

# **Instruction Manual**

**Continous Inkjet Printer**

## BRIEF

Thank you for your purchasing of the small-character inkjet printer. It is easy to operate, stable and reliable. In this manual, you can find a lot of information to help you properly operate on the device. In order to ensure the smooth and stable work of the machine in the future, In particular, you will be reminded to read the relevant contents of the section on the safe use, inspection and maintenance section carefully.

### About Warranty

S-type inkjet printer is composed of high-quality precision components, which go through strict quality inspection before sending out. We guarantee this equipment unless special terms and conditions are signed. The warranty period of this equipment is 12 months from the date of delivery.

### About accessories and consumables

Only the accessories and consumables produced by our company can be applied to S type inkjet printer. If the parts or consumables used are not manufactured by our company, any indirect damage will not be included in the warranty.

**Note: The consumables of the inkjet printer are suitable fit well to this equipment after years of experiments in our company, which can make it run steadily and print well. Unqualified and undetected consumables of inkjet printer will make inkjet printer improper, seriously block the ink path, burst the filter, damage the ink pump and shorten the service life of the machine. Once used, we will not bear any consequences, and will not be guaranteed.**

### About the instruction manual.

With the advancement of technology and continuous research and development on product, some corresponding new designs and improvements may not be reflected or explained in this manual. Please be considerate. The copyright of this manual is owned by Wuhan ETM PACK CO., LTD.

### About service

When the machine encounter serious fault, or you need to purchase consumables please do not hesitate to contact us will serve you wholeheartedly.

# Catalogue

Foreword.....	1
1、 Chapter 1 Instructions for the use of inkjet printer .....	1
2、 Chapter 2 Feature and installation of inkjet printer .....	2
3、 Chapter 3 Start-up inkjet printer .....	3
3.1、 Turn on and Turn off.....	4
4、 Chapter 4 Software operation of inkjet printer.....	5
5、 The main menu of system setting.....	6
5.1、 System time setting.....	7
5.2、 Pressure setting.....	8
5.3、 Counter setting.....	8
5.4、 Phase detection voltage setting.....	9
5.5、 Crystal oscillator voltage setting.....	9
5.6、 Drive mode setting.....	10
5.7、 Rotational speed.....	10
6、 Print parameter settings.....	11
6.1、 Print mode setting.....	12
6.2、 Print speed setting.....	13
6.3、 Print Direction Settings.....	13
6.4、 Print delay setting.....	14
6.5、 Print font widening settings.....	15
6.6、 Font compression settings.....	16
6.7、 Font height setting.....	17
6.8、 Synchronizer settings.....	17
7、 Ink system setting.....	18
7.1、 Ink viscosity setting.....	18
7.2、 Dilution time setting.....	19
7.3、 Nozzle opening.....	19
7.4、 Manual cleaning of nozzle.....	20

7.5、 Automatic cleaning of nozzle.....	21
7.6、 Solenoid valve setting.....	22
8、 Edit print information.....	23
9 、 Save print message.....	24
10、 Load message.....	25
11、 Edit picture.....	26
12、 View picture .....	27
13、 Chapter 5 Counting specification and printing principle.....	28
14、 Structure and principle of inkjet printer.....	29
15、 Daily maintenance.....	31
16、 Fault treatment.....	32

# Chapter I About User Manual

Thanks for chose S-type CIJ Printer. It is easy to operation, Stable and Reliable. You can find a lot of information to help you operate and use the equipment correctly in this manual. In order to ensure smooth and stable operation of the machine in the future. In particular, you are reminded to read the relevant sections on safe use, inspection and maintenance carefully.

## **Safety notes:**

No fireworks, no smoking or spark production near the inkjet.

The workplace must provide a safe and reliable ground wire and ensure that the resistance between the ground wire and the mainframe power supply plug or with the machine metal shell is less than 1 ohms.

## **Electrical safety :**

The machine is provided with a voltage that is dangerous to the human body after power-on , and the equipment is prohibited from being maintained by specially trained and unauthorized person. Please disconnect the power supply of the machine before opening the cover for maintenance in order to avoid the accident.

The installation and maintenance of the printer can only be carried out by the people who is well trained by our Company, or no warranty will be made if the unauthorized person or the person who is not under the guidance of the Company cause major damage to the machine.

## **Waste disposal:**

Inks/solvents/cleaning fluids are highly volatile and highly flammable. They must be stored in the original container. The container must be sealed and placed in a well ventilated place away from heat sources or other special fire fighting areas.

Fireworks are strictly prohibited in the ink/solvent/cleaning solution storage area. Paper towels and wipes used to clean the printer should be taken out of the work area immediately after use, because they will volatilize a large number of solvents and affect the environment after soaking in solvents, and there are hazards. It should be handled promptly according to relevant laws and regulations.

If ignited carelessly, use fire extinguisher and sand to extinguish fire, and do not use water to extinguish fire.

**If this safety warning is ignored, it may result in the combustion and explosion of solvents, ink and detergents, resulting in loss of personnel and property.**

## Chapter 2 Feature and installation of inkjet printe



## **Installation requirements**

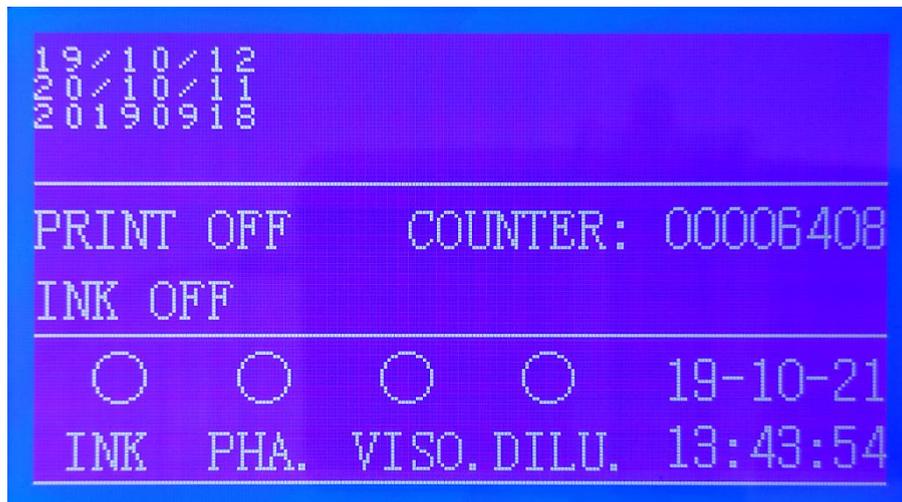
1. Installation of machinery must be well ventilated.
2. Do not install in high temperature, high humidity, high dust environment
3. Cannot be installed in strong electromagnetic interference, strong static environment
4. Installation must be smooth, unequal to strong vibration
5. The machine must be well grounded
6. Maintenance personnel must be specially trained for use
7. Please confirm the model before adding consumables

## Chapter 3 Start-up inkjet printer

- Turn on / off inkjet printer
- Select printing information
- starts and stops printing.

The first step of starting the program: turn on the power supply first for visual inspection (Check Chapter 7 machine maintenance for details) and check to ensure the input power supply of the inkjet printer is normal.

Then turn on the power switch of the inkjet printer, and after the inkjet printer is quickly initialized, you can see the following screen:



This screen is default display of inkjet printer boot. You will find the whole screen be divided into three areas.

Area 1: displays the information being printed

Area 2: shows the working status and operating parameters of the machine

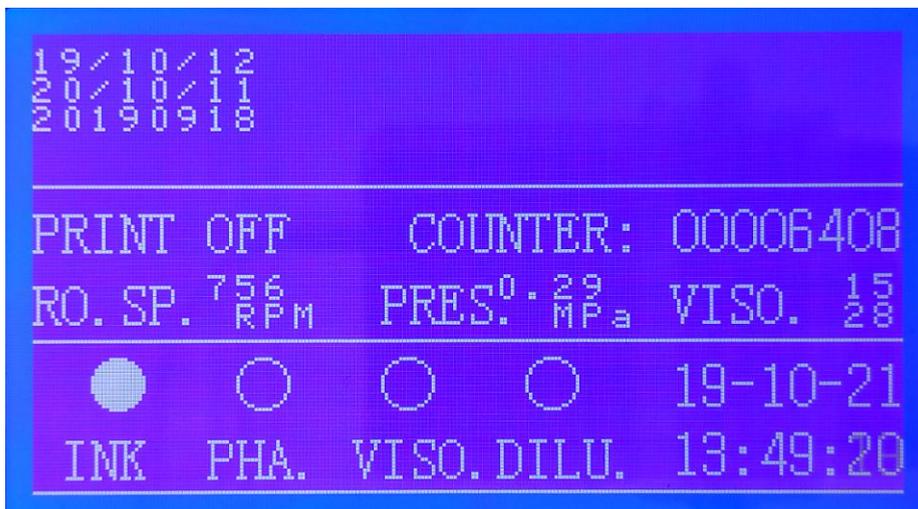
Area 3: displays the working indicator light and calendar time of the machine

Step 2: ink supply :refers to starting the ink pump, transmitting the ink from the ink tank to the printing head, and ejecting it from the nozzle for

printing out, pressing the ink supply / stop key on the right side of the screen, the printer enter the ink supply state, the ink supply process last for 90 seconds, and the ink supply indicator light on. At this time, the screen appears as follows



After the ink supply is complete, the screen appears as follows: this screen is called the home screen.

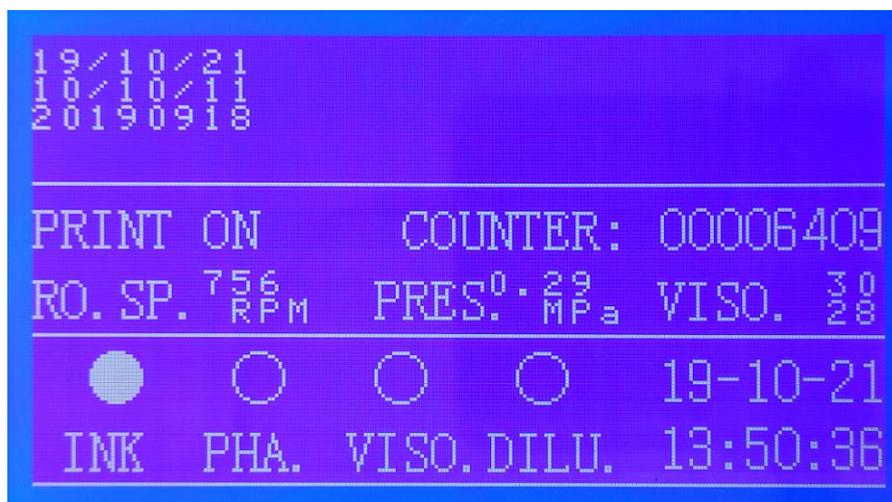


Step 3: set up the relevant parameters (see software operation chapter for details)

step 4: edit print information (see software operation chapter for details)

step 5: print

Under the home screen, press the print key to enter the print state, which appears as follows:

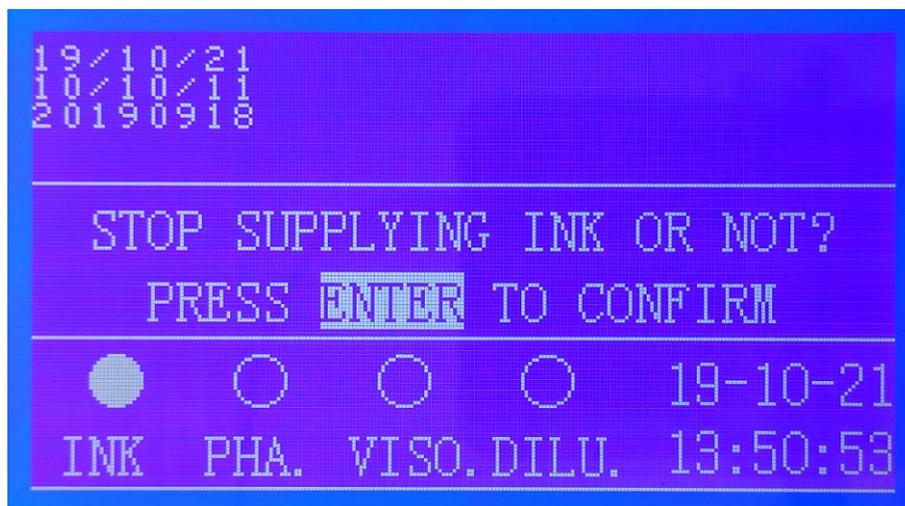


The trigger mode of spray printing can be divided into continuous photoelectric synchronization with fixed length. Continuous trigger means that as long as the printer enters the printing state, the printer begins to print; photoelectric trigger means that after entering the printing state, the photoelectric switch senses that the object passes through before printing; timing trigger means that after entering the printing state, the printer sprays once every certain time, which belongs to the extension of continuous trigger; fixed-length trigger is used with synchronous meter and sprays printing at a certain distance.

### **Stop procedure:**

The first step :stop ink supply. stop ink is to stop the work of ink pump, in this process the ink of the nozzle back to the ink tank and recycled, the machine with automatic cleaning function in this process to perform the function of automatic cleaning spray cavity. Before stopping ink, Please return to the main menu state from the print or setting state,

and then press the ink supply / stop key, and then the screen Shows whether or not to perform the stop ink function, as follows:



Under this menu, press the Esc key to return to the previous menu; press Enter to enter the ink-stop state, and the ink-stop process is 2 minutes. At this time, the screen display is as follows:



After the stop ink supply process, the screen returns to the boot default display state.

