

Fully Automatic Laser Bag Opening Machine User Manual

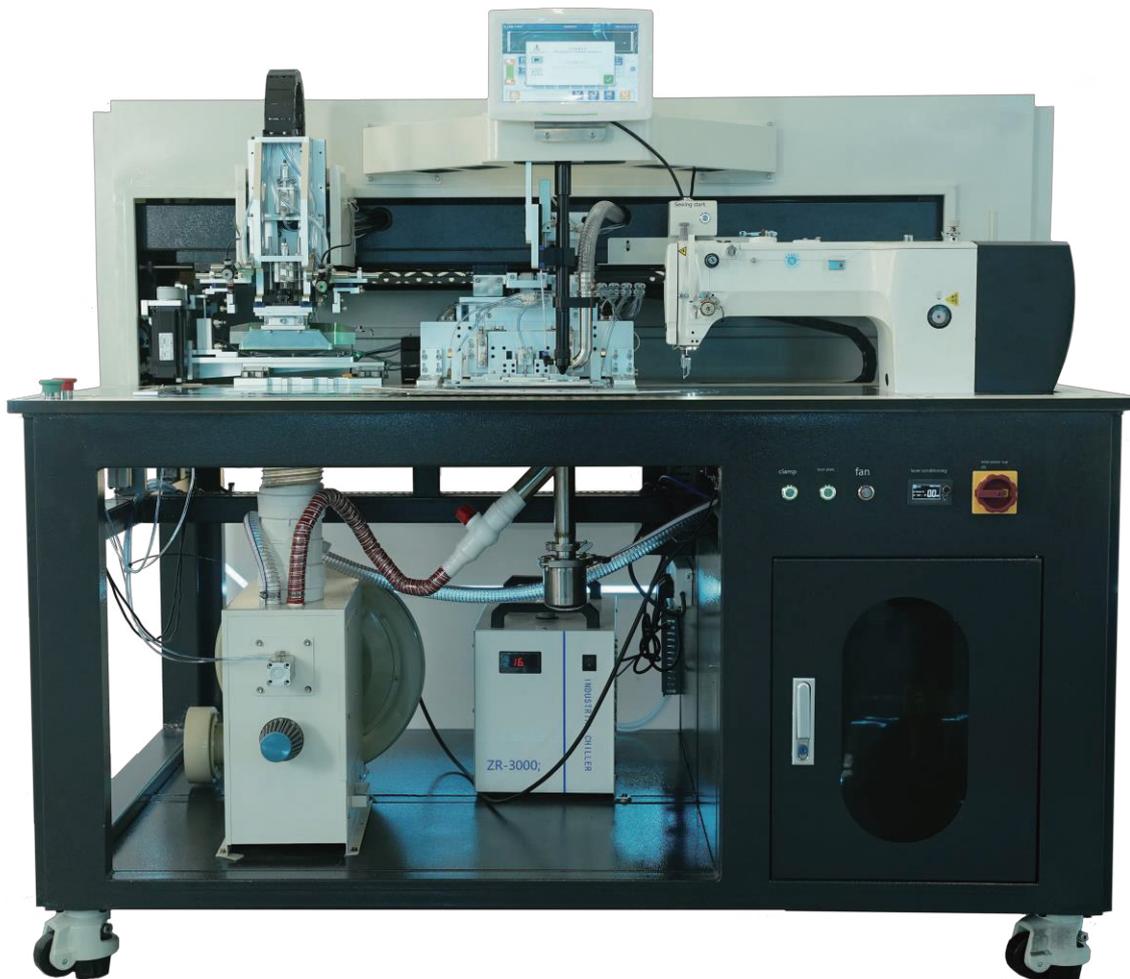
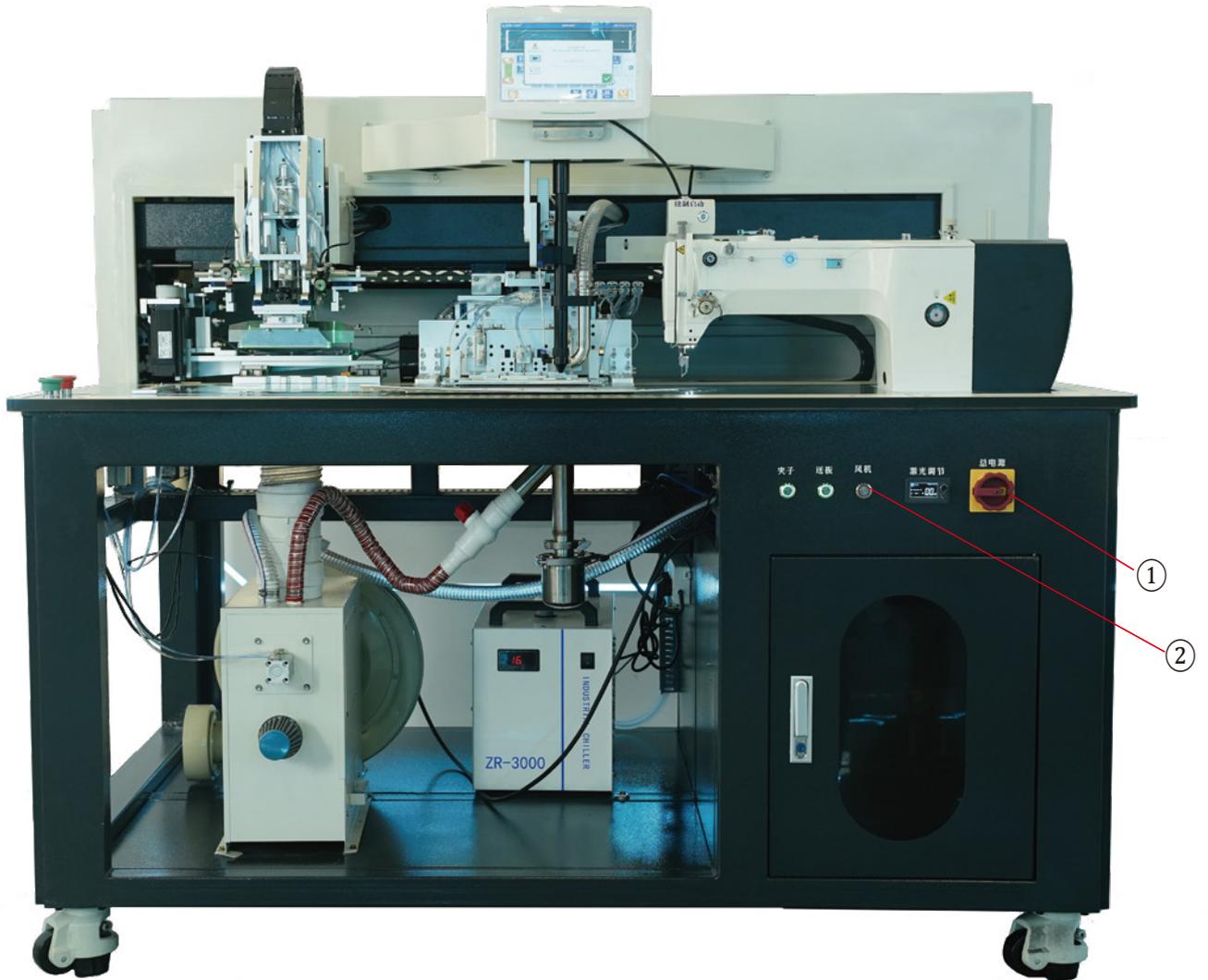


