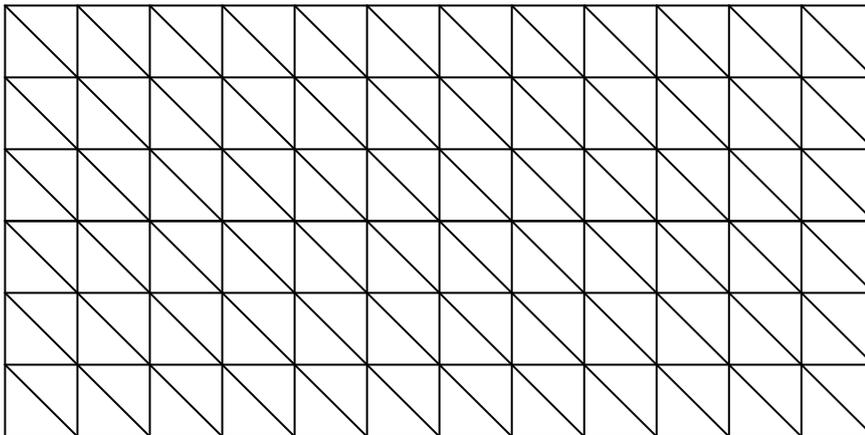


After set the parameter Print again then get the below picture:



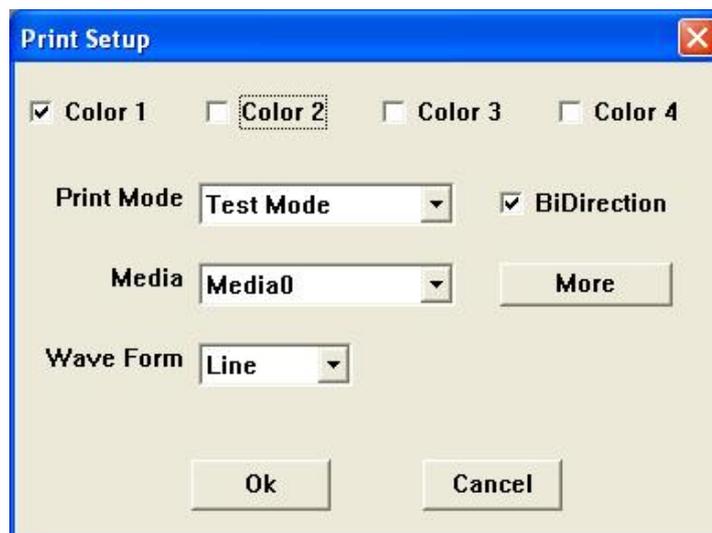
It is the same method for other two color (yellow black) four color overlap.

After adjust the yellow and black parameter we get the final picture as below:



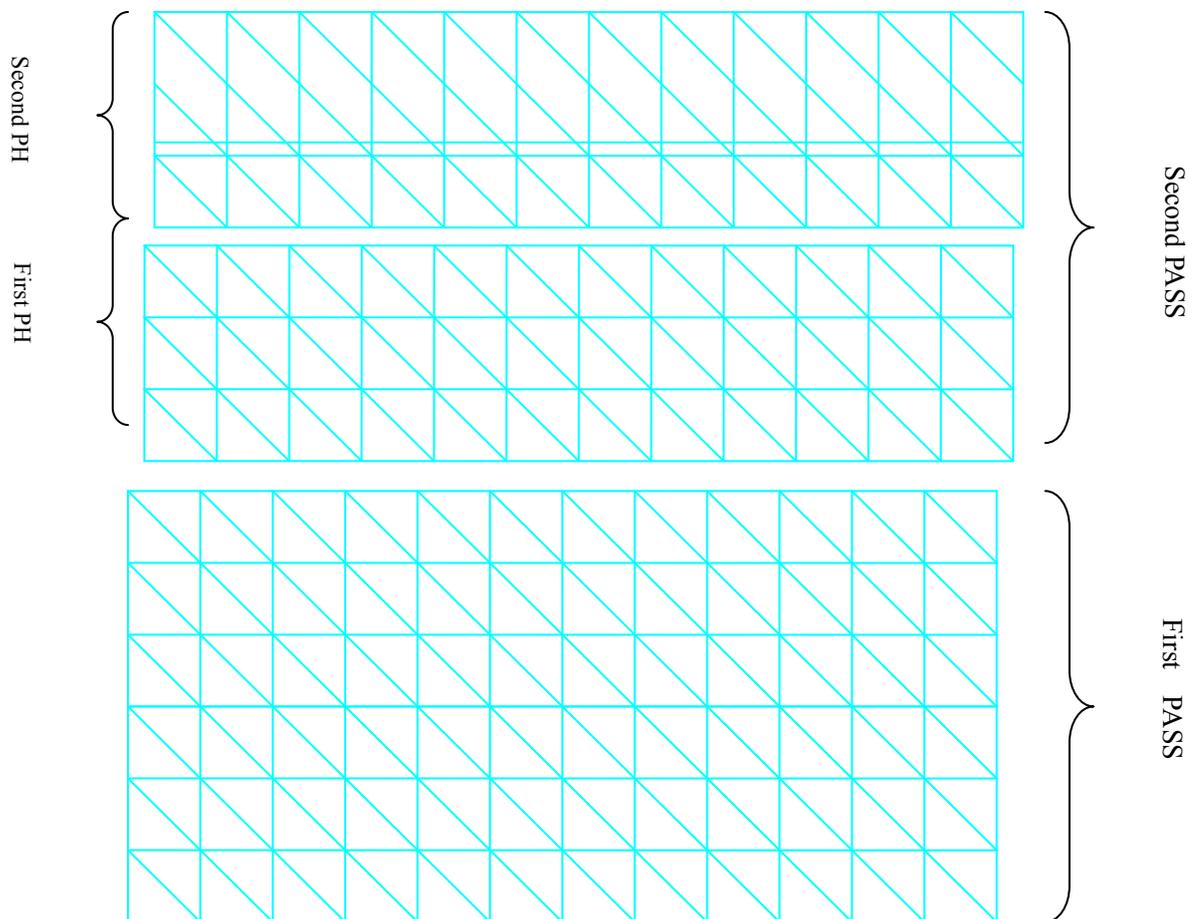
4.4.3 BID overlap

1、 Please go into the “print setup” and select bidirection:



Every color is individual for BID overlap(cyan is also the benchmark)

