信成精密
XINCHENG PRECISION

ZS-MARKING-15080

Pneumatic Marking Machine

Operation Manual

Luoyang Xincheng Precision Machinery Co., Ltd.

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

Applications

The operation of this pneumatic marking machine is mainly completed by the controller. It does not need to be equipped with a computer, just connect the air source power supply and it is ready to use, and the control is simple. It supports Chinese and English languages, which 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 with hardness below HRC60.

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 pneumatic marking machine as follows:

1. Check the parts.

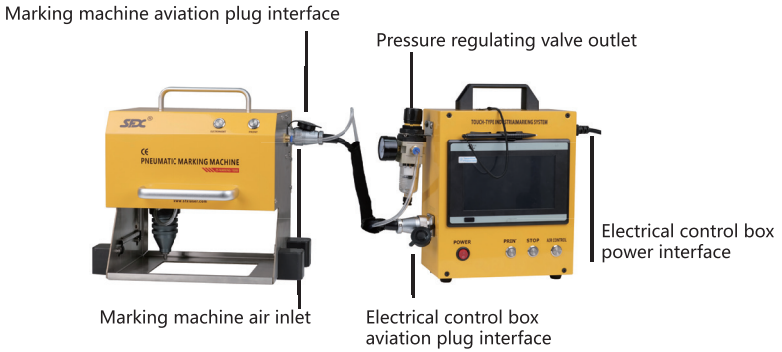
After opening the package, check whether the parts are complete, and refer to the picture to fix the pressure regulating valve to the side of the electric control box.

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 the pressure regulating valve on the electric control box and the air inlet of the pneumatic marking machine.

3. Connect the external power supply and air source.

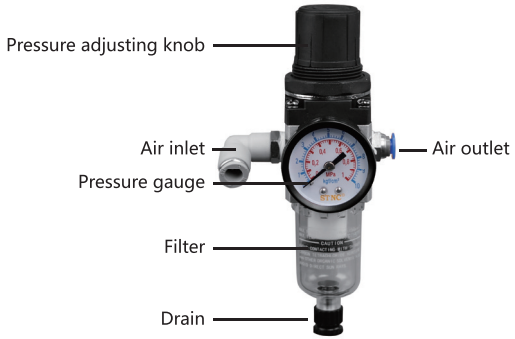
Plug one end of the attached power cord into the power socket of the electric control box, the other end is connected to the power supply. Use an 8mm air pipe to connect to the external compressed air at the inlet end of the pressure regulating valve. The completed pneumatic marking machine is shown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



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 adjusting 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.

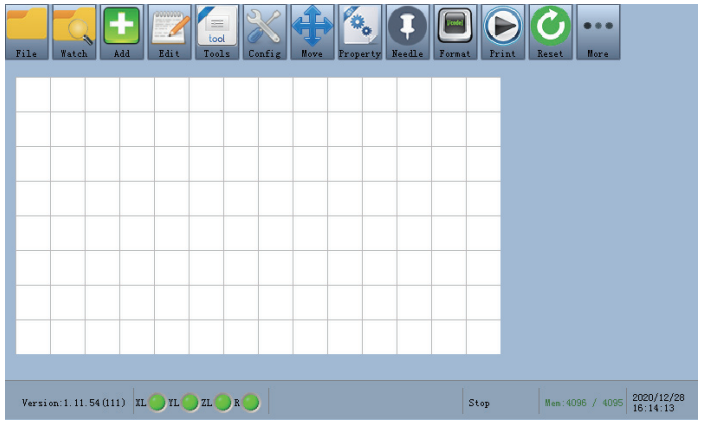


Operation Guidance

1 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 start the controller. The following interface will be displayed:

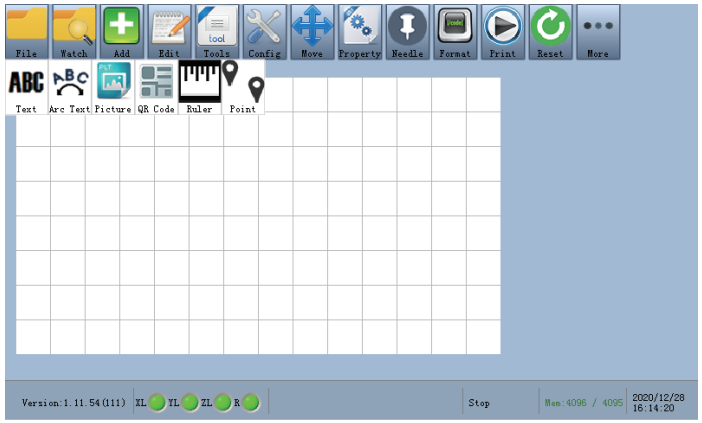
Please make sure that your marking machine is linked and ready for marking before starting the KingMark-system. The system will initialize the software configuration, hardware, and communication. The machine will reset once if it is linked correctly. After initialization is finished, touch the screen to enter the KingMark-system operation page.

