Bullmer Cutting Room Technology

Instructions of the labeling machine V4

Content

Ⅰ. Introduction

This chapter will give a brief introduction to the application field and other basic information of the labeling machine.

1.1 The application field

Labeling machine is a kind of pre-cutting automation equipment. Its function is paste relevant layout cutting information on the laid fabric with heat-sensitive labels which comes from industrial printers. Its consumables are heat-sensitive label paper that low price, easy to buy, easy to replace. So Labeling machine can save cost of the wheat rack paper, plotter and staff.

This labeling machine is suitable for single layer or high layer fabric, can identify and mark pieces with the coordinates of the layout, mainly used in textile industry.

1.2 Product Model

The basic function of the automatic labeling machine are analytical cut files, main information shows, positioning starting punctuation according to the infrared emission light, automatically run to central position and marking the label, other necessary functions.

The basic parameters of the labeling machine are shown in Table 1-1.

Table 1-1 Machine Model

Model	LM1600	LM1900	LM2100	LM2200
Table width (customizable)	1600mm	1900mm	2100mm	2200mm
Motion control platform	Siemens motion control system			
HMI	12-Inch Touch Screen			
Motor	400w Servo Motor			
Air pressure	0.5MPa/5bar			
Supply Voltage	AC220V、50±1Hz			

Maximum working height	170mm±5
Label Size	Thermal paper, horizontal 47*27/ horizontal 30*25/ (customizable labels, label size should be greater than 20×20, less than 50×40)
Printer	Thermal Printer
Fastest printing speed	300mm/s
Layout Format	CUT; GBR; NC; TAC; DAT; ISO; PLT
Labeling Speed	About 1.9 seconds/sheet (time/total number of labels)
Removable (optional)	It can move between multiple tables
Special Function	Image show、Piecewise labeling、Manual labeling、Label spacing mark、Insert prefix/ suffix

1.3 System Description

1.3.1 Hardware Environment

Siemens PLC、Servo Drive system、IPC

Industrial Printer、Power Supply、Safety relay and other electrical hardware

Basic mechanical components that support labeling actions

1.3.2 Software Environment

Windows 10 or Windows 7 systems and add-ons

Printer debugging tool

Labeling software

1.3.3 Product Appearance

The overall appearance of the labeling machine is shown in Figure 1-1. The machine has the operating side and the strong electric side, and the man-machine

interface is the operating side, as shown in Figure 1-2. The side of CAM switch and shock warning label is high voltage side, as shown in Figure 1-3.

Fig 1-1 Product Model LMXX00

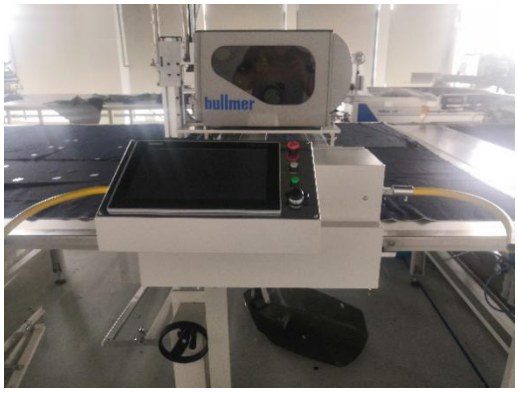


Fig 1-2 The operation side

Fig 1-3 High voltage side

Ⅱ. Instruction

This chapter will introduce the use method and debugging method of the labeling machine in detail. The first section simply introduces the function button on the control panel. The second section introduces the man-machine interface on the touch screen; Section 3 introduces the safety inspection before power on; The fourth section introduces the use of labeling machine; The fifth section introduces the special functions of the labeling machine. Section 6 describes shutdown operations.

2.1 Control Panel

The control panel of the labeling machine is on the operating side, facing the operator. As shown in Figure 2-1, the left side of the panel is the touch screen, and the right side from top to bottom is the emergency stop button, motor power on button, spare button and USB interface.

Fig 2-1 Control Panel

Emergency stop button:

Pressing this button in an emergency will trigger the emergency stop function, which will stop all the actions of the machine. This function is similar to triggering the anti-collision effect.

Motor power on button:

When the servo motor system is cut off due to fist starting, emergency stop and anti-collision trigger. Please press the button to restart the power.

Spare button:

Reserve button, no function temporarily.

USB interface:

External USB interface.

2.2 Human Machine Interface（HMI）

The human-machine interface of the touch screen is shown in Figure 2-2, which can be used to operate the labeling machine to complete labeling task. The main interface is mainly divided into menu bar, status bar, content bar, information bar, operation bar.

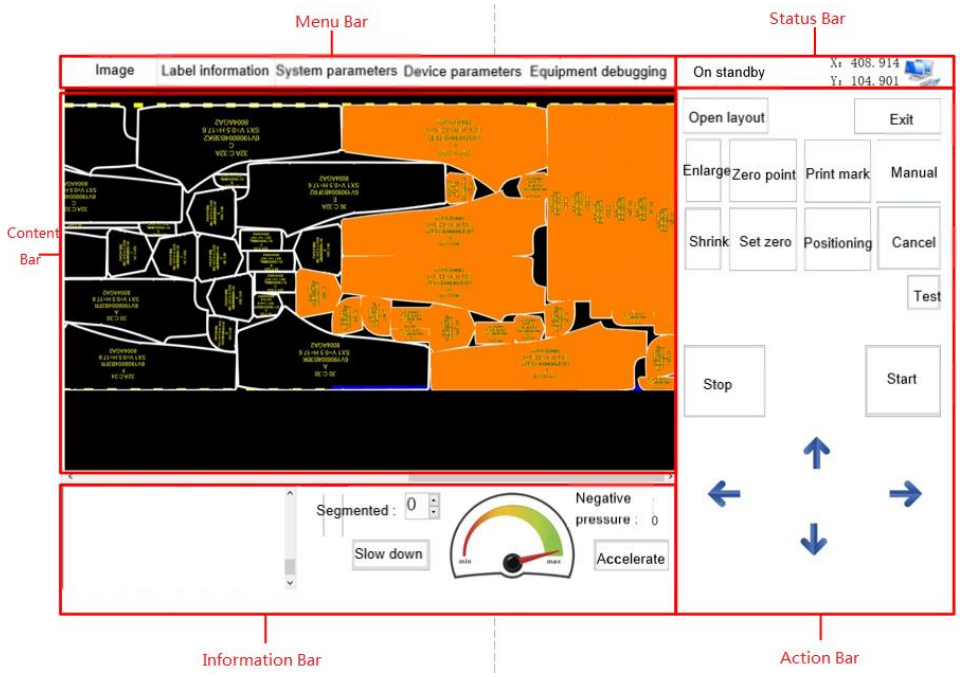


Fig2-2 HMI

2.2.1The menu bar

The menu bar contains five functional interfaces: image, label information, system parameters, device parameters and device debugging. Selecting different menus will display different images in the content bar.

(a)Image interface：

It is used to display the currently layout information, including slice shape, relative position, labeling progress, etc. As shown in FIG. 2-3, under the current setting, the cut sheet that has been pasted shows orange, the cut sheet that is being pasted shows green, and the cut sheet that has not been pasted shows black. The specific corresponding color can be set in system parameters. When the manual labeling function is turned on, click the corresponding cut sheet to realize the pasted of a single cut sheet.

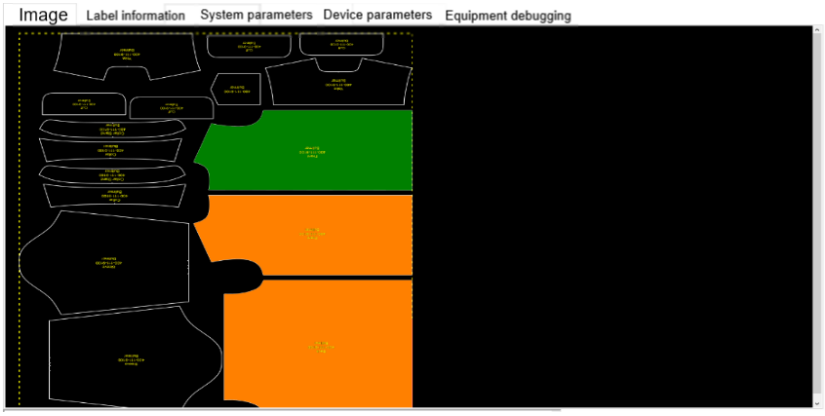
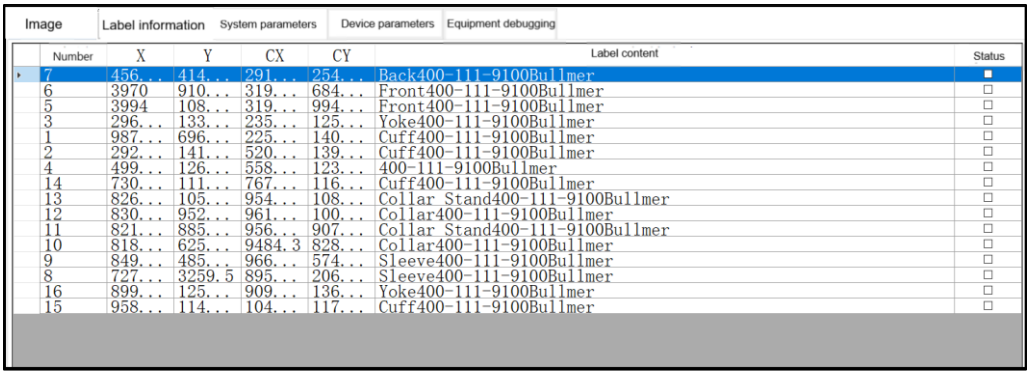


Fig2-3 Image content

(b) Label Information:

As shown in Figure 2-4, it is used to display the serial number, coordinate position X/Y, center position CX/CY, label content, labeling status, etc. The completed label will be checked under the status.



Number	X	Y	CX	CY	Label content	Status
7	456...	414...	291...	254...	Back400-111-9100Bullmer	☐
6	3970	910...	319...	684...	Front400-111-9100Bullmer	☐
5	3994	108...	319...	994...	Front400-111-9100Bullmer	☐
3	296...	133...	235...	125...	Yoke400-111-9100Bullmer	☐
1	987...	696...	225...	140...	Cuff400-111-9100Bullmer	☐
2	292...	141...	520...	139...	Cuff400-111-9100Bullmer	☐
4	499...	126...	558...	123...	400-111-9100Bullmer	☐
14	730...	111...	767...	116...	Cuff400-111-9100Bullmer	☐
13	826...	105...	954...	108...	Collar_Stand400-111-9100Bullmer	☐
12	830...	952...	961...	100...	Collar400-111-9100Bullmer	☐
11	821...	885...	956...	907...	Collar_Stand400-111-9100Bullmer	☐
10	818...	625...	9484.3	828...	Collar400-111-9100Bullmer	☐
9	849...	485...	966...	574...	Sleeve400-111-9100Bullmer	☐
8	727...	3259.5	895...	206...	Sleeve400-111-9100Bullmer	☐
16	899...	125...	909...	136...	Yoke400-111-9100Bullmer	☐
15	958...	114...	104...	117...	Cuff400-111-9100Bullmer	☐

Fig2-4 Label information

(c) System parameters:

The system parameter setting interface is shown in Figure 2-5, which is used to set labeling software parameters, printer related parameters and modify the system language. Under the column of Print Setting, you can modify the size of the printed paper (mm*mm), the paper spacing (mm), the font size, the margin and line spacing of the printed labels; The default font, line color, slice color, label font, etc. can be modified under the front setting column. Please refer to Chapter 3 for specific modification methods.

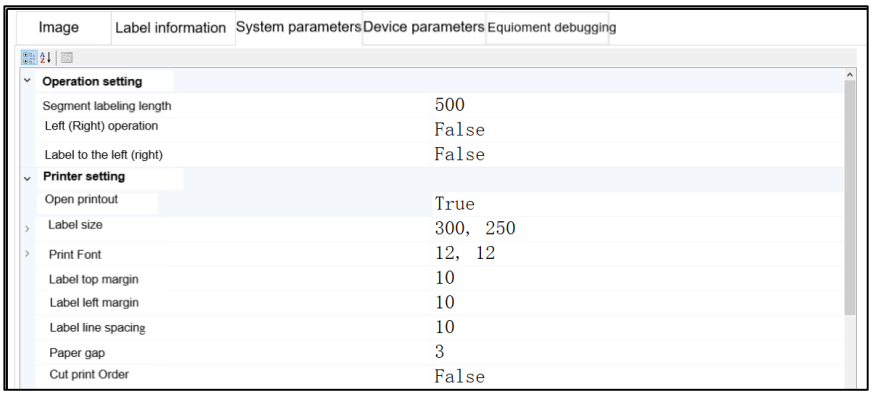


Fig2-5 System Parameter

(d) Equipment parameters:

As shown in Figure 2-6, Equipment parameters can modify the motion control parameters of the labeling machine, including the adjustment of the parameters of other labeling actions such as the automatic walking speed of the machine, homing speed, inching speed, acceleration time, deceleration time, smoothing time, etc. Generally, the equipment parameters have been adjusted before leaving the factory, and there is no need to modify them. Please refer to chapter 3 for detailed parameters.