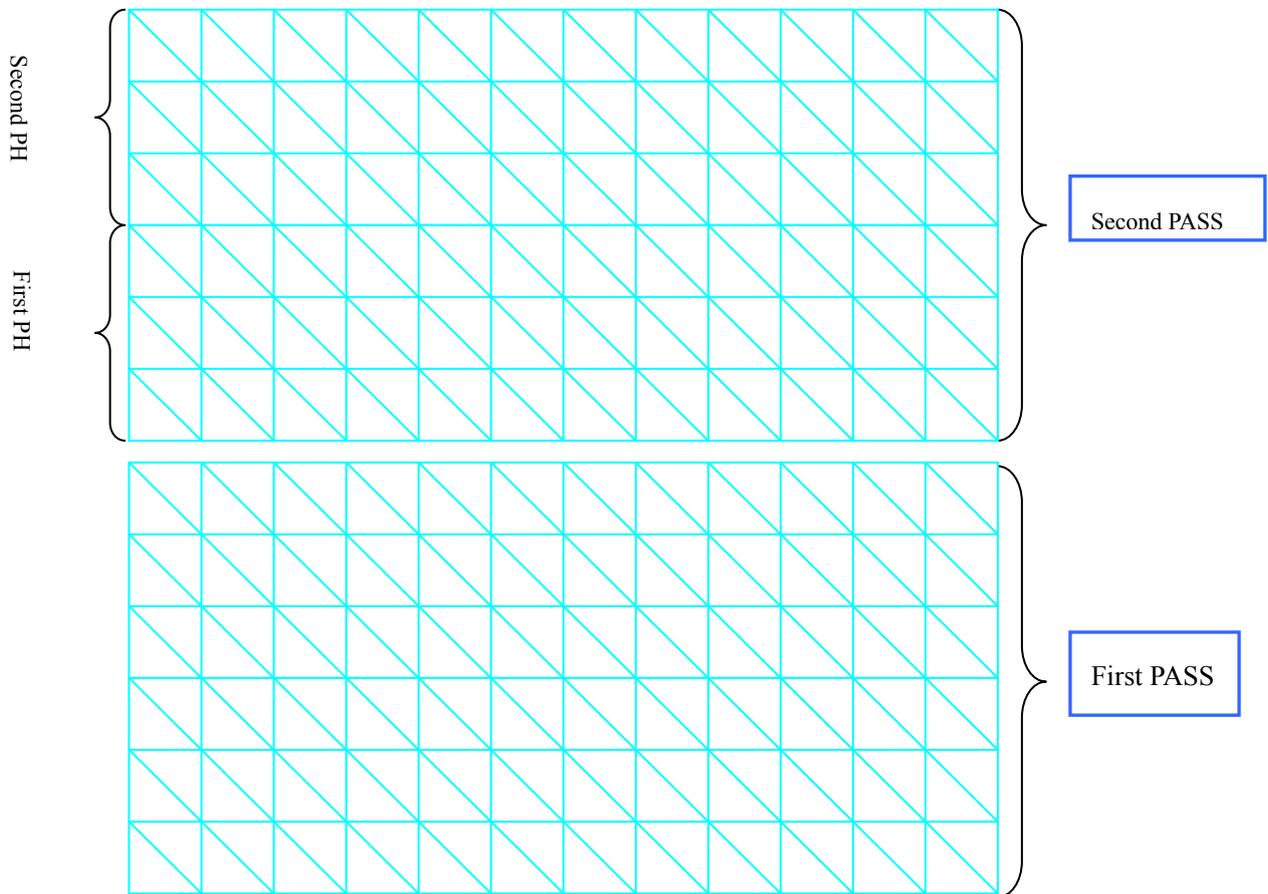
Printing (SmallGrid126.group) file:



From this picture you can see the first PH and the second PH of the SECOND PASS is a little bit right than FIRST PASS, So you should adjust the BID compensate for cyan PH. Plus number : line will go right. Minus number : line will go left. For this picture you should put minus number 3 for first PH and minus number 5 for second PH in the “Para setting” dialog(number -3 and -5 is just a sample you should set repetitious then get the correct number):



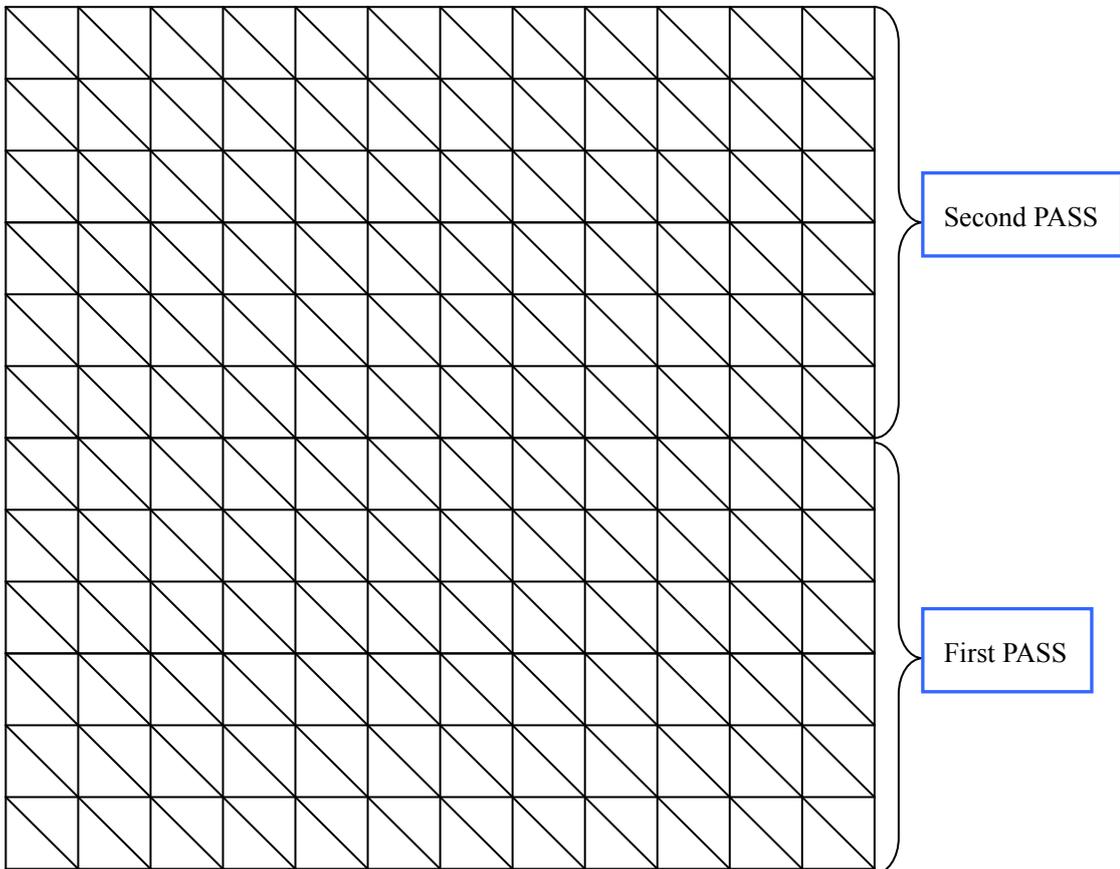
After set the parameter please print the picture again (SmallGrid126.group) :



It is the same method for other three color (magenta , yellow , black) for BID overlap.

After finished all of four color BID overlap , You should select all the four color in the “print setup”

and print the (SmallGrid126.group) :



ATTENTION :

The BID compensation is different for different height of the print head surface with print platform.

4.4.5 Feeding compensation adjustment

- 1、 It is no need for TEST mode , The initialization is“0” , Tolerance is“±10”。
- 2、 With 3PASS、4PASS、6PASS、8PASS mode ,We use the normal iamge for feeding compensation。
You should reduce the feeding compensation number if there is some blank in the image and add the feeding compensation number if there is overlap in the image.

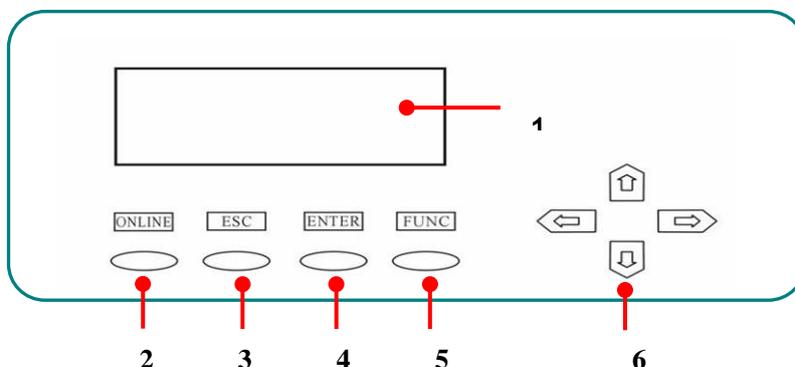
ATTENTION :

The feeding compensation is different for different media.

Chapter 5 Operations of control panel

Introduce the operations of function key and the function of the menu.