Enter the KingMark-system, and it will show the main screen, as shown below.

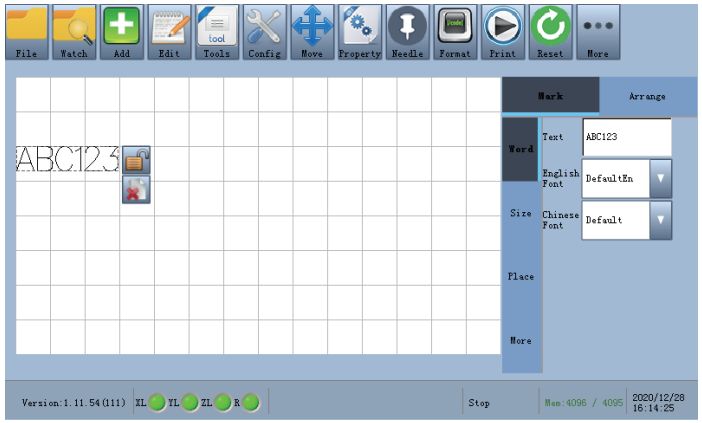


The top is the KingMark-system's function menu. The middle is the editing area. The bottom is the status bar.

2 Here is the step-by-step instruction on how to create a TEXT mark and a SERIAL NUMBER mark, compose these two marks, ascertain their position with needle alignment, and then perform marking. Firstly, click [Add], then [TEXT], as shown below.

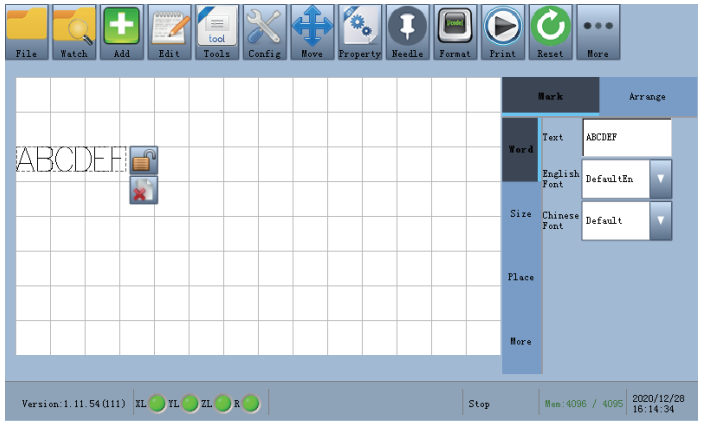


A TEXT mark will apear in edit area, as shown below.

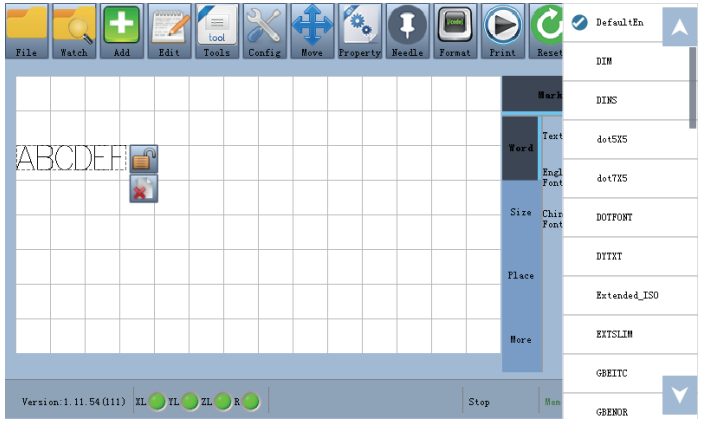


The TEXT mark is surrounded by a black box, indicating that the mark is in the selected state. When a mark is selected, you can click the text input box on the right side to pop up a content edit dialog. Then you can input new content, as shown below.

