

ZS-MARKING-15080

Pneumatic Marking Machine

Operation Manual



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Product Introduction

Pneumatic marking machine is mainly used to print characters or graphics on the workpiece or nameplate. During the usage, the printing content is input into the controller, and the marking software in the controller drives the marking needle to move in the XY two-dimensional plane according to the set trajectory. At the same time, the marking needle reciprocates at a frequency of 200 times per second under the action of compressed air to print beautiful characters and graphics on the workpiece.

Appearance and Structure



The scope of application

The operation of this pneumatic marking machine is mainly completed by the controller. It does not need to be equipped with a computer, it can be used when connected to an air source, and the control is simple. It supports Chinese and English languages, can print different content such as Chinese and English characters, numbers, special characters, graphics, etc., and can also perform various types of marking such as fixed characters, serial numbers, VIN, and dates. The printed content can be stored and printed again. It can also query, print statistics, and mark various materials whose hardness is not greater than HRC60 to meet your various marking needs.

Equipment parameters

Item	ZS-MARKING-15080
Marking Depth	0.1-1mm
Marking Speed	3-5 characters/s
Marking Range	150mm X 80mm
Power Supply	AC220V,50Hz
Air Pressure	0.4-0.6Mpa
Power Consumption	100W
Operating Temperature	1-40°C
Relative Humidity	< 90%
Weight	Approx.17Kg

Installation

Before starting to mark, check and connect the parts of the marking machine as follows:

1.Check the parts.

After opening the package, check whether the parts are complete, and refer to the picture to fix the pressure regulating valve to the side of the electric control box.

2.Connect the equipment.

Connect one end of the connecting cable to the aviation plug interface of the pneumatic marking machine, and the other end to the electronic control box aviation plug interface. The two ends of the air pipe are respectively connected with the outlet end of the pressure regulating valve on the electric control box and the air inlet of the pneumatic marking machine.

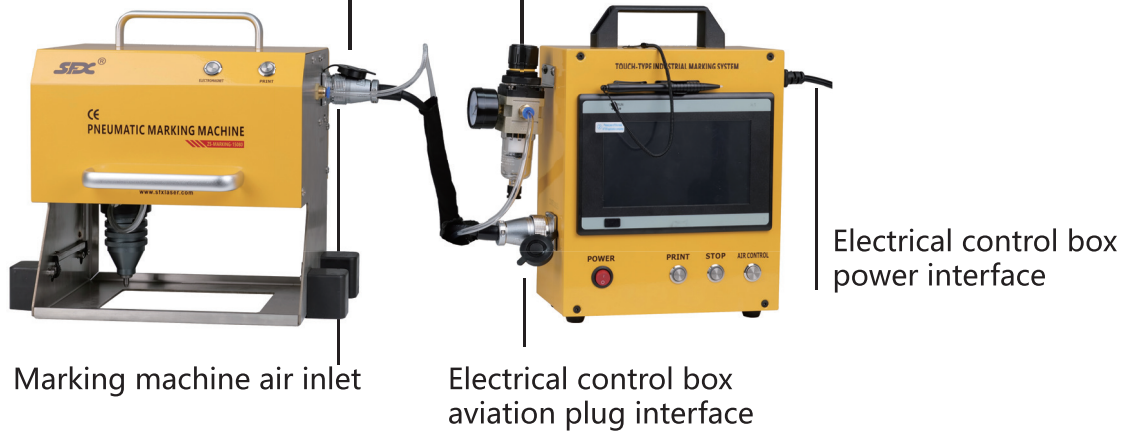
3.Connect external power and air source.

Plug one end of the attached power cord into the power socket of the electric control box, the other end is connected to the power supply. Use an 8mm air pipe to connect to the external compressed air at the inlet end of the pressure regulating valve. The completed pneumatic marking machine is shown in the figure below.