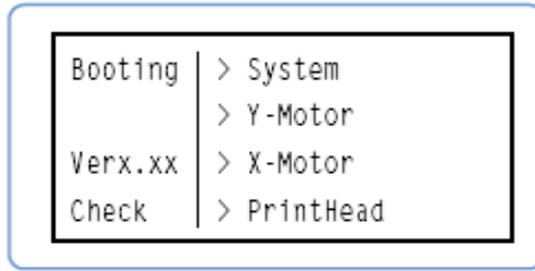
5.1 Control panel



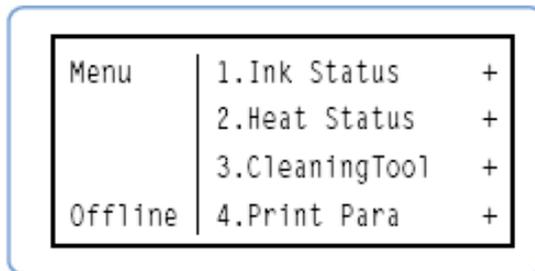
| No. | Name | Function |
|-----|--------------|--|
| 1 | LCD Display | The LCD Display shows various menus. |
| 2 | ONLINE Key | This key switches Online/Offline. Press this key to toggle between Online and Offline, and [Online] or [Offline] is shown on the LCD Display. When this key is pressed for several seconds during printing, the printing is paused and the Online menu is displayed. |
| 3 | ESC Key | This key cancels the current job, and returns the menu display to one position above. |
| 4 | ENTER Key | This key confirms the selection of an item or the setting of a value. |
| 5 | FUNC Key | This button switches functions of this printer. Press the [FUNC] key + [↵] key simultaneously to execute test print when no printing is performed. |
| 6 | Position Key | ↑ ↓ These keys scroll the menu. They are also used to increase or decrease the set value of the selected item. ← → These keys move the cursor on the menu. |

5.2 Display of opening the printer

After power on the printer, the system executes X and Y motion test and print heads test. The display shows as below:



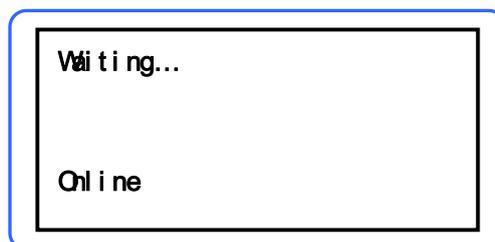
After self-test, the system moves the print heads carriage back to original position. The LCD displays printer model and version number and then shift to basic operation menu shown as below. That stands for the printer is ready.



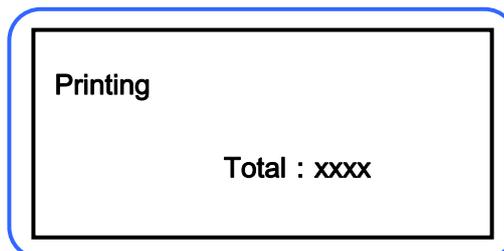
Main menus followed by “+”s have sub menus inside. Submenus followed by “ - ”s have no lower level inside.

5.3 Display of printer online

Press the [ONLINE] key on the control panel, the printer can be connected with the computer. The display shows as below:



Computer will transmit the data of pictures to printer and shows as below on the screen:



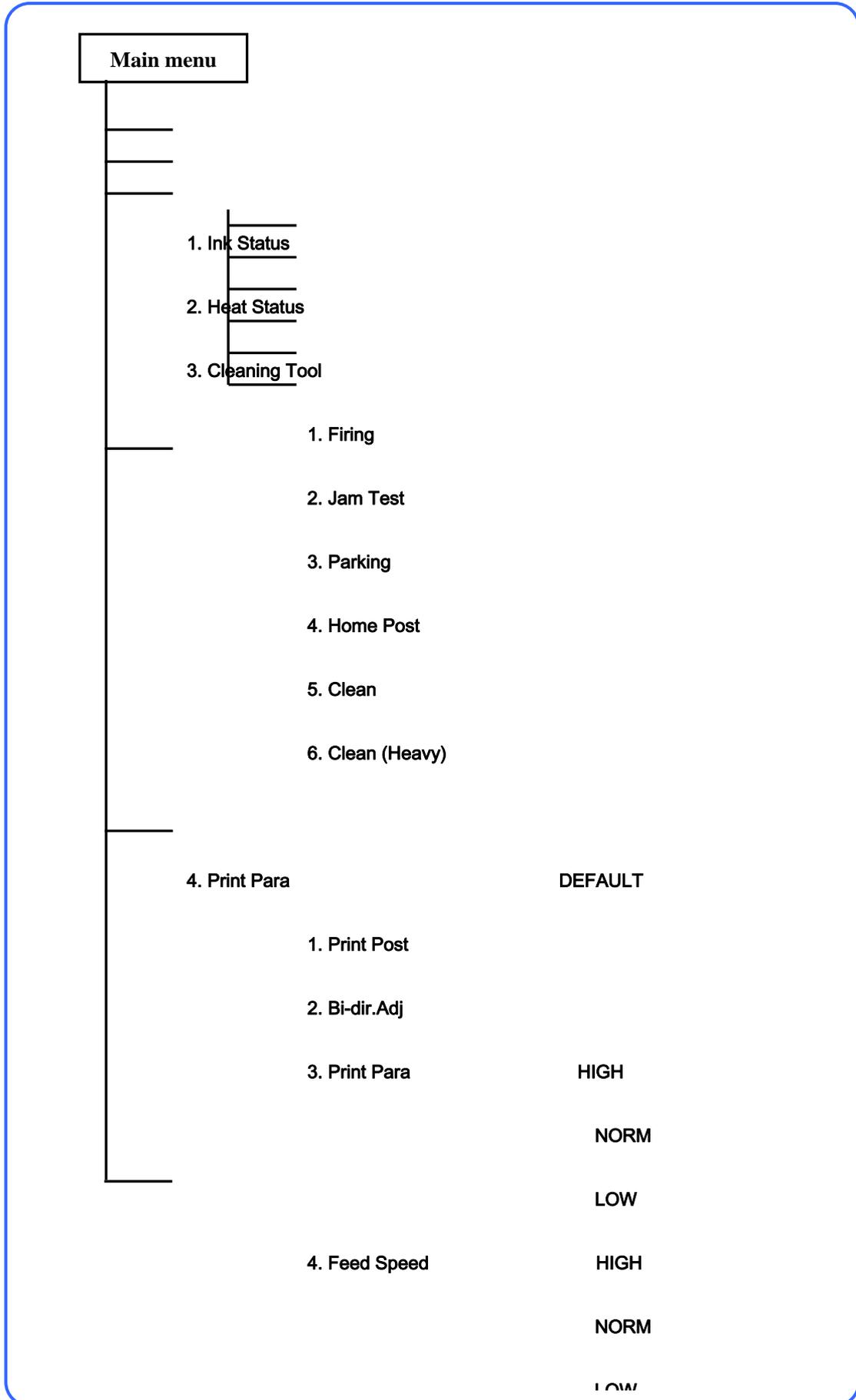
Total : Amount of PASS

Finished: Number of print rows which has printed out

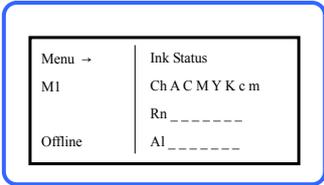
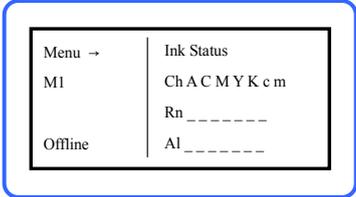
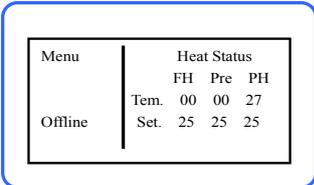
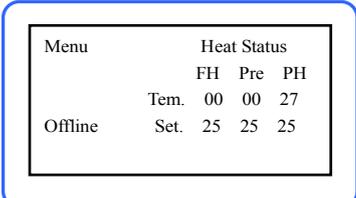
Rip Ready: Data of printer has took-over