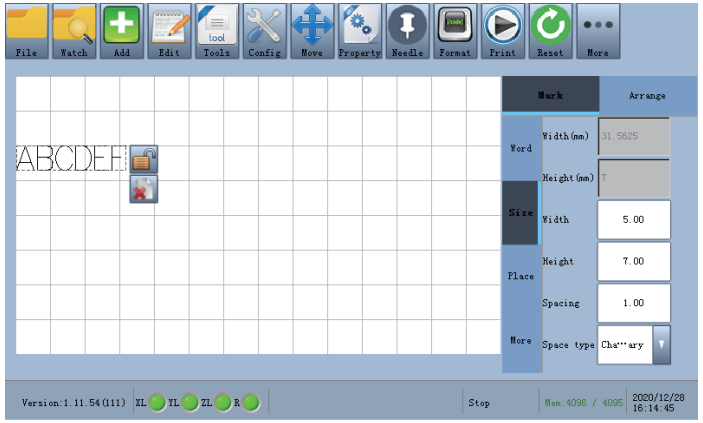
Change the content to anything else, for example “ABCDEF”, then press OK, and you will see the content that will be marked has been changed, as shown below.



When a mark has been selected, you can change the property of the mark in the right area. For example, to change the font, click on the font button, which will show you the font list. You can change other properties similarly.

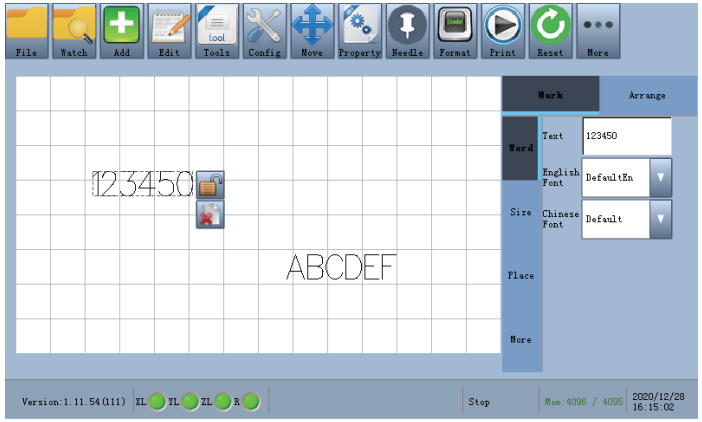


The KingMark-system supports the fonts SHX, TTF, SLF, and LYF. You can also import other fonts when needed. Other properties can be changed by clicking on the tab on the right side. Figure 5.8 shows changing the size property.

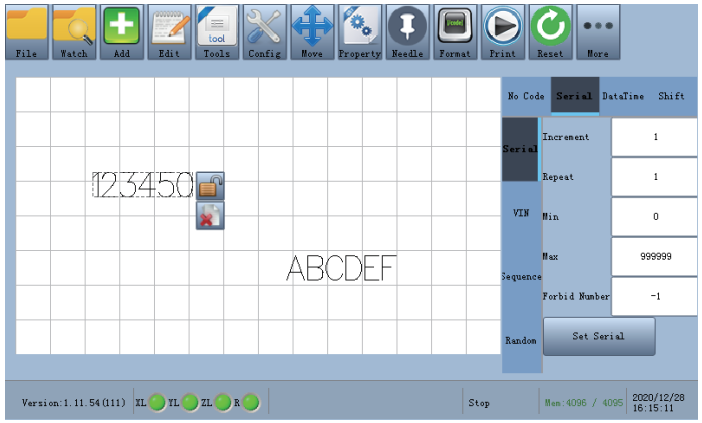


According to the needs of the workpieces, you can adjust the appropriate font and corresponding font size. For TTF fonts, the system offers different character spacing types, with the default being character boundary equal spacing. If necessary, you can also change it to equal spacing between character centers, which means the text center will be used as the basis for arrangement. We only changed the content of this mark. Now we will make a new mark to set it up with a SERIAL NUMBER which increases automatically.

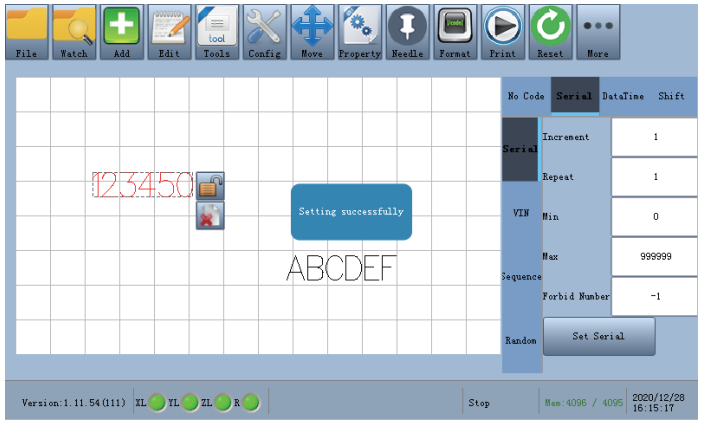
Click [ADD], then [TEXT], to make a new TEXT mark. Then change the content to "123450", as shown below.



