HIKARI® 富山

使用说明书
INSTRUCTION MANUAL
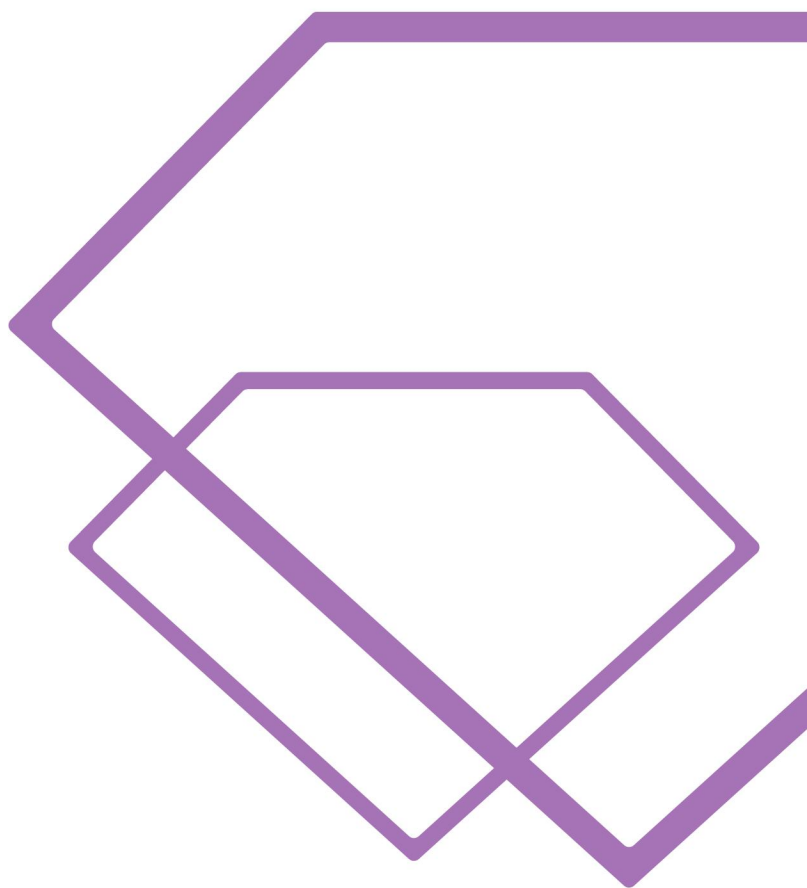
HAT-K5C 系列
Serles

自动焊接橡筋机
AUTO WELDING RUBBER BAND MACHINE

V1.00

Operation Manual

Products involved: HAT-K5C [Auto Welding Elastic Joining Machine]

File No:

Document version: A

History of version change				
Version	Change of order number	Change description	Date	Author
A	/	Newly-build file	2022-9-22	

Auto Welding Elastic Joining Machine

Operation Manual

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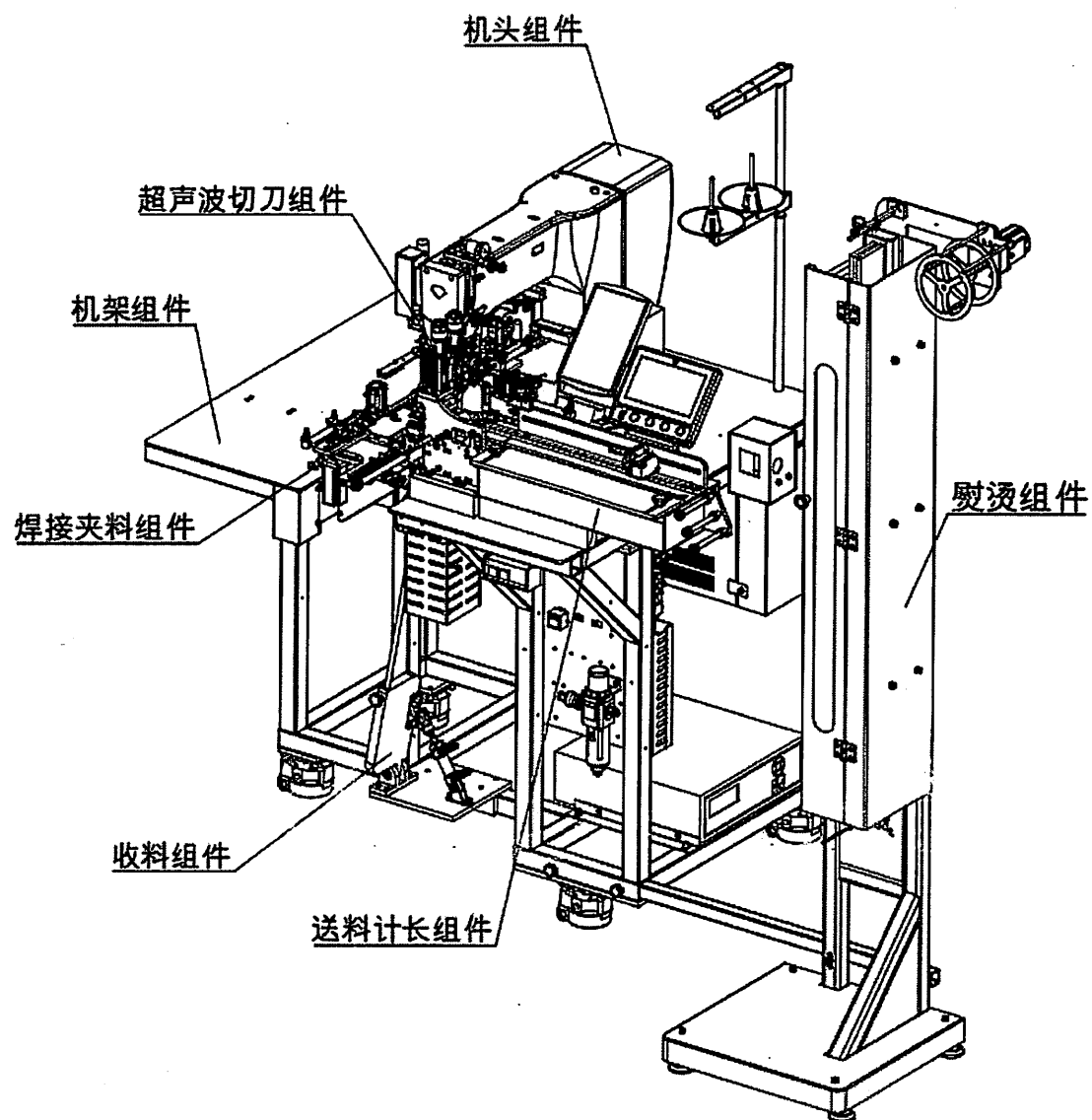# CONTENTS

Auto Welding Elastic Joining Machine

⚠ **Please read the following contents carefully before use.**

Product performance indicators

Performance Indicators of Auto Welding Elastic Joining Machine		
Project	Scope	Spec.
Elastic type	Marked and unmarked types	
Sewing stitches	Zigzag seam	
Stitch type	Plane suture with single needle	
Maximum elastic width	50mm	HAT-K5C-C50YSL 15-50mm standard configuration
Minimum elastic width	15mm	
Minimum elastic length	150mm	
Ironing function	Automatic switch	
Material receiving function	Automatic switch	
Working mode	No sign Single section type Multi section type Multi signs	
Way of cutting	ultrasound knife	
Point pen function	Automatic switch	Optional Accessories
Maximum speed of sewing	2800 (needles/minute)	
Range of needle pitch	0.3-12.7 (mm)	
Resolution of needle pitch	0.1(mm)	
Support panel program upgrade mode	USB flash disk	
Touch screen	7-inch color touch screen	
Type of wire break detection	Digital encoder	
Supply voltage range	220V/50HZ± 10%	
Rated power	0.5KW	
Working ambient temperature	0℃- 45℃	
Working environment humidity	35%- 95% (no condensation)	
Rated air pressure	Equal to or greater than 0.5MPa	
Air consumption	60 (L/MIN)	
Pneumatic element	AIRTAC	
Working atmospheric pressure	86kPa- 106kPa	

The left side of the table is split into two groups: **Technology Indicator** (rows Elastic type through Maximum speed of sewing) and **Systems Parameter** (rows Range of needle pitch through Working atmospheric pressure).