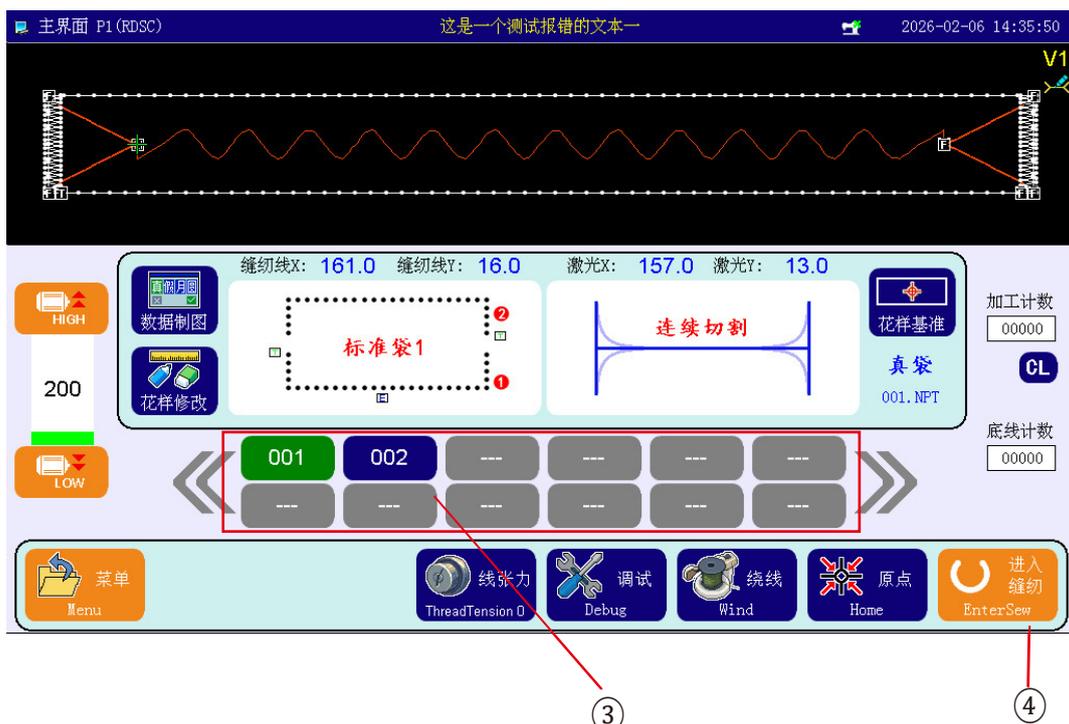
Table of Contents

1	Startup Instructions	01
2	Interface Instructions	02
2-1	Main Interface Instructions	02
2-2	Processing Interface Instructions	03
3	Operation Instructions	04
3-1	Zero Position Adjustment	04
3-2	Main Function Menu	04
3-3	Data Pattern Making	06
3-4	Sewing Data Settings	08
4	Test Mold Adjustment	09
5	Bore Threading	11
6	Threading	12
7	Air Pressure	13
8	Power Supply Connection	14
9	Pneumatic System Connection	14
10	Foot Pedal Connection	15
11	Language Selection	15
12	Infrared	16
13	Laser	16
14	Laser Parameter Settings	19
15	Mold Replacement	20
15-1	Large Plate Mold Replacement	20
15-2	Folding Knife Mold Replacement	21
16	Material Stop Extension	23
17	Mold Customization	24
18	Laser Coolant Replacement	24
19	Shuttle Adjustment	25
20	Needle Position Setting	27
21	Circulation Plate Installation	28
22	Material Folding Emergency Stop Start	29
23	Sewing Emergency Stop Start	30
24	Troubleshooting Sensor Faults Under the Large Plate	31
25	Pattern Modification	32
26	System Default Action Parameter Reference Table	32
27	Common Error Codes	34
28	Maintenance and Care	36
Appendix 1	Shape and Dimensions	37
Appendix 2	Schematic Diagram of Mechanism Component Assembly Location	38