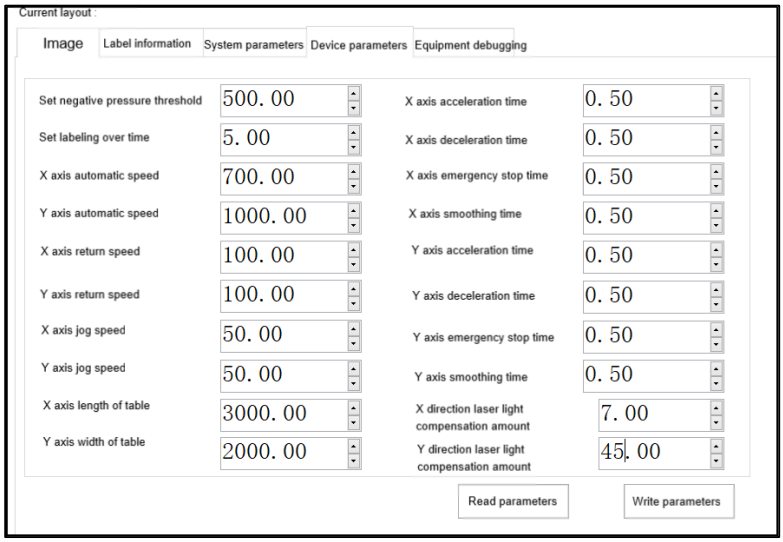


Fig2-6 Equipment parameter

(e) Device debugging: The device debugging interface stores all the functional keys needed in the debugging process. The Device debugging as shown in Figure 2-7.

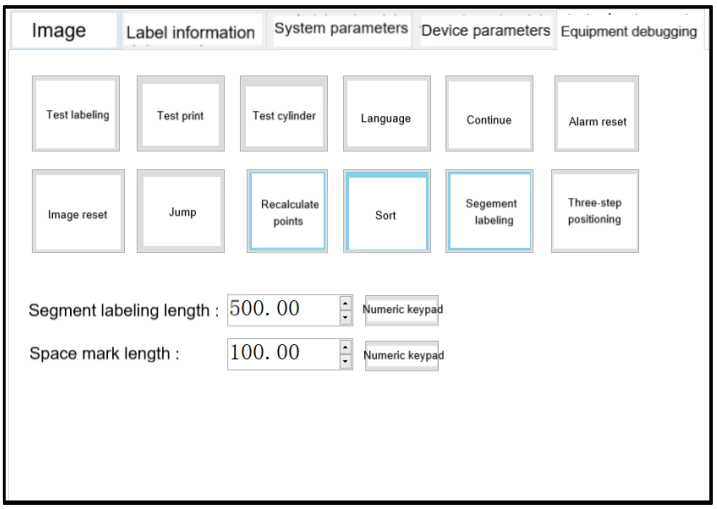


Fig2-7 Device debugging

"Test labeling": Click this button, the labeling machine will perform a complete labeling action. Its realization function is to paste a cross label on the position corresponding to the current laser light. This function is usually used to test the labeling

function of the labeling machine.

"Test Print"： Click this button, the printer will print a label, but the machine does not perform the label action, usually used to test whether the communication with the printer is normal.

"Test Cylinder": Click this button and the marking head will perform a marking action without printing, usually used to debug the cylinder.

"Alarm reset": When the machine triggers various alarms such as emergency stop and limit, click the button to confirm the alarm problem. The button can also be used to reset the system when it is stuck in an unknown error.

"Image Reset": Click this button to reset the position of image display of image interface.

"Jump": Use this button to Jump the sticker head to the set position.

"Recalculate center point": In general, the cut piece is irregular, so the labeling position needs to be optimized in the background to put the label to the relative center position. Click this button to make it blue, and the center point can be recalculated as the label position. The calculated label position can refer to CX/CY on the "Label Information" interface, which represents the X/Y coordinates of the center point after recalculation.

“Sort”: Click this button to make it blue, the labeling system will re-optimize the labeling order, and the system will give priority to the nearest slice during labeling.

"Section labeling": In order to make different layout lengths adapt to different table lengths, the section labeling function can be used. Press this button to activate or turn off the section function. For specific usage, please refer to the 2.4 operation method.

"Three-point positioning switch": The three-point positioning function is mainly used to align the side of the cloth. Click the button to activate or turn off the function.

"Section labeling Length": Before activating section labeling function, set section labeling length here.

"Spacing mark Length": The machine supports spacing mark. Set Spacing mark Length.

2.2.2 The status bar

The status bar is shown in Figure 2-8. "Status" shows the task the machine is currently executing. X: Y: Display the coordinate position of the current sticker, unit mm; The icon on the right shows whether the communication is normal. Figure 2-8 shows that the communication is unsuccessful.

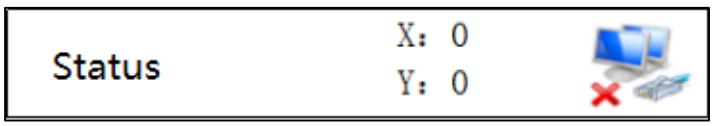


Fig2-8 The status bar

Common states are as follows:

Alarm: When an alarm signal is generated, the state will change to alarm, and

the alarm shall be confirmed by the alarm reset button.

Standby: When the machine has completed all its tasks, the state returns to standby for the next task.

Moving in the label: The machine is moving to the label position, and it detects whether the label is adsorbed or not.

Marking in progress: The machine has finished moving and is being tagged.

Waiting for cylinder homing: The current labeling is complete and the cylinder is homing.

Jumping: Jumping to a specified position, usually occurs when the Jump task is performing.

Compensating offset: The offset between the sticker head and the laser light when setting zero.

Marking a new zero: Sets the current position to zero with a cross label.

Offset in retreat: Zero setting is complete. Offset in retreat.

100: In other states, the system is in self-detecting reset state.

An example of the status bar is shown in Figure 2-9. The content indicates that the current machine is in a "standby" state, the coordinate position is X: 408.914mm, Y: 104.901mm, and the communication connection is normal.

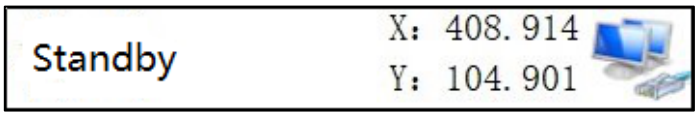


Fig2-9 An example of the status bar

2.2.3 The information bar

The information bar is used to display the operation log of the label machine, layout size, labeling range and layout file storage location. The number of segments sticking to the current layout is displayed in the box on the right of the information bar, and Jog moving speed is adjusted in the range of 0-100mm/s by using deceleration and acceleration buttons.

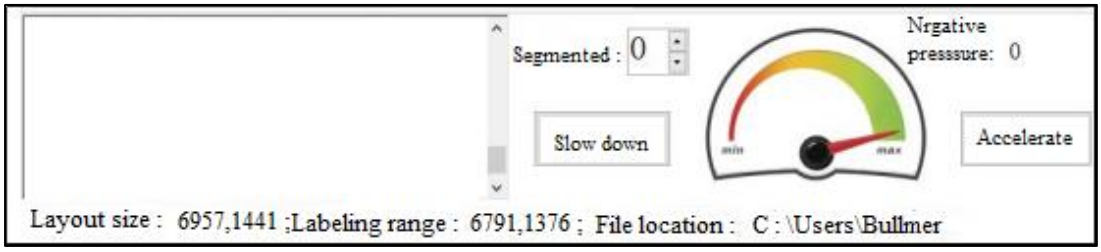


Fig2-10 The information bar

2.3Safety Check

In order to prevent the occurrence of safety accidents during the operation of the machine, the operation should be carried out in strict accordance with the order of the

operation process.

The operation process of label maker is divided into three parts, Safety check before power on, Power on preparation and Basic operation of label maker. This section will introduce Safety check and Power on preparation. Specific operation will be introduced in detail in the next section.

Safety check before power on:

(1) Check whether the external power supply is in good condition, whether the power line and drag chain is normal;

(2) Check whether the external pipe leakage, pressure is normal

(3) Check whether the emergency stop button, safety anti-collision and the maximum/minimum limit installation of XY shaft are normal;

(4) Check whether the labeling machine head is normal and whether there are residual label fragments. Please ensure that it is clean.

(5) Check whether other parts of the machine are obviously damaged or abnormal.

(6) The machine can be powered on after the above inspection is correct. If there is any abnormality, do not power on.

Electrification preparation:

(1) Turn Gas source component knob to ON and check whether the air source assembly pressure is at 0.45-0.5mpa.

(2) Turn the CAM switch knob to ON to check whether the touch screen and printer are started.

(3) Press the white start button on the panel to power the drive and check whether the button is in the light.

(4) The labeling software will run automatically after the system is started.

(5) Confirm whether the state in the software is on standby. If there is an alarm, please confirm the specific problem and reset the alarm.

Fig2-11 Gas source component

Fig2-12 The CAM Switch

If all the above work has been completed and there is nothing abnormal. The user can start to operate the labeling machine. In order to prevent the occurrence of accidents. Please make a simple test to ensure the normal work of the labeling machine, and then carry out the normal labeling process, the specific operation process will be described in detail in the next section.

2.4 Operation steps of labeling machine

Steps to use the labeling machine:

(1) First of all, please make sure that the machine state is on standby. Then click the button "Return to the origin of the machine". The machine will start to calibrate the origin of the mechanical table and wait for the calibration to complete.

(2) Click the "Open Layout" button and select the label file (GBR PLT or CUT format);

(3) Wait for the completion of the reading of the layout by observe whether the layout details have been displayed. If the layout needs to be segmented, please activate the segmentation button in the "Device Debugging".

(4) Click "Label Test" to test the marking condition of the printer, the condition of the head suction to label, and whether the laser light is aligned with the center of the cross;

(5) When the above operations are all normal, the inching moves to the origin of the cloth. Take the position illuminated by the laser lamp as a reference, and click "Set Zero".

(6) After the zero setting is completed, click the three-step positioning to adjust offset, and click "cancel" can exit the three-step positioning process. If the three-step positioning function is not needed, it can be turned off in the "Equipment Debugging" interface.

(7) After correcting the cloth deviation, if the marking position needs to be pasted, it is suggested to click "Print marking position" in this step. If it is not necessary to go to the next step directly.

(8) Click "Start" button to go to labeling automatically

(9) The "Pause" button is used to temporarily stop the labeling process in the running process of the machine. This function saves the actual progress of automatic labeling, and click "Continue" to continue the labeling.

(10) The "stop" button is used to clear the progress of the labeling process and effectively re-label the entire territory.

(11) After Posting the layout/section, the machine will automatically return to zero and wait for the next layout/section to be posted. In case of missing stickers, manual selection stickers can be used for subsidy.

(12.1) When the next section needs to be pasted, after passing through the window, use inching to align the laser light with the cross label marked at the end of the previous section, click "Determine the zero point of section" to re-determine the zero point, and click "Start" to automatically start to paste the next section.

(12.2) Just go back to step (2) for the new layout.

2.5 Special Function

2.5.1 Insert a prefix/suffix

This product has the ability to temporarily insert a prefix/suffix into the label content. The effect is to insert custom label content in the first row (prefix) or the last row (suffix) of each printed label. If you want to use this feature, please refer to the following steps.

Operation steps of prefix / suffix insertion:

(1) Please make sure that the label contents in the layout will not exceed the printing range of the label paper. If so, please adjust font size and line spacing.

(2) Under the "System Parameters" interface, look for the "Label Content" column. Refer to Figure 2-13 for prefixes and Figure 2-14 for suffixes.

(3) After setting, please click "Refresh Parameters".

(4) Complete the labeling task in accordance with "Basic labeling operations in Section 2.5.

As shown in FIG. 2-13 /FIG. 2-14, select prefix/suffix in the "Label Content" column of "System Parameters". Input "Qianzhui" and "Houzhui" respectively. The final effect is shown in Figures 2-15 and 2-16.

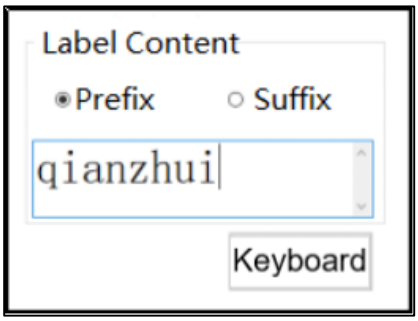


Fig2-13 Input "Qianzhui"

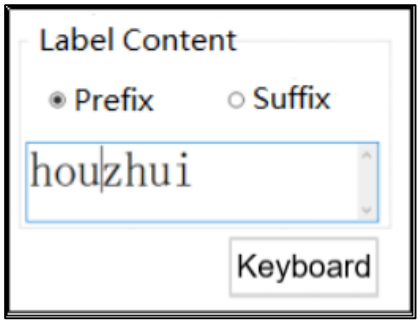


Fig2-14 Input "Houzhui"

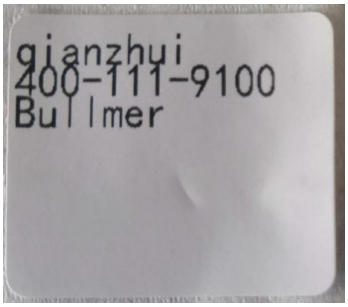


Fig2-15 The prefix print

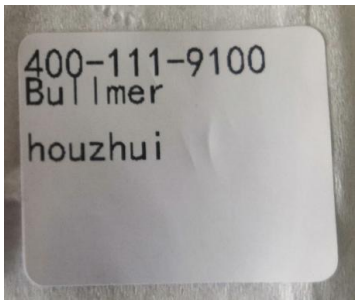


Fig2-16 The suffix print

2.5.2 Labeling failed

In general, the reason for the failure of labeling is that the labeling head is not cleaned in time or the label paper is used up. At this time, the automatic labeling process will be suspended. In order to save the current labeling progress and reference coordinates, the operator should not use the functions related to "set zero", "open

layout" and "return to mechanical zero".

Please strictly follow the following methods to continue paste operation:
(1) Use the "inching" or "Jump" function to move the label head to the operating side where the label roll can be replaced.
(2) Check whether there is residual label on the label head and whether there is residual adhesive glue. Please clean it up.
(3) Check whether the printer label paper has a surplus, please timely replace the label roll.
(4) Click "Test labeling" to check whether the machine can be labeled successfully.
(5) Click the "Continue" button to confirm that the machine can be labeled successfully.

2.5.3 Continue

Normally triggered emergency stop is due to press the stop button or trigger collision protection, system hardware protection has been triggered, servo system blackouts, "electrical power" button on the operation panel lights off, automatic labeling process will be suspended during this time, to save the current labeling progress and the reference coordinates, Operators do not use "set zero", "open the map", "back to the mechanical zero point" related functions.