Step 2 turn off the power supply, please turn off the power switch of the inkjet printer.

Step 3 clean the printing head with cleaning solvent. .

## Chapter 4 Software operation of inkjet printer

This chapter mainly introduces the software use method of inkjet printer, including the setting of parameters, text editing and so on.

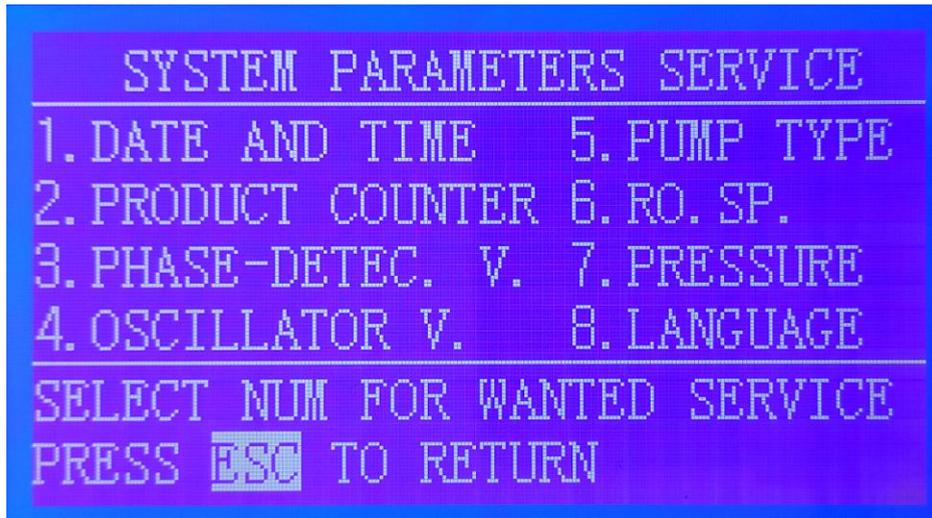
First, set up the main menu

Press the Settings key to enter the setup main menu, and the screen appears as follows:

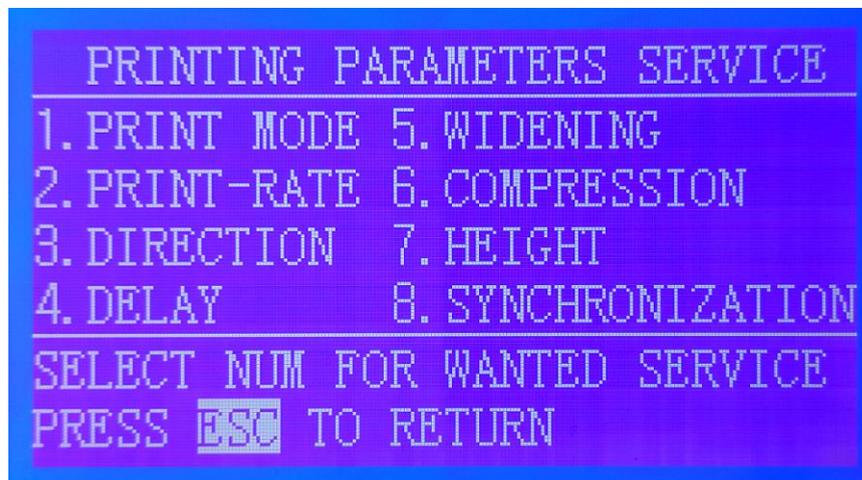


Under the main setting menu, press the number key to enter the corresponding setting menu, and press Esc to return to the previous menu.

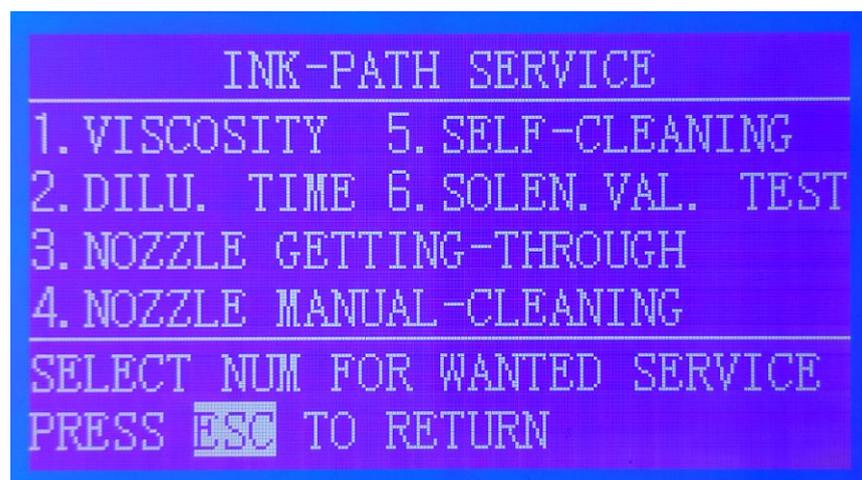
Press “1” to enter the system parameter settings submenu, as follows:



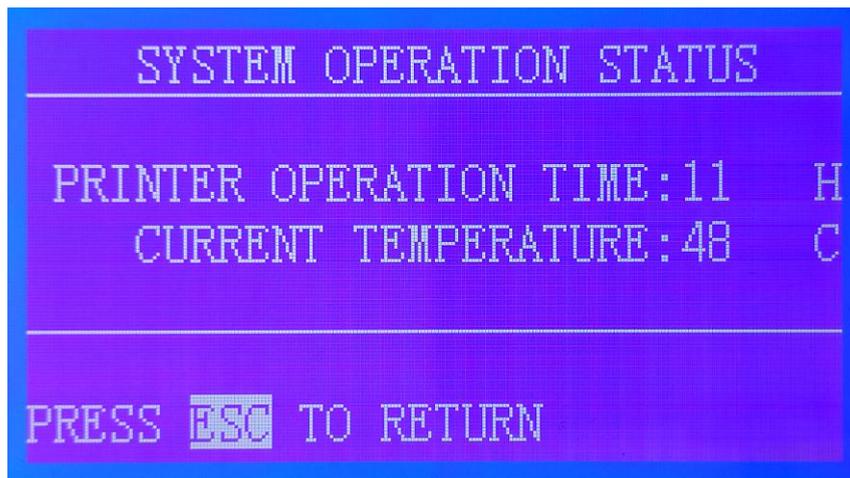
The other 3 menu displayed as below:



Printing parameters setting menu



Ink Path setting

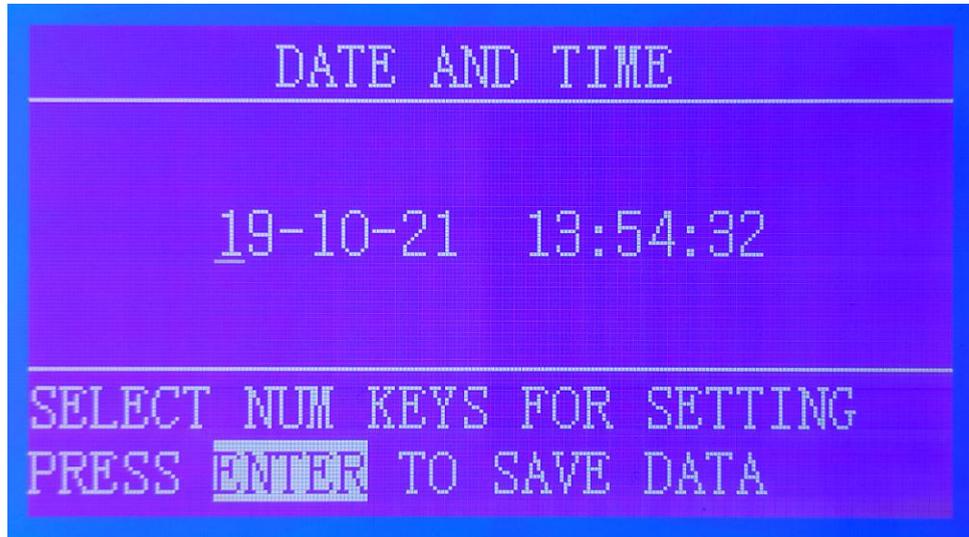


System status

## 1. The use of the system parameter setting submenu

### System time setting

Under the system parameter settings submenu, press “1” to enter the system time settings menu, as follows:



Under the system time settings menu, enter the date and time by using the 0 / 9 number button, and each bit of light is entered

The standard automatically moves one bit back; you can also press the key “→ ←” to select the year, month, day, time, minute, second, use the number of words to change the value, press Enter key to save the data and return to the next level menu after the setting is complete, do not save the number and return to the next level menu, please press Esc directly.

Note: press “Enter” to save the data and return to the parent menu after all the settings are complete, press “Esc” directly Key does not save the changed data value!

Product Counting Settings Product Counting settings are used to indicate how many product is printed and also to number the product, which can be printed and synchronized with the displayed count values. set here is the initial value of the product count.

Under the system parameter settings submenu, press “2” to enter the product count settings menu, as follows:



Under the product count settings menu, enter an 8-digit product count value for each output by using the 0 / 9 number key

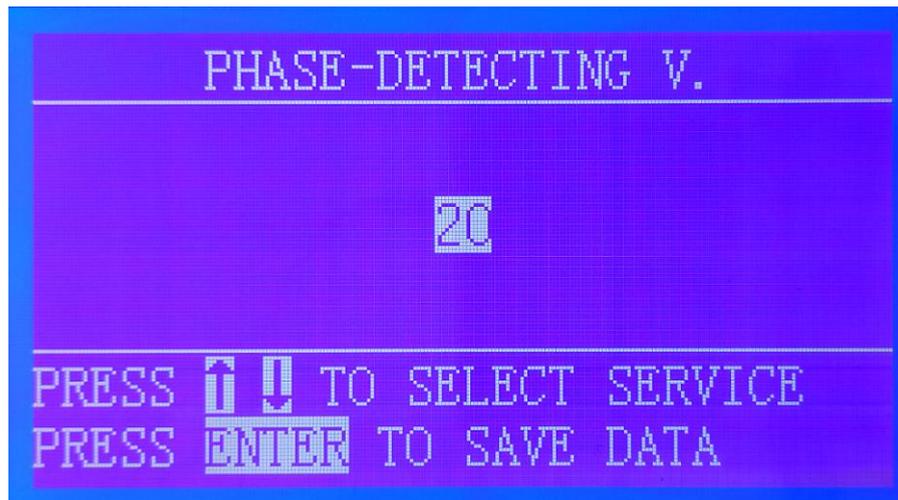
One bit cursor automatically moves back one bit; you can also select each bit by pressing the “ → ←”, change the setting with the digital key, adjust the range to 0-99999999, and press the “Enter” key to save the data and return to the next level after the setting is complete

Menu, do not save data and return to the next level menu, please press “Esc” directly.

Note: the product count value can be adjusted at any time as needed.

The phase detection voltage setting is used to set the phase detection voltage. The purpose of phase detection is to detect the charging of ink dots, so that the machine can adjust the charging time of ink dots at any time and ensure good printing effect.

Under the system parameter settings submenu, press “3” to enter the phase check voltage settings menu, as follows:

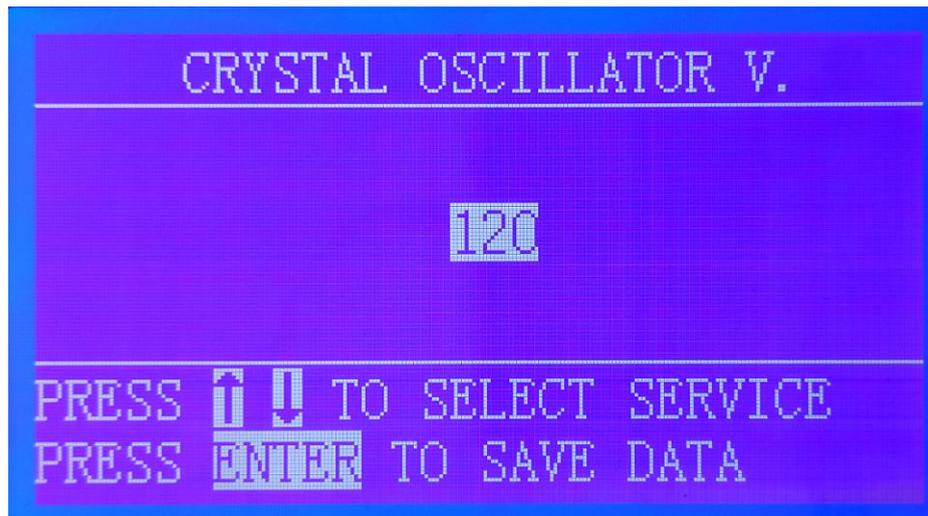


Under the phase voltage setting menu, the value of the phase voltage is changed by using the “↑ ↓” ,and the range of adjustment is 0 ~40. When the setting is complete, press “Enter” to save the data and return to the next level menu. If you do not save the data and return to the upper level menu, press “Esc” directly.

Which is set up at the time of leaving the factory. Generally, it does not need to be modified. If the print page shows the phase fault and troubleshoots other problems, the set target value 20 can be changed to 25 and adjusted appropriately.

Crystal Voltage Setting the crystal oscillator voltage setting is used to set the voltage of piezoelectric ceramics on the spray cavity, so that the breaking time of the ink dot changes, thus affecting the effect of printing.