5.4 Menu tree

5.4.1 Menu tree

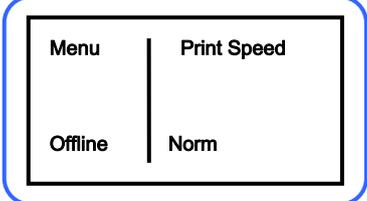
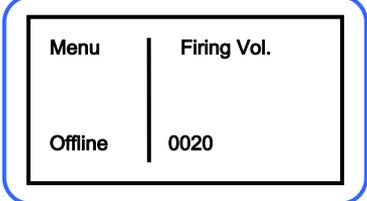
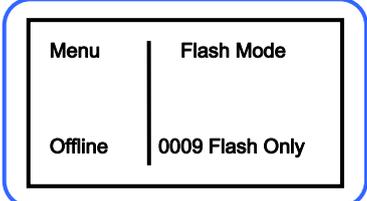


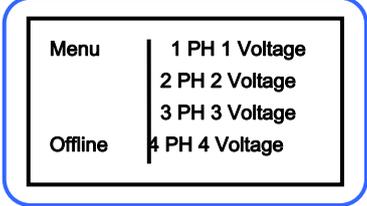
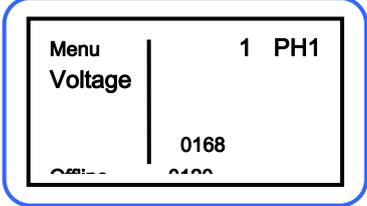
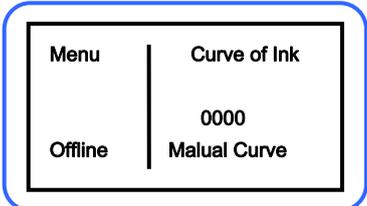
5.4.2 Function description

| Main menu | Submenu | Function description |
|----------------|---|--|
| 1.Ink Status |  | <p>Press the ENTER key and the LCD display details as below:</p>  <p>Item Ch: stands for ink channels. A means air bottle. CMYK means Cyan, Magenta, Yellow and Black.</p> <p>Item Rn: displays ink supply status of corresponding channel;</p> <p>Item AL: displays ink lack alarming of corresponding channel;</p> <p>Press ENTER to refill ink and cancel alarming.</p> |
| 2.Heat Status |  | <p>Press the ENTER key and the LCD display details as below:</p>  <p>Item Tem: displays actual temperature;</p> <p>Item Set: displays setup temperature.</p> <p>FH means front and rear heater</p> <p>Pre means middle plate heater(without the function for this printer)</p> <p>P/H means print head heater</p> |
| 3.CleaningTool | Firing | <p>Press ENTER key to execute the operation, “Busy” flashes on the LCD. P/Hs spray downward to prevent nozzle clogs. The LCD stops flashing after firing finishes.</p> <p>Press ENTER key again to execute P/H firing one more time if necessary.</p> <p>The volume of ink fired should be set in submenu Firing Vol under menu Print Para.</p> |
| | Jam Test | <p>Press ENTER key to execute the operation of test printing.</p> |
| | Parking | <p>Press ENTER key to execute the operation of moving P/H carriage to left capping position and waiting for cap the print head.</p> |

FINA250Q/320Q Operation Manual

| | | | | | | |
|--------------|--|---|--------------|-----------------|---------|------|
| | Home Post | Press ENTER key execute the operation of returning the P/H carriage to original position. | | | | |
| | Clean | Press ENTER key execute the operation of a total auto clean process one time. | | | | |
| | Clean (Heavy) | Press ENTER key execute the operation of a total auto heavy clean process one time. (without the function for this printer) | | | | |
| 4.Print Para | Print Post | <p>The LCD display details as below:</p> <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">Menu</td> <td style="padding: 2px 10px;">Print Pos. (mm)</td> </tr> <tr> <td style="padding: 2px 10px;">Offline</td> <td style="padding: 2px 10px;">0220</td> </tr> </table> </div> <p>Number string “XXXX” flashed on the LCD. Here press ⇐ and ⇒ key to move the cursor position over the number string and press ↑ or ↓ key to increase or reduce the value of the flashing number. Press ENTER to save the number as print position. Images and test print start from this position.</p> <p>Here press key combination FUNC + ↑ or ↓ key to move the media forward or backward; press key combination FUNC + ⇐ key to move the P/H carriage to printing position It will tell the position set well or not. Press any key to return the P/H carriage to original position.</p> | Menu | Print Pos. (mm) | Offline | 0220 |
| | Menu | Print Pos. (mm) | | | | |
| | Offline | 0220 | | | | |
| Bi-dir.Adj | <p>Press ENTER key and the LCD displays as below:</p> <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">Menu</td> <td style="padding: 2px 10px;">Bi-dir. Adj.</td> </tr> <tr> <td style="padding: 2px 10px;">Offline</td> <td style="padding: 2px 10px;">0050</td> </tr> </table> </div> <p>This function is used to adjust bi-direction printing to ensure bi-direction printing quality.</p> | Menu | Bi-dir. Adj. | Offline | 0050 | |
| Menu | Bi-dir. Adj. | | | | | |
| Offline | 0050 | | | | | |
| Print Speed | <p>This function is used to adjust the scan speed of the P/H carriage.</p> <p>The LCD displays details as below:</p> | | | | | |

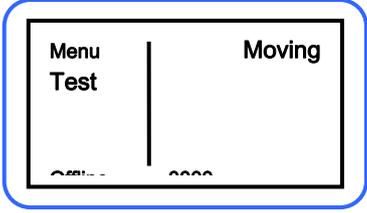
| | | |
|--|------------|---|
| | |  <p>Press \uparrow or \downarrow key to select from the 3 options.</p> <p>High scan speed will reduce printing quality. Low scan speed will increase printing quality but reduce printing speed. The suggestion is Norm.</p> |
| | Feed Speed | <p>The LCD displays details similar to Print speed. “Norm” flashes as the default option. Press \uparrow or \downarrow key to select from the 3 options. The suggestion is “Norm”.</p> |
| | Firing Vol | <p>Press the ENTER key and the display shows as below:</p>  <p>“XXXX” flashes on the LCD. Press \uparrow or \downarrow key to increase or reduce the value by 1. The default value of Firing Vol is 20.</p> <p>This value is the firing volume of P/Hs for auto spray and printing after cleaning (that means all nozzles are unclogged).</p> |
| | Flash Mode | <p>Numbers are used for flash mode setting:</p> <p>0 stands for P/H does not flash during printing;</p> <p>The LCD displays details as below:</p>  <p>When the value is 1, it stands for print head flashing in original position after printing 2Pass;</p> <p>When the value is 2, it stands for pint head flashing in original position after printing 4Pass;</p> <p>... ..</p> |

| | | |
|---------------------------|--------------------|---|
| | | <p>When the value is 30, it stands for print head flashing in original position after printing 60Pass; The biggest value can reach to 30.</p> <p>The LCD displays details as below:</p>  <p>In this printer, print head 1 stand for C color print head; print head 2 stand for M color print head; print head 3 stand for Y color print head; print head 4 stand for K color print head;</p> <p>Go on pressing ENTER, the LCD shows:</p>  <p>The numbers “0120” stands for the real voltage value 120V of C color print head.</p> <p>Here press \uparrow and \downarrow key to scroll the submenu. Then press ENTER key to change the PH1 voltage value. The method of changing other PHs voltage is the same as upper.</p> |
| <p>5. Application</p> | <p>Time to LMP</p> | <p>Select ink curves and ink curves shows relations between voltage and temperature. LCD displays details as below:</p>  <p>LCD displays the ink curves name as below:</p> <p><u>□□ □ □ □□□□</u> 1 2 3 4</p> <p>The name of ink curve indicates as below :</p> |