Select the mark, then click [FORMAT], then [SERIAL] in the right area, as shown below.

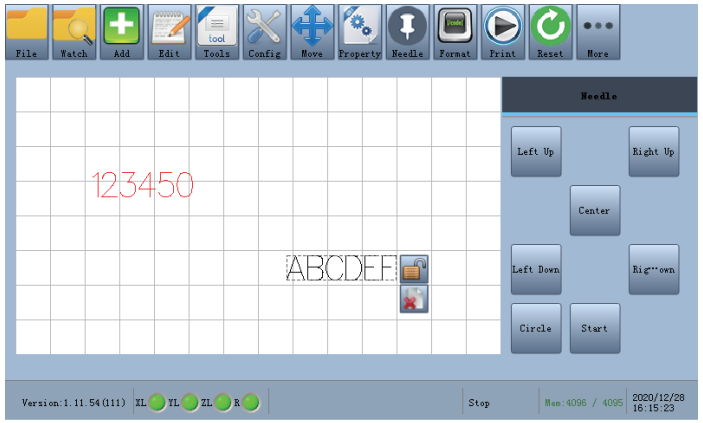


To set up the default parameter of the serial number, click [SET SERIAL]. Now the mark we selected will be red, which means it has been set as a SERIAL NUMBER mark, as shown below.



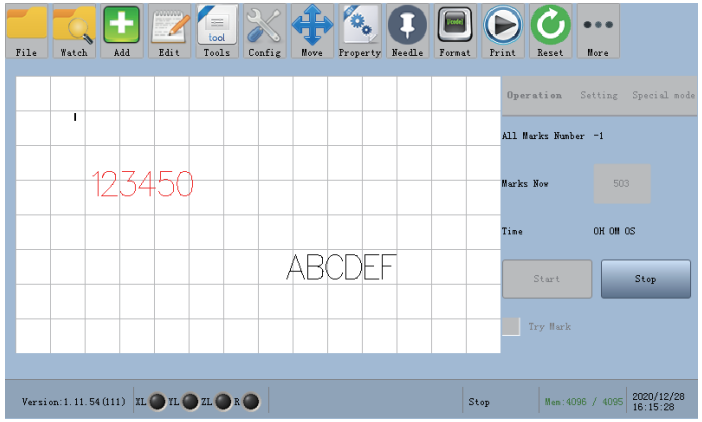
When a mark is a SERIAL NUMBER mark, at the end of each marking, it will be automatically added according to the set rule, which is "+1" by default. That means after the first print, "123450" will change to "123451".

Now let's ascertain the mark's actual marking position. Put a workpiece into the marking machine work area, then select the mark "ABCDEF", then click [NEEDLE], then click [LEFT UP] in the right area, then click [START], as shown below.



Now the needle will aim at the left top of the selected mark. When you drag the selected mark, the needle will follow it. If you want to change the position, you can click [NEEDLE] to set it up. Click [LAYOUT], then click [MOVE], and you can adjust the position of the mark. It's the same as dragging it. Since you clicked [NEEDLE], then [START], every time you click the direction button, the mark will move accordingly. Using this method, you can determine the actual position of the mark on the workpiece. After finishing the position adjustment of one mark, select another one, and the needle will automatically align with the selected mark. Adjust the position until all adjustments are completed. The system also supports a circle needle. When it is an arc text, you can click [CIRCLE] for easy positioning.

After confirming all marks' positions, you can print them now. Click [PRINT], then click [START] to start. The machine will start marking according to the default parameters to imprint the edited content mark on the workpiece. After the printing is completed, the marked content of the serial number will be changed from "123450" to "123451", which is the function of the SERIAL NUMBER, as shown below.



3 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 5X3mm. If it is smaller than this size, the font will be deformed or blurred.

Common Faults and Solutions

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	K3	Set	1	
2	Marking Machine	ZS-MARKING-15080	Set	1	
3	Power Cord	3*0.75	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

Luoyang Xincheng Precision Machinery Co., Ltd.
ADD: NO.256 Tanggong Road, Luoyang, Henan, China 471002
TEL: +1 (240) 560-8967
E-MAIL: support@sfxlaser.com