Under the system parameter setting submenu, press “4” to enter the crystal oscillator voltage setting menu, as follows:

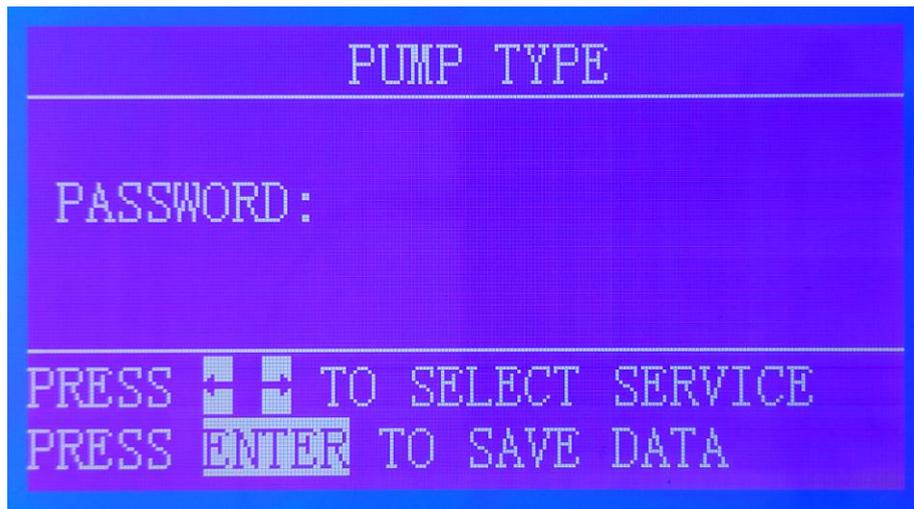


Under the crystal oscillator voltage setting menu, change the value of the break point voltage by press the “↑ ↓”, and adjust the value from 0-255. When the setting is complete, press “Enter” to save the data and return to the next level menu. If you do not save the data and return to the next menu, press “Esc” directly.

Note: break point voltage does not need to be adjusted when ink pressure and ink viscosity do not change greatly.

Drive mode setting is used to select the type of ink pump: DC type, pulse width type.

Under the system parameter settings submenu, press “5” to enter the driver settings, as follows:

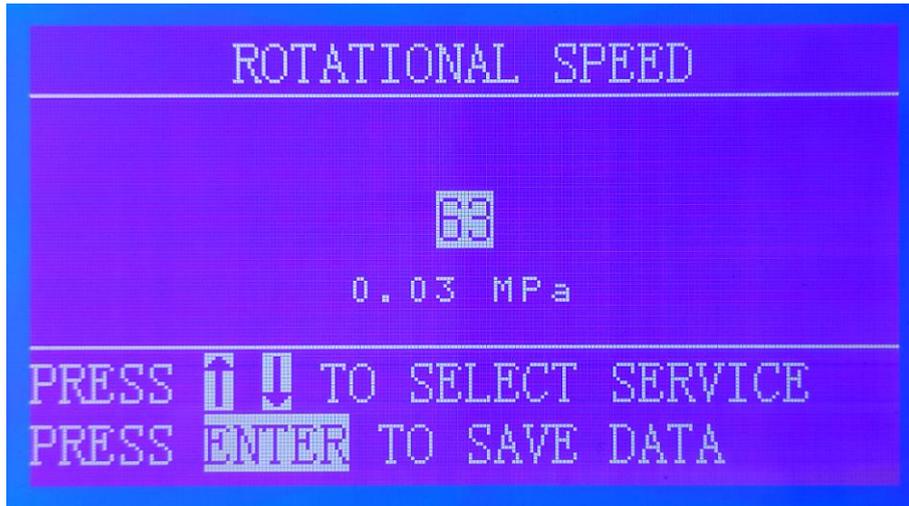


Under the driver mode setting menu, user enter an 8-bit password through the 0 - 9 digital key board, each input bit optical pole automatically moves back one bit, when the password input is incorrect, the cursor will automatically jump to the first bit password bit, require re-input, when the password input is completely correct, the cursor automatically jumps to the next level menu DC position, at this time, through "→ ←" select the driving type of ink pump. When the settings are complete, press "Enter" to save the data and return to the next level menu. If you do not save the data and return to the previous menu, press "Esc" directly.

Note: driver mode settings are mainly used for debugging in the factory, users do not need to adjust

Rotating Speed setting is used to set the running speed of ink pump, which affects the pressure of ink supply. During the operation of the inkjet printer, the rotating speed is automatically adjusted according to the pressure and refreshed every five seconds.

Under the system parameter settings submenu, press "6" to enter the speed settings menu, as follows:



Under the Rotating speed setting menu, the voltage value of the speed control end of the ink pump motor is changed by the “↑ ↓” key, In the process of adjustment ,user can observe the voltage of the system ink through the data as displayed below . The adjustment range is 0~255V, when the DC motor is selected, the voltage of the corresponding speed control terminal is 0~5V;When the pulse width motor is selected, the corresponding speed control end is 24V pulse width. After setting, press “Enter” to save the data and return to the previous menu. Press “Esc” directly to return to the previous menu.

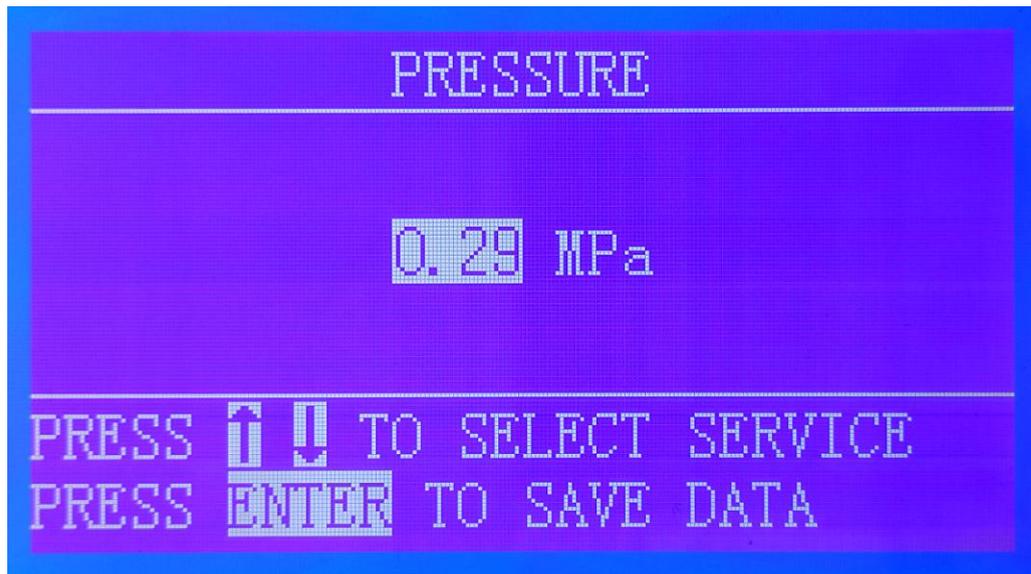
Note: the speed setting item is mainly used for commissioning in the factory. Users only need to adjust in order to make the ink pressure reach the set value quickly in order to replace the main ink filter or the ink supply filter and so on.

### **Pressure setting**

The pressure setting is used to set the pressure of ink pump . It is very important to ensure the stability of ink pressure to obtain good printing effect. The inkjet printer will detect the ink pressure in real time in the process of operation, and automatically make the ink pressure stable to the set reference value by adjusting the speed of the ink pump motor.

Under the System Parameter Settings submenu, press “7” to enter the

Breakpoint Settings menu as follows:



Under the pressure setting menu, change the set value by the “ ↑ ↓ ” key, the adjustment range is 0~0.5 MPa. After setting, press “Enter” to save the data and return to the previous menu. If need to return the previous menu without save the data, press “Esc” directly.

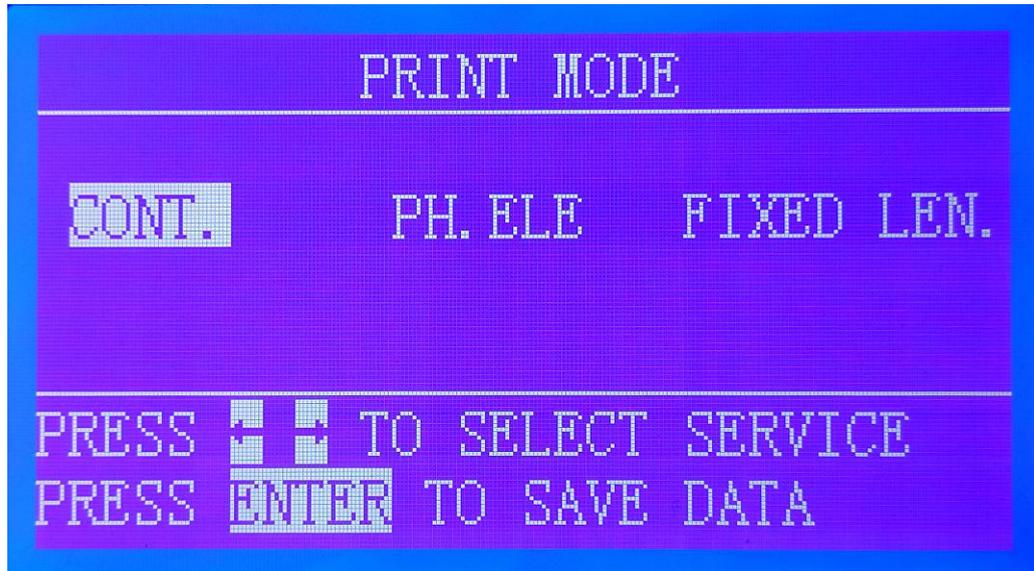
Note: The pressure setting is mainly used for factory commissioning. Generally, no user adjustment is required. If adjustment is needed, it can only be carried out by the operator trained by our company, or under the guidance of our company's after-sales personnel.

**2.The printing mode of printing parameter setting sub menu is divided into three types:**continuous trigger, photoelectric trigger and fixed length trigger.

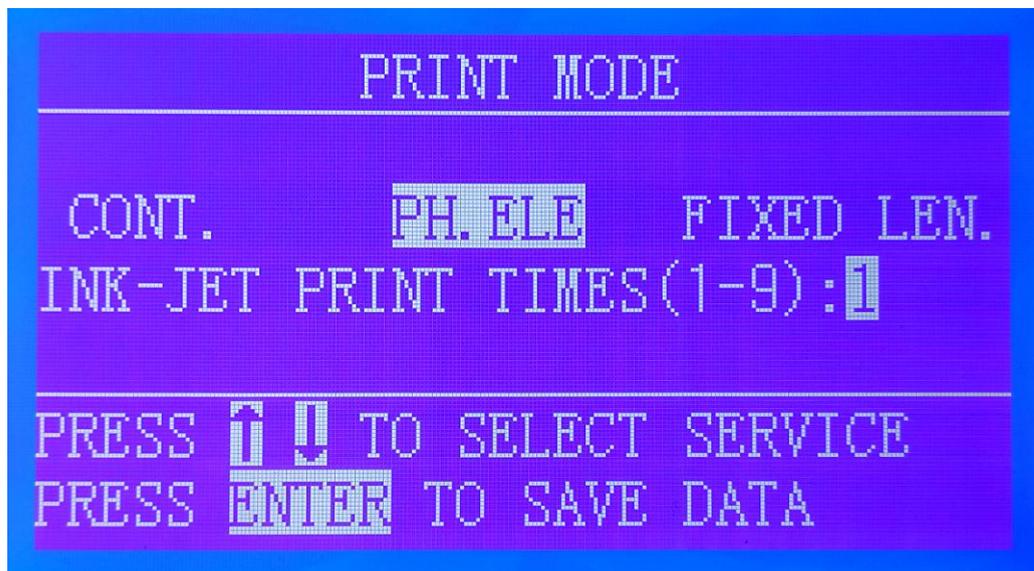
Continuous triggering means. As long as the printing state is entered, the inkjet printer begins to print; photoelectric trigger refers to the photoelectric state, after entering the printing state, the inkjet printer begins to print.

The switch senses the object passing by before printing; the fixed length trigger is used in conjunction with the synchronous meter, spray printing at a certain distance.