| | | | | | | |
|---------|--------------|--|------|-------------|---------|------|
| | | <p>1、 SK: Stands for SKIEO print head</p> <p>Xr: Stands for Xaar print head</p> <p>Sp: Stands for Spectra print head</p> <p>2、 2 : Stands for 200 dpi print head ;</p> <p>3 : Stands for 300 dpi print head ;</p> <p>3、 S : Stands for solvent based ink type ;</p> <p>O : Stands for oil based ink type ;</p> <p>U : Stands for UV ink type</p> <p>4、 ink name</p> <p>The ink curves are different with different ink types.</p> | | | | |
| | FrontHeater | Used for setting temperature of front and rear bedplate. “XXXX” flashes on the LCD. Press \uparrow or \downarrow key to increase or reduce the value of temperature. And the bigger value is, the higher temperature is. | | | | |
| | PreHeater | Used for setting temperature of middle bedplate. “XXXX” flashes on the LCD. Press \uparrow or \downarrow key to increase or reduce the value of temperature. And the bigger value is, the higher temperature is. (without the function for this printer) | | | | |
| | PH Heater | <p>The LCD display details as below:</p> <div data-bbox="901 1458 1267 1668" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 2px;">Menu</td> <td style="padding: 2px;">PH Heater°C</td> </tr> <tr> <td style="padding: 2px;">Offline</td> <td style="padding: 2px;">0025</td> </tr> </table> </div> <p>Used for setting the PH temperature. “XXXX” flashes on the LCD. Press \uparrow or \downarrow key to increase or reduce the value of temperature. And the bigger value is, the higher temperature is.</p> | Menu | PH Heater°C | Offline | 0025 |
| Menu | PH Heater°C | | | | | |
| Offline | 0025 | | | | | |
| | Media Detect | <p>Press ENTER to execute the operation, the LCD displays OFF means the function is switch off when the printer is waiting.</p> <p>OFF (function switch off)</p> | | | | |

| | | | | | | | | |
|--------------------|-----------------|--|------|-------|--------|---------------|-------|-----------------|
| | | <p>Press \uparrow or \downarrow key to switch on the function.</p> <p>ON (function switch on)</p> <p>Pull up the press pole and then pull it down, the LCD displays details as below:</p> <div data-bbox="901 504 1268 705" style="border: 1px solid blue; padding: 5px; margin: 10px auto; width: fit-content;"> <table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 2px;">Menu</td> <td style="padding: 2px;">Media</td> </tr> <tr> <td style="padding: 2px;">Detect</td> <td style="padding: 2px;">Star : 0000mm</td> </tr> <tr> <td style="padding: 2px;">Warn2</td> <td style="padding: 2px;">Length : 0000mm</td> </tr> </table> </div> <p>Press ENTER key to start media edge detecting. Press ESC to cancel the operation.</p> <p>After detecting, “OK” displays means the detecting is successful and saves the result as print position, which should add the value of offset set at below step. “Error” displays means the detecting is failed and the value of print position does not change.</p> <p>(This function is optional)</p> | Menu | Media | Detect | Star : 0000mm | Warn2 | Length : 0000mm |
| Menu | Media | | | | | | | |
| Detect | Star : 0000mm | | | | | | | |
| Warn2 | Length : 0000mm | | | | | | | |
| | Margin | <p>“XXXX” flashes on the LCD. Press \uparrow or \downarrow key to increase or reduce the value.</p> <p>This value added to the value of media detecting is saved as the value of print position.</p> <p>(This function is optional)</p> | | | | | | |
| | Fan Volocity | <p>“XXXX” flashes on the LCD. Press \uparrow or \downarrow key to increase or reduce the value of Fan Volocity. And the bigger value is, the higher Fan Volocity is.</p> | | | | | | |
| | Neg. Pressure | <p>Use for setting the Neg. pressure value.(without the function for this printer)</p> | | | | | | |
| | UV Lamp Power | <p>Use for setting the UV lamp power. There are Norm and High to choose. Norm stands for UV lamp use 60% power, and the High stands for UV lamp use 100% power.(without the function for this printer)</p> | | | | | | |
| 6. Engineer Set | Clean Post | <p>Set the distance from original position to cleaning position. P/H moves to cleaning position and waiting cap the P/H.</p> <p>(It's better not to change this value once set by the technician.)</p> | | | | | | |
| | Printer Width | <p>Set the biggest distance in scanning direction.</p> | | | | | | |

FINA250Q/320Q Operation Manual

| | | |
|--------------|--|--|
| | | (It's better not to change this value once set by the technician.) |
| Moving Test | <p>Press ENTER to execute the operation. The LCD displays details as below:</p> <div style="text-align: center;">  </div> <p>And P/H carriage moves back and forth to simulate printing, but P/H not spray.</p> <p>It's used for mechanical test. The number on the LCD indicates times the P/H carriage moves back and forth.</p> | |
| Default Set | <p>Reset the parameters to default setting.</p> <p>Press key combination of FUNC+ENTER to execute the operation.</p> <p>(It had better not to execute this operation except for the technicians.)</p> | |
| Y Test Speed | <p>It is used for speed test of Y motion.</p> <p>(It had better not to execute this operation except for the technicians.)</p> | |
| X Test Speed | <p>It is used for speed test of X motion.</p> <p>(It had better not to execute this operation except for the technicians.)</p> | |

Chapter 6 Ink supply system

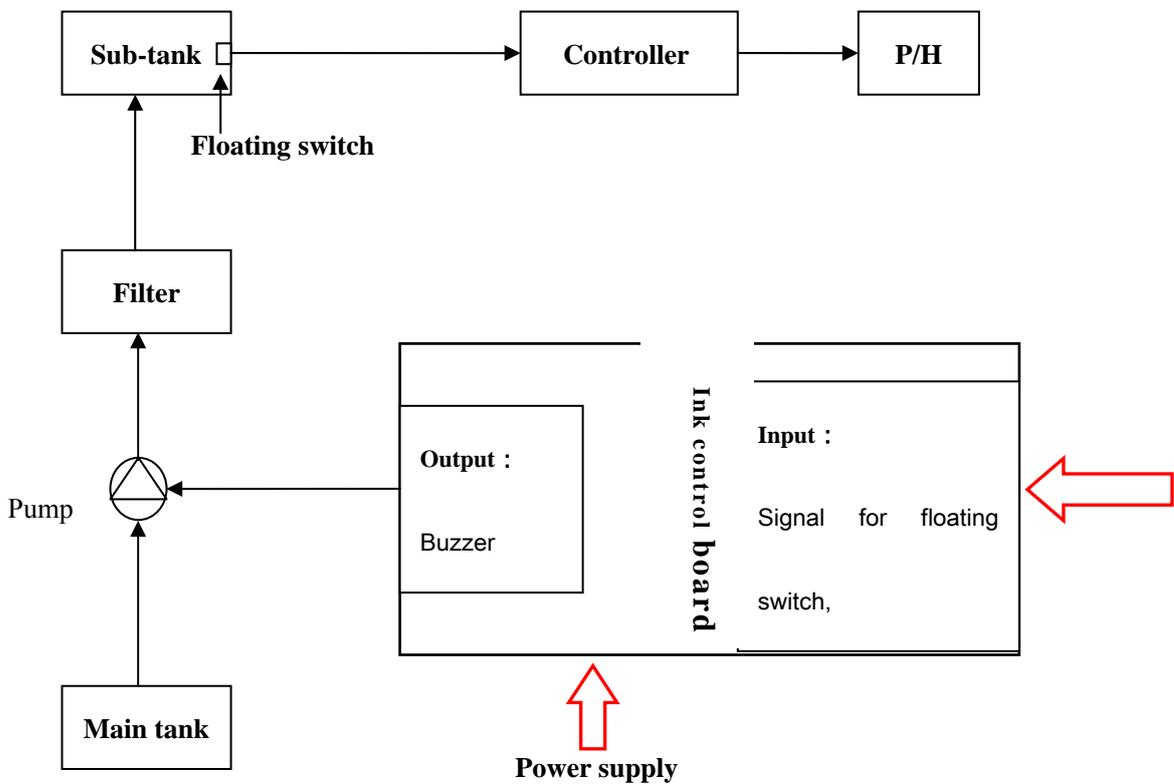
Introduce the structure and the function of the ink supply system.