Component Description

Component Description

机头组件

超声波切刀组件

机架组件

焊接夹料组件

收料组件

送料计长组件

熨烫组件

Head components

Head components
Ultrasonic cutter components
Frame components
Welding clamp components
Material receiving components
Feeding length counting components
Ironing components

Frame components

机架台板   显示屏
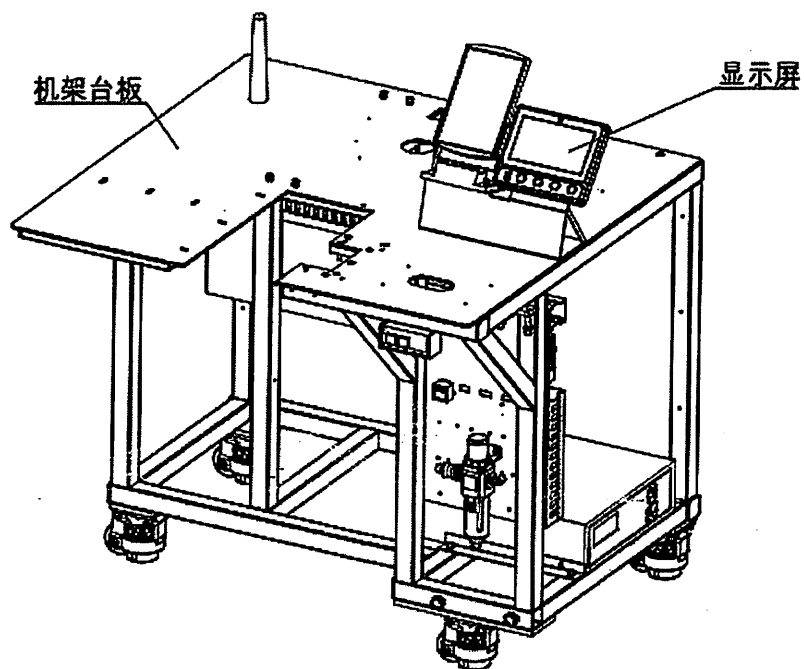
Rack bedplate
display screen

Sewing components; Lower thread detection device; Presser foot lifting mechanism; Push mechanism

缝制组件
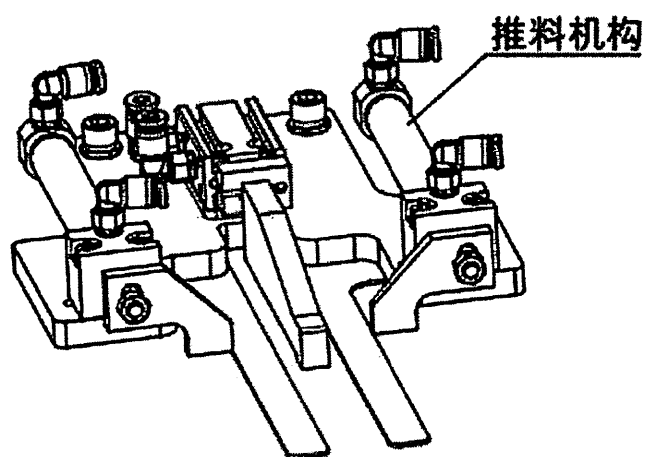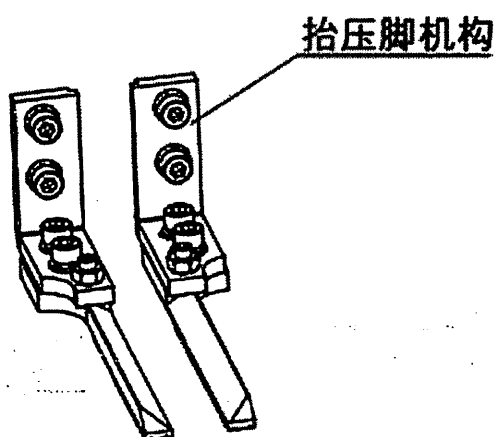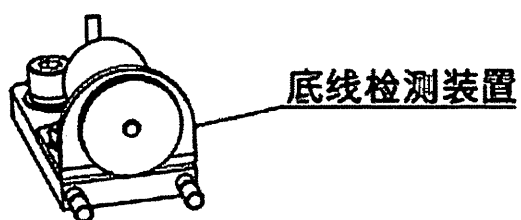
底线检测装置

抬压脚机构

推料机构

Sewing components; Lower thread detection device; Presser foot lifting mechanism; Push mechanism

焊接夹料组件

气缸

左右旋转夹

右旋转电机

推料组件

送料电机
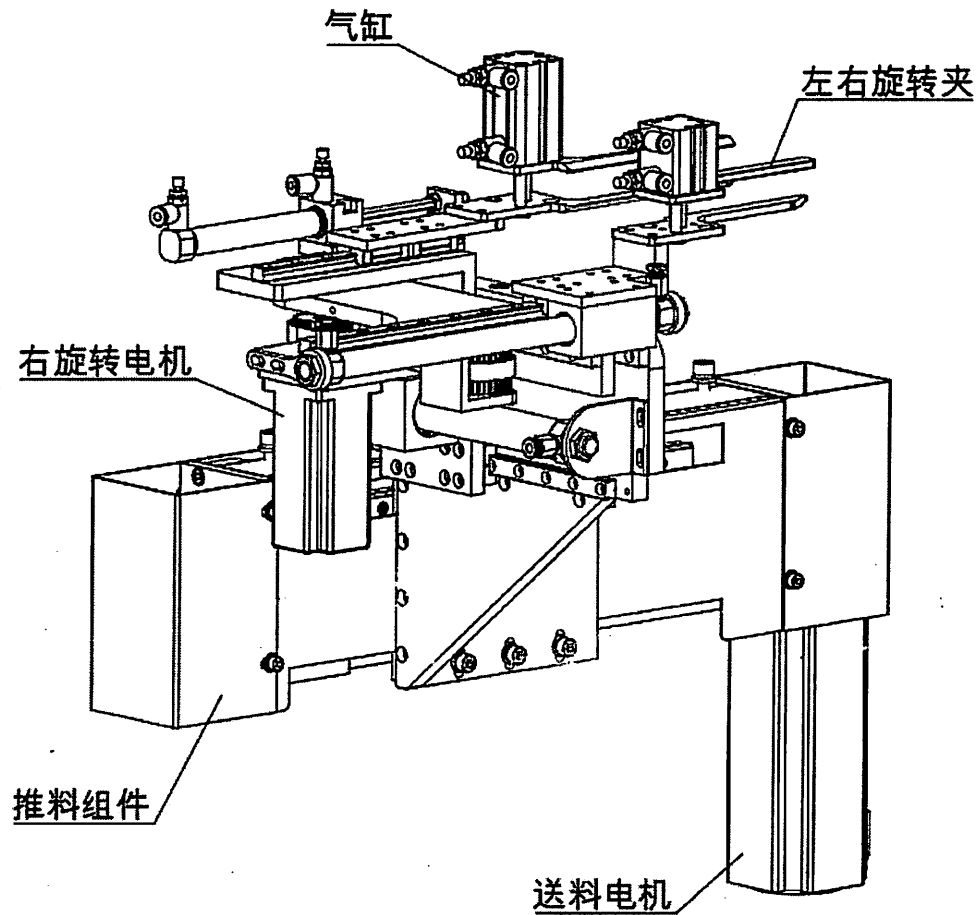
Weld clamp components
Cylinder
Left- right rotation clamp
Right rotation motor
Push component
Feeding motor

送带滚轮装置

送带上滚轮   右旋转电机

送带下滚轮
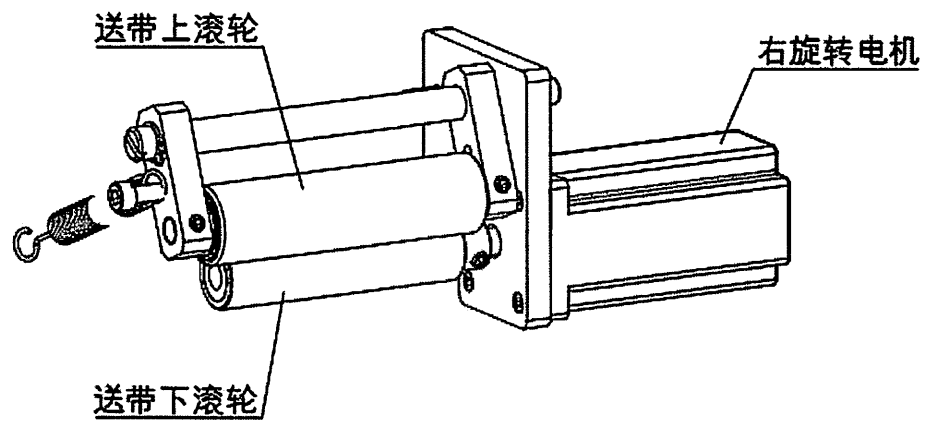
Belt feeding roller device
Belt feeding upper roller
Right rotation motor
Belt feeding lower roller