Please strictly follow the following methods to continue paste operation:
(1) Confirm the cause of the accident, check whether there are safety hazards in the surrounding working environment, and confirm that the machine and on-site personnel are in a safe state.
(2) Press the button of "Motor powered on" and click "Alarm Reset" on the interface of "Equipment Debugging" to reset the machine state.
(3) Wait for the machine state to return to "standby".
(4) Follow the operation steps of "Failed labeling and continued labeling" in Section 2.5.

2.6 Shutdown

Please strictly follow the following methods for shutdown operation:
(1) Please enter the shutdown operation after completing the current layout;
(2) Click "exit" to close labeling software;
(3) Close the Windows operating system and wait for the shutdown to complete;
(4) Switch the CAM from "ON" to "OFF";
(5) Turn the knob of air source assembly to "OFF".

Ⅲ. Parameter Introduction

3.1 System Parameters

Click "System Parameters" under the menu to call up the system parameter setting interface, which the system parameters and printer parameters can be adjusted.

3.1.1 Print setting

Under "Print Setting", the parameters of print label paper can be set.
"Open printout": If this parameter is "True", the system printer will be turned on for communication.
"Tag size": Width, Height, in mm
"Printer paper gap": this parameter is the label paper gap, unit mm
"Print Font": This parameter sets the font size on the label paper.
"Label top margin": This parameter represents the margin left above of the print content.
"Label left Margin": This parameter represents the left margin left of the print content.
"Label line spacing": This parameter represents the blank distance left between adjacent lines of printed content.
"Cut print Order": When the cut print order is "TRUE", the label sort function is turned on.
"Printer Serial Port Name": This parameter represents the serial port name of the printer connection.COM.

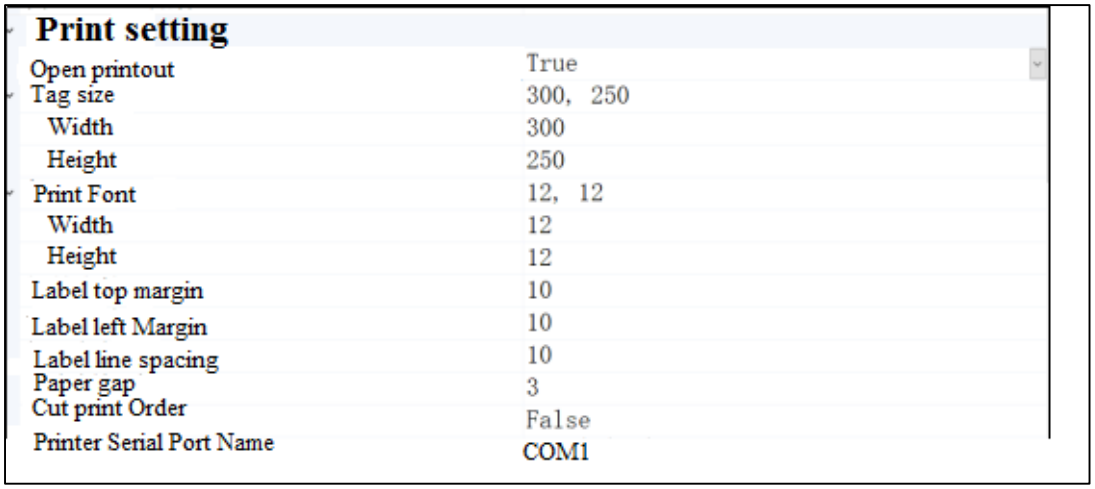


Fig3-1 Print setting

3.1.2 The front-end setting

As shown in Figure 3-2, the front-end setting can modify the font size, line color, fill color, font color, current slice color, label display font, etc.

The modification in the front-end setting is only limited to the front-end display

modification of the labeling software, and the coordinate position, font and size of the slice in the layout will not have any influence.

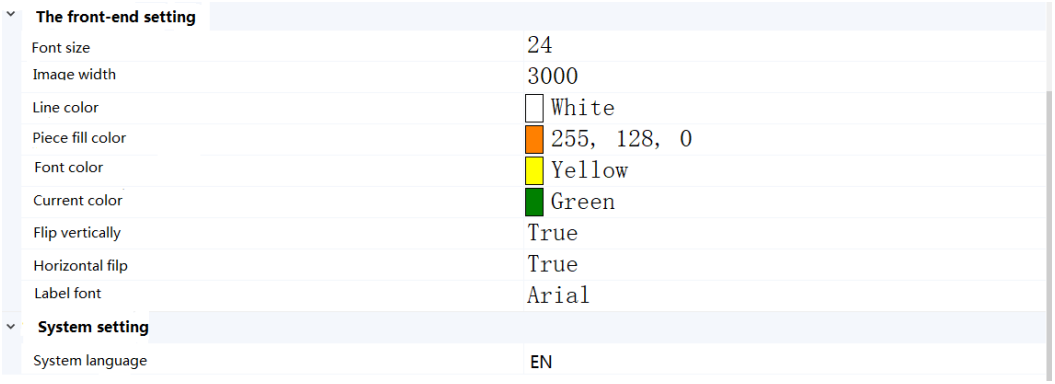


Fig3-2 The front-end setting

3.2 Device Parameters

The related functions of equipment parameters are briefly introduced in section 2.2 equipment parameters. The practical significance of these parameters will be described in detail below:

Negative pressure threshold (-KPA):

When the machine starts to absorb the label, the negative pressure sensor on the label head will detect the negative pressure value generated by the label adsorption. The negative pressure value will be used as the criterion for the success of label adsorption. It is recommended to set it to 500.

Labeling timeout (S):

The parameter acted together with the negative pressure threshold to judge whether the label adsorbed successfully. When the machine begins to adsorb the label, the timing starts. If the negative pressure value detected after the set time arrives fails to be higher than the negative pressure threshold, then the label is judged to have failed to adsorb due to the timeout.

X/Y axis Automatic speed (mm/s):

This parameter represents the automatic labeling speed and Jumping speed in the direction of X axis and Y axis. The maximum running speed in the direction of X axis is 750mm/s, and the running speed in the direction of Y axis is 1200mm/s. Due to the limitation of stroke length and acceleration and deceleration time in the process of machine time operation, the automatic labeling speed may not reach the set running speed, and the specific situation shall be determined according to the arrangement of cutting pieces.

X/Y axis zero return speed (mm/s):

This parameter represents the speed of XY axis when they are homing respectively.

X/Y inching speed (mm/s):

This parameter represents the inching speed of machine X/Y when the inching button is clicked.

X/Y acceleration time (s):

This parameter represents the acceleration time for the XY axis to reach the set speed.

X/Y deceleration time (s):

This parameter represents the deceleration time of XY axis when the machine is running close to the target position.

X/Y smoothing time (s):

Smoothing time for motion control, used to adjust the stability and accuracy of motion control.

X/Y emergency stop time (S):

This parameter represents the deceleration time of the machine in the case of triggering emergency stop.

XY length of table (mm) :

This parameter should be set according to the actual length and width of the table. It is mainly used to compare whether the layout is within the range of labeling when setting zero point.

X/Y direction laser lamp compensation amount (mm):

The compensation amount of laser lamp should be adjusted according to the actual situation.

Ⅳ. Label Machine Installation

4.1 Install and adjust both sides of the machine

Install the side regulating wheel assembly on both sides of the board, and adjust the side regulating wheel assembly to about 1mm away from the side of the table (refer to the installation effect of the spreader). If it is a German table board, the German special edge regulating wheel is clamped on the Angle iron on the side of the table board. After installation, it is shown in Figure 4-1 below:

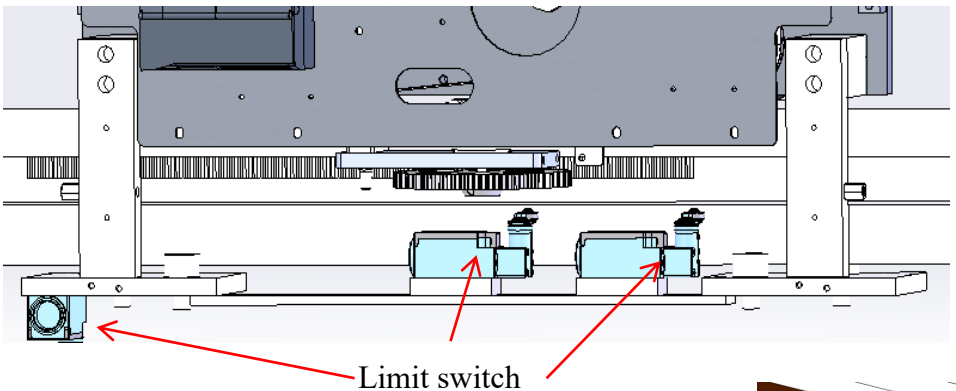
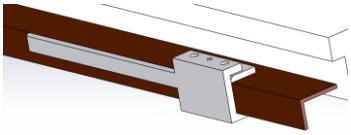


Figure 4-1



4.2 Synchronization belt, anti-collision and limit device installation

Paste the attached double-sided tape on the back of the synchronous belt, and determine the specific pasted position of the synchronous belt according to the customer's laying table and the position of the encoder's roller. After pasting, gently tap the belt with a rubber hammer to make it firm, and then apply the encoder spring so that the coding wheel gear engages with the belt. The installation position of the air float table synchronization belt is shown in Figure 4-2, the installation position of the transmission table synchronization belt is shown in Figure 4-3, the installation position of the German table synchronization belt is shown in Figure 4-4, and the installation position of the common and German encoder component is shown in Figure 4-5.

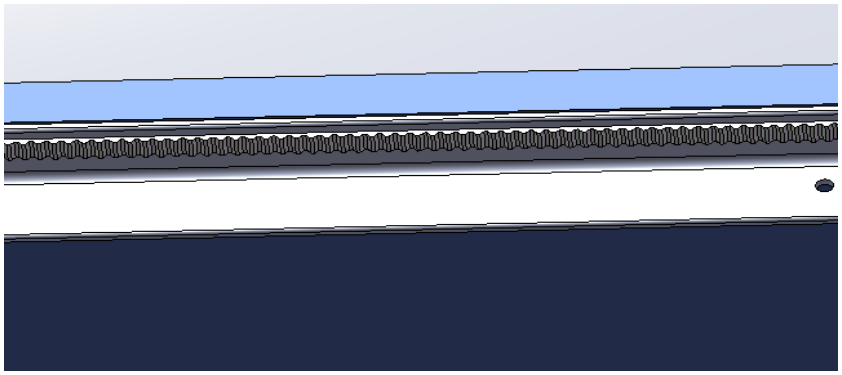


Figure 4-2

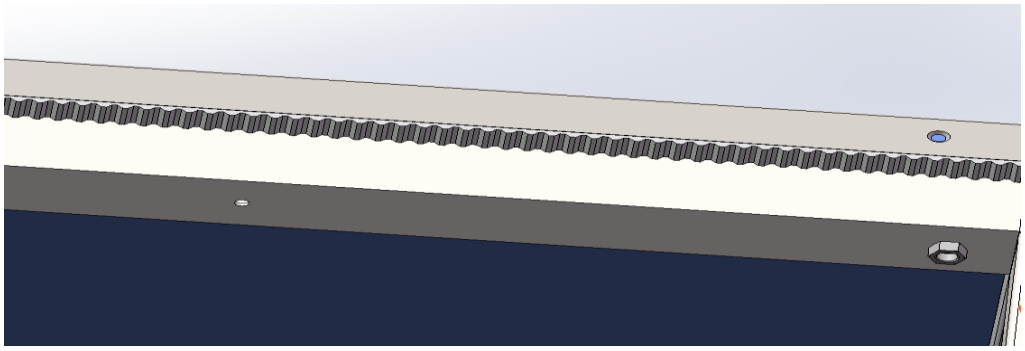


Figure 4-3

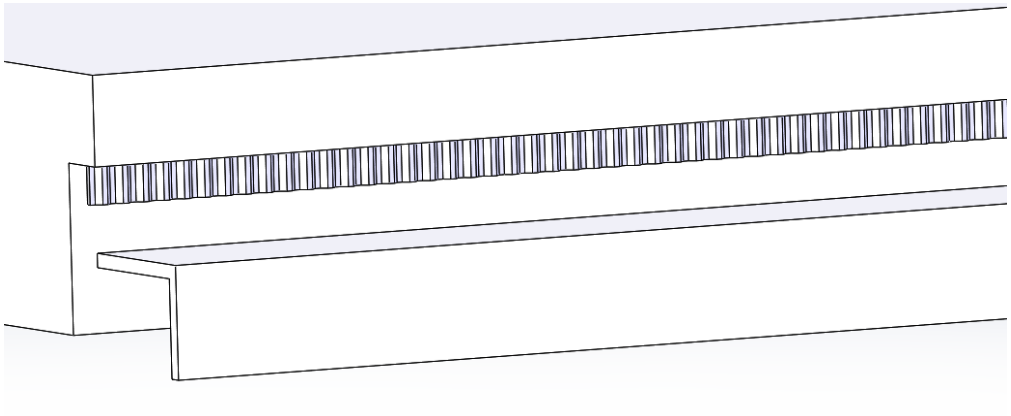
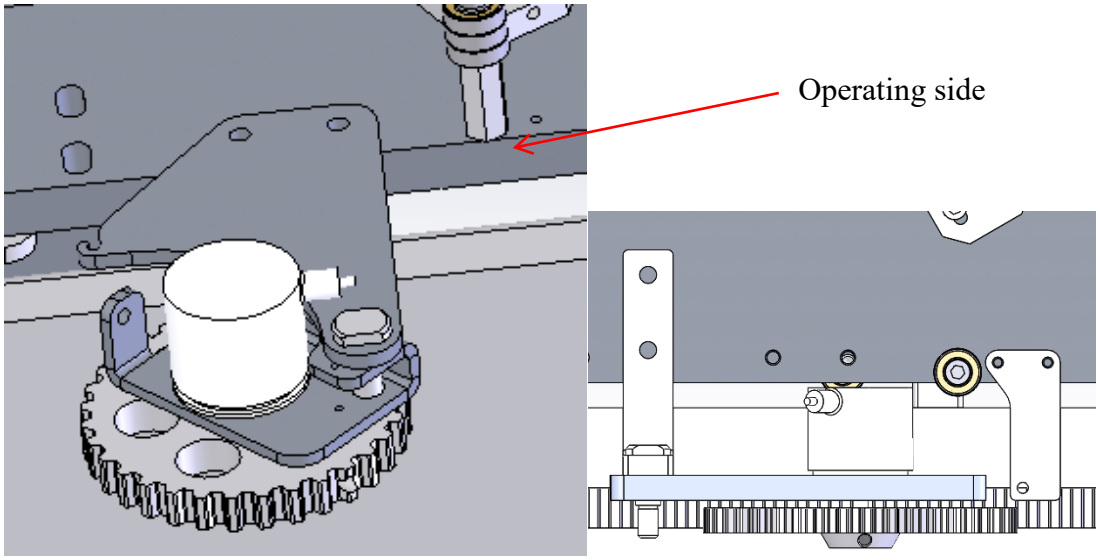


Figure 4-4



Common German

Figure 4-5

The German table limit switch and limit device are shown in Figure 4-1, the domestic table limit switch is shown in Figure 4-6, the air float table limit device is shown in Figure 4-7, and the transmission table limit device is shown in Figure 4-8.