1 Power-on Instructions:

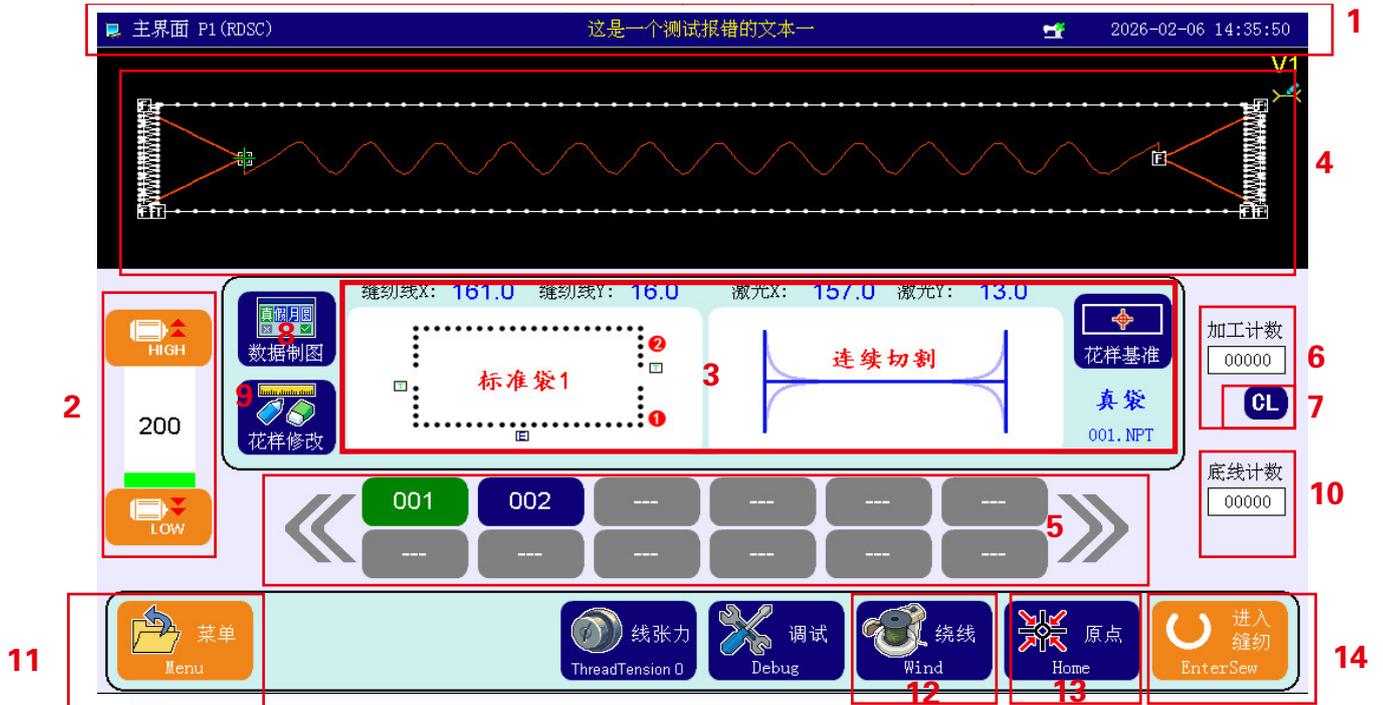
Turn on the power ① → Turn on the fan ② → Select a pattern ③ → Sewing interface ④



2 Interface Description

2.11 Main Interface Description

Function buttons use commonly used graphic symbols, which are international and easy to understand.



The touchscreen operation panel adopts advanced touch operation technology. The clear interface and simple operation bring revolutionary changes to the user's daily use. Users can use their fingers to touch the screen to complete the corresponding operations. Users should avoid touching the screen with sharp objects during use to avoid permanent damage to the screen and affecting its use. The following is a description of the main control interface:

1. Title Bar

Displays device manufacturer information, time and current interface name.

2. Speed Controller

Speed increases/decreases in increments of 100.

3. Pattern

Current pattern name and number.

4. Pattern Display Area

Displays the pattern image, with the current pattern size in the upper right corner.

5. Pattern Selection Area
Page selection for the desired pattern.

6. Processing Counter

Displays the current number of pieces, enters the piece counter setting screen

7. Clear button

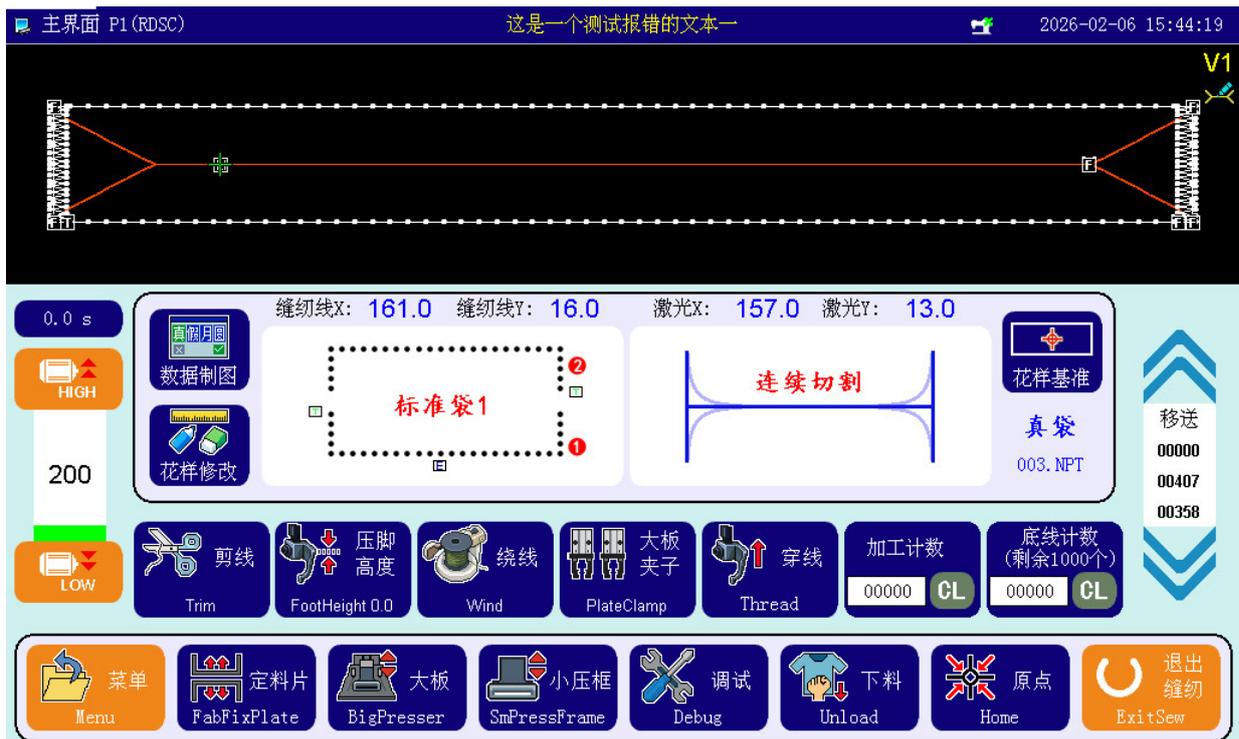
Resets the current piece counter count to zero.