Length Counting Threading Diagram

穿带示意图

送带方向
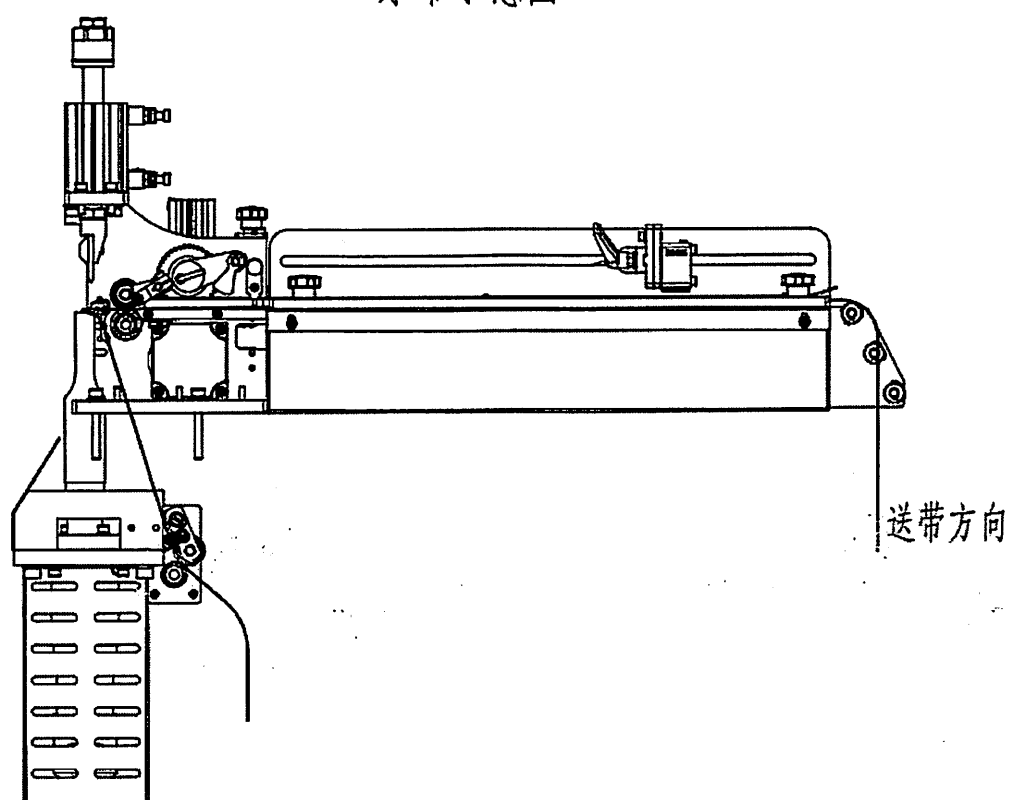
Belt feeding direction

Ultrasonic fixed cutter components

超声波振子

护罩

底座

超声波罩壳
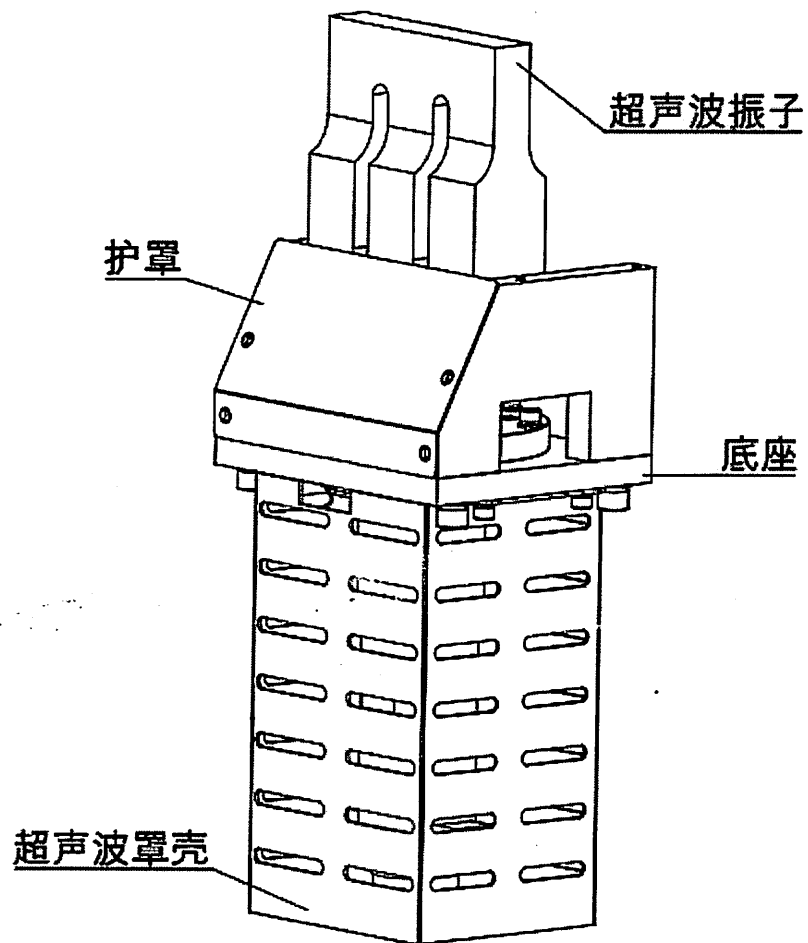
Ultrasonic vibrator; Cover; Base; Ultrasonic sheilding

送料计长组件

色标传感器

撑布杆装置　计长编码器　切刀气缸

辅助挡料装置

计长盒

气缸

切刀

计长对齐装置
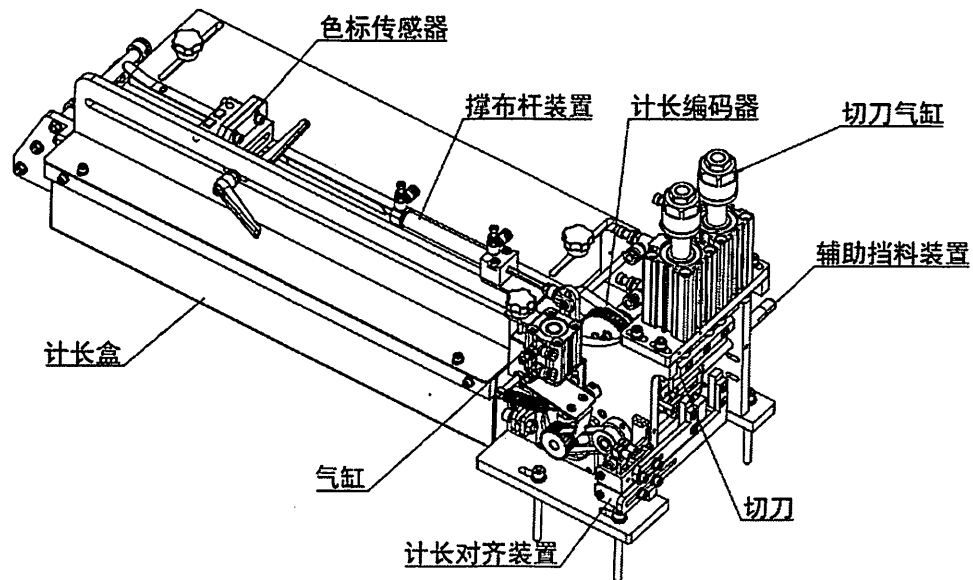
Feeding length components

Color mark sensor; Brace device; Length counting encoder; Cutter cylinder; Auxiliary stopper device
Length counting box; Cylinder; Length counting alignment device; cutter

收料装置

收料杆

收料气缸

收料底座
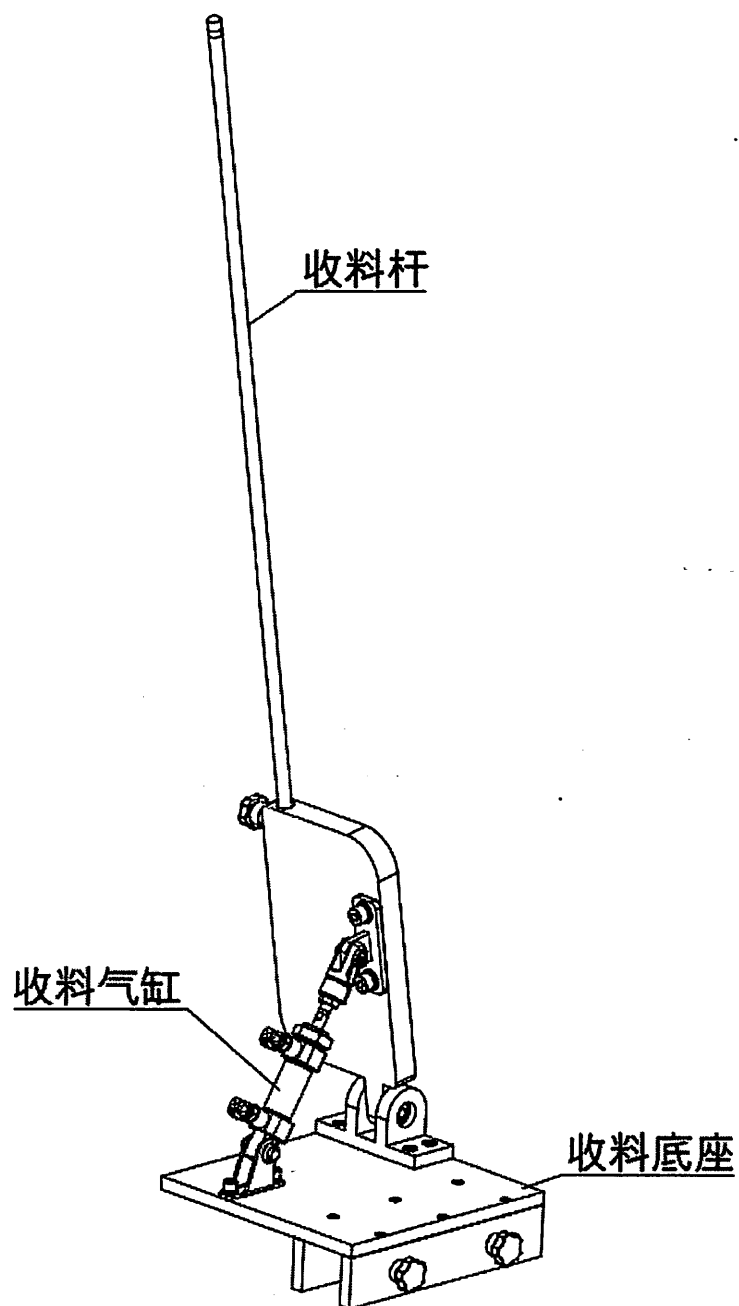
Receiving device
Receiving rod; Receiving cylinder; Receiving base