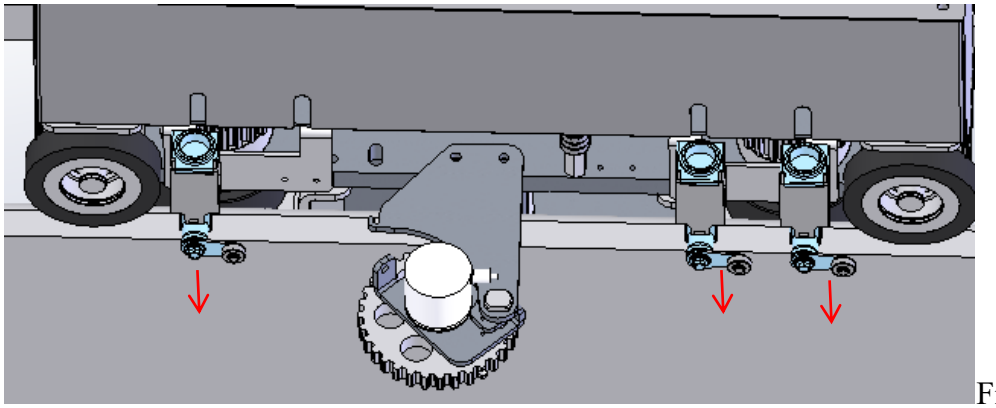
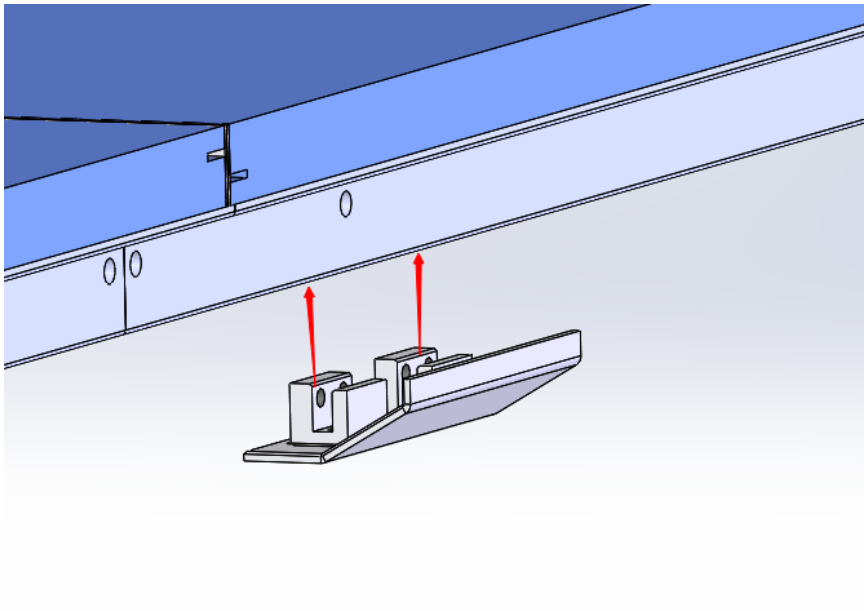


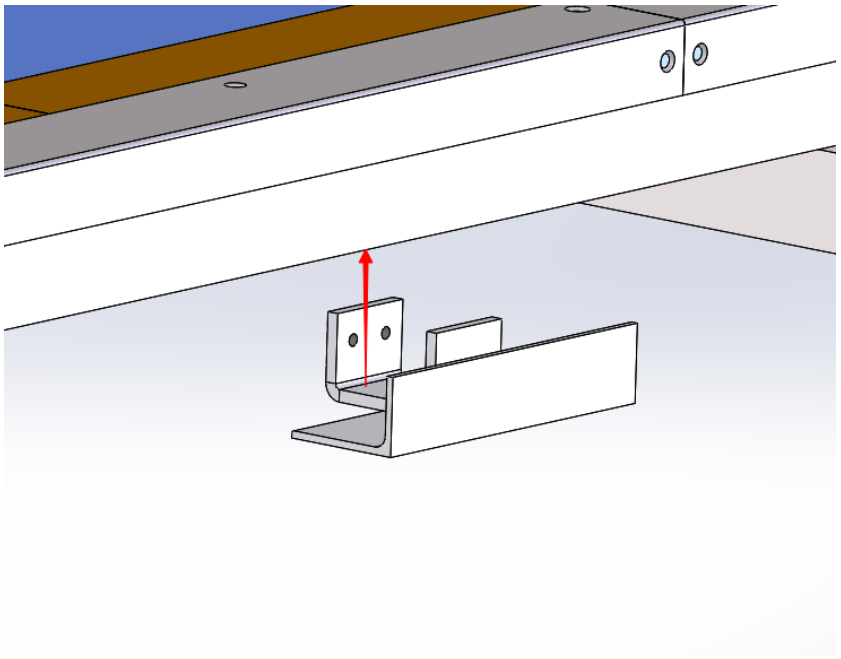
Figure 4-6

After installation, adjust the limit opening point to face the table board



Select the appropriate position at the starting point and the end point of the trip, and adjust to the triggering limit state

Figure 4-7



Select the appropriate position at the starting point and the end point of the trip, and adjust to the triggering limit state

Figure 4-8

After installing the bidirectional large stopper component on the electronic control side panel (refer to the installation effect of the laying machine), as shown in Fig. 4-9, drill holes at the sides of the corresponding walking starting point and ending point of the table, and assemble the end and end limit stopper blocks A and B at the appropriate positions (refer to the installation effect of the laying machine).

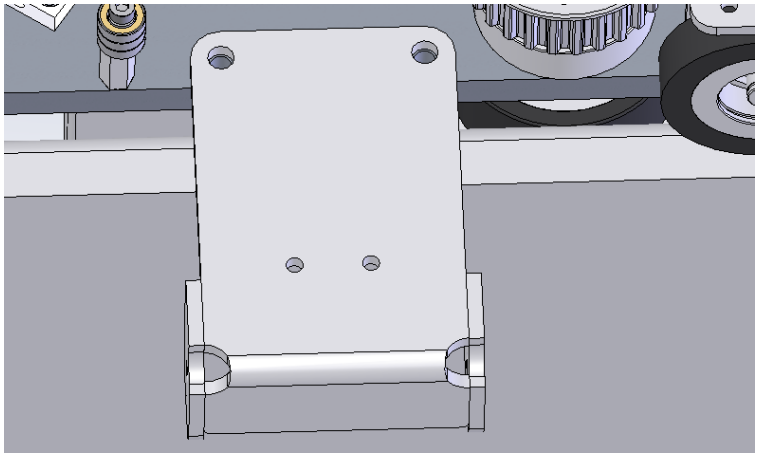


Figure 4-9

Install the anti-collision elbow assembly on the side of both plates, as shown in Figure 4-10 and Figure 4-11

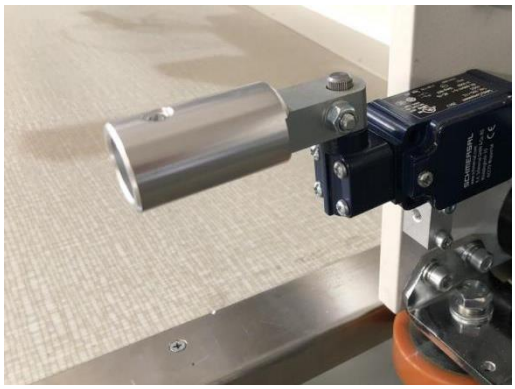
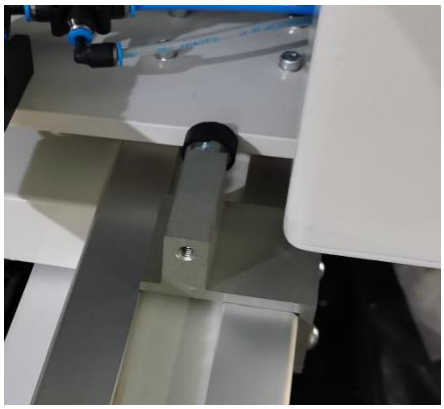
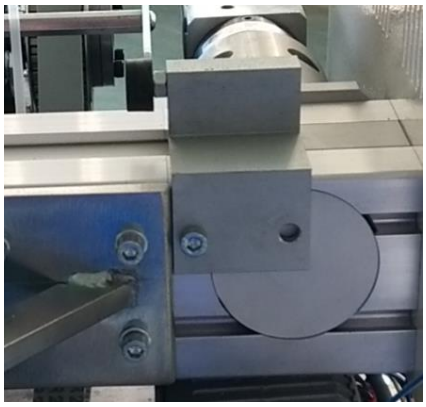


Figure 4-10

Figure 4-11

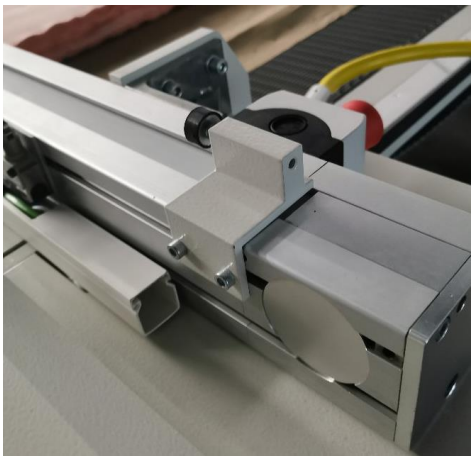


Block packing position



Mounting position of block on the table

Figure 4-12



4.3 Side drag chain groove mounting

If there are through holes in the corresponding positions of the legs of the transmission type and German laying table, as shown in Fig. 4-13, then directly install the drag chain Angle iron; The air float table needs to be punched manually. The positions of the holes are shown in Fig. 4-14. Note that all the holes are collinear (that is, on the same horizontal line).

Figure 4-13

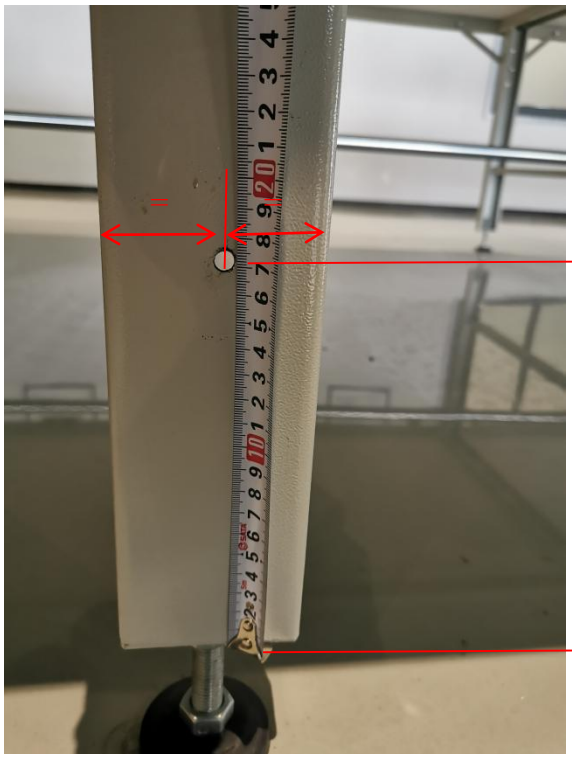


Figure 4-14

Fix the trailing chain groove Angle iron behind the table leg with screws and place the trailing chain groove on the Angle iron as shown in Fig. 4-15. Punch holes in the M5 thread hole of the trailing chain groove Angle iron relative to the trailing chain groove.