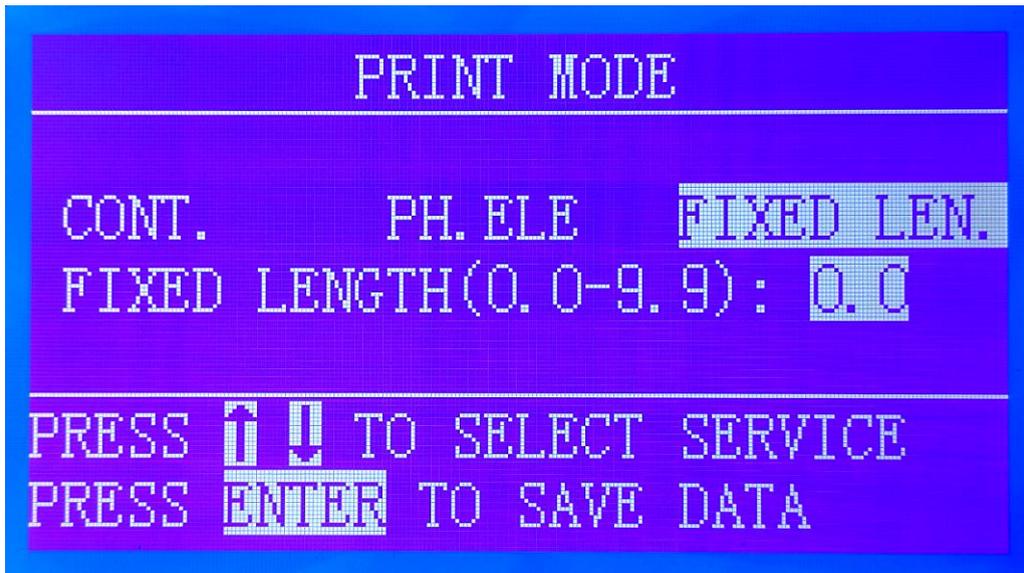
Under the print parameter settings sub menu, press “1” to enter the print mode settings menu, as follows:



Under the print mode setting menu, the system defaults to continuous trigger, changing the printing mode by using the “→ ←” key. When the user selects Photo electronics by “→” key,



When the user selects fixed length by “→” key,the screen display as below:



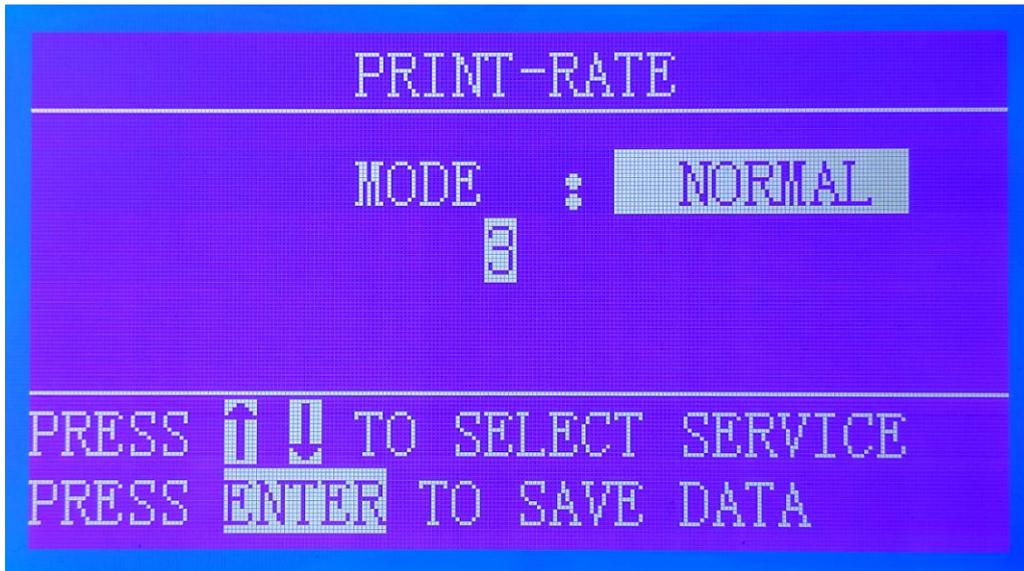
When the photo-electric trigger or the fixed-length trigger is selected, the corresponding value is changed by the “↑ ↓” key. press “Enter” key is to save the data and return to the previous menu. Press the “Esc” key directly to returned to the previous menu if no need to save the data .

Note: users can choose the appropriate printing method according to their own needs.

Printing speed setting :printing speed is used to set the speed of printing, which can be adjusted according to the speed of the user's transmission device.

In order to make the width of the spray printing information to meet the needs of the user's products.

Under the print parameter settings sub menu, press “2” to enter the print speed settings menu, as follows:

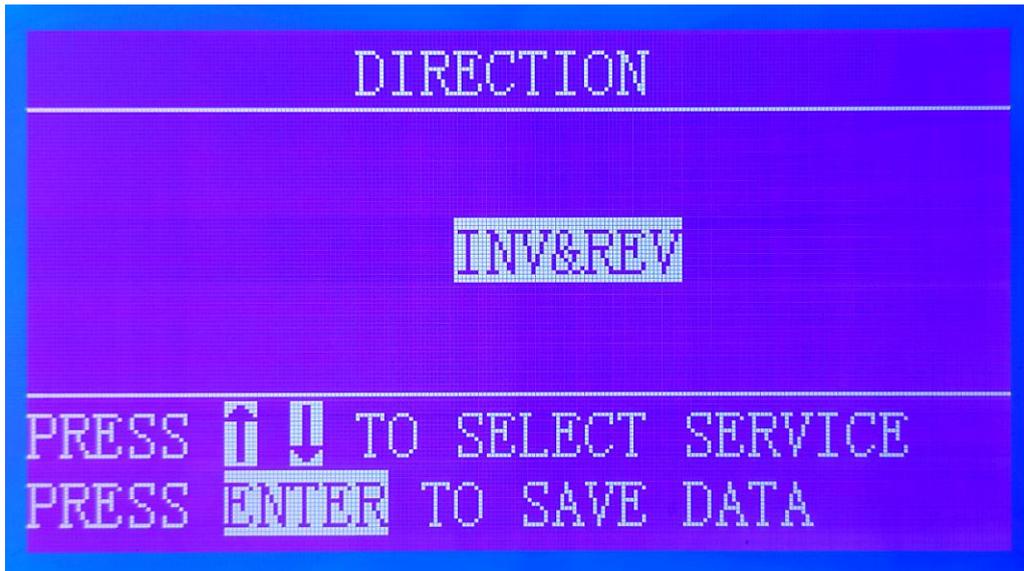


Under the print speed setting menu, use the “↑ ↓” key to change the series of printing speed , the setting range is 0-99,The smaller the number, the faster the print speed.When the setting is complete, press “Enter” to save the data and return to the previous menu. Save the data and return to the previous menu. Press “Esc” directly.

Note: The user can set the appropriate printing speed according to the running speed of the production line or transmission equipment. The print speed affects the effect of printing, and the faster the speed, the more severe the font distortion.

Print orientation setting The print orientation is used to set the order of information printing before and after, and is divided into four types: Normal,Y reverse, XY reverse, and X reverse. It can be selected according to the transmission direction of the user's transmission equipment, so that the information direction of the printing conforms to the needs of the user's product.

Under the Print Parameter Settings sub menu, press “3” to enter the print orientation setup menu as follows:

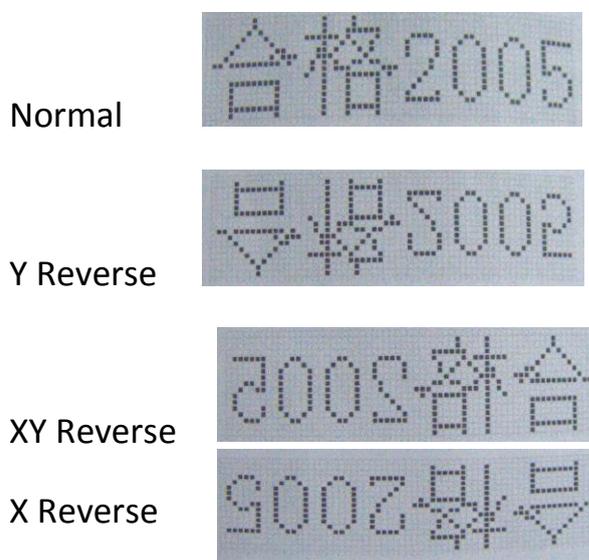


In the print direction setting menu, select the appropriate printing direction by using the “↑ ↓”key.

Setup Complete Press “Enter” to save the data and return to the previous menu, do not save the data and return to the previous menu please direct Press the “ESC” key.

Note: The printing direction and the spray head are related to the relative position of the transmission equipment. Different position direction definitions are different, and the user must select according to the actual situation.

Example: If the running direction of the conveying equipment is a single direction, the printing effect is as follows:



Note: the user can set the printing direction according to the actual situation.

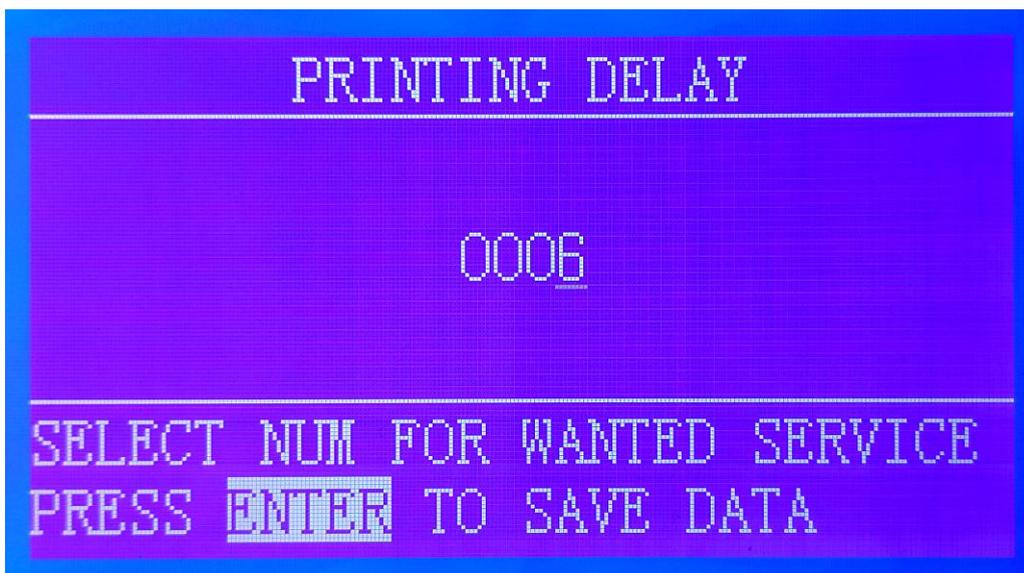
Print delay setting: print delay settings are mainly used to set the interval between printing content, and the relationship between printing and printing mode,As follows:

**continuous printing:** the interval between two printing.

**Photoelectric trigger mode:** photoelectric switch senses the time interval between the object and the start of printing

**Fixed length trigger mode:** no effect

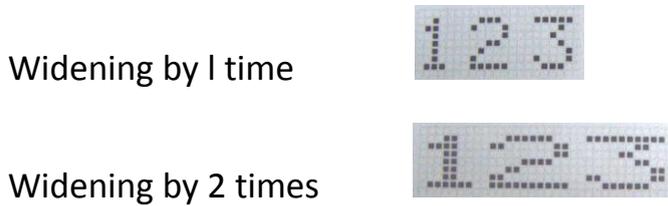
Under the print parameter settings sub menu, press “4” to enter the print delay settings menu, as follows:



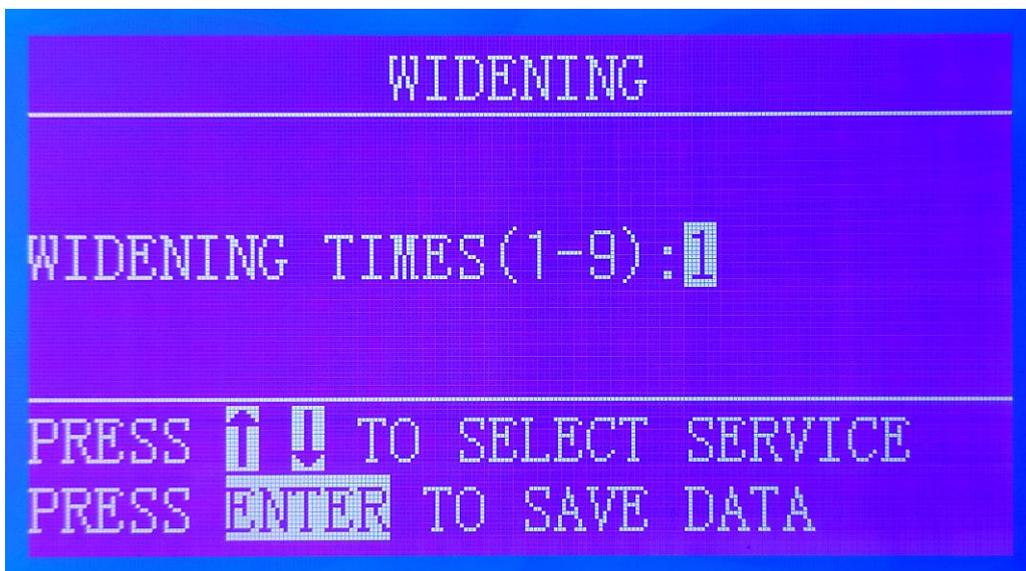
Change the printing delay time by the “ ↑ ↓ ” key in under the print delay setting menu, the range is 0~255. After the setting is completed, press “Enter” to save the data and return to the previous menu. If you need to return to the previous menu without saving the data, press “Esc” directly.

Note: Users can select the desired delay time as needed.

**Widening setting** :The widening setting is used to set the number of times each column of print data is printed, making the print bold.The effect is as below example:



Under the print parameter settings submenu, press 5 to enter the widening settings menu, as follows:



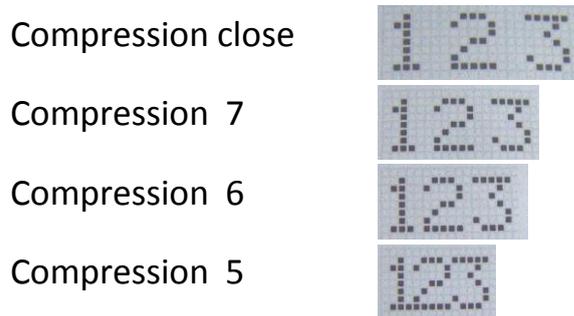
Under the widening setting menu, use the “↑ ↓” key to change the widening multiple and adjust the range 1- 9. After the setting is completed, press “Enter” to save the data and return to the previous menu. If you need to return to the previous menu without saving the data, press “Esc” directly.