Ironing components

加热铝板

抖带轮

抖带电机

电控盒

熨烫罩壳

送料感应杆

送带轮

连接梁
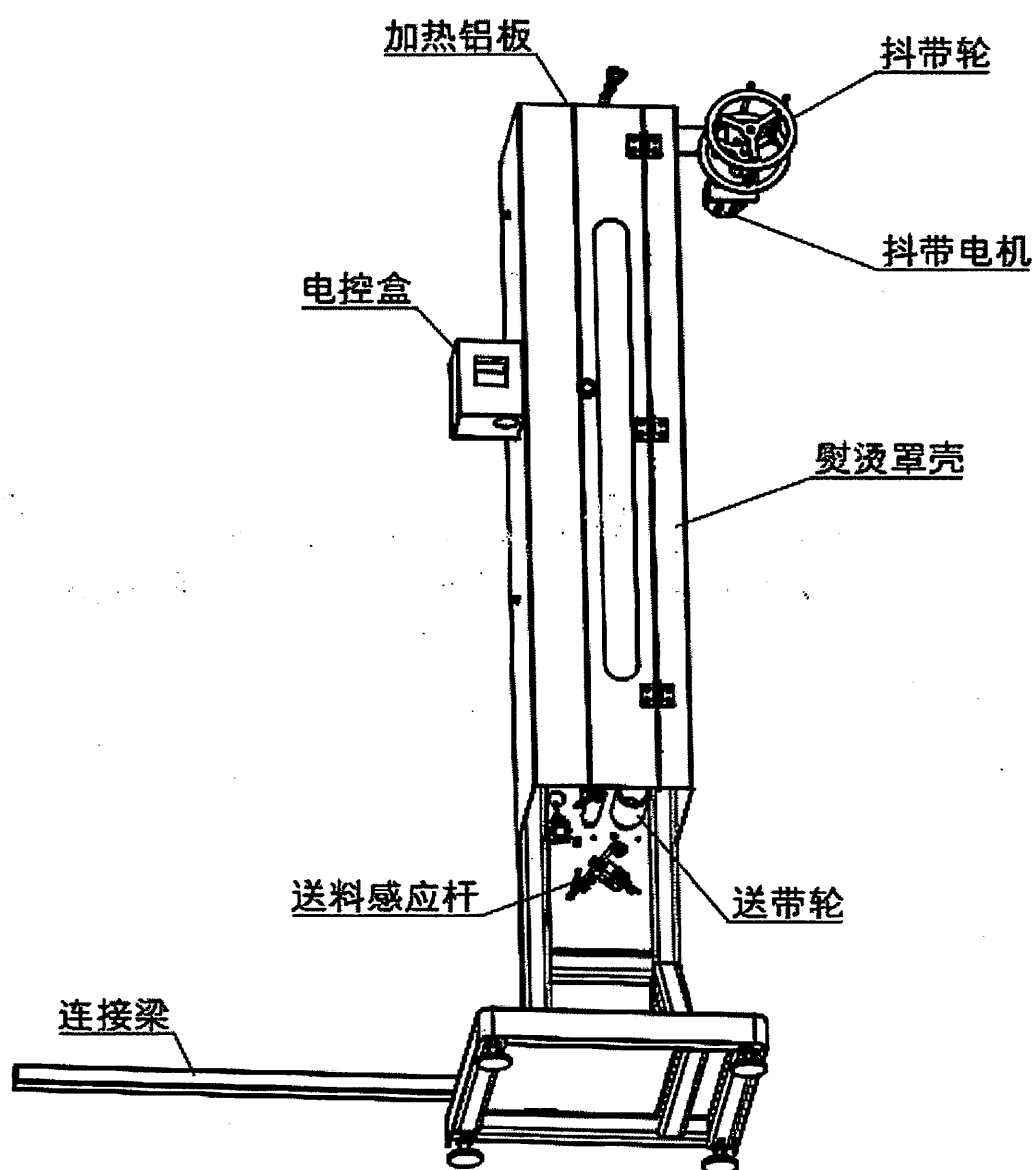
Heating aluminum plate; Belt flipping pulley; Belt flipping motor; ironing shielding

Feeding sensor rod; Belt feeding pulley; Connecting beam

Threading diagram

穿带示意图

送带方向
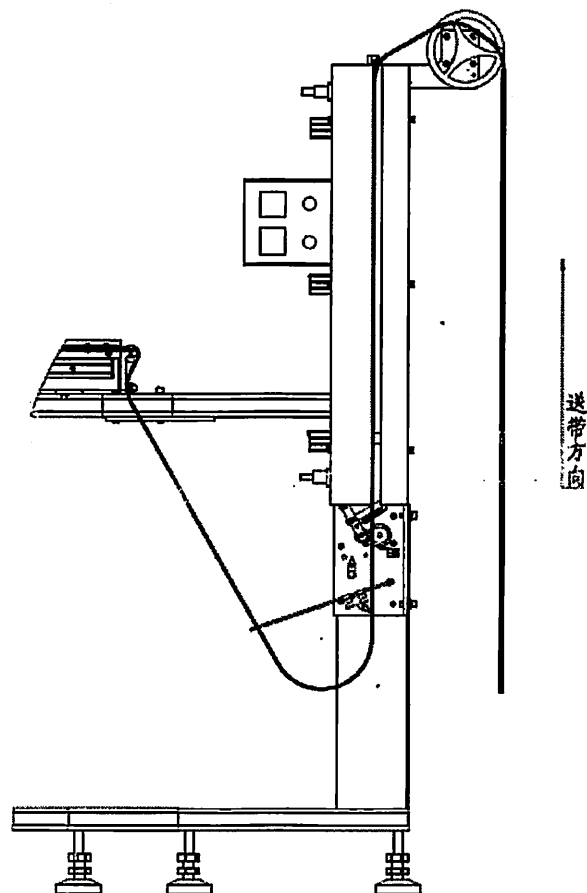
Belt feeding direction

Description of operation interface

Machine working interface

1: The system enters the main interface of the machine after startup, as shown below:

Hikari Technology				2022.09.22 11:54:08 Thu		
Mode	No logo	Preset output	Preset		All	
		OFF 77	+ 7	–	0	Clr
Now Size	---	Elastic lengh	180 MM	Sensitive	0	99
Injection		Modify	-8.0 MM	State	0	
Move	rotate	Left	225 0.1MM	Times	0	
Bundle qty	45	Rignt	475 0.1MM	Bttm counting		15
Actual	8					

Start Reset Single se Roller up can Cutter-ON Monitor Testing dis Parameter dis

2: The system language selection interface is displayed as below after clicking the upper left corner of the main interface. The functions of the physical keys below the screen are controlled by the physical key switch.

English   Language switching,power up the machine again!

中文   语言改变后,请重新给机器上电

按键切换后,请重新给机器上电

X   物理按键开   ↵
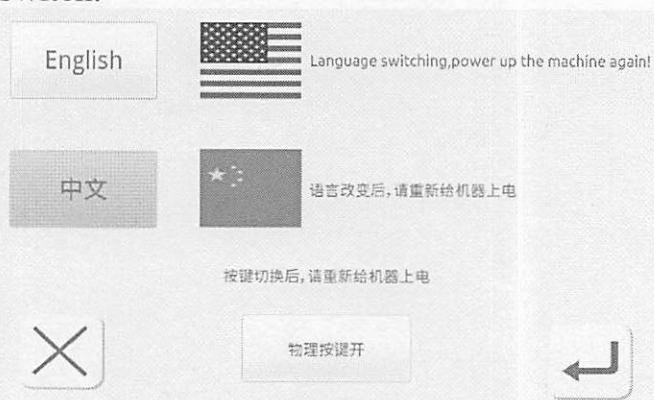
1: Machine operation: Startup, reset mechanism;
2: Sewing mode:

① Single sewing ⟲S⟳ : The machine will automatically stop as long as one piece is sewed;

② Cyclic sewing ↻Auto↻ : The machine will automatically circulate before reaching the preset output;
2: Single-action operation:
　　① **Pressure roller action:** Control the rise and fall of the pressure roller
　　② **Cutter action**: Control the cutter action (cutter times can be set)
3: Real-time counting display:
　　① Cumulative Count: (click Clear to clear);
　　② Elastic length: (the length of current sewn elastic);
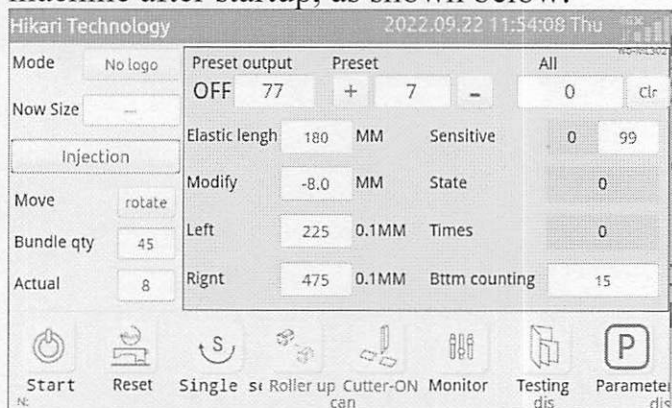　　③ Preset output and number of pieces: The machine will stop automatically when the preset number of pieces reaches the preset output value in the cyclic working mode;
　　④ Length compensation: (Adjust the elastic length);
　　⑤ Length on the left: (Adjust the loop length on the left side)
　　⑥ Length on the right: (NC);
4: Working mode:
① No sign, ② Single section type, ③ Multi section type with single sign, ④ Multi section type, ⑤ Multi section type with multi signs
5: Turntable setting: set the baling parameters and inching operation of the turntable;
6: Action debugging: the single step action of the machine is tested by entering the single step debugging interface:
7: **Monitoring interface**: Operation: Input detection and output control
8: **Working parameters**: Various mechanism parameters can be set.