8. Data Charting

Genuine bags, fake bags, crescent bags, rounded bags, laser-cut bags

9. Pattern modification
Used for laser-cut / stitch customization
10. Bottom line count
Enter the bottom line counter settings screen.
11. Menu key
Function List: (USB Flash Drive Patterns > (System Patterns > (New Pattern > (Modify Pattern > <Pattern Conversion>))
<Parameter Management> <Equipment Inspection> (Auxiliary Functions)
12. Thread Winding
Click to enter the thread winding interface, step on the foot switch to wind the thread.
13. Return to Origin
Mechanical Zeroing
14. Confirm Sewing Key
Enter the sewing processing interface.
15. Pattern Cycle
Patterns can be combined for cyclic sewing

1.22 Processing Interface Description



Most buttons on this interface are the same as those on the main control interface, only the different parts are explained here:

1.  Return to origin, used for the return to the starting point of each part
2.  The scissors key is used for manual cutting of lines and checking the installation of the scissors.

Small presser plate

3.  Click to switch between high and low positions of the small presser plate to fix the fabric
4.  Used for wrapping the bobbin
5.  Large presser plate Click to switch between high and low positions of the small presser plate
6.  Press down or raise the middle presser foot for easy threading or adjustment
7.  Used for equipment debugging, single-step testing, etc.
8. Click the  and  keys to switch between the next stitch and the previous stitch. After the thread breaks on the sewing interface, you can use the  key and the forward key  to perform a stitch replacement
9.  The loop plate clip below the large plate is used to remove the loop plate. Clicking it after
10.  sewing can remove the cut piece

3 Operating instructions

3-1 Adjusting to zero position

Before starting the system, ensure that the power is connected. Press the power switch. When the motor is first installed on the machine head, zero-position adjustment must be performed.

1.2-1-1 Adjustment of needle position on the main spindle

(1): Press the [Function Menu] key to enter the main menu, select the [Signal Detection] sub-function, use the handwheel to rotate the main spindle clockwise one revolution, and then rotate it to the mechanical needle position.

(2): Press "Set needle position" to save.