6.1 Summary

This ink supply system can control automatically several pumps at the same time and provides protect function. Isolated ink supply system is easy for operation.

6.2 System diagram

Ink supply system diagram:



6.3 Structure

The ink supply and cleaning system consist of ink tanks, ink pumps, print filters, sub tanks, print head, control board and etc.

6.3.1 Main tanks

1 : C main tank

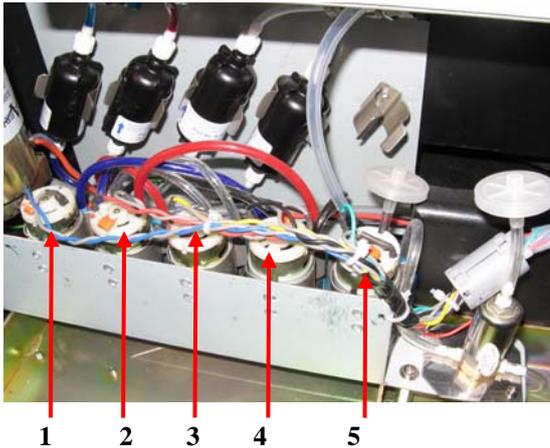
2 : M main tank

3 : Y main tank

4 : K main tank



6.3.2 Ink pumps



1:C ink pump

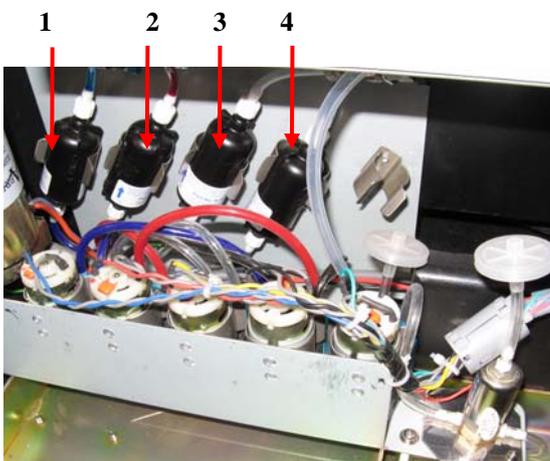
2:M ink pump

3:Y ink pump

4:K ink pump

5:air pump

6.3.3 Filters



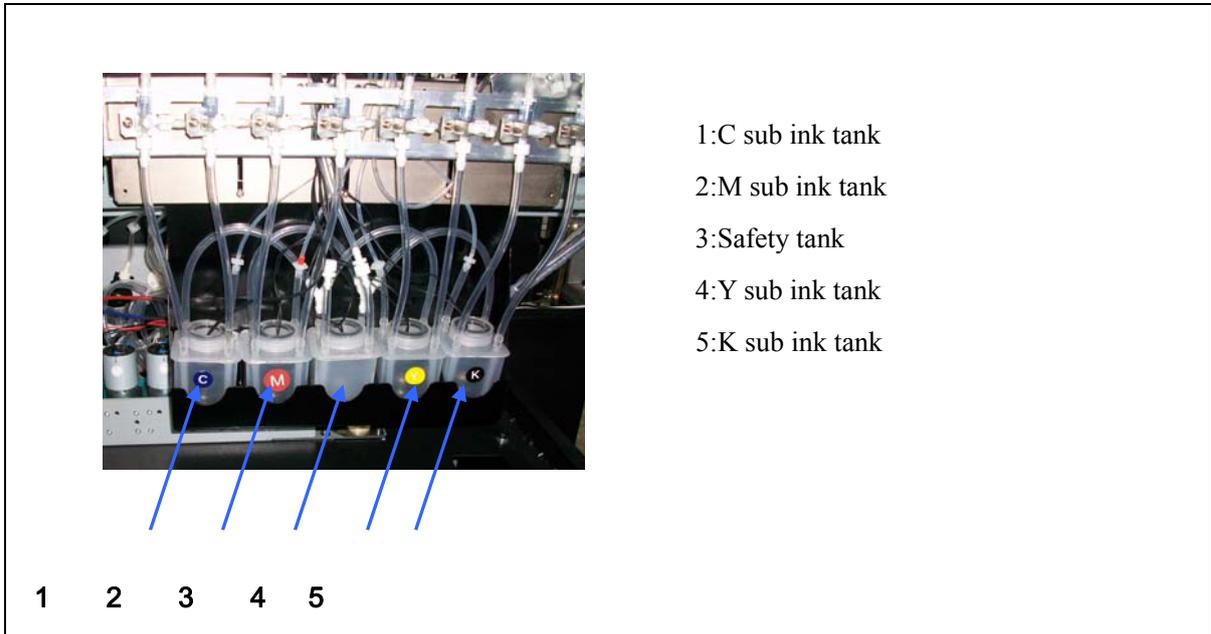
1:C ink filter

2:M ink filter

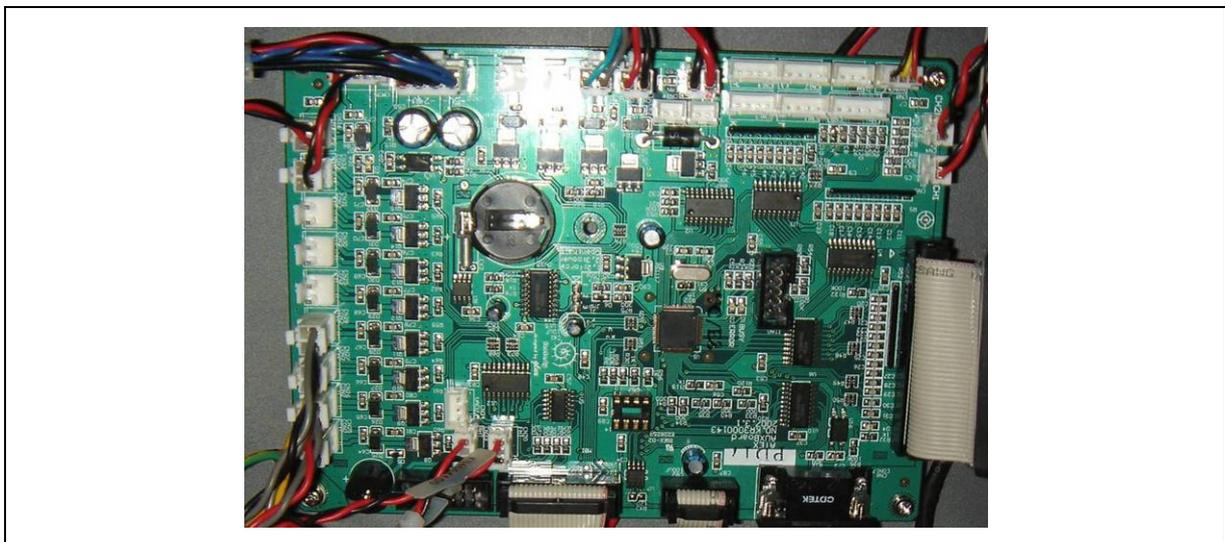
3:Y ink filter

4:K ink filter

6.3.4 Sub ink tank



6.3.5 Assistant board



6.4 Function description

- This system work automatically and control several pumps to supply ink simultaneously. When printer is power on, ink pump starts automatically to pump ink to assistant ink tanks from main ink tanks.
- The system works with perfect alarm and protection function. If any problem occurred in any pump, it will alarm and indicate which one is in trouble on the LCD and the troubled one will not affect others.
- Ink filter switches get signals through serial ports.
- It is easy to connect it to other systems. All floating switches signals can be input by serial port or

parallel port.

- Main controller consists of micro CPU, which can check signals using software to filter out the false ones, which is helpful to make system work more reliably.
- The ink-pumping limit is controlled by intelligent control system of main control board; in case that the electric circuit will cause ink supply shortage.