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Marking machine aviation plug interface

Pressure regulating valve outlet

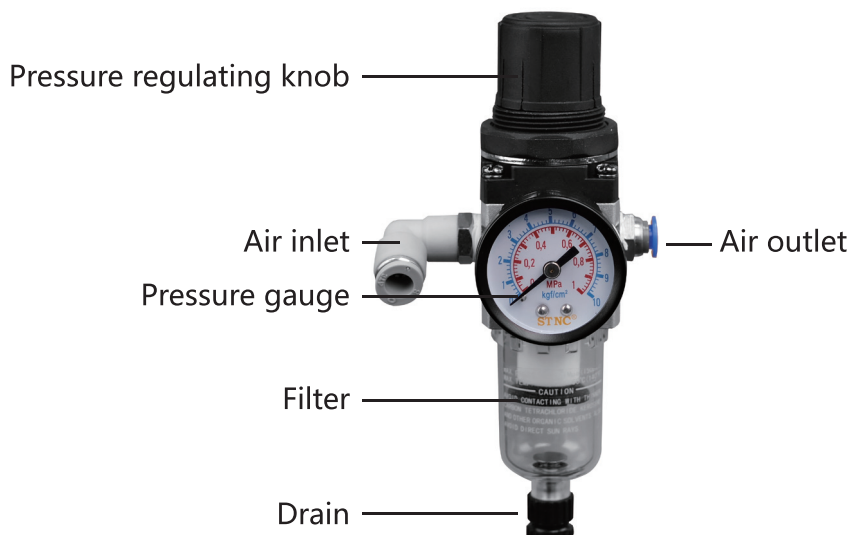


Electrical control box power interface

4. After turning on the compressed air, adjust the air pressure to 0.4-0.6Mpa according to the different marking depth requirements.

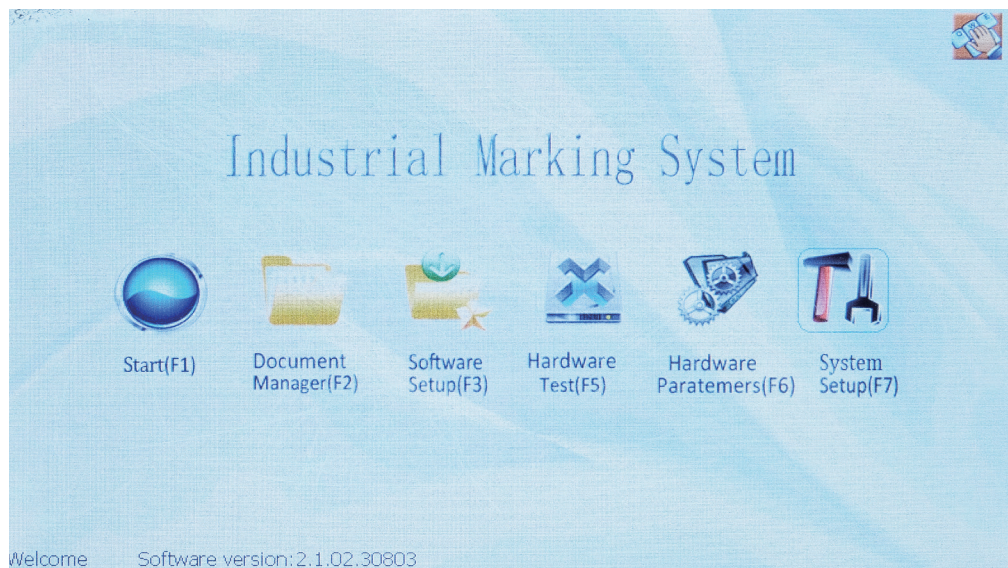
When adjusting the pressure, please pull up the pressure regulating knob, then rotate it and press the knob for positioning.

Rotate clockwise to increase the pressure at the outlet end and rotate counterclockwise to decrease the pressure at the outlet end.



Operation Guidance

After the equipment is connected, place the pneumatic marking machine on the workpiece to be marked and adjust it to a suitable position, press the electromagnet switch on the upper part of the pneumatic marking machine to fix it on the workpiece to be marked, then turn on the red power button on the electric cabinet, and starts the controller. The following interface is displayed:



The figure shows the 6 main functional modules of the controller, namely:

Start (F1): Open the pneumatic marking machine control software interface and start using the pneumatic marking machine.

Document Manager (F2): Open the documents manager window and manage the markings saved in the internal memory of the controller document.