### **Compression Settings :**

Compression settings are used to set the distance between each character printed so that the characters look loose or tight.

Only valid for 5 X 7 dot matrix numbers or letters.

The effect is as below example:



Under the print parameter settings submenu, press “6” to enter the compression settings menu, as follows:



Under the compression settings menu, use the “↑ ↓” to select the compressed value, and the system defaults to compression off state, adjustment range: close 7,6,5. After the setting is complete, press “Enter” to save the data and return to the previous menu. If you need to return to the previous menu without saving the data, press “Esc” directly.

Note: Users can adjust the compression settings as needed

**Word Height Setting** :The Word Height setting is used to adjust the font height of the printed characters and actually adjust the intensity of the deflection electric field.

Under the Print Parameter Settings submenu, press “7” to enter the word

height setting menu as follows:



Under the font height setting menu, the value of the font height adjustment is selected by

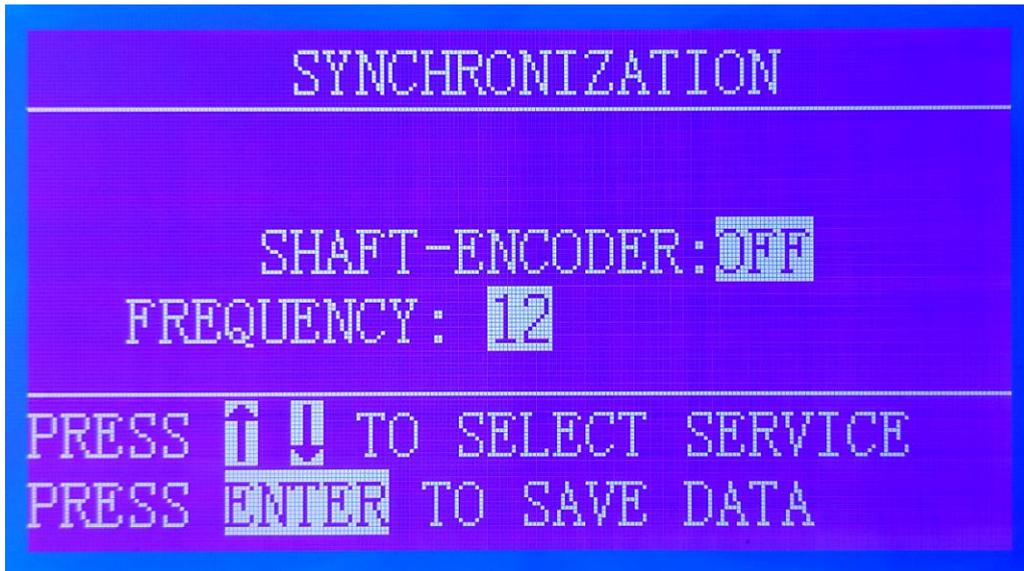
After the setting is completed, press "Enter" to save the data and return to the previous menu. If you need to return to the previous menu without saving the data, press "Esc" directly.

Note: The height of the printed font and the distance between the print head and the surface of the printed object are proportional, so the height adjustment mentioned here is based on the premise that the distance between the print head and the surface of the printed object does not change. The user can adjust the word height as needed.

### **Synchronization Settings :**

Synchronization settings are used to allow or disallow the use of external sync meters. Synchronization means that if the speed of the printed object is not uniform, in order to keep the printed font uniform, an external device is required as the speed reference for printing. When the Synchronizer is on, the pulse of the synchronizer is used as the speed standard for printing; when the synchronizer is off, the standard pulse inside the machine is used to match the set value of the print speed.

Under the Print Parameter Settings submenu, press "8" to enter the Sync Settings menu as follows:



Under the Sync Settings menu, use the “ ↑ ↓ ” key to switch the status of the synchronizer. The system defaults to synchronizer off. Press the “Enter” key to save the data and return to the previous menu. If you need to return to the previous menu without saving the data, press “Esc” directly.

Note: The user can select the switch status of the synchronizer as needed.

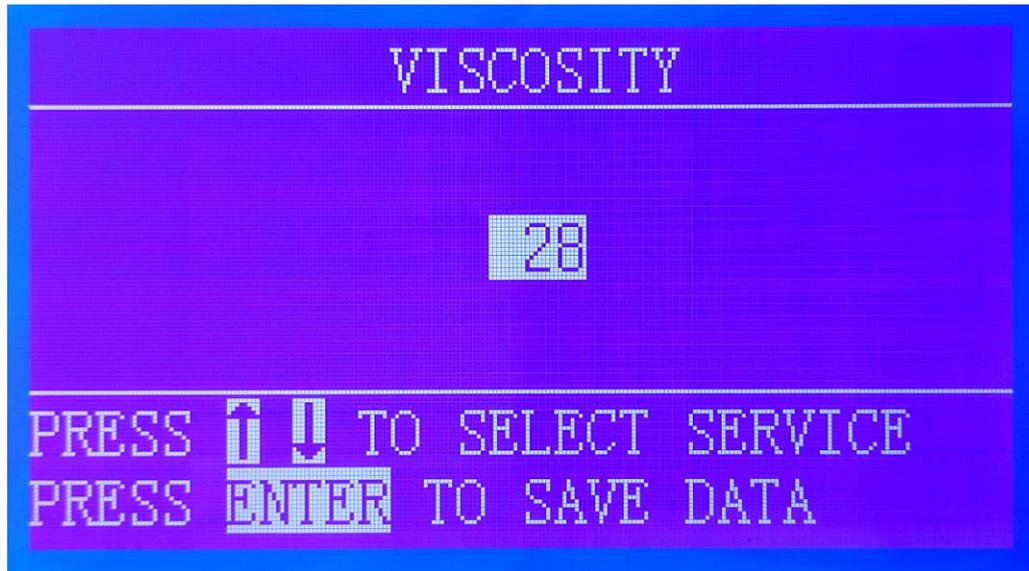
### **3, the instruction of ink path operation settings sub menu**

#### **Ink Viscosity Setting:**

The viscosity of the ink is one of the key factors affecting the printing effect.

The evaporation of some components during the running of the ink causes the ink to thicken. If it is not controlled, it will affect printing, so it is necessary to detect and control the viscosity of the ink in time. The machine automatically detects the viscosity of the ink and stabilizes the viscosity of the ink by adding dilution. The viscosity of the ink set here is the optimum ink viscosity value required for machine operation.

In the Ink Operation sub menu, press “1” to enter the Ink Viscosity Settings menu as follows:



Under the ink viscosity setting menu, use the “ ↑ ↓ ” key to change the value of the ink viscosity. Set the range 0-255. When the setting is complete, press “Enter” to save the data and return to the next level menu. If you need to return to the previous menu without saving the data, press “Esc” directly.

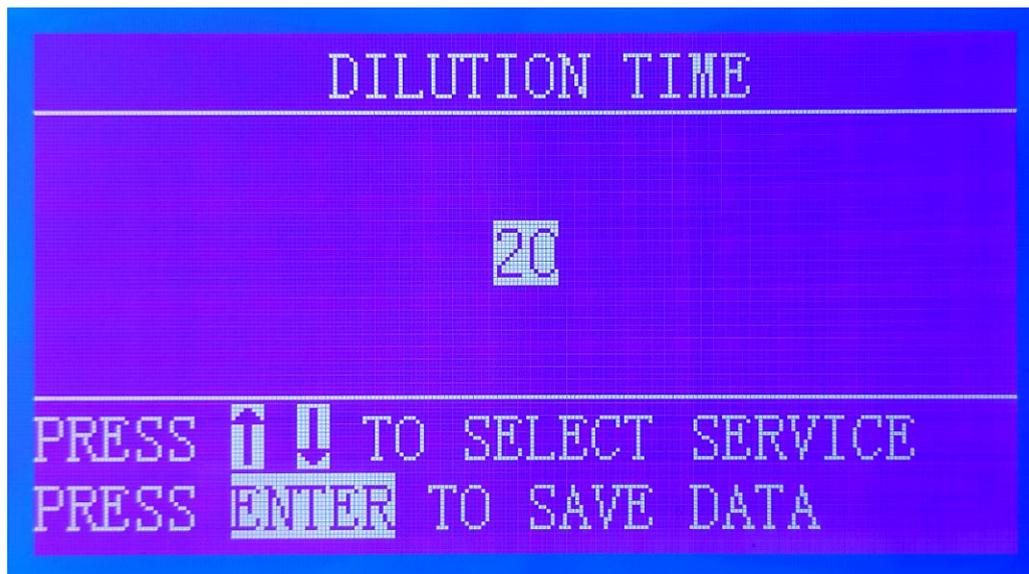
Note: the ink viscosity value of our inkjet printer is under best situation after careful debugging by our staff .If you need to use some special ink provided by our company, you should re-set the ink viscosity value under the guidance of our company's professional staff.

#### **Dilution time setting :**

Some components in the ink will evaporate during the operation of the printer, causing the viscosity of the ink to be too high.

The ink viscosity is detected and controlled by adding dilution according to the set ink viscosity value.

The dilution time setting is to set the length of time each diluent is added. Under the Ink Operation submenu, press 2 to enter the Dilution Time Settings menu as follows:



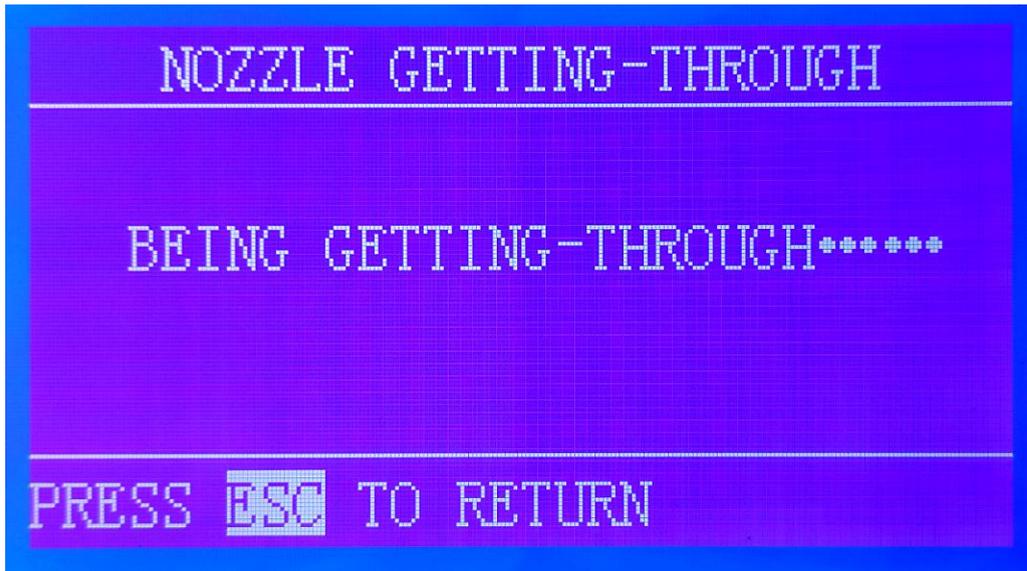
Under the Dilution Time Settings menu, change the value of the ink dilution time with the “ ↑ ↓ ” key. Setting up range is 0 -50. After the setting is completed, press “Enter” to save the data and return to the previous menu. If you need to return to the previous menu without saving the data, press “Esc” directly.

Note: The dilution time of the factory printer is the best value set by the debugging staff of our company. Please do not change it. If the user finds that the viscosity value changes abnormally and the filter viscometer is removed, the ink dilution time can be slightly adjusted. If the viscosity is low after each dilution, then

Decrease the value of the ink dilution time. If the viscosity value is always high, increase the value of the ink dilution time.

**When the nozzle is turned on**, the printer may not be cleaned due to long-term shutdown or for some other reason, no ink line is ejected or the ink line is ejected from the collector when the ink is turned on, and it can be started when it is confirmed that the nozzle is clogged. The nozzle open function is turned on. The nozzle is opened to clear the nozzle by alternating the positive and negative pressure of the spray chamber.

Under the Ink Operation submenu, press “3” to enter the nozzle access menu as follows:

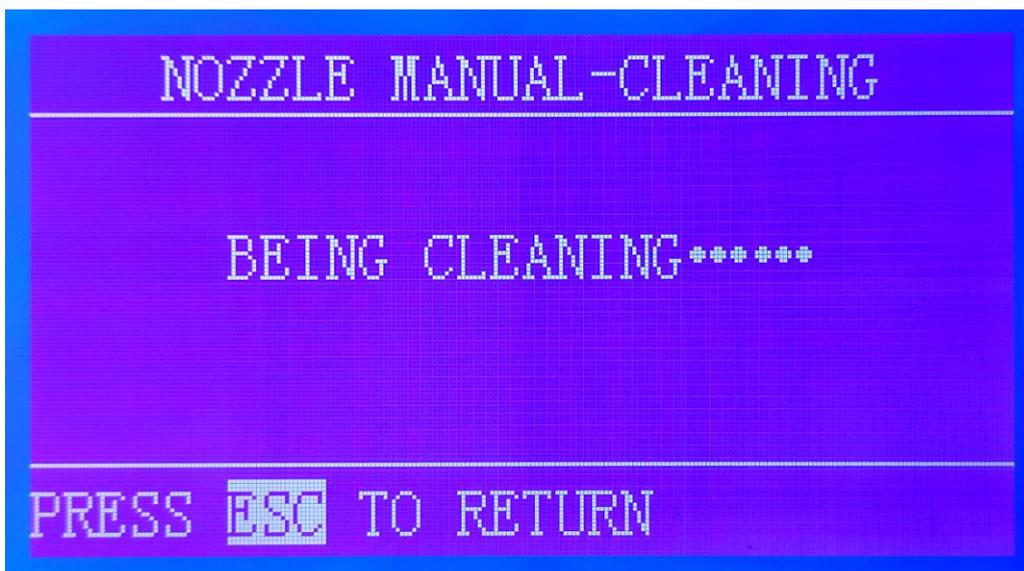


When the user performs the nozzle opening, pay attention to the nozzle ink line. Once the ink line is normal, press “Esc”.