6.5 Operation description

Note:

Please read descriptions carefully for ink supply system, cleaning system and Ink Control system before starting the following operations.

- As soon as the printer's connected with power, system detects floating switch signal automatically, and drives ink pumps to pump ink to assistant ink tanks if it found ink not enough, "Warning 3" displays on the LCD.
- When ink channel lacks of ink, system will start the pump automatically; and indicator lighten. After the floating switch senses the ink, the pump will continue to work for a little period and then stop; and the indicator light extinguishes.
- When ink in assistant tanks is used out or other reasons cause some pump running overtime, the system will alarm (voice a straight buzz) and "Err5" displays on the LCD. Press "ENTER" key on control panel to refill ink and cancel alarming.
- When safety tank is full, system will alarm as short buzz and "Err6" displays on the LCD. Then you should empty the safety bottle.

6.6 Intelligent Detection Function

Intelligent detection function for ink supply system is implemented by collecting floating switch signal with high frequency. By using concept of probability, the signal is regarded as effective if probability of floating switch signals is higher than a set value (for example, 80%). Therefore, wrong act of floating switch can affect the system's stability much less and accordingly system's anti-disturbance improves.

Chapter 7 Cleaning system

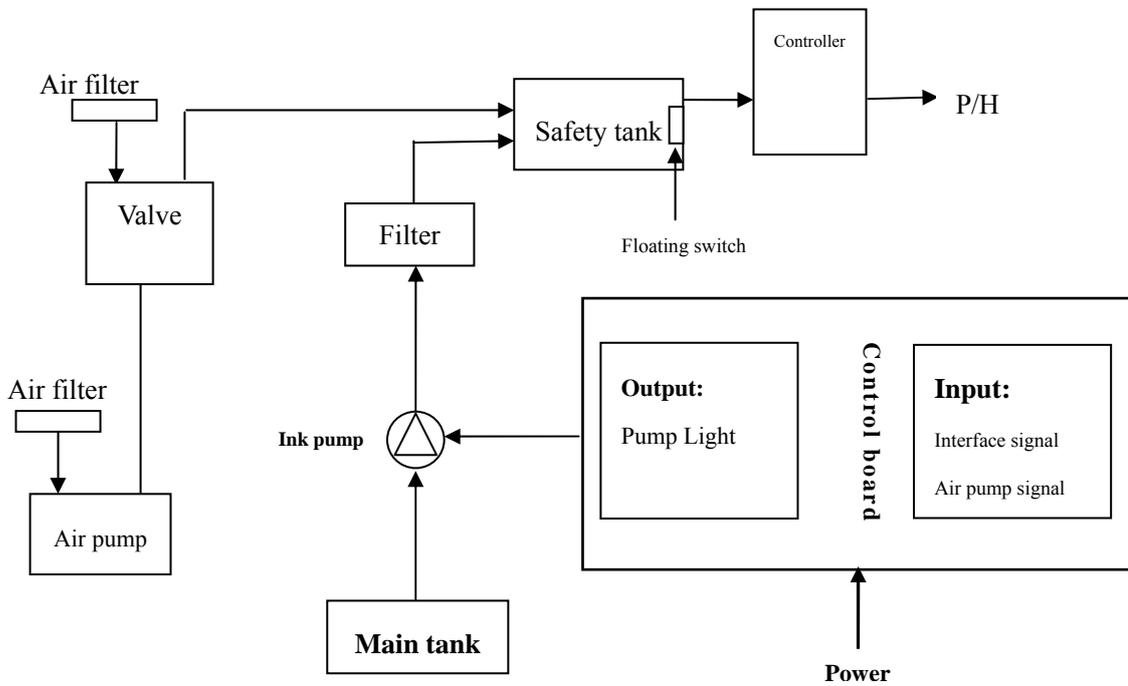
Introduce the structure and the function of the cleaning system.

7.1 Summary

This printer adopts automatically positive pressure cleaning and manually capping system. You may execute cleaning before printing, during printing or idle for a long time.

7.2 System diagram

System diagram:



7.3 Working Principle of Positive Pressure Cleaning



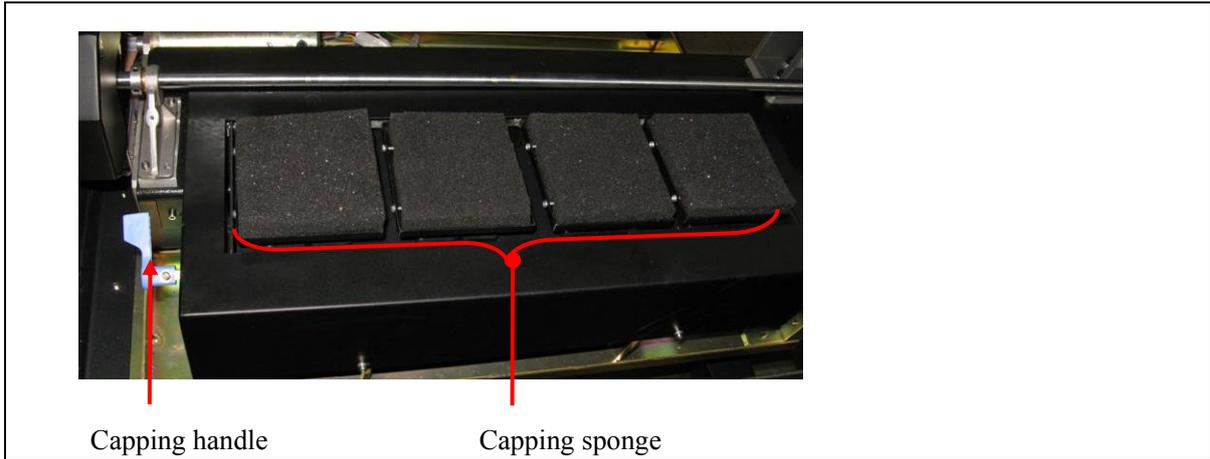
positive pressure cleaning button

flush solution button

When you press “clean” button, the cleaning signal will be transfer to assistant board and drive the air pump and ink pumps; air pump starts running and transfers air pressure to valve; the air pressure raises and transfers to assistant ink tanks through air channels. With pressure got from the air pump, ink will be purged through the head and nozzles. At the same time ink pump pumps ink to assistant ink tanks from main ink tanks, provides ink for print heads cleaning.

After pressing flush solution button, the flush solution pump begin to work. Then flush solution be infused into print head to clean print heads.

7.4 Operation Description of manually capping system



Operations of capping:

- Please move the print carriage to clean position and put the capping handle on the capping state before you turn off the printer. And confirm the all print heads if be press onto the capping sponge. At the end, turn off the power supply.
- Please put the capping handle on the print state before you turn on the printer or else the printer can not finish self diagnoses.
- Please add some flush solution to the capping sponge.

⚠ CAUTION Please don't pull the capping handle on the printing process, otherwise the print process will be broke down.