Software Setup (F3): Open the software setup window, where you can upgrade or update the hardware and software system through the software setup package on the SD card.

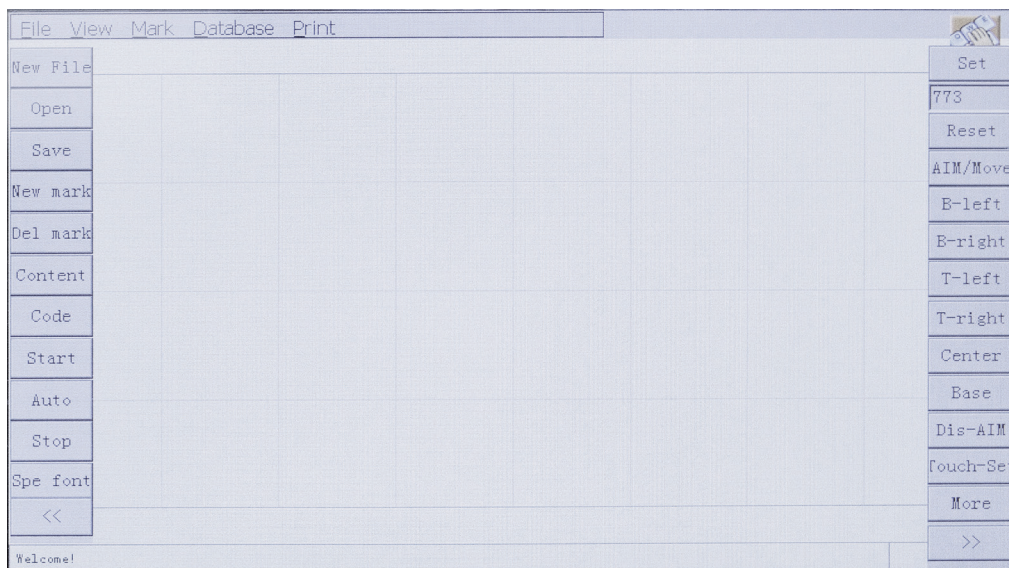
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Hardware Test (F5): Open the hardware test window to test whether each part of the pneumatic marking machine hardware can work normally.

Hardware Parameter (F6): Open the hardware parameter window to set various parameters related to the work of the pneumatic marking machine.

System Setup (F7): Open the system setup window to set various parameters of the current system.

Click "Start "on the main interface, and the pneumatic marking machine control software will start. Please make sure the pneumatic marking machine has been connected normally, and the marking needle will be reset to zero during the startup process. After the software is started, the marking control software interface will appear on the screen, as shown in the figure below:

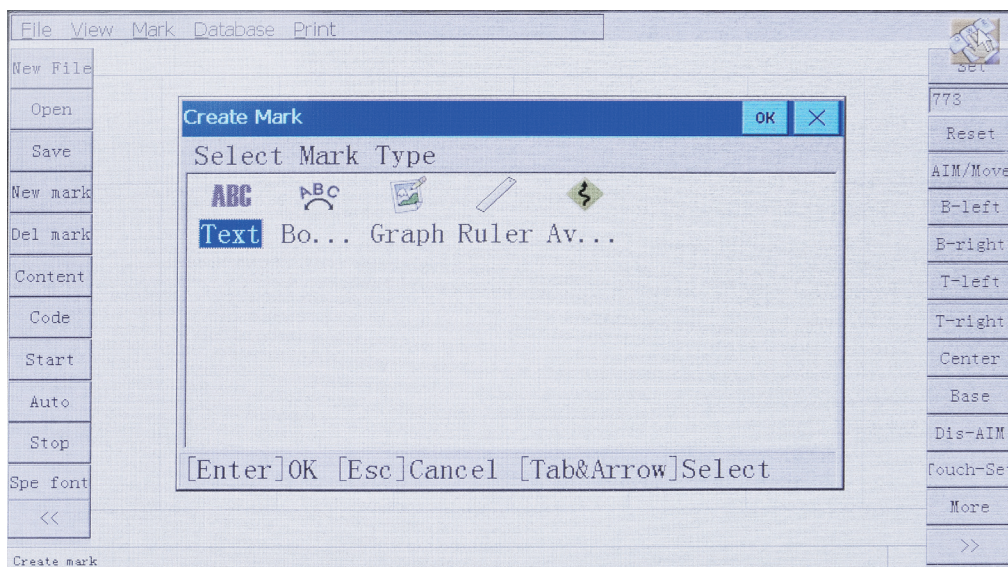


The top is the menu bar, which contains all the function menus of the control software. The area seen in the middle is the marking operation area, which is 150mm*80mm in default. The small keyboard icon in the lower right corner of the marking operation area is the built-in keyboard input floating window. Click it to show or hide the built-in keyboard as shown in the figure below:



Establishment of fixed content markup

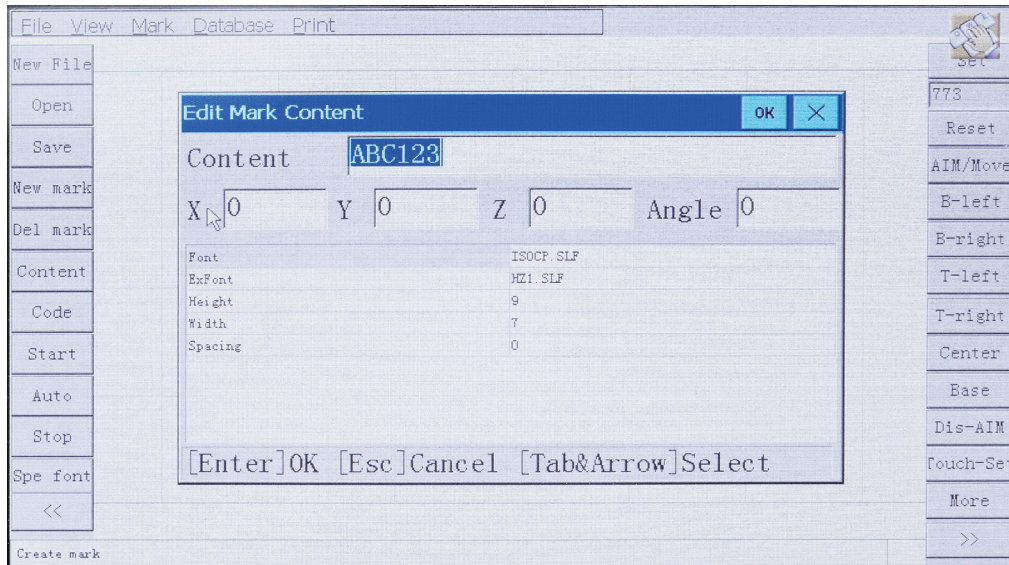
Click the menu "Mark", "Create" or click "New Mark" on the left side of the marking operation area to open the Create Mark window, as shown in the figure below:



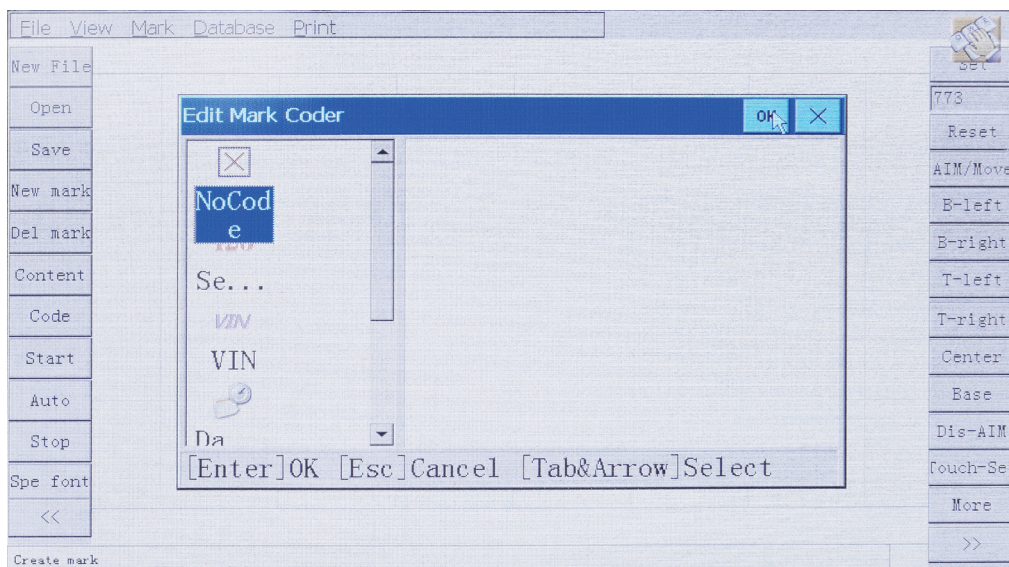
Select the type of mark to be created in the Create Mark window: here we select the "text" type mark. And then click the "OK" button in the upper right corner of the window to complete the mark type selection. Next, the window for editing mark content will automatically open, as shown in the