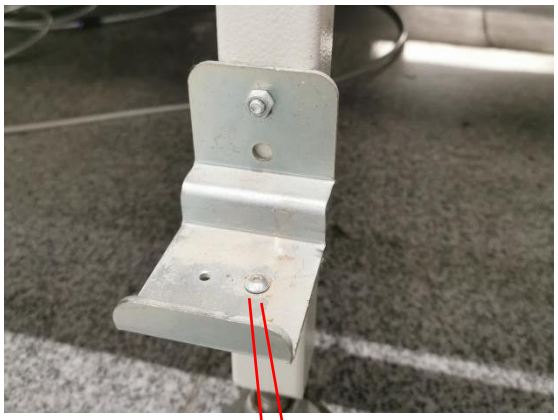
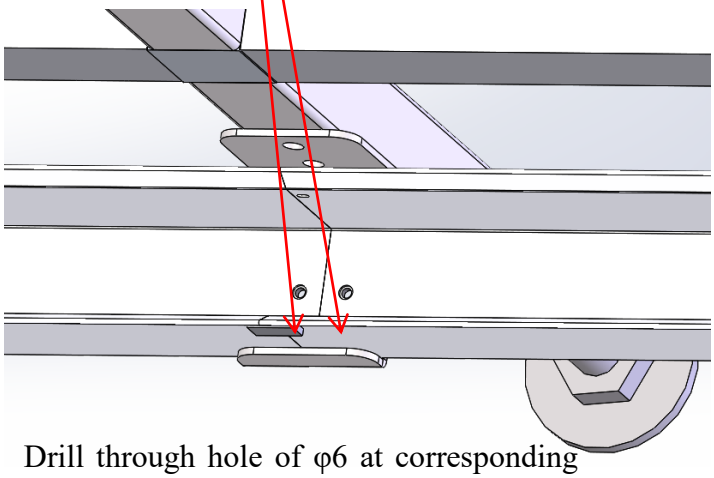


Figure 4-15



Drill through hole of φ6 at corresponding

Figure 4-16

4.4 Pneumatic components and drag chain installation

Fix the fork connecting rod plate on the electric control side plate, as shown in Fig. 4-17. Then cover the drag chain connecting piece with the fork connecting rod, select the appropriate position screw to fix, and then fix the heavy-duty connector (female head) to the drag chain connecting piece, as shown in Fig. 4-18. Place the unbent end of the towing chain on the German towing chain groove at the starting point, punch holes in the towing chain groove and fix it with screws. The towing chain head at the bent end is fixed at the U-hole of the towing chain connector, and the towing chain side is kept parallel and connected to the air pipe, as shown in Figure 4-19.

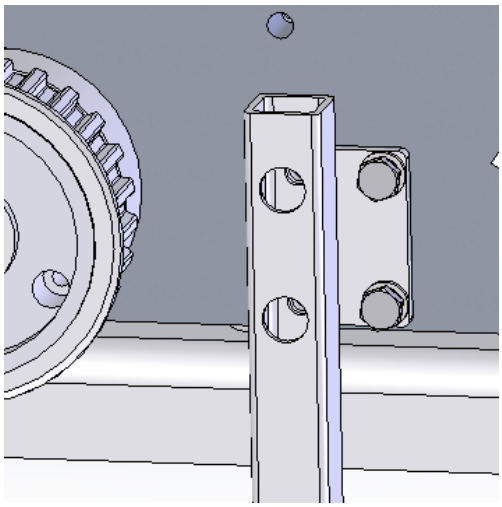


Figure 4-17

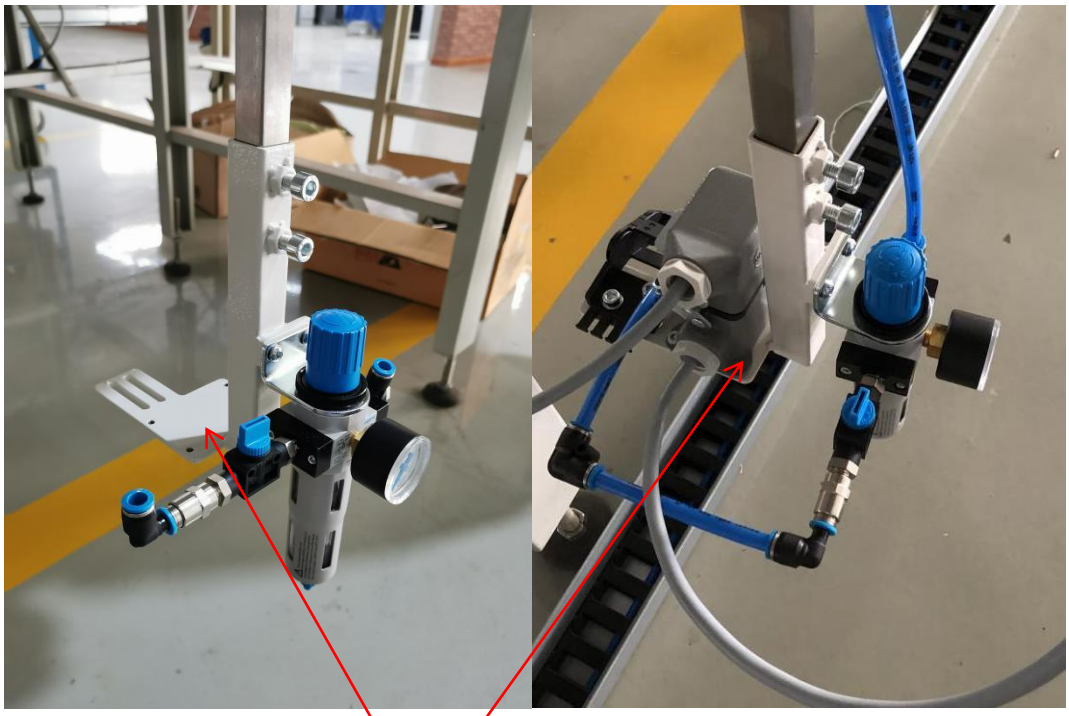


Figure 4-18

Installation location of heavy-duty connector (female head)

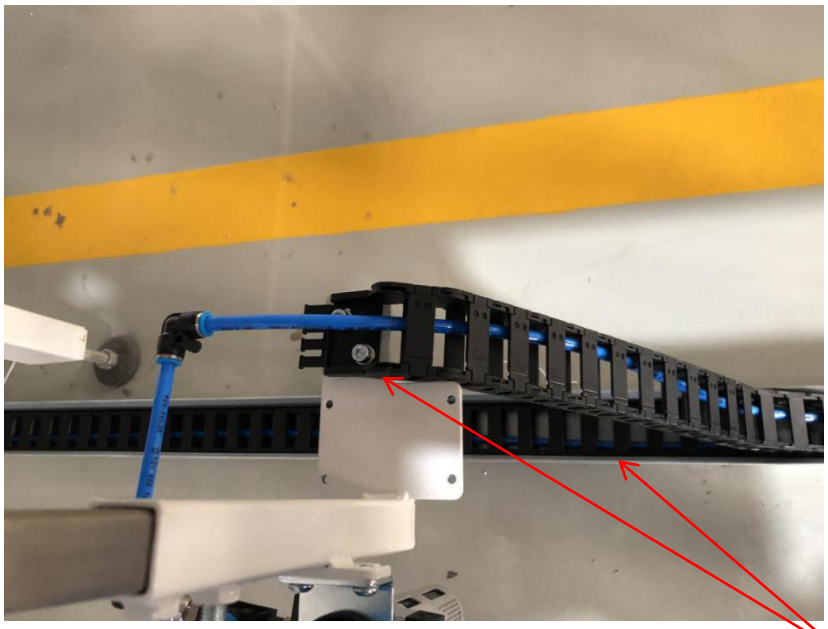


Figure 4-19

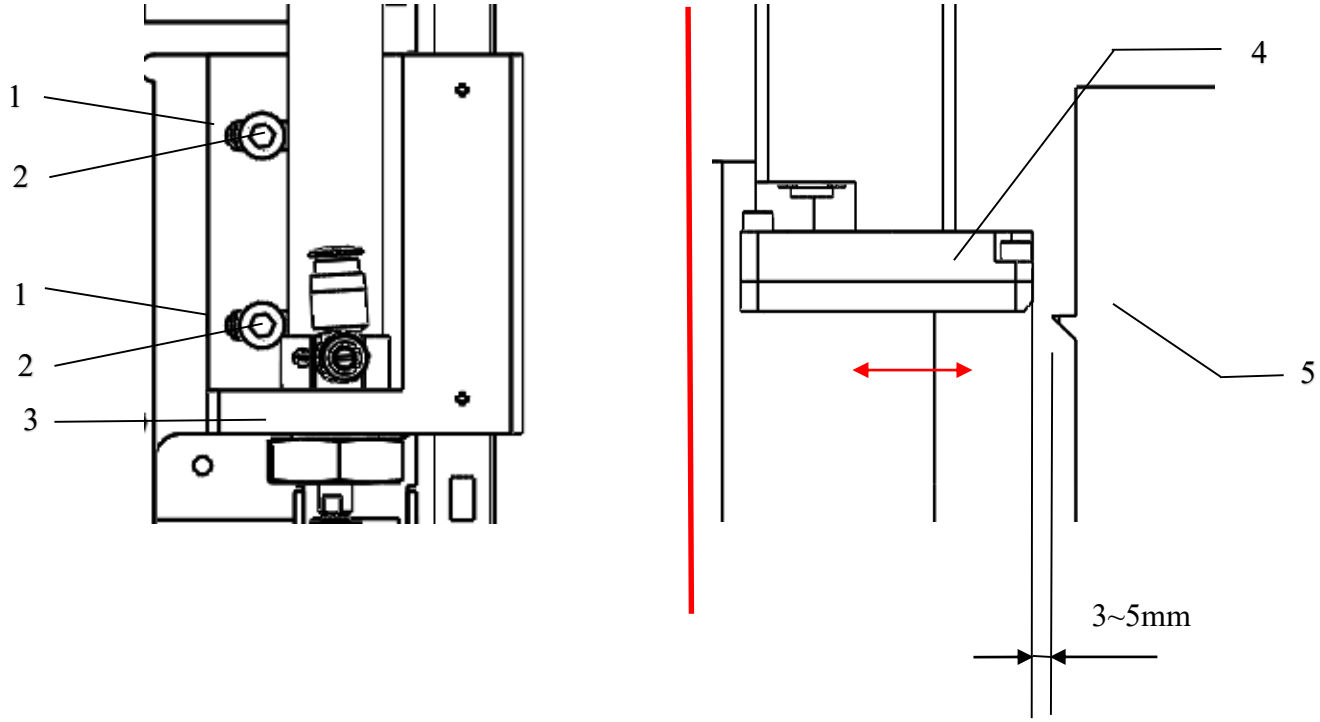
After installation, both sides are coplanar

Ⅴ. Machine Adjustment

5.1 Labeller structure adjustment

In order to prevent the suction cup from being unable to absorb and label the label normally, the relative position of the suction cup and the printer assembly needs to be adjusted, and then the software offset or the position of the laser lamp holder should be fine-tuned according to the label size.

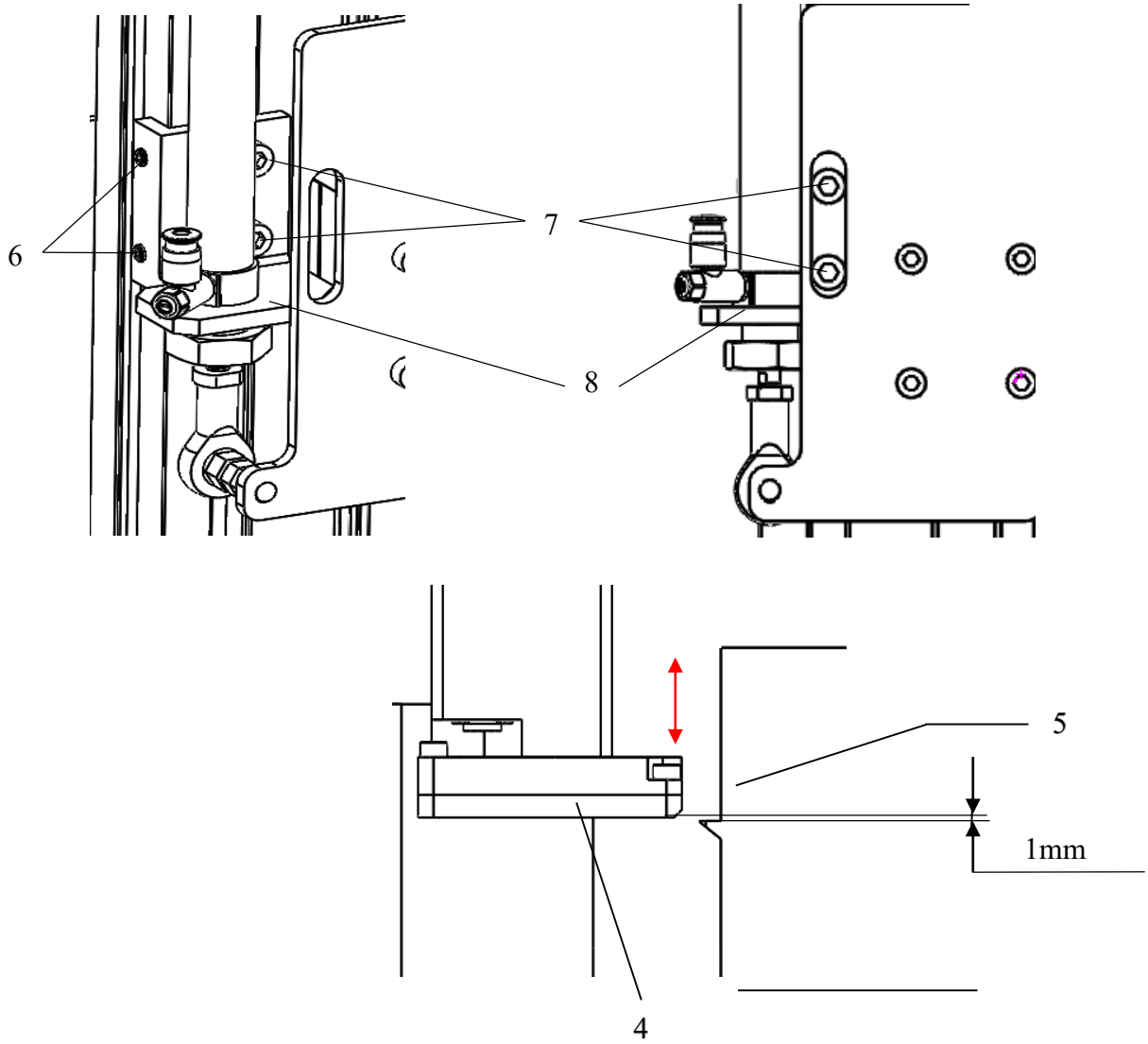
5.1.1 Adjustment of the printing direction and the cylinder



In order to adjust the distance between the sucking disc (4) and the peeling end for the directing plate (5) of the printer, an appropriate adjustment can be made in the printing direction for the sucking disc.