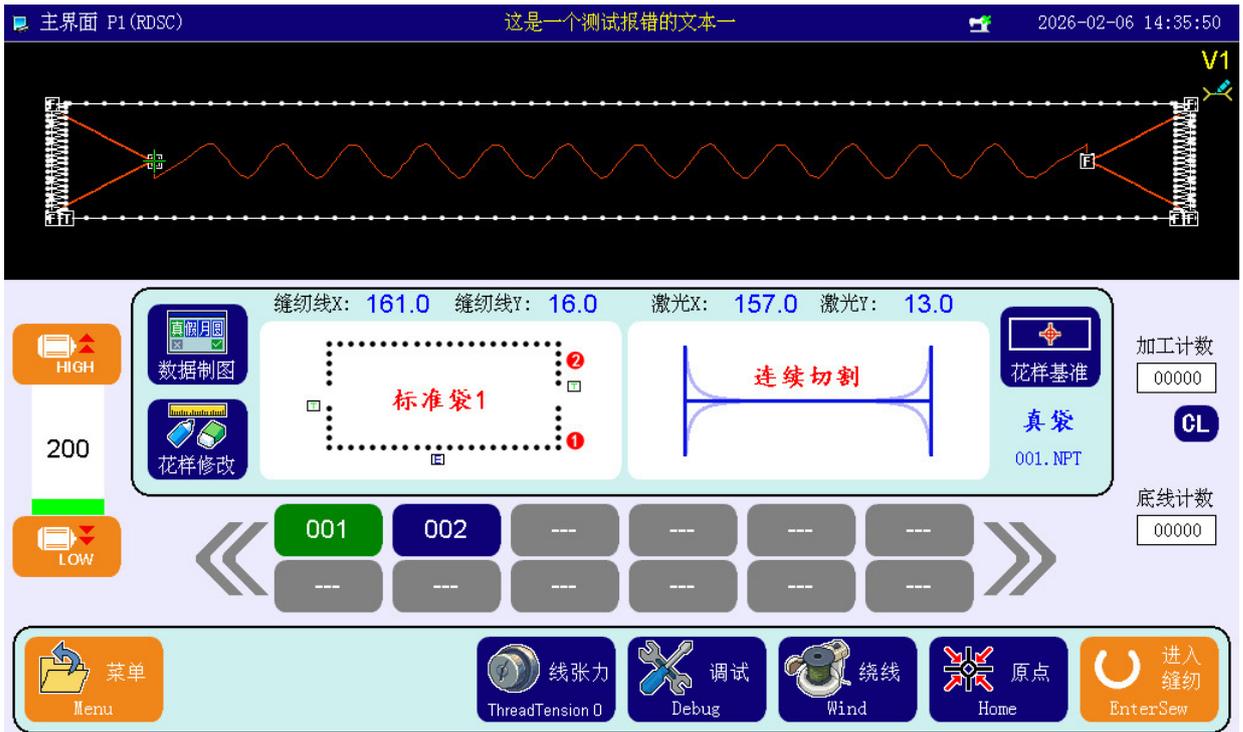
1.2-1-2 X/Y Zero Adjustment

: After adjusting the XY axis sensor position, press the [Origin] key. The needle should return to the upper needle position, and the XY axis should stop when it moves to the sensor.

(2): If the zero position is not correct, you can adjust the relative position of the sensor and the sensing plate until it is correct.

32--22 Main function menu

After powering on, enter this interface;



On this screen, touching the  button expands the function key list (as shown in the image below).

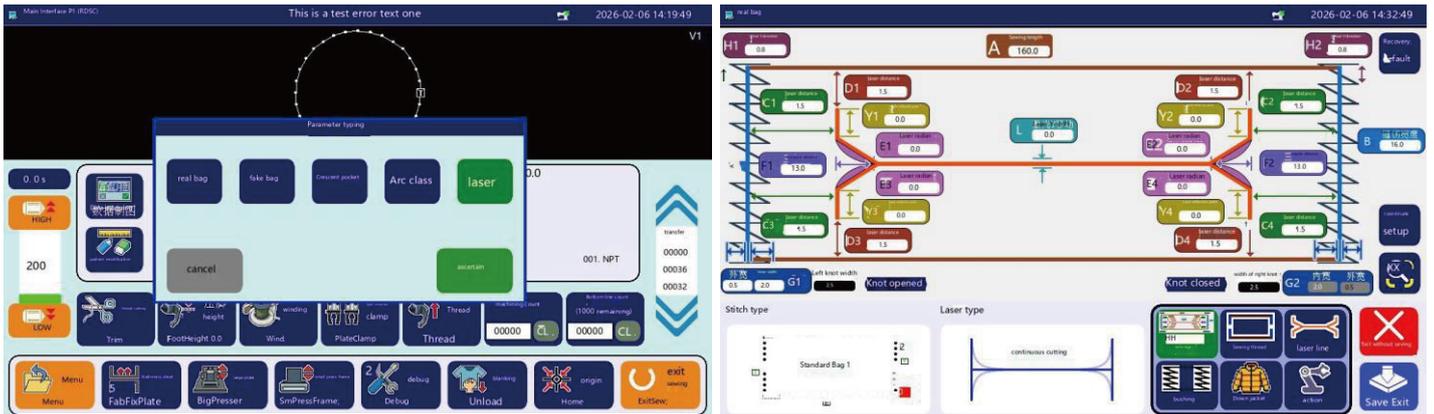


1 Speed adjustment is used to adjust the speed of each pa

2 Function switch is used to turn each function on or of

- 3 3 Mode switching is used to determine whether to pause or start a new mode after each action.
- 4 4 Menu Modes Include Pattern Management, Pattern Editing, Parameter Settings, and Function Settings.