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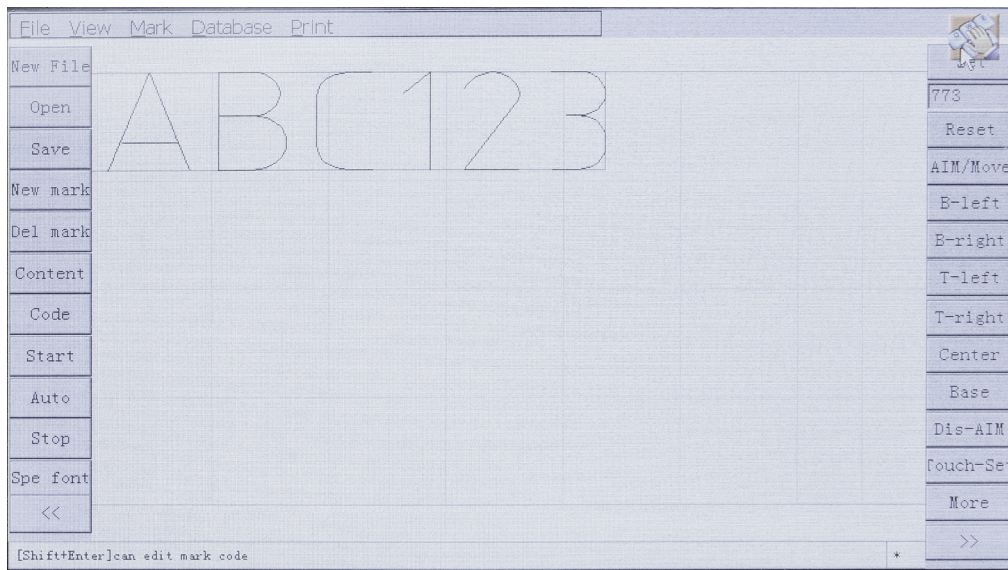
figure below:



Here we can edit the content, location, font, etc. of the mark. Click on the keyboard floating window, and the keyboard will pop up, then you can change the mark content. We use the default "ABC123" as the mark content, click "OK" in the upper right corner of the window to complete the editing of the marked content, and then the Edit Mark Code window will automatically open, as shown in the figure below:



If you want to make the marked content fixed, which means the content does not need to be changed after the printing is completed, you can select the default "No Code" here and click "OK" in the upper right corner of the window again. The mark you created appears in the operating area of the marking control software, as shown in the figure below:

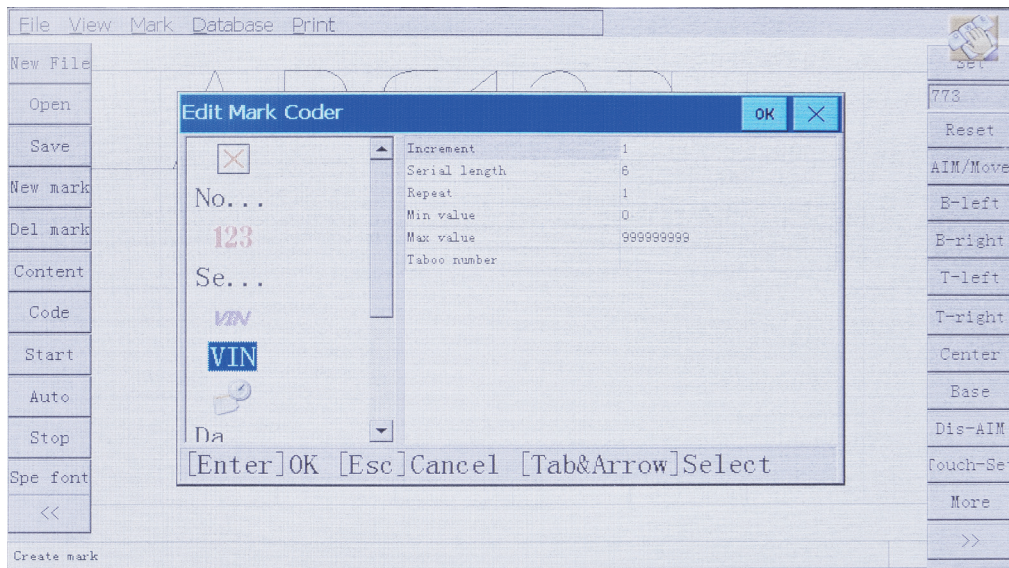


The newly created mark will be displayed in the operation area according to the coordinates in the edit mark content window.

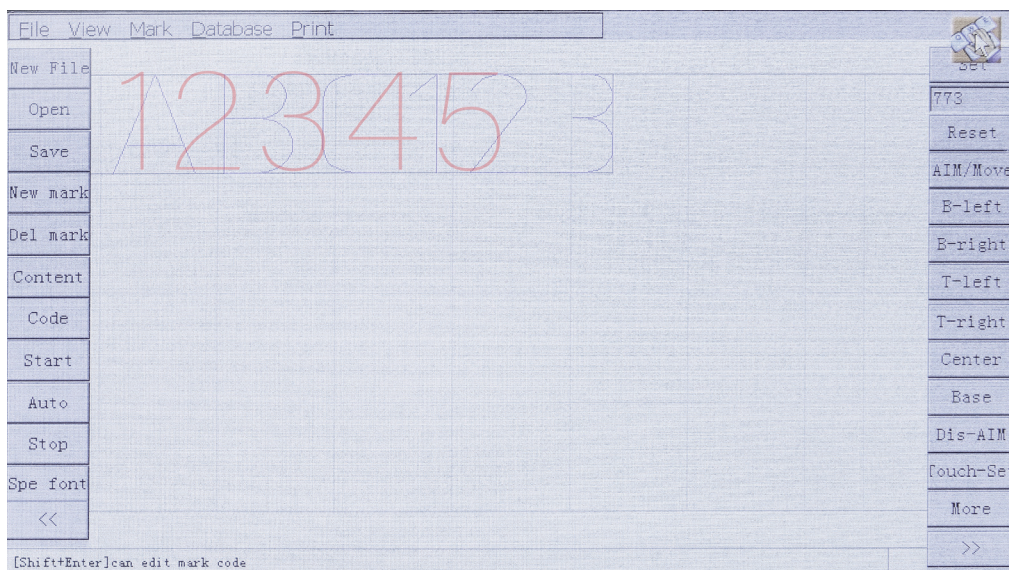
Serial number content mark establishment

Now we follow the same method to create another mark. This time we create a "serial number" mark. Select "Text" in the Create Mark window, and change the default "ABC123" to "12345" in the Edit Mark Content window, and then select "Serial Number" in the next window of Edit Mark Code, as shown in the figure below:

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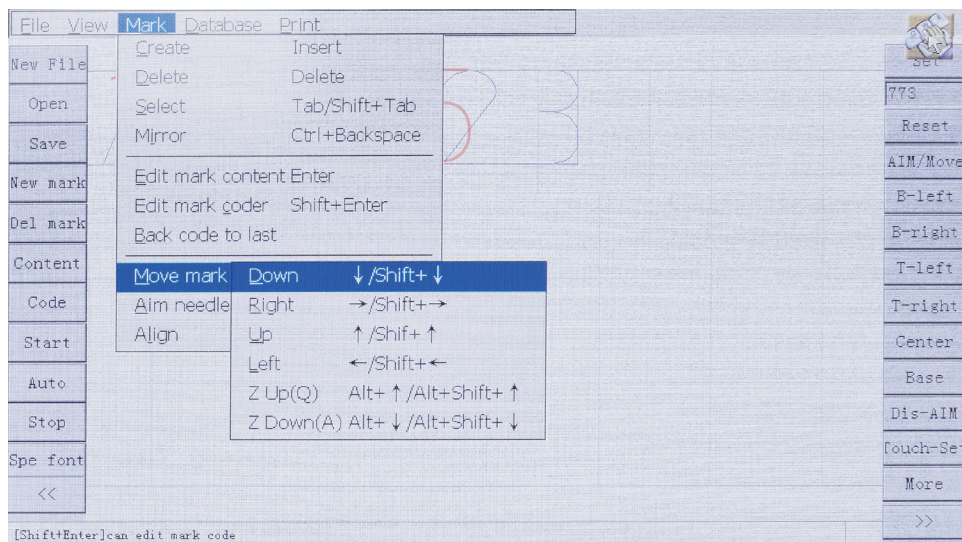


The "Serial Number" has some parameters, and we use the default parameter values here. After the establishment is completed, two markers will be displayed in the operation area. Note that the color of the "Serial Number" is red, and each different mark code will be displayed in a different color in the view to distinguish. Now that the two markers are stacked together, the position of the markers needs to be adjusted. The overlapping marks are as follows:



Adjustment of marking position

First click on the controller to select the mark, the mark will be surrounded by a frame after being selected. Press and hold the mark to directly drag it to a new position. After the mark is dragged to the new position, the marking needle will automatically align with the new position. You can also make fine adjustments in the menu bar, click "Mark" then "Move Mark", as shown in the figure below:

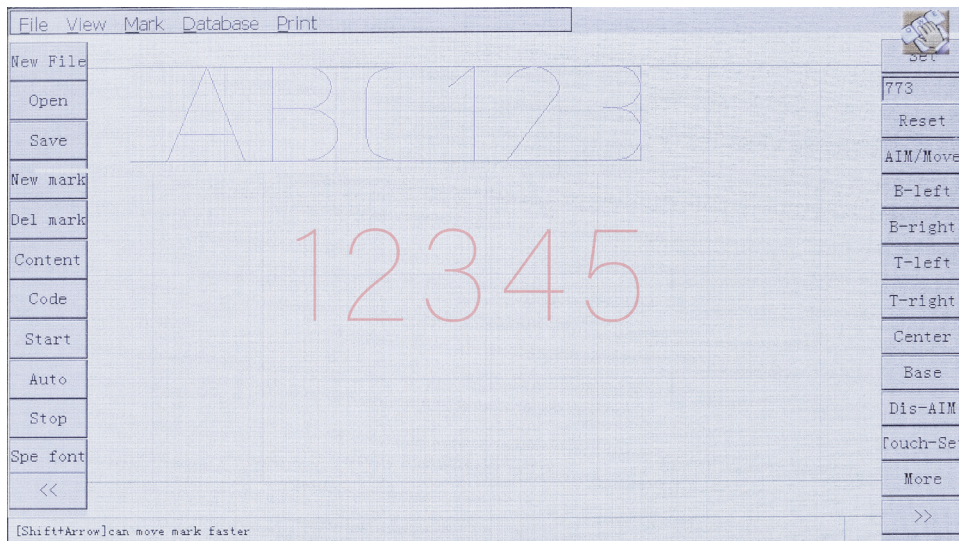


Press the arrow of each movement mark, and the serial number mark "12345" will move 1mm in the corresponding direction.

Repeat this process to move the serial number mark "12345" to a suitable position. Through the above method, the mark can be easily moved to the marking position of the actual workpiece.

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After the mark position is adjusted, it will be shown as in the figure below, press the print button now, you can preview the printing track of the marking needle.



After the printing content and position adjustment are completed and the preview track is confirmed as correct, first press the "air control" button on the electric control box, and then press the "print" switch on the pneumatic marking machine or the electric control box, and the pneumatic marking machine will start working. The content of the operation area will be printed on the workpiece. After the marking is completed, the marked content of the serial number will be changed from "12345" to "12346", which is the function of the serial code.