1. Unscrew the tighten screw (1), screw (2).
2. Move the cylinder and the sucking disc in the U-type groove for the fixed block (3) of the cylinder, the distance between the sucking disc and the peeling end of the labels directing plate should be kept at 3-5 mm;
3. Lock the screw (2), screw the screw (1).

5.1.2 The adjustment of the position of the cylinder

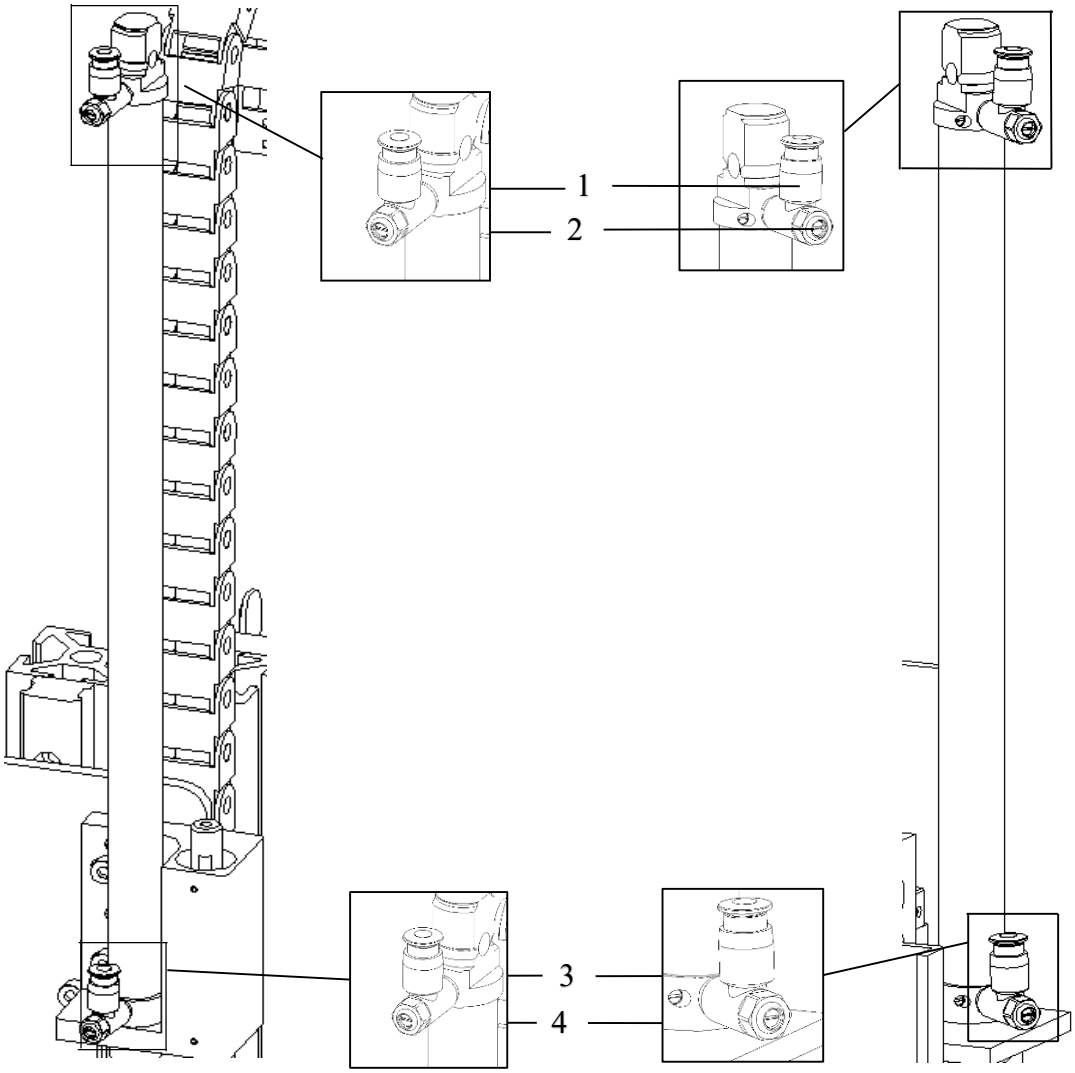


Vertical Adjustment

1. Unscrew the screw (6, 7);
2. The vertical adjustment is finished by adjusting the cylinder seat (8). When the cylinder is at the original position on the top, move the entire cylinder until the posterior edge of the sucking disc is higher than the peeling end for the labeling directing plate of the printer. We suggest that the distance between the sucking disc and the peeling end of the printer to be kept at 1mm.
3. Screw the screw (6, 7)

5.2 Pneumatic part adjustment

5.2.1 The adjustment of the throttle on the cylinder

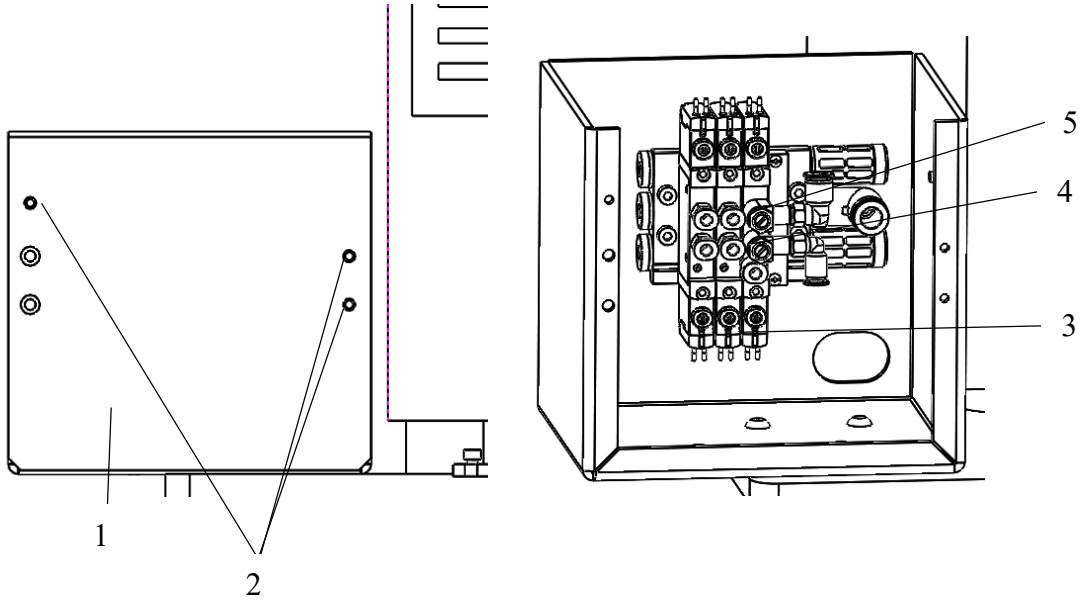


The movement of the cylinder ①, ② can be controlled by the throttles (1, 3) on the cylinder. The two throttles control the up and down speed of the cylinder, which is adjusted by turning the throttles screws (2, 4). The throttles will be turned off by turning it clockwise.

Open the top throttle (1) will speed up the cylinder to move upwards.

Open the bottom throttle (3) will speed up the cylinder to move downwards.

4.2.2 The adjustment of the inhaling and blowing air throttles



In order to test the labeling function, unscrew the screw (2) in the front of the shell of the valve terminal, then remove the shell (1) to adjust the selector valve conveniently. After remove the shell, the selector valve (3) can be seen, also you can adjust it manually by using tools.

The adjustment of the throttle valve for blowing air(4)

This throttle valve can adjust the blowing air which is used to stick the labels to the sucking disc (blowing rod flow).

Turn the throttle screw clockwise will turn off the throttle, this throttle cannot be blown away or rotate when the labels are blown to the sucking disc.

The adjustment of the throttle valve for inhaling air(5)

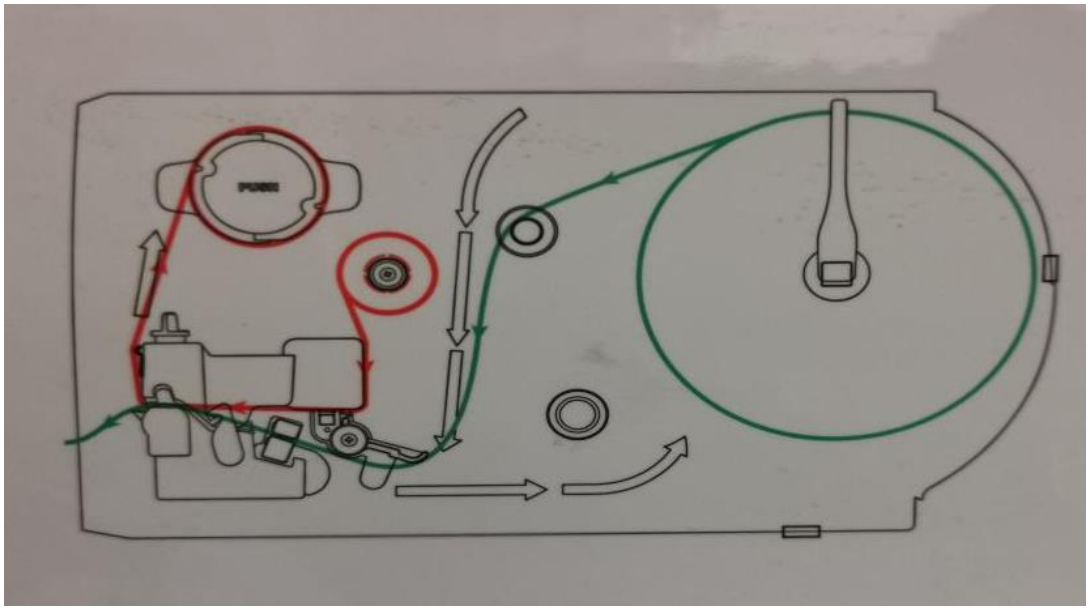
This throttle valve is used to adjust the inhaling pressure for the labels which are inhaled to the sucking disc.

The throttle will be close by turning the throttle clockwise. The final position of the labels which are on the sucking disc can be adjusted by using the inhaling throttle.

5.3 How to change the label paper

The size of label paper: temperature-sensitive paper, the size can be made on demand request, the Max. width cannot over 64mm, the recommend length within 65mm.

5.3.1 The method of install label paper to printer:

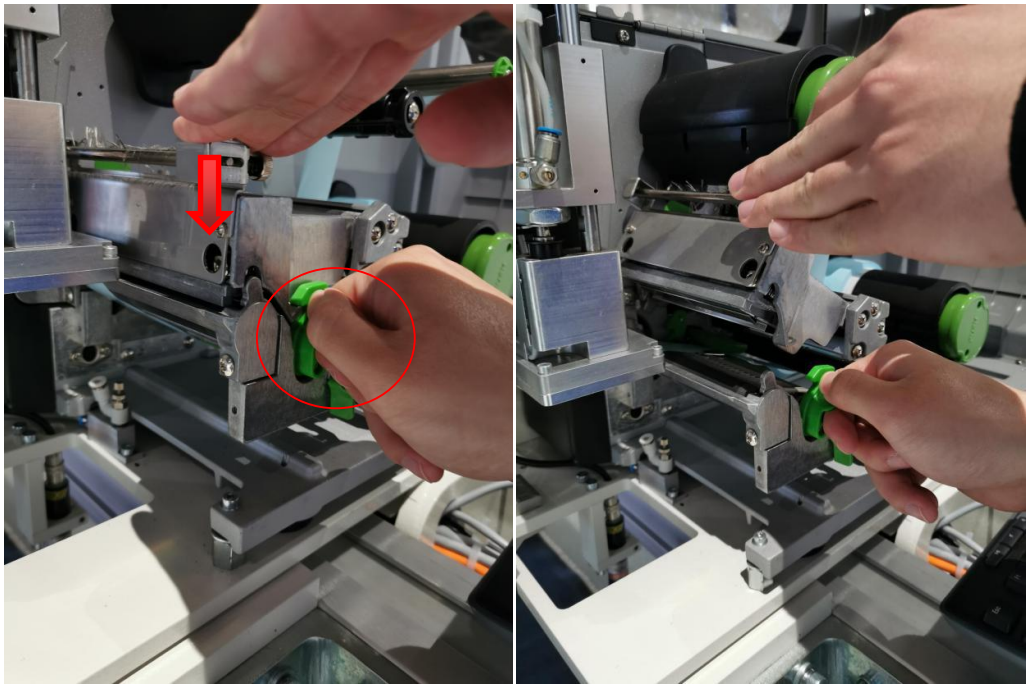


As shown in above picture, the orange one means the install way for TTR, the green one means the install way for temperature-sensitive paper.

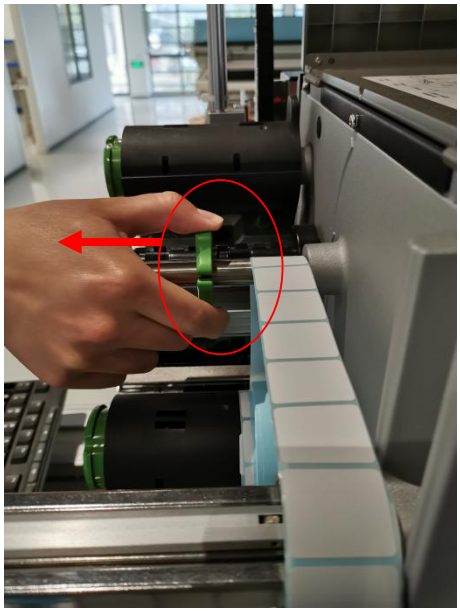
Now our print way is thermal printer, so we should install following the green way.