**Stop the call and return to the previous menu.**

Manual nozzle cleaning The manual cleaning of the nozzle is to clean the spray chamber by manually pressing the button. The printer is cleaned by pressing the diluent into the spray chamber.

Under the Ink Operation submenu, press “4” to enter the nozzle access menu as follows:

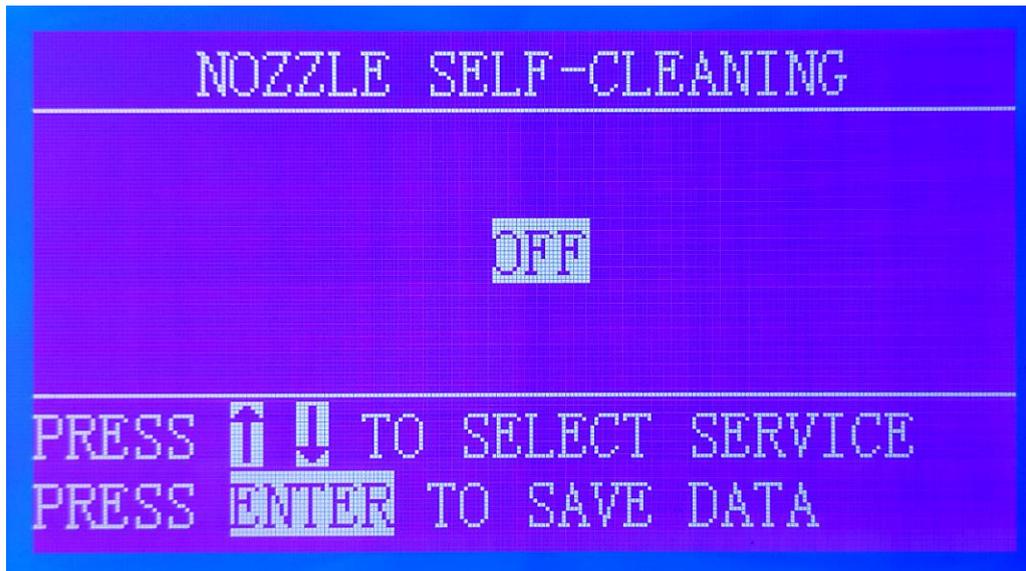


The user performs manual cleaning until the ink in the spray chamber is clean ,then presses the Esc key to stop and return to the previous menu.

### Automatic nozzle cleaning:

The automatic cleaning nozzle is used to allow or prohibit the printer from automatically cleaning the chamber during ink stop.

In the Ink Operation submenu, press the 5 key to enter the automatic cleaning nozzle setting menu as follows:



Under the automatic cleaning nozzle menu, the status of the automatic cleaning switch is selected by pressing the “↑ ↓” key. The system defaults to the automatic cleaning off state. Press “Enter” to save the data and return to the previous menu. Save the data and return to the previous menu. Press “Esc” directly.

Note: For printers without this function, please set the automatic cleaning to off.

### Solenoid valve test

Under the ink path setting submenu and no ink supply status, press 6 to enter the solenoid valve test menu.as follows:



Under the solenoid valve test menu, the machine will automatically test each solenoid valve; when the test is finished, press the “R” key to re-test the test, press the “Esc” key to stop the test and return to the previous menu.

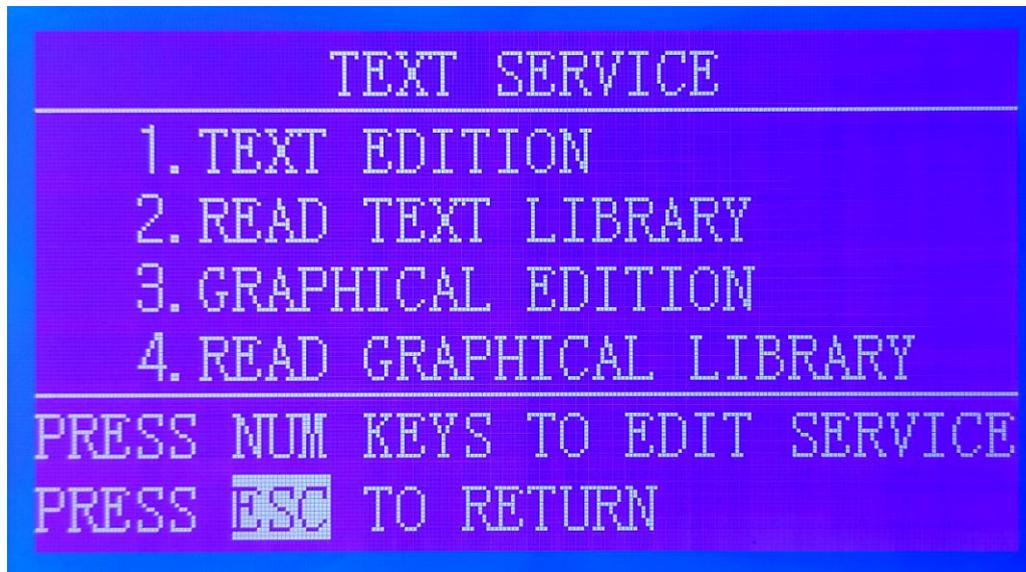
Note: The solenoid valve test is mainly used for commissioning at the factory, and the user does not need to perform the test.

#### **4, the use of the system operation status submenu**

The system running status menu is mainly used to view the system running time and the current system temperature.

## 2.Message Edit

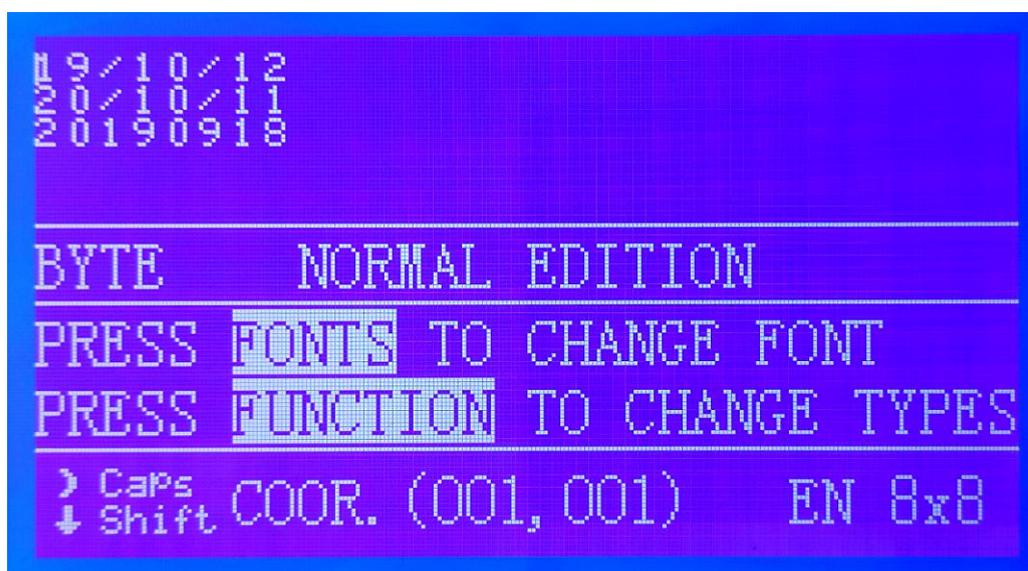
Press “Edit” into Editing main menu, screen shows below:



### Edit Printing Message

Printing message is the content need to be printed on the production,the messages can be included: 8\*8 dots English characters, numbers, Simple Chinese,16\*16 dots and 24\*24 dots Texttransform English characters, numbers, National standard level 1 and 2 ordinary and boldface Chinese characters and symbols,32\*32 dots logo.

Under the main menu, press “1” into Edit message menu, as following:



How to input 8\*8 dots English character, number and symbol: firstly, press CN/EN to chose English, secondly, press Font choose 8\*8, then input

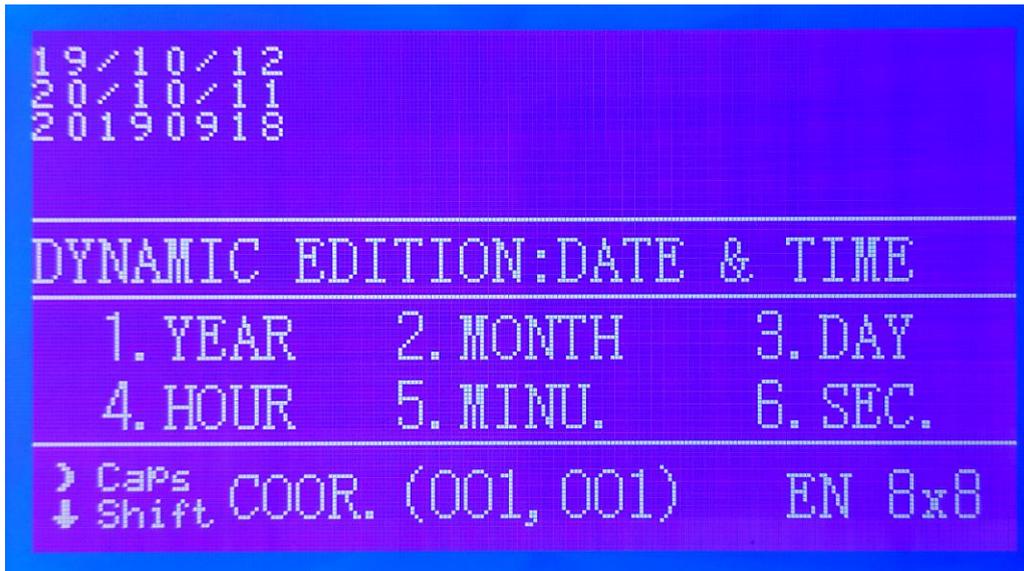
the English characters, numbers and logo. Pls Note that the uppercase letter should be entered by pressing the Caps key first, followed by the corresponding letter key.

How to input 8\*16 dots English character, number and symbol: firstly, press CN/EN to chose English, secondly, press Font choose 8\*16, then input the English characters, numbers and logo. Pls Note that the uppercase letter should be entered by pressing the Caps key first, followed by the corresponding letter key.

How to input 16\*16 dots English character, number and symbol: firstly, press CN/EN to chose English, secondly, press Font choose 16\*16, then input the English characters, numbers and logo. Pls Note that the uppercase letter should be entered by pressing the Caps key first, followed by the corresponding letter key.

How to input the symbols on the key 0-9 (8-8, 8-16, 16-16): Firstly select English by pressing the CN/EN keys, then press the Font key to select 8-8, 8-16, 16-16 dot matrix, press Shift and then press the corresponding number key.

How to input variable 8-8, 8-16, 16-16 dot matrix, date, time and product count: firstly select English by pressing the CN/EN key, press function key to select variable information: date, time, Product count, press the Font key to select the corresponding font, press the “ → ← ” key to move the cursor position, press the number keys to input the corresponding content, as follows:



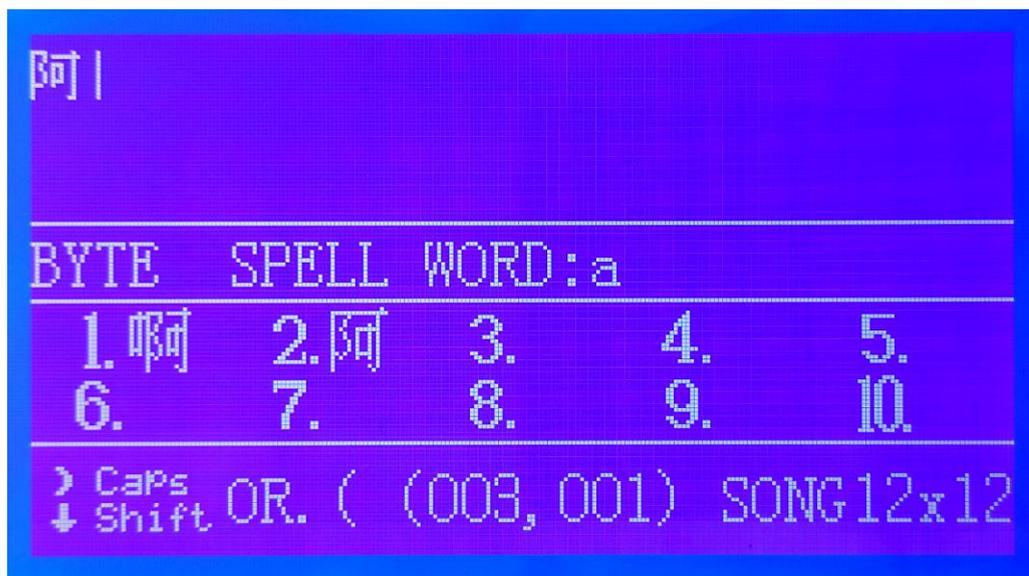
How to input graphic information: firstly select the graphic by pressing the CN/EN key, input by pressing the numeric keys

Graphic code, press the R key to input the graphic to the cursor position. 30 common Chinese characters are used: year, month, and day. valid date, warranty date, batch number, the code is 1-30.