Selection interface in the working mode

3: Modify the working mode: Click 无标志 to enter the following interface.

No logo

Single segment

Single logo Multi segment

Multi-logo

Multi logo segment

Save

Back

Select the working mode:

1. No sign mode: This mode is suitable for the unmarked elastic band for not having the special parameter setting.

2.   Single   section-   parameters:
Patterns: | LOGO |

No logo	1.interval length-1	0	(0~999) mm
Single segment	2.interval length-2	0	(0~9999) 1mm
Single logo Multi segment	3.Pre-detection distance	0	(0~9999)mm
Multi-logo			
Multi logo segment	4.Prevent errors distance	0	(0~999)mm

Save

Back

3. Multi section types with single sign- Parameters:
| LOGO |
Patterns: | LOGO |

No logo	1.interval length-1	0	(0~999) mm
	2.interval length-2	0	(0~9999) 1mm
Single segment	3.Prevent errors distance	0	(0~999)mm
Single logo Multi segment	4.1nd segment lengh(Sh	0	(0~9999)mm
	5.2nd segment lengh(Lo	0	(0~9999)mm
Multi-logo	6.Now Size	0	0:big 1:little
Multi logo segment	7.current receiving	0	(0~255)
	9.Now Dir {8.?}	0	(0~255)

Save

Back

4.   Multi   signs-   parameters:
Patterns: GO LOGO LOGO LOGO LOGO LOGO LO

No logo	1.interval length-1	0 (0~999) mm
Single segment	2.interval length-2	0 (0~9999) 1mm
Single logo Multi segment	3.LOGO big interval leng	0 (0~9999)1mm
Multi-logo		
Save / Back	Multi logo segment	4.Forecast number of LC	0 (0~100)

5. Multi section type with multi signs- parameters:

	1.interval length-1	0 (0~999)mm
No logo	2.interval length-2	0 (0~9999)mm
	3.The first section length	0 (0~9999)mm
Single segment	4.The second section len	0 (0~9999)mm
	5.Early detection distanc	0 (0~9999)mm
Single logo Multi segment	6.Large interval length	0 (0~9999)1mm
	7.Predict the LOGO Num	0 (0~100)
Multi-logo	8.Now Size	0 0:big 1:little
Save	9.current receiving	0 (0~255)
Back / Multi logo segment	10.Now Dir	0 (0~255)

Specific parameter settings are discussed in the section of pattern setting.

Click the lower right corner of the main interface when the machine is sewing under normal operation, and then enter the lower thread detection setting screen as shown below.

Start time: Set the start time of detecting lower thread upon starting sewing (with 800ms as the default setting).

End time: Set the time of ending the detection of lower thread after starting sewing. The sewing time required by the elastic band of varying widths is varied. Normally, the wider band requires a longer sewing time (with 1800ms as the default setting).

Continuous recheck time: The longer the time set, the lower the detection sensitivity (100 is the default setting).

Reference value: It is for setting the detection threshold value of the lower thread.

Single-step debugging interface

4. Click to enter the single-step debugging interface:

The action of a combination is the default action;

Click to switch to the single-step

1: Single-step test:

It is for the single action of the debugging mechanism. The interface action can be switched to the single-step action and the combined action;

Directly click Reset to reset the machine. If the intermediate action is wrong or to be revoked;

And the mechanism will be reset automatically for one time under the condition of exiting the interface;

action, or action decomposition:

One step test	start	Ready

Switching

One step

Reset

Back
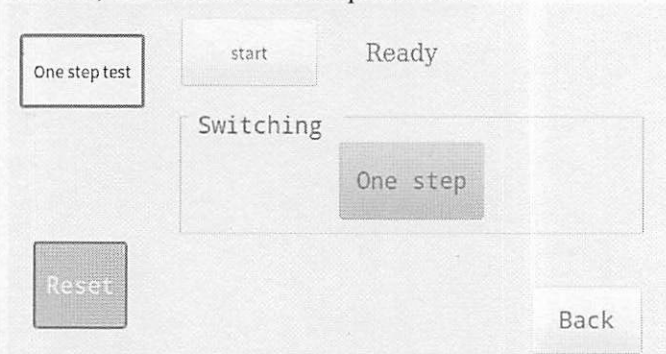
Whole machine parameter setting interface

5. Click [P] to enter the parameter setting interface:

Length counting mecha	1.Cutter open time	0	(0~500)ms
mecha option	2.Feeding speed	2800	(100~6000)
Pushing structure	3.Feeding detection speed	300	(100~2000)
Receiving structure	4.Sprue puller left shift percent	50	(1~200)%
Pulling structure	5.Cutter air blowing time	10	(0~200)0.1s
Detector switch	6.Air blowing time	0	(0~200)0.1s
Save			
Back	Last 1/2 Next		
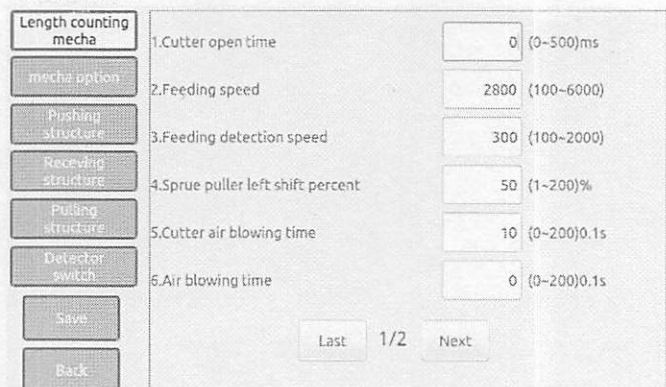
Parameter setting interface: The division of names is carried out depending on the different functions of the machine. First, click the button with the corresponding name based on the position of the machine action during debugging or use and then adjust the specific parameter values;

1: Length counting mechanism; (see the figure on the left)
 1.1 Adjust the cutting effect. The larger the value, the longer the ultrasonic working time.
 1.2 Running speed of length counting motor during feeding.
 1.3 The speed of LOGO is detected when the length counting motor is fed.
 1.4 Speed percentage of synchronous operation of pulling motor and length counting motor.
 1.5 Time of air blowing for the cutter action.
 1.6 The time of air blowing should be delayed in the case of the head pressing the foot.
 1.7 Delayed time of cutter cylinder action.
 1.8 The belt should be flattened again (NC) after the reverse of the rotating motor
 1.9 The length of the belt that is sent out by the first cutter. (NC)

2: Mechanism options; (see the figure on the left)

<table>
<tr><td>Length counting mecha</td><td colspan="2"></td></tr>
<tr><td>mecha option</td><td>7.Cutter Delay time</td><td>30 (0~999)ms</td></tr>
<tr><td>Pushing structure</td><td></td><td></td></tr>
<tr><td>Receiving structure</td><td>8.Flattening angle offset</td><td>1 (1~100) degree (0</td></tr>
<tr><td>Pulling structure</td><td></td><td></td></tr>
<tr><td>Detector switch</td><td>9.First cut tape length</td><td>0 (0~10) mm</td></tr>
<tr><td>Save</td><td colspan="2"></td></tr>
<tr><td>Back</td><td colspan="2">Last   2/2   Next</td></tr>
</table>

2: Mechanism options

<table>
<tr><td>Length counting mecha</td><td colspan="2"></td></tr>
<tr><td>mecha option</td><td>1.Ironing time</td><td>30 (1~100)0.1s</td></tr>
<tr><td>Pushing structure</td><td>2.Ironing switch</td><td>ON</td></tr>
<tr><td>Receiving structure</td><td>3.Cutting mode</td><td>Ultralsonic</td></tr>
<tr><td>Pulling structure</td><td>4.Motor option</td><td>Moto B</td></tr>
<tr><td>Detector switch</td><td>5.Cutter test times</td><td>50 1~9999</td></tr>
<tr><td>Save</td><td>6.Ironing machine selection</td><td>asyn</td></tr>
<tr><td>Back</td><td colspan="2">Last   1/2   Next</td></tr>
</table>

<table>
<tr><td>Length counting mecha</td><td colspan="2"></td></tr>
<tr><td>mecha option</td><td>7.Simplify the work mode</td><td>default</td></tr>
<tr><td>Pushing structure</td><td>8.Feed length rate</td><td>25 0~200</td></tr>
<tr><td>Receiving structure</td><td>9.Feed length detection threshold</td><td>40 (0~500 ms)</td></tr>
<tr><td>Pulling structure</td><td>10.The alarm time</td><td>5 0~500 s</td></tr>
<tr><td>Detector switch</td><td>11.Run Mode</td><td>default</td></tr>
<tr><td>Save</td><td>12.Size wheel</td><td>Little</td></tr>
<tr><td>Back</td><td colspan="2">Last   2/2   Next</td></tr>
</table>

3: Push mechanism

2.1 Adjust the ironing time

2.2 Ironing function switch

2.3 Adjust the cutter type. (Ultrasonic knife, cold knife) (cold knife is not used with an ultrasonic knife as default)

2.4 Motor selection. (Motor A, Motor B) (Motor A is not used with the motor B as default)

2.5 Number of belt cutting: The number of belt cutting during the cutter test.

2.6 Selection of ironing motor. (Asynchronous and stepping) (The ironing motor is a stepping motor on the K5 machine, with an asynchronous motor on models A and C)

2.7 Simplify the working mode. (Default, simplified) (simplified mode has been canceled)

2.8 Adjust the proportion coefficient of ironing feeding length. The larger the number, the longer the feeding

2.9 Detection threshold of material feeding length: the smaller the value is set, the higher the detection sensitivity is obtained

2.10 Adjust the alarm time

2.11 Running-in detection mode. (Default, running-in) Default mode: the machine works normally;

Running-in mode: running-in detection mode must be conducted before the machine leaves the factory

2.12 Selection of length counting belt feeding wheel (default small wheel mode, (please do not change it without replacing the length counting wheel))

3: Material pushing mechanism

3.1 Adjust the pulling distance of the waste belt

3.2 Running speed of the right rotating motor.

3.3 Push it forward in advance to wait for the completion of the last closing after the push mechanism receives the elastic band.