5.3.2 Change the label paper

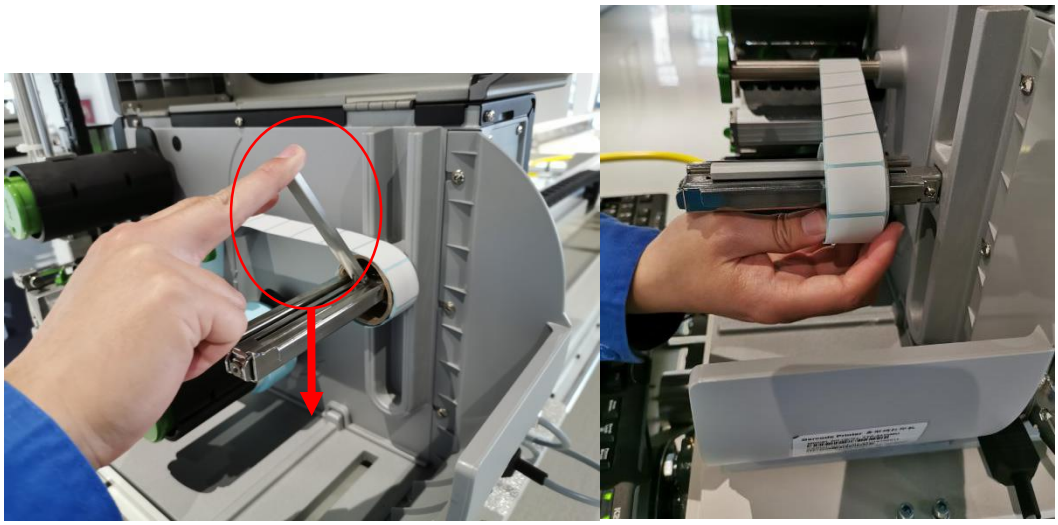
Steps:



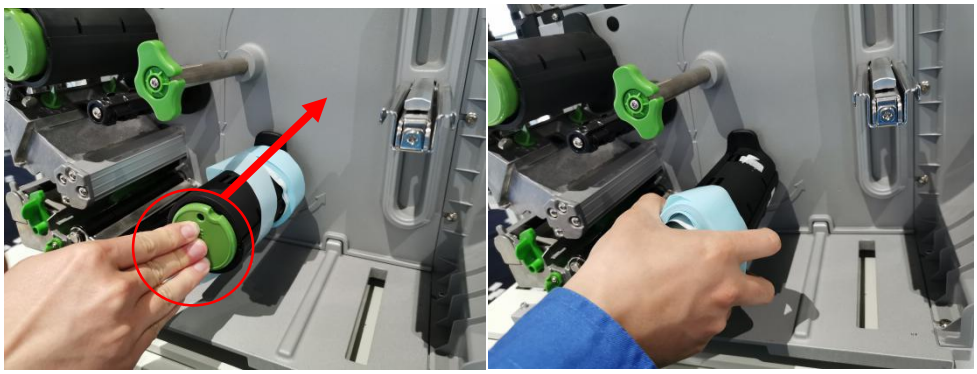
Press one end of the printer down (as in the direction of the arrow), and then turn the green switch back.



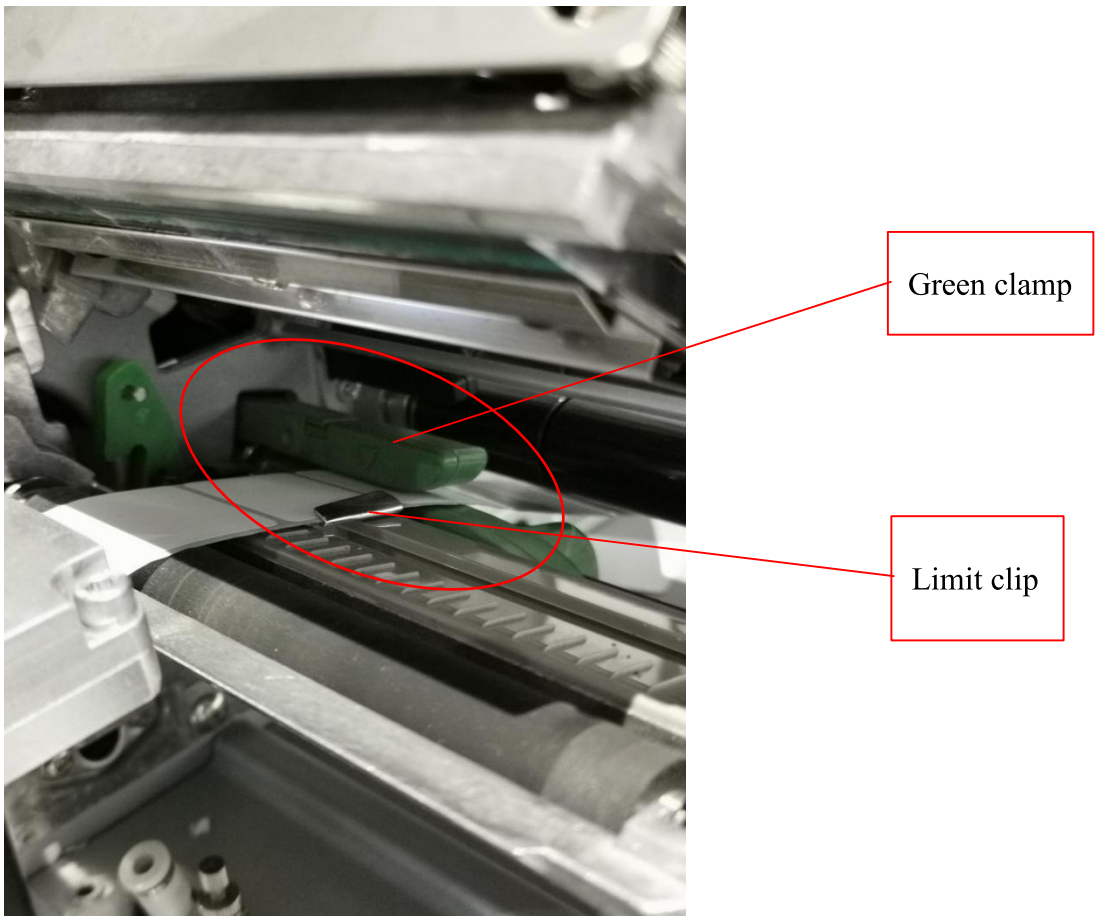
Pull the dial block out



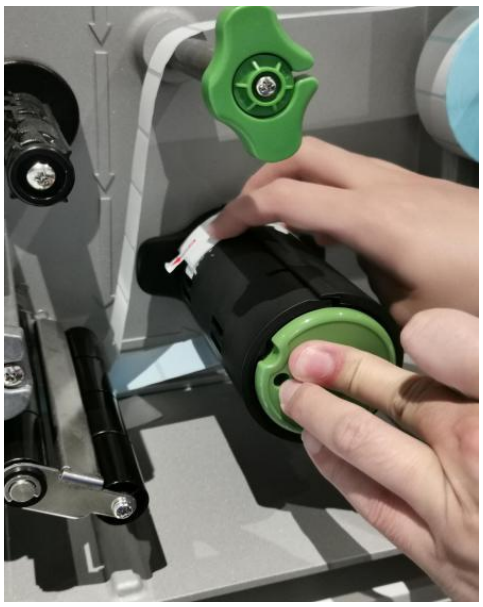
Press the stopper at the label paper down and take out the label paper (the final effect is as shown in the figure above).



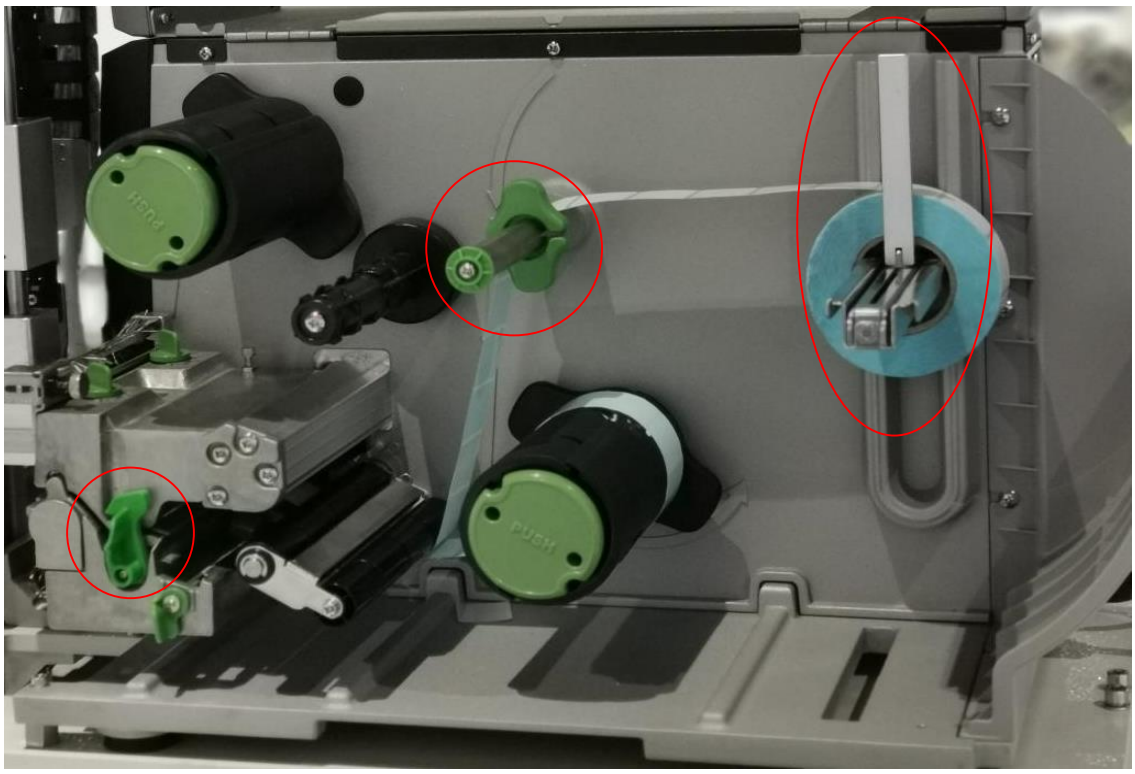
While pressing the green button, remove the loose label roll



Put the new label paper roll into the position shown, and wrap the label paper back according to the green part of 5.3.1. Note that the label paper passes through the green clamping block at the position shown in the figure, and the label paper is restricted by the limit clip (About to touch the label paper)



While pressing the green button, wind the label paper back to the roll for about 2-3 times, and then release the button (as shown in the picture above).



Turn the green switch back to close the printer head, push back the green dial block, turn the block up and attach the label paper roll.

Finally, press the printer FEED key to let the machine adjust the label output.

Ⅵ. Fault

6.1 Cannot do labeling job(the print don’t have any action)

1) Check whether the printer label is used up;
2) Check whether the green switch in the red circle on the left side of the printer in 5.3.2 is closed;
3) Check whether the labeling operation steps are correct, whether the file is read on the touch screen, if the file is read, check whether the "Left Labeling" or "Right Labeling" is selected, if you are not sure, please try again Again
4) Check whether the limit alarm is triggered

6.2 The Machine will shake and can not be Instable when it runs

When the machine is installed, the power cord is 1 live wire and 2 neutral wire. Please be sure to connect them correctly, otherwise the drive will be damaged.
X-direction walking and braking are driven by the friction of 4 rubber rollers. If there is a jam in the X-direction, you need to check whether the 4 rubber wheels on both sides are clamped too tightly, resulting in too much frictional resistance.

6.3 Incorrect the label position

Inspection standard: the label paper must be absorbed flatly under the suction cup

6.3.1 The suction cup moves up and down:

Target: The vertical distance from the bottom of the suction cup to the label guide plate

is about 0~2mm. Figure 6-1

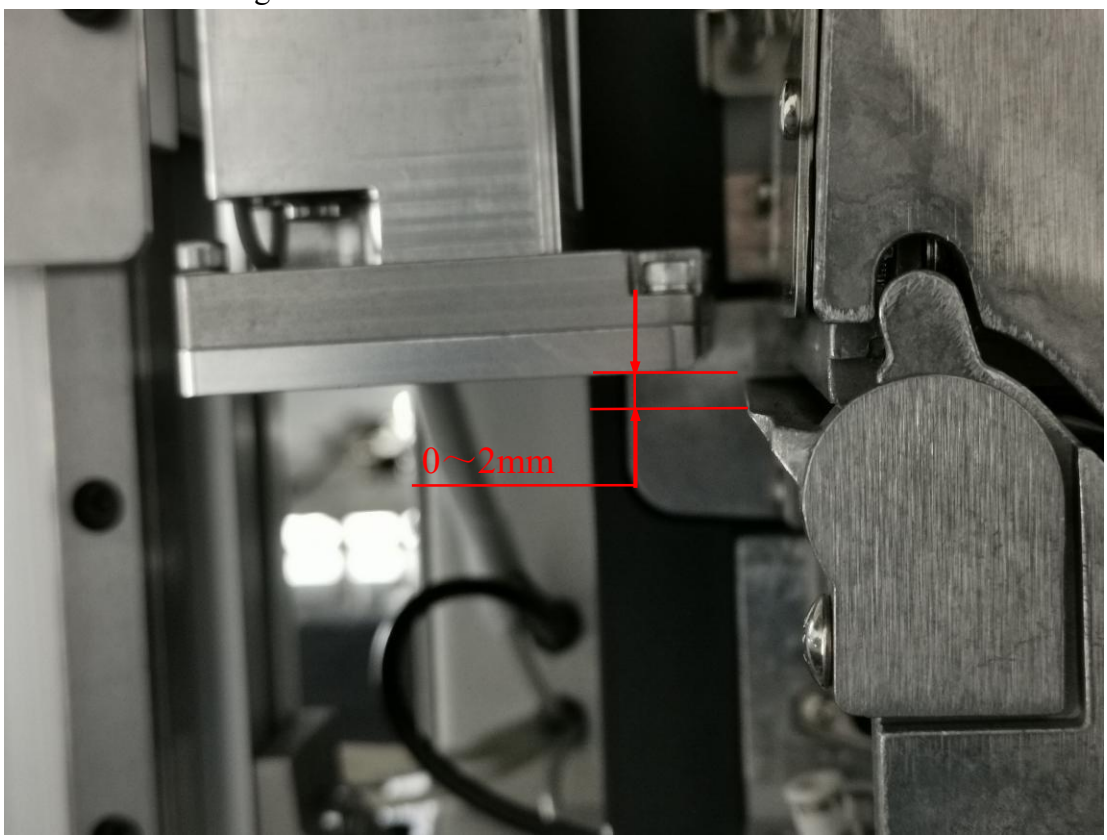


Figure 6-1

Method: first retract the driven cylinder, then loosen the No. 1, 4, 5, and 6 tightening screws, then loosen the No. 2, 3 screws, and move the cylinder seat up and down so that the bottom of the lower suction cup reaches the label guide plate to a suitable one Position (fit the profile from the side of the cylinder block). Tighten the No. 2 and No. 3 screws slightly, and the control program will stick a label test. If the labeling action is completed smoothly, tighten the No. 2 and No. 3 screws, and then tighten the square nut blocks up and down before tightening No. 1, 4, 5, and 6 Nail the screws. After adjustment, ensure that the cylinder goes up and down smoothly, and ensure that the suction cup coincides with the desktop when marking downwards. as shown in picture 6-2

As shown in Figure 6-3, adjust the position of the air outlet of the speed control valve to make the label paper close to the lower suction cup.