How to input Chinese characters: Chinese characters include 16-16 and 24-24 standard and location input. There are two methods for input: Pinyin input method and location input method. Generally, the international first-level fonts can be input by Pinyin input method, and the second-level font library. The Chinese characters can be input by the location method, and the symbols can only be input through the location. We can Select the Pinyin input method or the location input method by pressing the CN/EN , and press the Font key to select the 16-16 or 24-24 standard and bold font library. In the Pinyin input method, as long as we input the initials, the Chinese characters appear in the order of the finals at the bottom of the screen. After all the pinyin is entered, the Chinese characters with the same pinyin will appear at the bottom of the screen. We can input the Chinese characters according to the numbers in front of the Chinese characters. In the location input method, as long as we fill in a hexadecimal four-digit location code, the corresponding Chinese characters and symbols will be input to the cursor. Schedule 1.

Note: After all the above editing information is completed, press Enter to save the data and return to the previous menu, press Esc directly will do not save the edited information! ! !

The following example shows how to use the Pinyin input method to input 16–16 dot matrix standard Chinese characters in the normal editing state. Press the clear button to clear the screen, press the CN/EN button to select Pinyin, press the font button to select the standard 16–16, and the screen displays as follows:

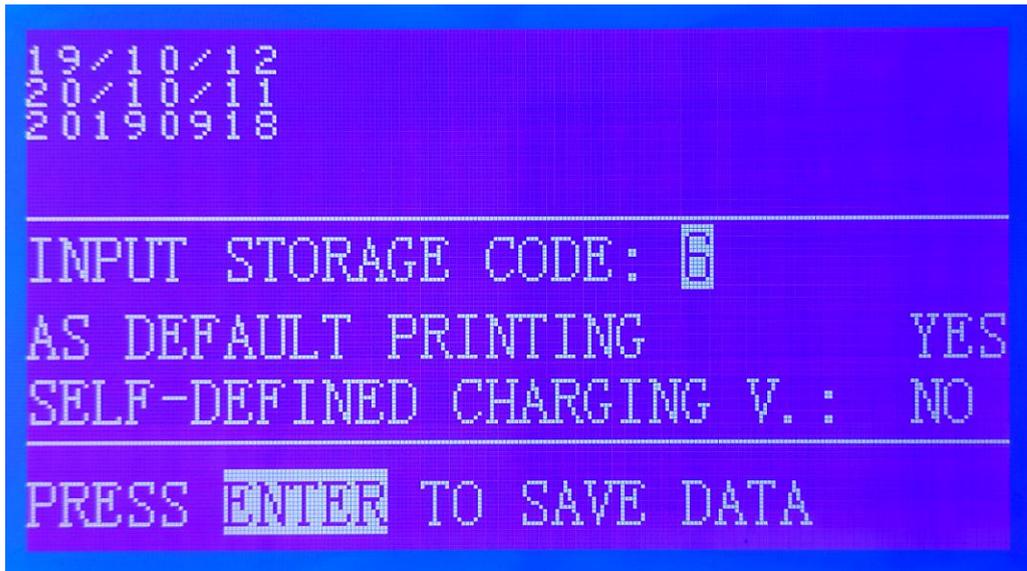


After inputting pinyin, press the number key directly to input the corresponding Chinese character into the user area.

Note: Because 10 Chinese characters can be displayed at the bottom of the screen at most, if the words you want to input do not appear at the bottom of the screen, please use + - to select the next page of Chinese characters.

### **Save Printing Message**

At the Edit Print Information menu, if message is entered, press “Enter” and the screen will appear as follows:



Press the number keys to enter the storage code (00~99), then press the Enter key. After the information is saved, the screen will return to the previous level to edit the main menu.

If it is not the current print information, press the “ → ← ” button to select the default print information: No, press the “Enter” key again, after the information is saved, the screen will return to the previous edit main menu.

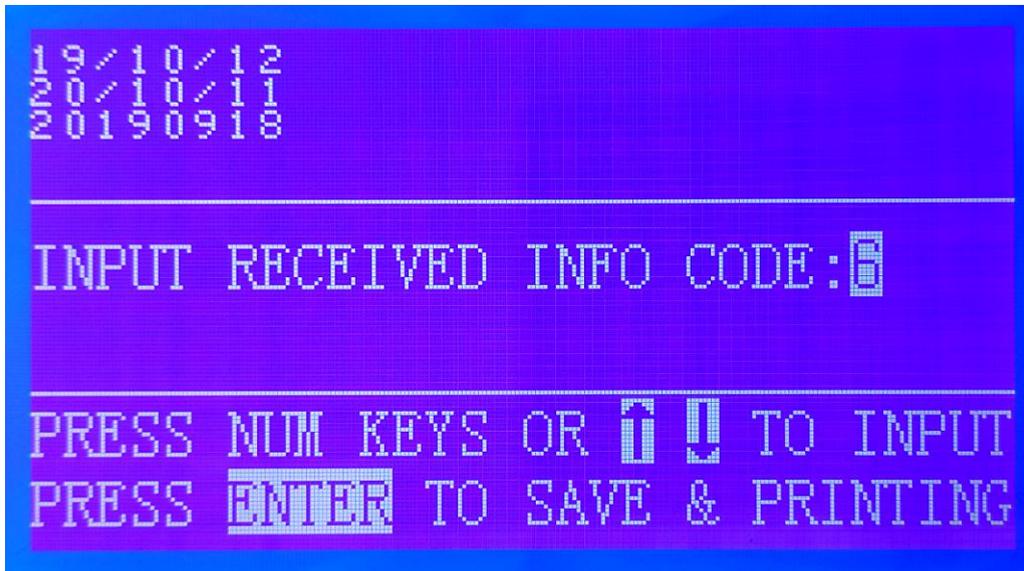
If you need to customize the charging voltage value, press “ → ← ” key to select the custom charging voltage: “Yes”, at this time, the system will give the corresponding charging voltage meter, input the corresponding voltage value through the number keys, press “ → ← ” key to move the cursor. After the modification is completed, press “Enter” to save the information, and the screen will return to the previous editing main menu.

Note: This custom charging voltage value is saved with the printed information. The charging voltage value is listed in Table 2.

## Reading the print information

Reading the print information means that the print information stored in advance is read out for printing, and how to store the edited print information, please refer to the section on editing the print information.

Under the Edit main menu, press “2” to enter the Read Print Information menu. The screen is displayed as follows:

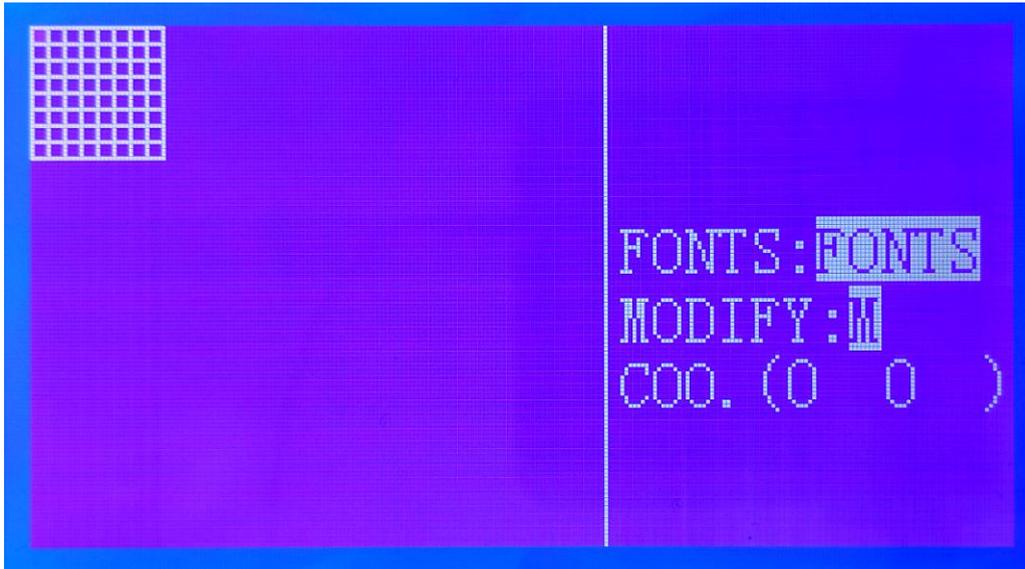


Press the number key or “↑ ↓” to enter the save code to read the print information, and the screen will display the content of the saved information corresponding to the code for the user to view. After selecting the information, press the “Enter” key to read the saved information in the information print area, and automatically return to the edit menu after completion. The code is selected from 0 to 99. If do not read, press “Esc” to return to the Edit menu.

### **Edit Graphic Message**

Editing graphic information means that the user can edit and store 8–8, 16–16, 24–24 or 32–32 dot matrix graphics by drawing points, and can edit the graphic information by editing the printing information.

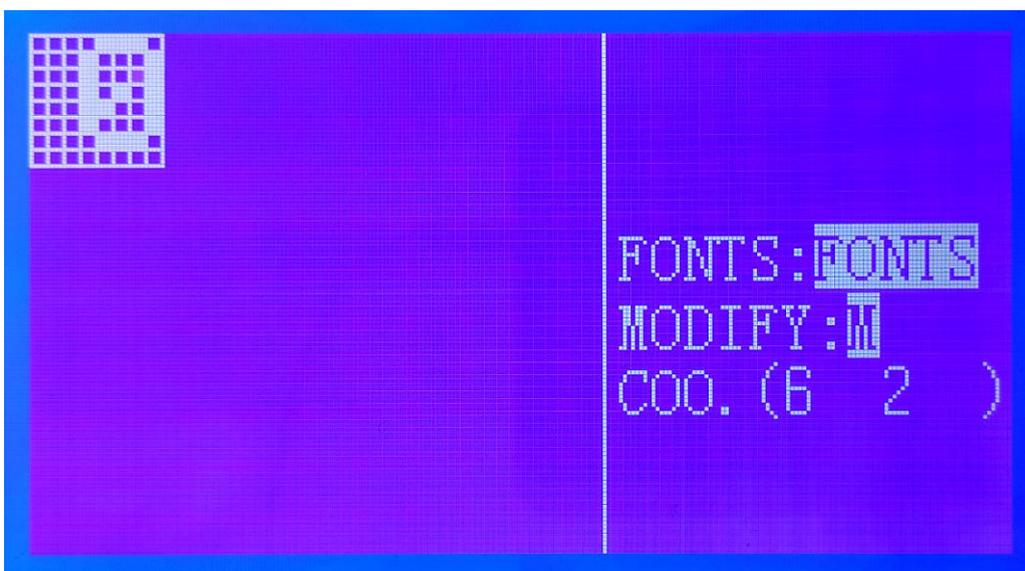
Under the Edit menu, press “3” to enter the graphic editing menu. The screen displays as follows:



After entering the graphic editing menu, you can see an 8-8 box with a blinking cursor.

X, Y is used to indicate the coordinate value of the cursor relative to the grid. You can select 16-16 by pressing the font key. 24-24 or 32-32 frame. After selecting the desired lattice frame, move the position of the cursor by pressing the “↑ ↓ → ←” key, and draw or erase the point at the cursor by pressing the Draw button.

After editing a graphic message, if need to save, press Enter and the screen will display as follows:



you can press the number keys to enter the code for storing the information. The code range is 00~99, then press Enter to save the graphic

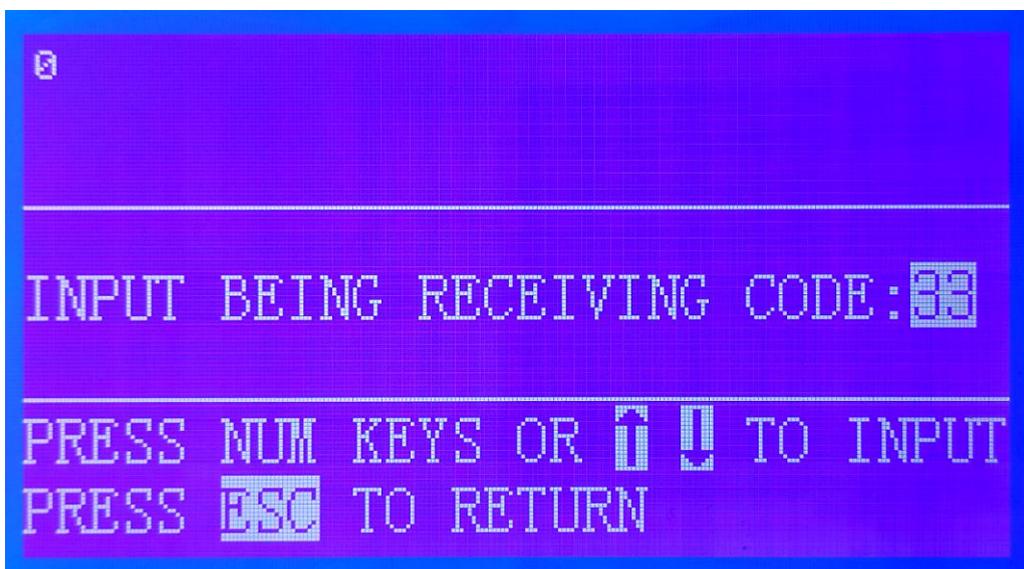
and return to the main menu. If you do not need to save the edited graphic information, press Esc directly to return to the main menu.