3.4 Adjust the pushing-in position to find the best place for sewing.

3.5 Running speed of the pushing motor when pushing in.

3.6 the pushing time will be delayed by the pushing mechanism After completing the sewing of the machine head.

4: Receiving mechanism

4.1 Single receiving quantity of each receiving rod

4.2 Adjusting the head pushing cylinder time

Length counting mecha			
mecha option	1.Waste belt receiving length	45	(0~200) 0.1mm
Pushing structure	2.Right rotating machinery speed	2000	(100~3000)
Receiving structure	3.Puch-in wait distance	0	(0~1000)0.1mm
Pulling structure	4.Push-in total distance	1392	(1~3000)0.1mm
Detector switch	5.Push motor speed	3000	(100~3000)
Save	6.Push delay time	0	(0~200)0.1s
Back			

4: Receiving mechanism

Length counting mecha			
mecha option	1.Bundle qty	45	(1~999)Pcs
Pushing structure	2.Head pushing valve working time	46	(0~200)10ms
Receiving structure	3.The nose presser foot cylinder	47	(0~200)10ms
Pulling structure	5.Positioning cylinder working time {4.?}	48	(0~50)10ms
Detector switch			
Save			
Back			

5: Pull mechanism

Length counting mecha			
mecha option	1.Puller right shift speed	200	(100~800)
Pushing structure	2.Puller first distance	200	(1~250)mm
Receiving structure	3.Back to the pull distance	160	(0~250)mm
Pulling structure	4.Right lean distance	256	(1~250)mm
Detector switch	5.Rubber band flattening distance	88	(0~100) 0.1mm
Save			
Back			

6: Detection switch:

4.3 Adjust the time of the head presser foot cylinder

4.4 Adjust the opening time of the positioning pen (optional)

5: Pull mechanism

5.1 Running speed of pulling motor for moving to the right.

5.2 Find the best position for pulling by moving the pull mechanism to the right for the first distance.

5.3 Setting of pulling back distance of material pulling the motor.

5.4 Distance of the elastic band pulling out of the cutter and moving to the right side

5.5 Distance for the flattening operation of the right clamp stretched into the welded elastic band; the greater the value, the tighter the elastic, and vice versa.

6: Detection switch:

Adjust the detection sensitivity of the lower thread. The lower the value, the lower the sensitivity.

(The setting is adjusted in accordance with the feedback value)

1. Detection sensitivity of lower thread: Adjust the bottom line detection sensitivity. The higher the value, the higher the sensitivity

2. Lower thread detection switch: detect whether an alarm occurs under the condition of the target value reached by the lower thread

3. Air pressure detection switch: detect whether there is an alarm in case of the air pressure is below the set value

4. Elastic joint detection switch: Whether an alarm occurs when the elastic band joint is detected.

5. Switch for detecting whether there is an elastic band: Whether there is an alarm when no elastic band is detected.

6. Positioning switch: Whether the positioning pen is

Length counting mecha	1.Bottom thread detect sensitivity : 0	99 (1~1000)
mecha option	2.Bottom thread check	ON
Pushing structure	3.Air pressure detect switch	ON
Receiving structure	4.Elastic joint detect switch	ON
Pulling structure	5.Elastic identify detect switch	ON
Detector switch	6.Position switch	OFF
Save		
Back	Last 1/2 Next	

leveraged.

7. Elastic band alignment device: The first action switch of the alignment device

8. Material receiving detection switch: Test whether there is an alarm when the elastic band of the head is not kicked out after sewing is completed.

Note: When the function switch is opened, the machine will alarm and stop working when the above problems occur. On the opposite, the machine remains in operation without alarm when occurring the above problems with the function switch closed.

Length counting mecha		
mecha option		
Pushing structure	7.First alignment switch	OFF
Receiving structure		
Pulling structure	8.Receiving inspection switch	ON
Detector switch		
Save		
Back	Last 2/2 Next	

Machine alarm and solution interface

3. Machine alarm:

```
****!!!****
              警告

主控板 通信异常
 Control board expansion communication
Error




              OK
```

The machine will stop working with the alarm screen prompting in case of abnormality: (Click the bottom OK to dismiss the alarm)

WARNING

Alarm content and solution:

Alarm No.	Alarm name	Solutions

1	Alarm for no elastic	Please check and well place the elastic band
2	Joint alarm	Please check the elastic band and remove its joint
3	Material stuck alarm	Please check and well place the elastic band
5	Air pressure alarm	please check the venting device in case of the air pressure is below the set value;
6	Alarm of inadequate length between the labels	Please check the actual length of the elastic band with the label
7	Alarm of detecting no label	Please check the running mode and the elastic band.
8	Disconnection alarm	Please check whether the upper and lower threads are broken or loosened.
9	Alarm of insufficient lower thread	Please replace the lower thread, then clear the alarm.
10	Abnormality of machine head reset	Please check whether the machine head reset device is normal or not.
11	Emergency stop	Please check whether all devices are normally functioning.
12	The machine head fails to reset.	Please reset the machine head.
13	Reach the number of pieces sewn	The number of sewing pieces meets the preset value.
14	Abnormal origin detection of the material pulling mechanism	Please check whether the origin sensor of the pulling mechanism is normal.
15	Abnormal origin detection of the material pushing mechanism	Please check whether the origin sensor of the material pushing mechanism is normal.
16	Length counting drive alarm	Please check the information on the panel alarm
17	Alarm of material pushing driver	Please check the information on the panel alarm
18	Alarm of material pushing driver	Please check the information on the panel alarm
19	Alarm of right rotating driver	Please check the information on the panel alarm
20	Ironing feeding alarm	Please check the iron feeder and reset the elastic band to the normal condition
21	Material receiving detection alarm	Please check and clean those materials manually in case of materials are stuck in the machine head.
22	Material feeding length deviation alarm	Please check whether there exists a deviation between the size and length. If yes: 1. Please check the material feeder; 2. Please set the length compensation if there is nothing wrong with the material feeder. If not: Please adjust the detection threshold material feeding length in parameters.
23	Alarm of the cutter cylinder sensor not detected	Please check if the cylinder sensor is mounted in position. If not: Please adjust the position of the sensor. If yes: please check whether the sensor is damaged and whether the line is reliably connected.
24	Alarm of deviated reference position of material pushing motor	Please reset the mechanism
25	Alarm of deviated reference position of material pulling motor	Please reset the mechanism
26	Alarm of deviated reference position of the right rotating motor	Please reset the mechanism
27	Abnormal origin detection of the right rotating motor	Check whether there is an action upon resetting the right rotating motor. 1. If there is no action, check the driver, the motor and their corresponding connecting wire; 2. If there is an action, power off the phase line of the right rotating motor first, and then power on the input detection interface. By rotating the right motor shaft, observe whether the X25 right rotating origin signal is changed. Please check whether the X25 line is connected reliably and correctly or whether the motor code disc
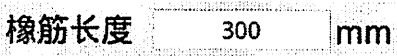
|		is damaged in case of no observed change
73	Abnormal communication alarm of X1 axis driver	Please contact the manufacturer
74	Abnormal communication alarm of X2 axis driver	Please contact the manufacturer
75	Abnormal communication alarm of X3 axis driver	Please contact the manufacturer
76	Abnormal communication alarm of X4 axis driver	Please contact the manufacturer

Mode setting and operating instructions
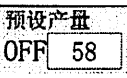
1. Unmarked mode

Basic operation:

1. Select unmarked mode. (Working mode: unmarked system 0)

2. Set the elastic length 橡筋长度 `300` mm (the elastic length ^{300} mm). For example, enter 300 directly if the length is 300 mm.

橡筋左侧夹取长度: `25` (0~2000)mm

3. Set the left-right clamping lengths 橡筋右侧夹取长度: `31` (0~2000)mm (the left clamping length of the elastic: | 25 | (0-2000) mm; the right clamping length of the elastic: | 31 | (0 ^ 2000) mm, the preset output), and select the closing effect 76 suitable for the demand.

4. Set the preset yield value 预设产量 OFF `58` (default yield OFF58) and lower thread count (lower thread count 76).

5. Load the elastic band into the length counting mechanism according to the threading diagram, and cut off the excess through clicking the cutter action button.