Chapter 8 Heating system

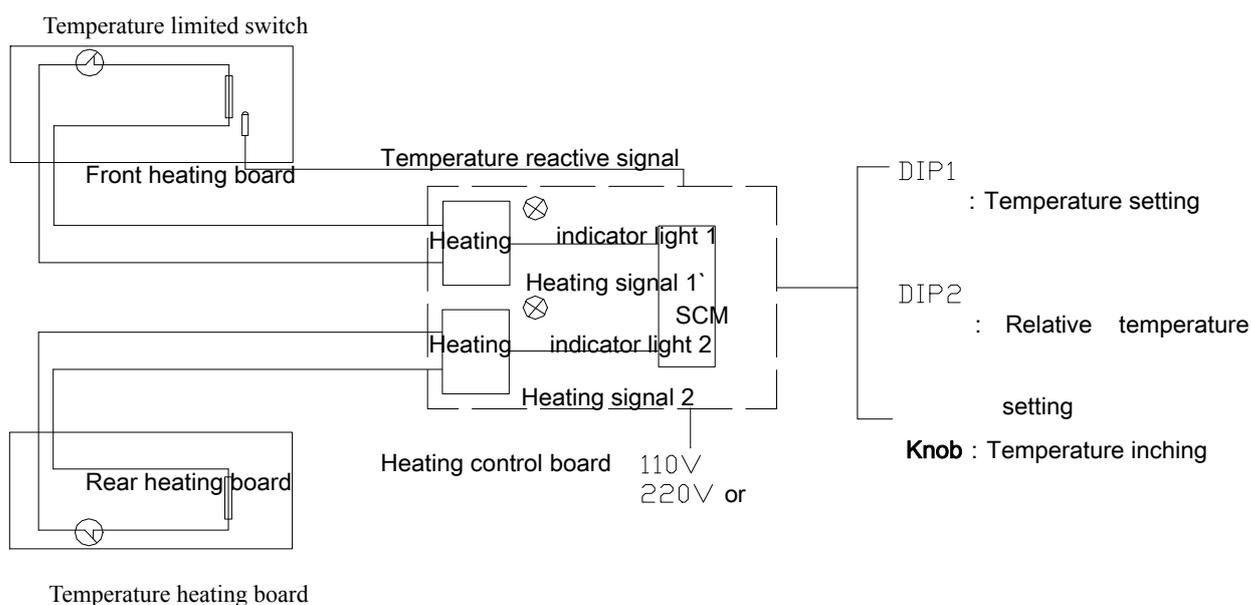
Introduce the structure and the function of heating system.

8.1 Summary

This heating system include Pre-heater, middle plate heater, P/H heater and it can adjust temperature based on different media material and temperature. It can adjust the temperature automatically to keep temperature constant. Customer can have satisfactory printing effect.

8.2 Working Diagram

Working Diagram:



8.3 Functions

- To keep the front and the rear heating board in auto constant temperature.
- With advanced protective functions to avoid over-heating, leakage, etc. The line will be cut off automatically if a certain line's temperature is over 70° C. As soon as the temperature lowers, it will resume heating. Over heating will not occur when the entire input signal is cut off.
- The system can work independently and can be easily transplanted. It should be optional to select the

input voltage from AC110V to 220V.

- The heating system is controlled by advanced intelligent microprocessor; it has features of heating up quickly, controlling temperature accurately and saving energy.
- Inner heaters are used. It is easy to install, with no extra space needed and longer lifetime.

8.4 Working Process and Characteristics

- Users can amend the temperature of front heater from LCD.
- Heating power supply is independent from control power supply. Please turn on the heating power before turning on the power for the printer. Once the power is on, the system heats up automatically to set temperature and keeps the temperature at the set value. Without turning on power for printer, the heating system will not work. However, there is still AC 220V inside machine.
- Temperature detector lies on the right sixth pressure roller. Print media should cover this region when printing.
- After printing, make sure to turn off the two powers.

Chapter 9 Maintenance

Introduce the maintenance of the printer and items of cautions.

9.1 Daily maintenance

Daily maintenance is very important for normal work of the printer. Daily maintenance includes:

9.1.1 Maintenance after each printing

- Erasure dried ink from print head surface with flush solution ;
- Restore the jammed nozzles before next printing.

9.1.2 Daily work

- Check waste ink tank, cleanup if necessary ;
- Check the waste ink groove on the startup position and clean it if necessary ;
- Check the sponge on the wet-keeping frame, clean or replace it if necessary ;
- Clean feeding and take-up rollers with PM acetate. Skid on the rubber roller will cause error code from service and impact print quality.
- Do normal clean for the printer everyday.

9.1.3 Weekly work

- Clean the dust on the surface of fans on dry board. Assemble them after ensure clearness of the leafages.
- Check pump route if there is any loose.

9.1.4 Monthly work

- Clean the floating switch;
- Clean the filters of C、M、Y and K ;

- Observe the three-way valve of the positive pressure cleaning if has ink in it. If necessary, use flush solution to cleaning;
- Check the tension of straps ;
- Clean dust in the power tank.

9.1.5 Yearly work

- Replace ink filters ;
- Blower the dust on power tank with compress air ;
- Clean the main tanks;
- Clean the ink supply routes ;
- Clean the liquid pumps for ink supply ;
- Oil the gears of feeding and take-up motors. ;
- Check whole circuit if there is any loosen or broken. Repair it in time if necessary ;
- Check if there is any tear on the tube and wire in the towline set and replace it if necessary.

9.2 Maintenance of print heads

Always keep the surface of print head wet with flush solution. If the printer is left unused, the print head must be dropped with flush solution and covered with fresh-keeping polyethylene films to keep it wet.

9.2.1 Print heads cleaning

After positive pressure cleaning, wipe the print head surface with a clean stick to stop the ink streaming out of the nozzles. Be sure not to use a stick with flush solution to wipe the print head surface, otherwise, the flush solution will stream into the nozzles.

9.2.2 Moisturizing of print head

If the printer is left unused for 2 day and above, do as below to keep the print head wet:

- 1) Dip the unwoven fabric with flush solution ;

- 2) Cover the unwoven fabric on the surface of print head ;
- 3) Wrap the print head unit with fresh-keeping polyethylene film ;
- 4) Cover the wet-keeping frame the print head

9.2.3 Unload print head

Do as follows when you are going to unload print head:

- 1) Pump out ink from print head and clean it with flush solution ;
- 2) Power off the printer and plug out power line from socket ;
- 3) Check static on the machine with a multimeter and release the static if necessary ;
- 4) Loosen the Up, Left and Right screws, and take out the right screw ;
- 5) Take out the print head and put it on an unwoven fabric soaked with flush solution

⚠CAUTION Please wear the anti-static wrist strap when connect the print heads onto the print heads driven board, otherwise will result in a damage to the print heads or print heads driven board.

9.3 Maintenance for ink supply system

The ink supply system is very important. Maintenance for ink supply system is also very important. The ink supply system includes main ink tank system and assistant ink tank system with filters to separate the ink from the open air. So cleanness of environment is primary condition to place the printer.

Maintenance includes :

- 1) Clean the main ink tanks, especially air filters, monthly ;
- 2) Clean or replace filters of ink and flush solution per half year ;
- 3) Clean around the main ink tank system weekly ;

⚠CAUTION Do not make the electromagnetic valve with liquid connect with the air, otherwise the dry ink will difficult to cleaning and effect the normal work of

the printer.

9.4 Maintenance for other parts

9.4.1 Print heads rail

Normally, user should add lubricating oil to print heads rail daily. The details as below:

- 1) Turn off the power supply;
- 2) Do not use compound oil;
- 3) Add a few lubricating oil on a cotton fabric and move the print head to original position.
Brush the print head rail with the cotton fabric to create an average oil layer on the Rail;
- 4) Power the printer and move the print head unit left and right repeatedly ;
- 5) Erase the oil smear on the both ends of the rail. Erase the oil drops on the rail again before printer running.

9.4.2 Feeding and take-up rollers

Oil the gears of media feeding and take-up rollers monthly to avoid rust.

Addendum

■ Explanations of error message

| Error message | Descriptions |
|---------------|--|
| err4 | ErSt InkPressure |
| err5 | ErSt InkTimeOut |
| err6 | ErSt InkSOverflow |
| err7 | ErSt InkAOverflow |
| err8 | Motor Board Error |
| err9 | Y raster direction of conter is different from motor |
| err10 | Y raster not connect |
| err11 | se error between command and action is large |
| err12 | se anti-counter is not correct |
| err13 | FPGA(main board) ver err |
| err14 | aux(ink supply board) ver err |
| err15 | cfgrom err |
| err16 | Original Position Sensor not connect |
| err19 | Heating not complete |
| err20 | will time out |

FINA250Q/320Q Operation Manual

| | |
|-------|-----------------------------|
| err21 | time out |
| err22 | rtc(ink supply board) error |
| err23 | aux(ink supply board) error |
| err24 | user not match |