If need to call up the edited graphics, press the M key. The screen displays:



Press the number keys to enter the graphic code to be modified, and the corresponding graphic will be automatically called up for the user to edit. After the modification is completed, press the Enter key to save the graphic. Viewing Graphical Information Viewing graphical information allows the user to easily view stored graphical information.

Press the 4 button in the Edit menu to go to the View Graphic Information menu. The screen displays as follows:



Press the number key or ' ' to enter the save code of the graphic

information to be viewed. At this time, the content of the graphic information corresponding to the code will be displayed on the screen for the user to view. The code is selected from 0 to 99. When the view is complete, press Esc to return to the Edit menu.

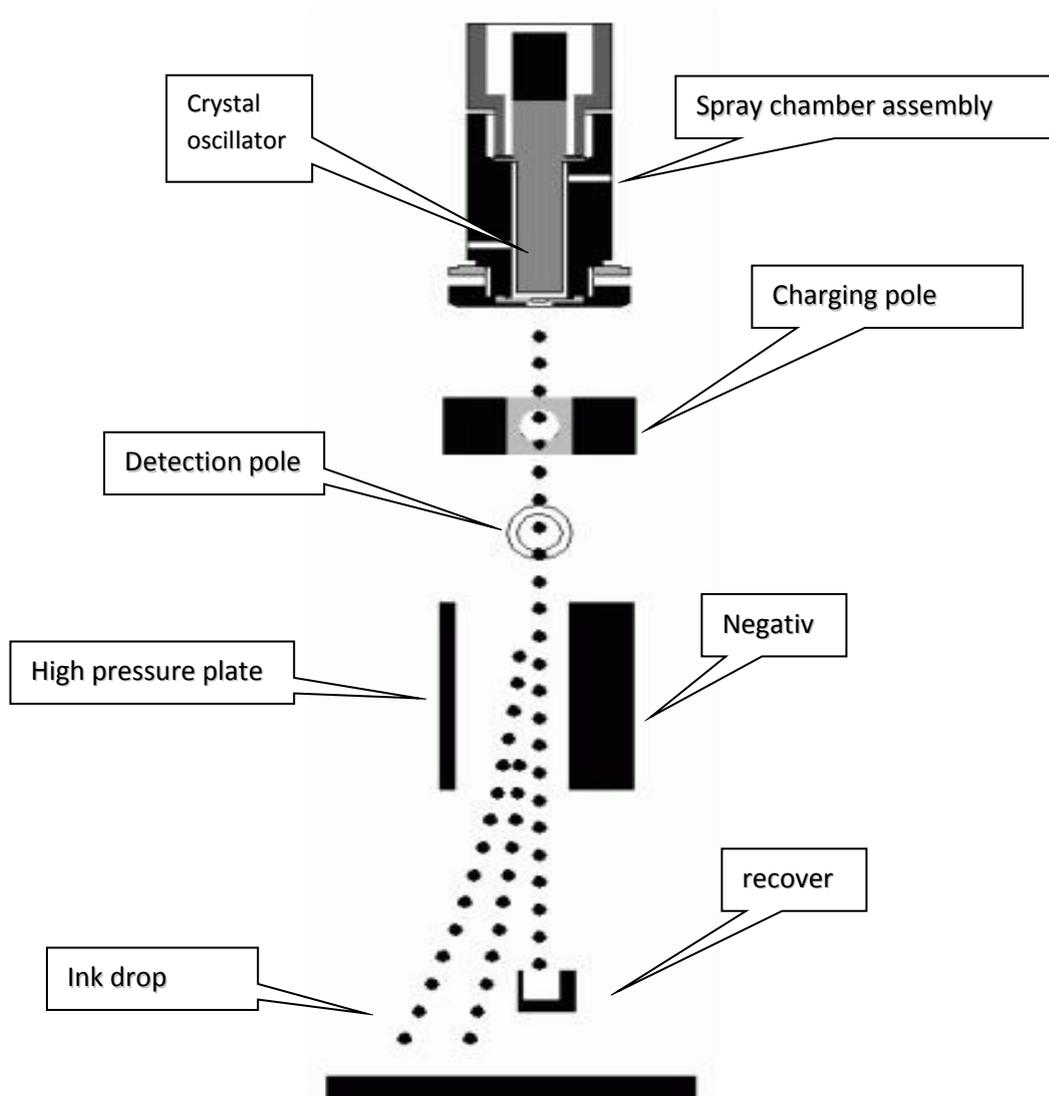
## Chapter 5 Technical specifications and Printing principle Technical specifications:

### Main technical parameters

Printing lines	1-4 lines (5x5 lattice)
jet dot matrix	Standard font numbers 5, 7, 16, 5, 7 16-16,16-16,24-24, self-made 32-32 arbitrary lattice
canned data	Can store 100 pieces of spray printing information
Spray printing speed	1024 characters per second (5x7)
Operation interface	Chinese menu display with image and text editing function
Chinese support technology	Built-in international first and second Chinese characters
Chinese input	Pinyin input method
Spray printing content	Automatic printing date, time, batch number, flow number, etc.
jet printing material	Printable metal, plastic, glass, wood, plumbing and building materials Table, etc.
Font widening	Can be widened to 9 times
Spray printing distance	The maximum distance of the spray head to the object is 30 MM
Spray Pipes	2.5 m
External interface	RS232
Ink color	black, red, blue, yellow invisibility
Ink consumption	70 million words per litre (5x7)
Operating temperature	range 5-45
Environmental humidity	range 10-90% (non-condensation)
weight	28kg
Cabinet size	580mm x 290mm x 410mm
Operating Voltage:	50/60 Hz 220V

## Working Principle of inkjet printer

The printer is a kind of ink jet machine which sprays the pressurized ink through the nozzle to form ink lines and breaks into ink droplets under the action of crystal vibration. The charged ink droplets are charged to form charged particles (the charge is controlled by the processor). The charged ink droplets are then detected by the detector and fed back to the processor. The charged ink droplets deflect when they enter a constant high voltage electric field. Because of the different charge amount controlled by the processor, the distance of ink droplet deflection is different. If the object moves vertically, some ink droplets can form dot matrix text or graphics on its surface. Uncharged ink droplets are recycled into the machine through the recycling system and continue to be used.



Principle of Printing

## Chapter VI Structure and Ink Principle of the Printer

### Printer structure

Through the front and rear positions of the machine, you can clearly see the components of the printer. The functions of each part are briefly explained:

**Board:** Controls all functions of the printer through program control

**High voltage plate:** produces high voltage for dot deflection, standard +5000V

Panel and display Screen: Start and stop ink, Create, edit, and modify print information Monitor the operation of the printer, Set and control printer parameters

**Power supply:** Provides working power for the circuit board and electrical components.

**Ink tank:** Stores and mixes ink and thinner.

**Thinner tank:** Storage thinner

**Heat dissipating component:** used for power supply with large heat generation and resistance cooling

**solenoid valve:** Control the flow of ink

**pressure gear pump:** press the ink into the spray chamber to eject the ink line from the nozzle.

**Vacuum generator:** Recycle the ink line, dilute the ink

**pump before filtering:** prevent the particulate matter from entering and wear the gear pump

**main filter:** Keep the ink circulating in the system clean

**Pressure sensor:** Detection of ink pressure

**dilution filter:** Prevent impurities in the diluent from entering the circulation system.

**Recycling filter:** Prevent impurities from being collected into the system

when the recycler recovers the ink.

**Viscosity sensor:** Detect the pipe connection between the ink viscosity parts.

## Chapter 7 Daily Maintenance and Maintenance of Printer

This chapter describes the maintenance that can be carried out by the user of the jet printer.

### Schedule for Maintenance

Time	Maintenance contents
Every day	Check the print head is clean, no dirty
Every Week	Clean the appearance of machine
	inspection allparts of the connection
3Month	Replacement of main filter and nozzle damper filter of ink system according to the use environment
One year	Check and replace vacuum pump
Two year	Check and replace gear pump

### Visual Inspection(Daily Inspection )

Check the connection of cable and whether the joint is worn or damaged.

Check whether the ink pipe and joint are damaged or leaked.

Check whether the sprinkler chassis and throat nozzle are worn or damaged or ink leakage..

For the jet printer without automatic cleaning function, it is necessary to check and clean the printing nozzle every day to ensure the stable operation of the machine and obtain high quality printing effect. Cleaning nozzles is best done before starting the machine every day.

## **How to Clean the Nozzle**

First, put a container under the sprinkler head, put a special cleaning bottle into the detergent, wash the ink on the spray nozzle charger detection ultra-high pressure deflection board, pay attention not to make the detergent splash into the eyes and skin, after washing, use a paper towel to dry the detergent of each part of the sprinkler head.

## **Replacement filter**

1. Shut down and turn off the power supply
2. Place a container to collect leaked ink under a filter that needs to be replaced
3. Release the ink pipe joint at the inlet and outlet of the filter
4. Remove the filter
5. Install the ink pipe on the new filter and tighten the fixing cap
6. turn on the inkjet printer and supply ink to check for leakage of the new filter and, if so, shut down and reinstall the machine
7. Proper treatment of waste liquid and paper towels for wiping

## **Chapter 8 Alarm Information Processing and Common Problems Processing**

### **Alarm Information Processing**

The common alarm information of jet printer is as follows and the processing method is as follows:

#### **"Insufficient ink!"**

Check if the ink bottle is empty. If it is empty, please remove the empty ink bottle and replace it with a full one.

#### **"Not enough diluent!"**

Check if the diluent bottle is empty. If it is empty, remove the empty diluent bottle and replace it with a full diluent bottle.

#### **"The viscometer is clogged, please clean"**

Turn off the machine, place a container under the viscometer, remove the tube under the viscometer, then fill the diluent with the ear wash ball, squeeze it from bottom to top until it is clear, and then connect the tube again.

#### **"Overflow of ink"**

Remove the pipe connected to the ink tank before the pump, and use the ear wash ball to suck out part of the ink from the joint until the alarm is released.

#### **"Ink pump malfunction..."**

Turn off and replace the main ink filter and the ink supply filter. If the fault still exists after the start-up, please contact our company.

## Common problems and Solutions

NO	Fault phenomenon	Possible Causes and Solutions
1	Press the power switch and there is no indication.	Check the power plug is plugged in properly, whether the output of AC regulated power supply is normal, and whether the insurance is normal.
2	Ink line deflection, can not enter the recycler hole	The nozzle is blocked, the nozzle is blocked, the general hand is pressed on the reclaimed, and the diluent is squeezed to the nozzle.  If the breakpoint is good, it may be the position of the reclaimed or the position of the nozzle. Adjustment of nozzle position of no-breaking Reclaimed
3	Shortcomings in the lower part of typing	The ink line is too far away from the outside of the recycler. Adjust ink line position  Outside of the reclaimed, ink deposit, wipe the reclaimed
4	There are small dots around typing	The distance between ink line and recycler is too small to adjust the position of ink line.
5	missing on top	Ink lines have more than two dots  Regulating breakpoint  Because the ink viscosity is too high, check whether the ink viscosity setting is correct or whether there is a problem with the diluent supplement system.
6	The break point is normal but no ink spots can be made.	Single Chip Microcomputer is disturbed and restart  No high voltage. Check whether the nozzle is free of high pressure  Incorrect switch position  Phase Fault Reporting  Re-switch printing.
7	Words too wide or too narrow	Adjust print width or speed of conveyor.
8	The phase indicator light is always on after ink supply	Very humid. Clean with detergent and wait a moment.  The ink line is too far from the detection, adjust the ink line position.  Silk hair on charging pole or high voltage plate, removal

		<p>The breakpoint is not good, adjust the breakpoint</p> <p>The display screen should be under the main menu or in print status.</p>
9	The interval of point is too small	<p>too low ink pressure or blockage of ink filter</p> <p>The nozzle is slightly blocked, and the ink is re-supplied after the function of opening or stopping ink is executed.</p> <p>Low ink viscosity</p>
10	Rear cabin temperature is too high	Check if the fan is working properly. Open the back door and let him ventilate.
11	Ink-free nozzle after ink supply	Blocking nozzle, cleaning nozzle, opening nozzle
12	Viscosity fault	<p>Lack of diluent</p> <p>Reset the ink dilution time</p> <p>Ink viscosity is too high or too low</p>
13	Ink level is high	<p>add new ink</p> <p>Resetting the ink dilution time</p>
14	The word height is too small.	<p>Too small word height setting</p> <p>Setting Error of Low Viscosity Printing Line Number</p> <p>Adjusting the distance between the sprinkler and the surface of the spray-printed object</p> <p>Print information editing and modification, screen clearing and re-editing</p>
15	Print content not clear, irregular	<p>Abnormal breakpoint</p> <p>The phase lamp is not turned off, and the phase checking setting is carried out.</p> <p>too high or too low viscosity</p> <p>Ink Drawing on High Pressure Plate and Cleaning High Pressure Plate</p> <p>Word setting is too high and word setting is too high.</p>