6. Confirm that all institutions are ready to be in place.

7. Select the sewing mode: single sewing.

8. The machine will enter the automatic operation state by clicking the start button.

9. Check whether the actual elastic length is consistent with the set length after the machine stops for completing the sewing of the machine head.

10. Please make length compensation so long as the actual length is inconsistent with the set length.

11. After setting, select the sewing mode: cyclic sewing.

12. The machine will automatically cycle to complete the preset output as the start button is clicked.

2. Marked mode

2.1 Teaching method of color mark sensor:

2.1.1 Adjust the distance between the light spot of the color mark sensor and the detected object to 10 ± 1mm.

2.1.2 Press On when the light spot of the color mark sensor is targeted at the LOGO sign. After the indicator light flashes slowly, move the light spot of the color mark sensor to the elastic without LOGO. Then, press OFF. The calibration is completed when the indicator light is on for roughly 2 seconds. See Fig. 1 for more details.

色标模式的 2 点教导

① 对着被测色按下"ON"
   LED灯缓慢的闪烁

Slow flashing
Slow flashing

② 对着背景色按下"OFF"
   LED灯熄灭

③ 在①和 ②之间设定阈值能稳定检测时(

GOOD ⟶ ● ──亮约 2s后── ▶ RUN

ERR ⟶ ● ── LED 灯快速闪烁,约5s后熄
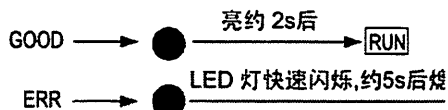
(注):当ERR时，请再次进行教导操作。
   将使用上一次教导的结果运行

Fig. 1 Teaching method of color mark sensor

2-point teaching of the color mark mode flashes slowly
① LED flashes slowly as long as the measured is pressed "ON"
② LED turns off when "OFF" is pressed against the background color
③ GOOD can be stably detected under the condition that the threshold value set between ① and ②, then unable to stably detect ERR

— After about 2s of lighting ._.
GOOD :−−▶ : ▶[RUN]
q The LED lamp flashes quickly and goes out upon roughly 5s. I. ERR ▶ a [RUN]
(Note): Please conduct the teaching operation again in face of ERR. If there is no re-teaching, then running the result of the last teaching

2.2 Single section type:

With samples, first measure their total elastic lengths, color mark position lengths, LOGO lengths and their LOGO interval lengths (see Fig. 2 below), and then place the color mark sensor at the color mark position and enter the parameters into the operation interface. By doing so, it can be saved for use. When the color code sensor cannot be placed for the over short length of the color mark position, an appropriate advance detection distance can be entered. The work will be stopped with the error reported if there is a LOGO in the distance before the end of sample feeding can be determined using the error-proof detection distance.

Note: This mode is applicable to the elastic with sparse LOGO at far spacing.

橡筋总长度

色标位置长度   LOGO长度

| LOGO | LOGO | LOGO |

LO间隔长度

No logo	1.interval length-1	0	(0~999) mm
Single segment			
	2.interval length-2	0	(0~9999) 1mm
Single logo Multi segment			
	3.Pre-detection distance	0	(0~9999)mm
Multi-logo			
Multi logo segment	4.Prevent errors distance	0	(0~999)mm

Fig. 2

Total elastic length
Length of color mark position
LOGO length

2.3 Multi section types with single sign

With two samples of varying lengths, first measure their total elastic lengths, their LOGO lengths and their LOGO interval lengths (see Fig. 3 below). For the longer sample, first measure the length of its color mark position, and then place the color mark sensor at the color mark position. Finally, measure the lengths of the long and short elastics of the finished product and enter the parameters into the operation interface (no other settings are required). By doing so, it can be saved for use. The work will be stopped with the error reported if there is a LOGO in the distance before the end of sample feeding can be determined using the error-proof detection distance.

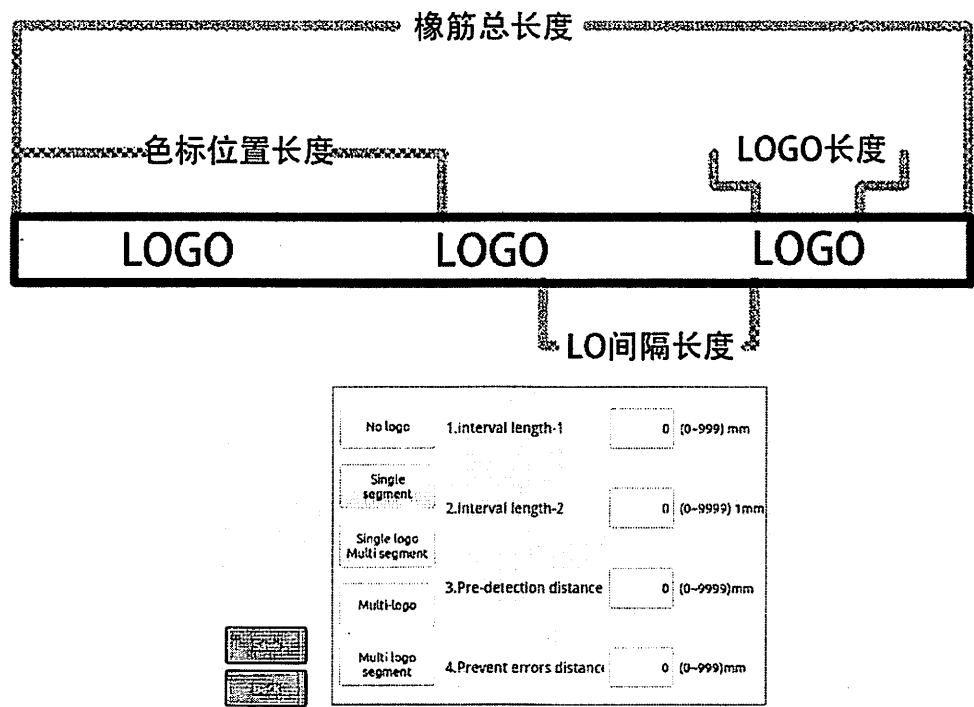| Note: This mode is applicable to the elastic with sparse LOGO at far spacing. |

Total elastic length
Total elastic length
Length of color code position
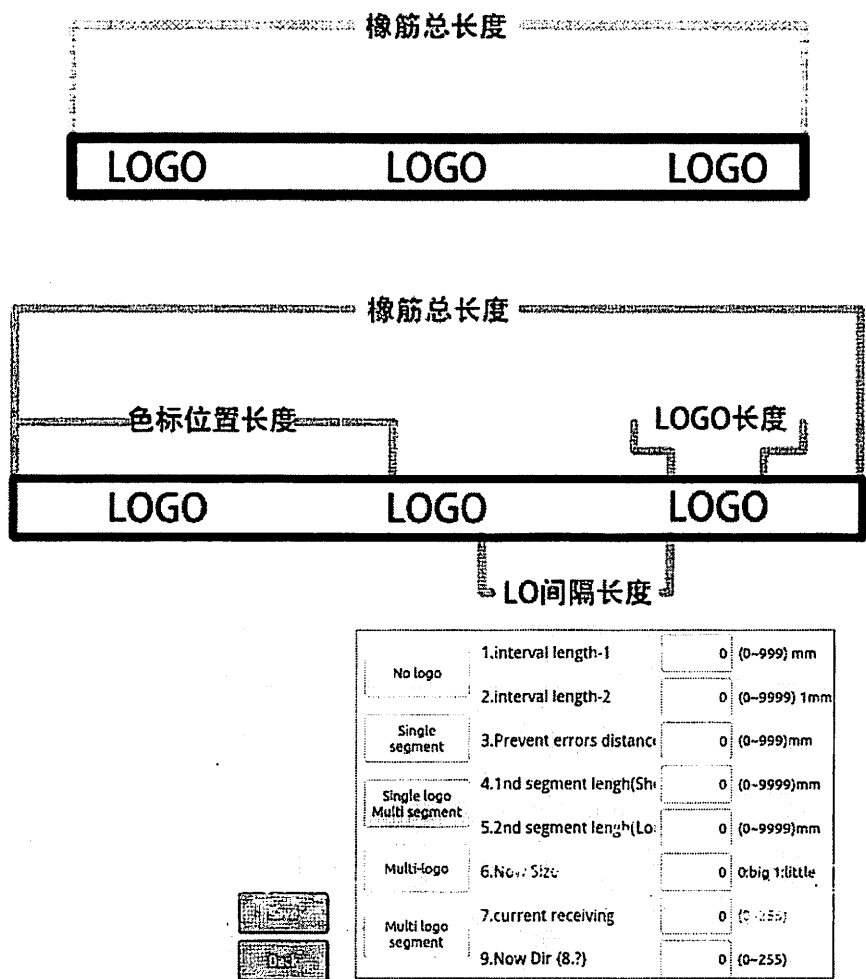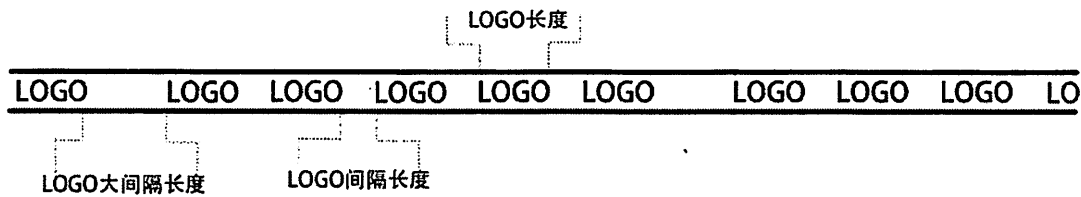LOGO length
LO interval length