After printing, you can save the edited content on the controller and recall the file when you want to use it again.

Cautions

1. When the pneumatic marking machine is working, do not put your hand into the movement range of the marking needle.
2. The number of characters printed in a unit of time depends on the size of the characters and the complexity of the strokes.
3. The printing depth depends on the material of the workpiece, the distance between the marking needle and the surface of the workpiece, the air pressure, and the printing speed.
4. The line width of the printed characters is related to the tip of the needle: the sharper the needle tip, the narrower the line.
5. The continuity of the printed lines is related to the printing speed: the faster the printing speed, the worse the continuity of the lines.
6. The marking needle should be 8-10mm away from the surface of the workpiece.
7. During use, the linear guide in the pneumatic marking machine should be lubricated weekly according to the frequency of use.
8. The size of the marking font should not be less than 5*3mm. If it is smaller than this size, the font will be deformed or blurred.

Common Fault and Solution

Fault phenomenon	Fault cause	Solution
The marking needle does not move	1. The cable connection is not firm.	1. Turn off the machine and reconnect the cable.
The marking needle moves but does not vibrate up and down	1. The air control switch of the electric control box is not pressed. 2. The air pressure is too small. 3. The inner seal of the marking needle is damaged. 4. The solenoid valve is damaged.	1. Press the air control switch. 2. Adjust the pressure regulating valve to increase the air pressure. 3. Replace the sealing ring. 4. Replace the solenoid valve in the pneumatic marking machine.
Insufficient marking depth	1. The distance between the workpiece and the marking needle is too large. 2. The air pressure is too low. 3. Marking speed is too fast. 4. The marking needle leaks air.	1. Adjust the distance between the marking needle and the workpiece. 2. Adjust the pressure regulating valve to increase the air pressure. 3. Adjust the marking needle. Reduce the printing speed when the material is hard. 4. Replace the marking needle.
The trajectory of engraved characters is disordered, and the printing position changes.	1. The marking needle is loose. 2. Timing belt is loose. 3. The electromagnet is not sucked well. 4. The marking needle has not returned to zero for a long time.	1. Fasten the marking needle. 2. Adjust the tightness of the timing belt. 3. Press the solenoid switch. 4. Restart the equipment to make the marking needle return to zero.
The marking needle does not reset	1. The air pressure is too high.	1. Adjust the pressure regulating valve to reduce the air pressure.

Packing List

No.	Name	Spec./Model	Unit	Qty.	Note
1	Electric Control Box	LYK1-070	Set	1	
2	Marking Machine	ZS-MARKING-15080	Set	1	
3	Power Cord	3*1.5	Pcs	1	
4	Connection Cable	19-core signal wire+6mm trachea	Set	1	
5	Pressure Regulating Valve	0-1Mpa	Pcs	1	
6	Instruction Manual		Pcs	1	

Note: The above accessories are factory standard. If there is any change, we will notify you separately.

Customer Service

With the company spirit of "High Quality, Excellent Service, Striving for Development" and the company concept of "Quality Product, Competitive Price, Considerate Service", we promise you responsibly and publicly:

Warranty Terms

1. The warranty period is usually around one year and within this time frame if there are any technical problems, we would repair them for free including the new parts that are needed for the repair.
2. The purchasing date is the invoice date (if the customer has no invoice, it depends on the delivery date).
3. Warranty service does not include: wearing parts and consumables such as marking pins, screen pens, etc.
4. After sales E-mail is support@sfxlaser.com, which provides remote professional guidance.
5. For the discontinued model product, we only make functional repairs. Please read the product manual carefully before using our products.

No warranty Scope

1. The failure caused by abnormal use and incorrect operation.
2. The damage caused by improper storage or natural disaster.
3. Without the consent of our company, the customer disassembles, repairs and modifies the product.

After-sale Service

1. Service Purpose: serve customers, satisfy customers, satisfaction of attitude, perfection of technology.
2. Service Goal: Win customers' satisfaction with service and quality.

HONESTY DESERVES SINCERITY
BEHAVIOR BEFORE WORK

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