The purpose of adjusting this item is to make the label come out straight, not fall down and be adsorbed. If the distance is too large, the hole under the suction cup cannot hold the label or the suction is uneven.

In addition, the blowing angle can also be adjusted freely. Figure 6-3

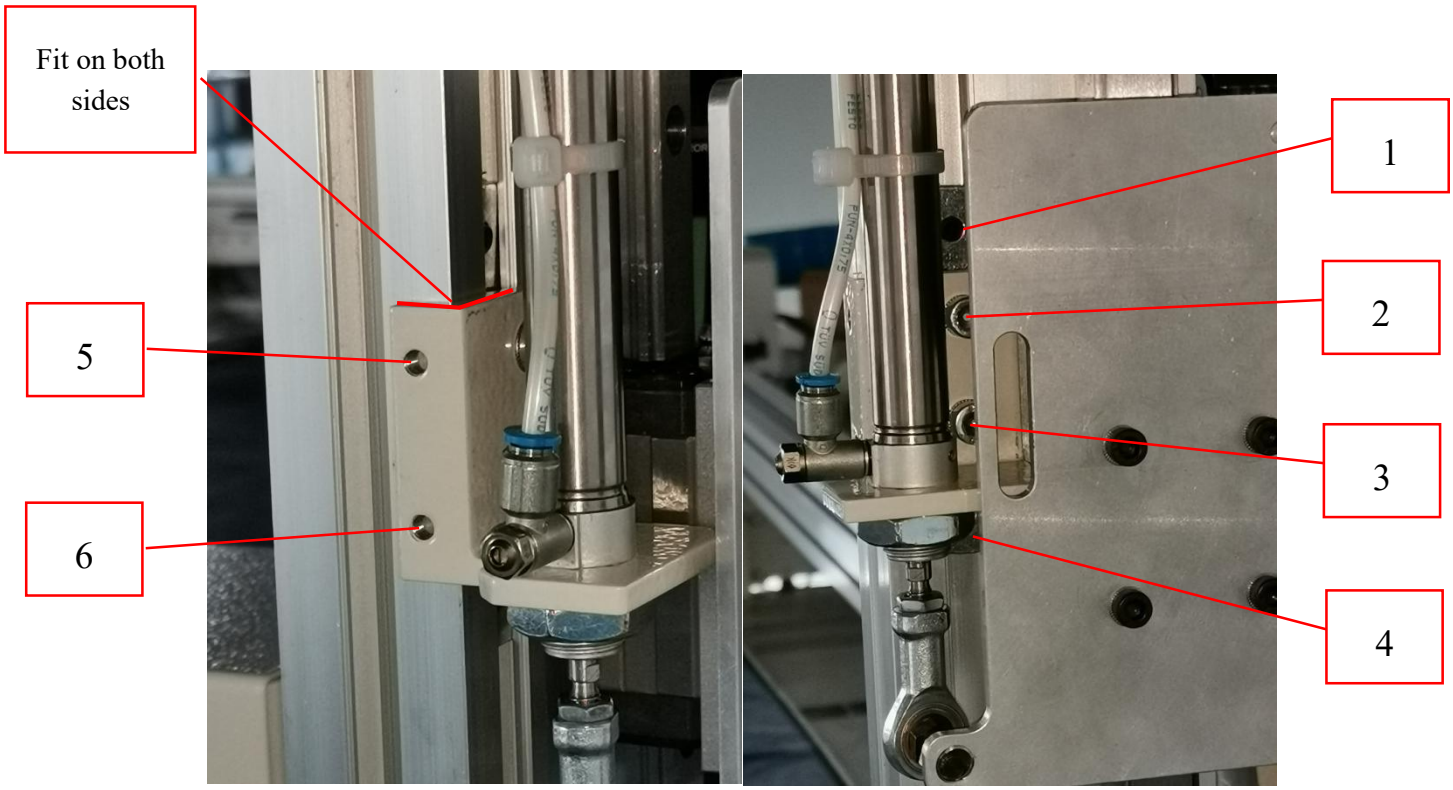


Figure 6-2

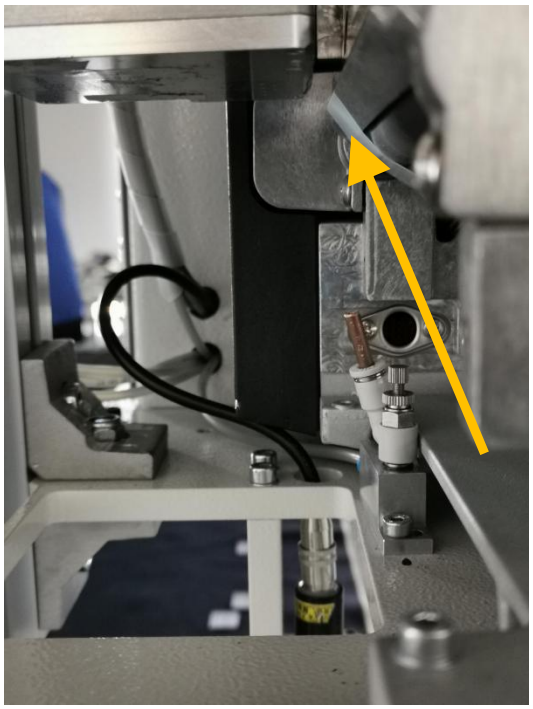


Figure 6-3

6.3.2 Horizontal movement of the suction cup:

Target: The horizontal distance from the bottom of the lower suction cup to the label guide plate is about 3-5mm.

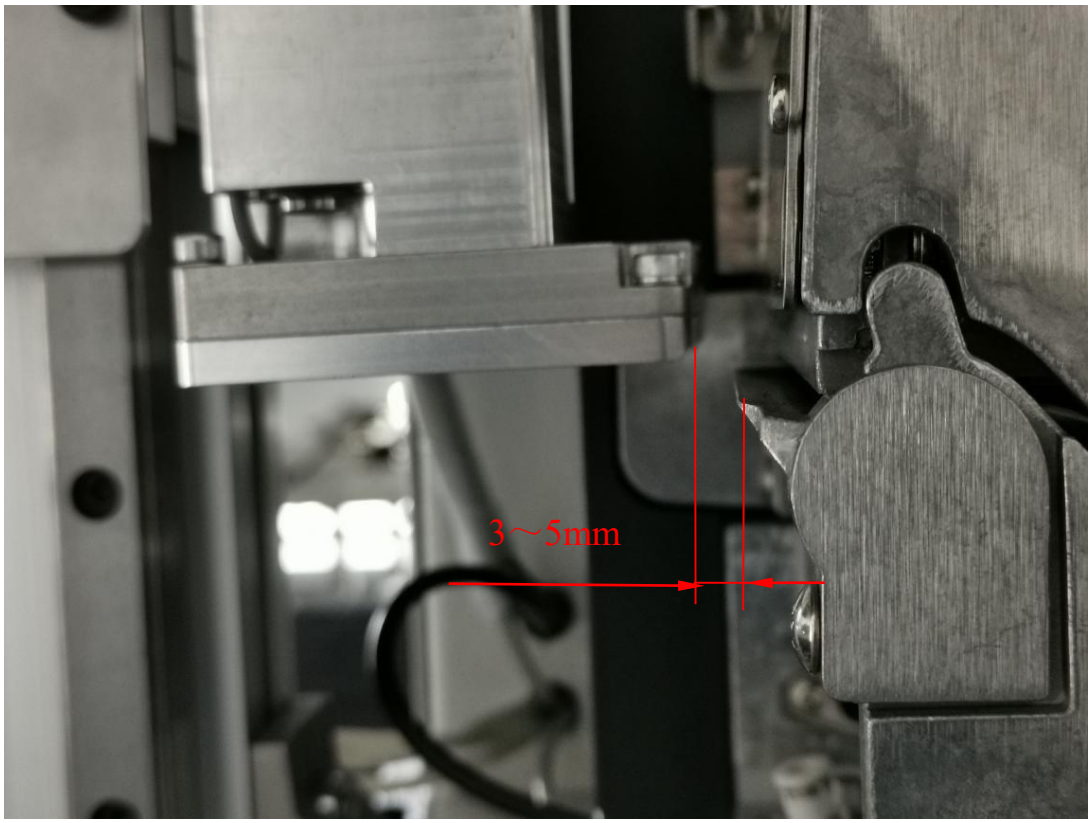


Figure 6-4

Method: First loosen the set screws 1 and 2 in Figure 6-5 and loosen the screws 3 and 4, adjust the horizontal distance between the suction cup and the label guide plate (translation along the guide line groove) to reach the appropriate position (because of the label paper specifications Different adjustment distances are different), that is, the label paper must completely cover the hole under the suction cup, and it is also necessary to ensure that the suction cup coincides with the desktop when marking downwards, as shown in Figure 4. After adjustment, tighten the screws 3 and 4 slightly, turn off the air source, unplug the air pipes of the two air cylinders (4 air pipes in total) to make the suction cup fall freely so that the suction cup overlaps the desktop. After tightening the No. 3 and No. 4 screws, tighten the No. 1 and No. 2 set screws. Finally restore the trachea and gas source.

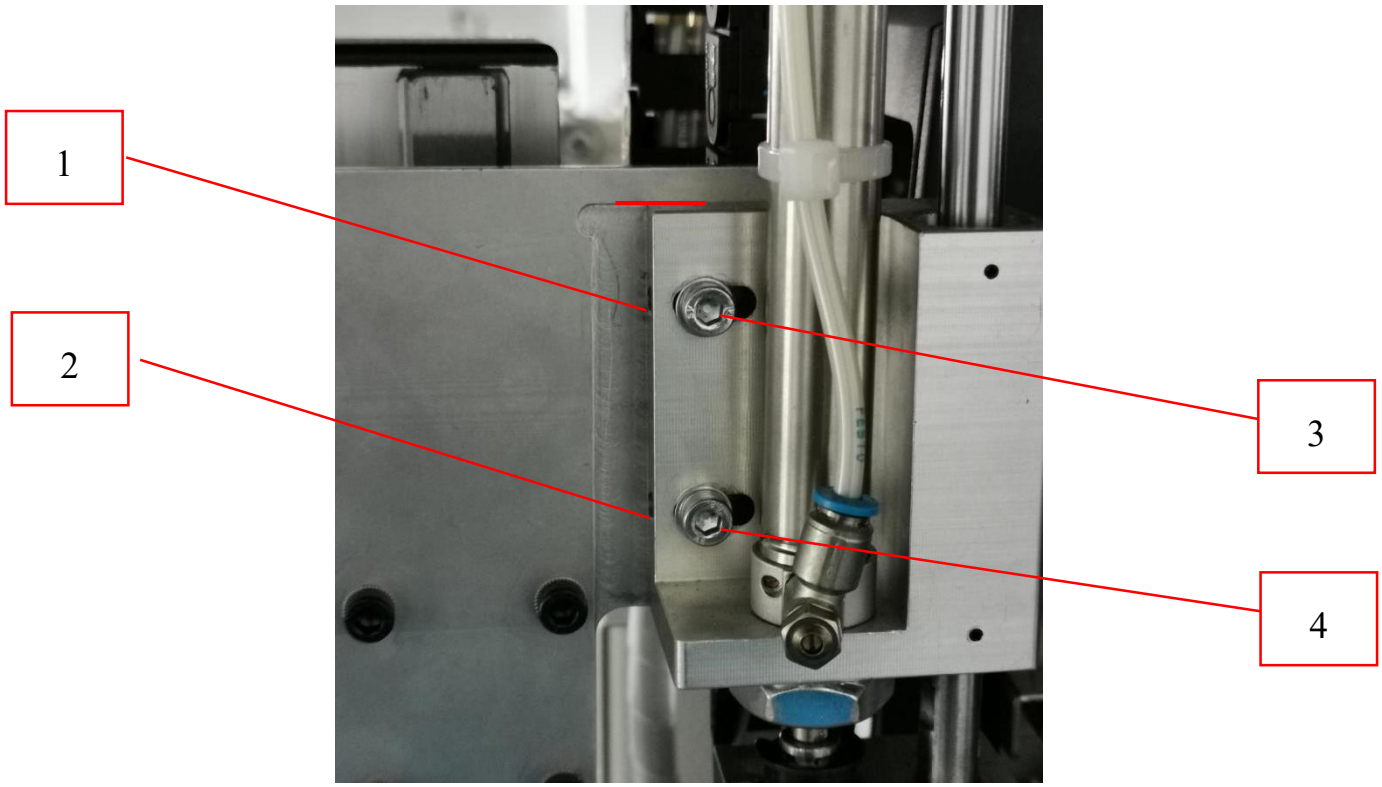


Figure 6-5