橡筋总长度

LOGO   LOGO   LOGO

橡筋总长度

色标位置长度   LOGO长度

LOGO   LOGO   LOGO

LO间隔长度

No logo	1.interval length-1	0	(0~999) mm
	2.interval length-2	0	(0~9999) 1mm
Single segment	3.Prevent errors distanc(	0	(0~999)mm
Single logo Multi segment	4.1nd segment lengh(Sh(	0	(0~9999)mm
	5.2nd segment leng(h(Lo:	0	(0~9999)mm
Multi-logo	6.No../ Siz(	0	0:big 1:little
Multi logo segment	7.current receiving	0	(c -.55)
	9.Now Dir (8.?)	0	(0~255)

Fig. 3

2.4 Multi signs:

With samples, first measure their total elastic lengths, color code position lengths, LOGO lengths and large LOGO interval lengths (see Fig. 4 below). Upon placing the color mark sensor at the color mark position, input the LOGO number calculated in front of the LOGO position where the color mark sensor is located to the predicted LOGO number and enter the parameters into the operation interface. By doing so, it can be saved for use.

Note: This mode is applicable to the elastic with dense LOGO at close spacing.

LOGO length large interval length of LOGO   interval length of LOGO

LOGO长度

| LOGO | LOGO | LOGO | LOGO | LOGO | LOGO | LOGO | LOGO | LOGO | LO |

LOGO大间隔长度   LOGO间隔长度

橡筋总长度

色标位置长度

LOGO   LOGO   LOGO   LOGO   LOGO

Total elastic length
Length of color mark position

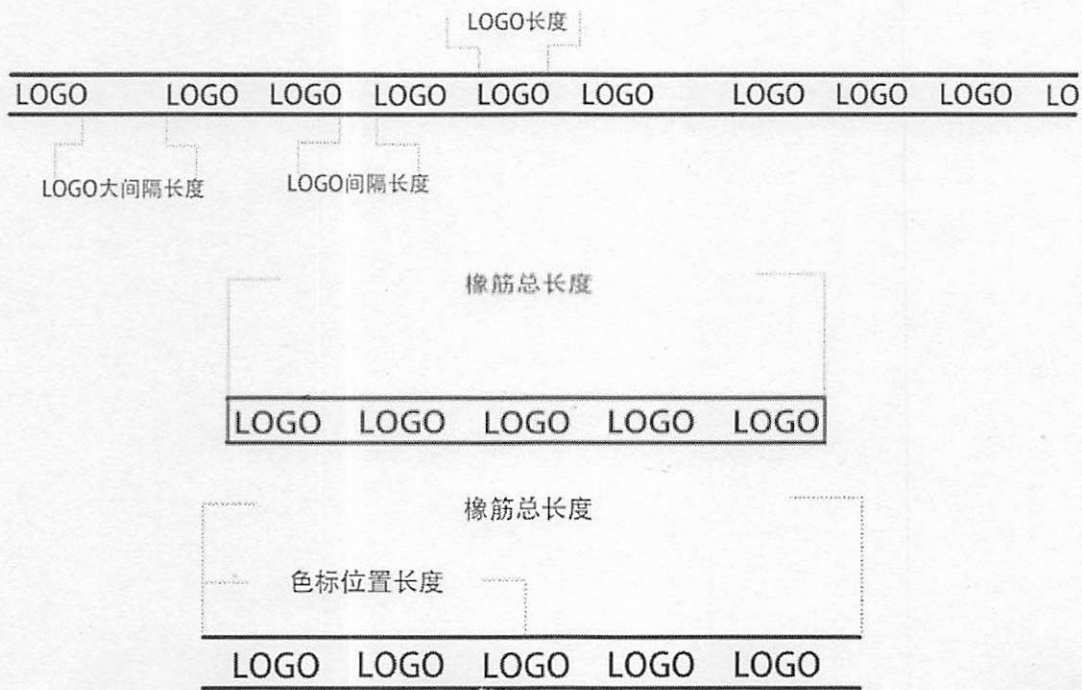| No logo | 1.interval length-1 | 0 | (0~999) mm |
Single segment	2.interval length-2	0	(0~9999) 1mm
Single logo Multi segment			
Multi-logo	3.LOGO big interval leng	0	(0~9999)1mm
Save			
Multi logo segment	4.Forecast number of LC	0	(0~100)
Back			

Fig. 4

2.5 Multi section types with multi signs

With two samples of varying lengths, first measure their total elastic lengths, their LOGO lengths and their LOGO interval lengths (see Fig. 5 below). By taking the longer sample, measure the length of the color mark position. Upon placing the color mark sensor at the color mark position, input the LOGO number calculated in front of the LOGO position where the color mark sensor is located. After that, measure the elastic length, and enter the parameters into the operation panel. By doing so, it can be saved for use. The color mark sensor can not be placed for the over small length of the color mark position. In response to it, an appropriate distance can be entered that is detected in advance. The work will be stopped with the error reported if there is a LOGO in the distance before the end of sample feeding can be determined using the error-proof detection distance.

Note: This mode is applicable to the elastic band with dense LOGO at the close LOGO spacing.

LOGO length; large LOGO interval length; LOGO interval length

LOGO长度

| LOGO | LOGO | LOGO | LOGO | LOGO | LOGO | LOGO | LOGO | LOGO | LO |

LOGO大间隔长度   LOGO间隔长度

橡筋总长度

| LOGO | LOGO | LOGO | LOGO | LOGO |

橡筋总长度

色标位置长度

| LOGO | LOGO | LOGO | LOGO | LOGO |

Total elastic length
Total elastic length
Length of color mark position

No logo	1.interval length-1	0	(0~999)mm
	2.interval length-2	0	(0~9999)mm
Single segment	3.The first section length	0	(0~9999)mm
	4.The second section len	0	(0~9999)mm
Single logo Multi segment	5.Early detection distanc	0	(0~9999)mm
	6.Large interval length	0	(0~9999)1mm
Multi-logo	7.Predict the LOGO Num	0	(0~100)
	8.Now Size	0	0:big 1:little
Save			
	Multi logo segment	9.current receiving	0	(0~255)
Back	10.Now Dir	0	(0~255)

Requirements related to electric control and precautions for operation

0. Main technical data

Range of power supply voltage: AC220V ± 10%
Power supply frequency: 50Hz/60Hz

1. Safety precautions

2. Scope of use

This servo controller is designed for industrial sewing machines. Please pay attention to user safety when it is used in other aspects.

1.2 Working environment

1.2.1 The power supply voltage shall be within ± 10% of the electric control voltage.

1.2.2 Please keep away from things such as high-frequency electromagnetic
wave transmitters for fear that the controller can be interfered with by the
generated electromagnetic wave from interfering. causing the wrong
action.

1.2.3 Temperature and humidity:

a. Operation should be carried out at a place with room temperature above 0 ° C and below 45 ° C.

b. Operation must be prohibited in a place with direct sunshine or outdoors.

c. Operation should be conducted in a place not too close to the heater (electric heater).

d. Relative humidity should be kept between 30%~95% (no condensation).

1.2.4 Operation should be proceeded far away from combustible gas or explosives.

1.3 Installation

1.3.1 The controller shall be installed correctly in line with the instructions.

1.3.2 The power should be turned off with the unplugged power cord before installation.

1.3.3 The power cord should be stapled in avoidance of getting close to rotating parts, keeping away from more than 3cm at least.

1.3.4 The sewing machine and control box should be grounded to prevent noise interference or electric shock.

1.3.5 The power supply should be turned on after ensuring that the supply voltage must be limited to
       ± 15% of the specified voltage for electronic control.

1.4 Provisions for maintenance

1.4.1 Maintenance must be operated after turning off the power supply.

1.4.2 That the power has been turned off must be confirmed first for the purpose of turning up the machine head, changing the needle or threading.

1.4.3 The control box can only be opened after more than 5 minutes when the power is
       turned off due to its dangerous high-voltage electricity.

1.4.4 The repair and maintenance shall be operated by trained technicians.

1.4.5 Maintenance or repair must not be conducted with the running motor and control box.

1.4.6 All parts for maintenance shall be applicable for use only with provision or approval by the company.

1.5 Danger prompt

This symbol indicates special attention must be paid to the installation of the machine in safety. Personal or machine damage may be caused through the wrong operation for the ignorance of this mark.

1.6 Other safety regulations

1.6.1 The sewing machine should be operated at low speed so as to check whether the rotation direction is correct, under the condition of the power is turned on for the first time.

1.6.2 Do not touch the acting parts such as the hand wheel and needle when the sewing machine is in operation.

1.6.3 All movable parts must be isolated with the provided protective device
       to avoid physical contact. Other objects must not be put in the device.

1.6.4 No operation shall be conducted with safety devices such as the motor shield

removed.

1.6.5 The motor or control box should not be dropped to the ground.

1.6.6 Liquid objects such as tea and water shall be kept away from the control box or motor.

富山IoT　　　微信公众号　　　抖音官方号

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