3-232 data pattern making.

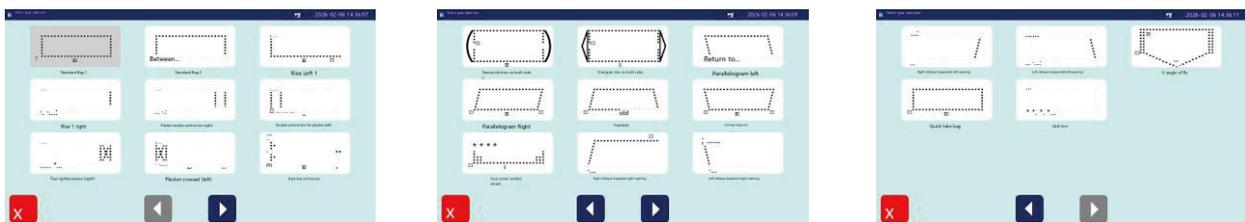


Genuine bag: sewn in two stages. Faux bag: sewn in one stage. Crescent bag: side bag.
 Rounded type: rounded corner bag. Laser: single laser related parameter settings.

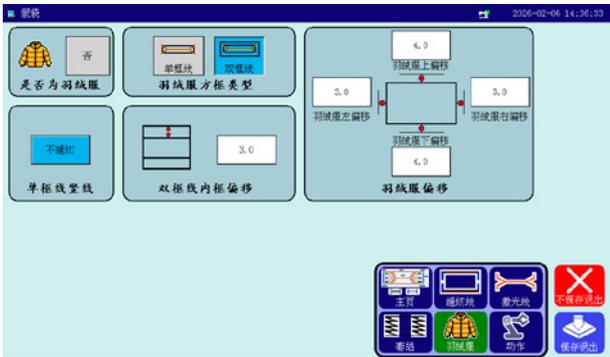
- A: Stitch length of real and fake pockets
- B: Stitch width of real and fake pockets
- C: Distance from laser point cutting to left and right stitches (0 is the critical point; the distance increases with larger numbers and decreases with smaller numbers)
- D: Distance from laser point cutting to upper and lower stitches (0 is the critical point; the distance increases with larger numbers and decreases with smaller numbers)
- E: Adjustment of laser cutting arc measurement (0 is a straight line)
- F: Length of the laser triangle
(When the F value equals the C value, the triangle disappears)
- G: Buttonhole width (0 means no width; typically set to 0 together with the H value when buttonholes are not needed)
- H: Buttonhole density (0 means no density; typically set to 0 together with the G value when buttonholes are not needed)
- Y: Distance from the laser point cutting starting point to the inflection point of the triangular diagonal line (0 is a straight line; if the sum of the upper and lower Y values is greater than the B value, there will be no triangle)
- L: Position of the laser line cutting centerline (0 is centered; positive numbers cut upward, negative numbers cut downward)

Note:

Stitch types and laser types are selected separately, and the desired pattern or stitch direction can be chosen according to actual production needs.



The laser cutting speed is based on the minimum laser speed. The lower the laser cutting speed value, the stronger the laser penetration. When adjusting, both parameters need to be adjusted simultaneously. Laser enhancement can be selected to cut once or twice. The laser herringbone height and width refer to the wavy line width and height control parameters. The bar knot speed is usually set to 1600. For the down jacket option, if "Yes" is selected, a loop of stitching will be sewn first before laser cutting, folding, and sewing. In down jacket mode, a single-frame stitch is sewn first, and a double-frame stitch is sewn directly around the edges.



The presser foot's up and down position can also be adjusted using corresponding parameters; the default is 0.

2--34 Sewing Data Settings

3-2-3--11 Maximum Speed Limit Setting

You can adjust the speed at any time by pressing  or  on both the main control interface and the sewing processing interface. However, the maximum speed limit value is the value set by the system parameters.

3-42-32-2 Bottom Thread Counter

This counter estimates the number of times a lock cylinder can be sewn. The total number of bottom threads can be set according to the actual working conditions, as shown in the figure:



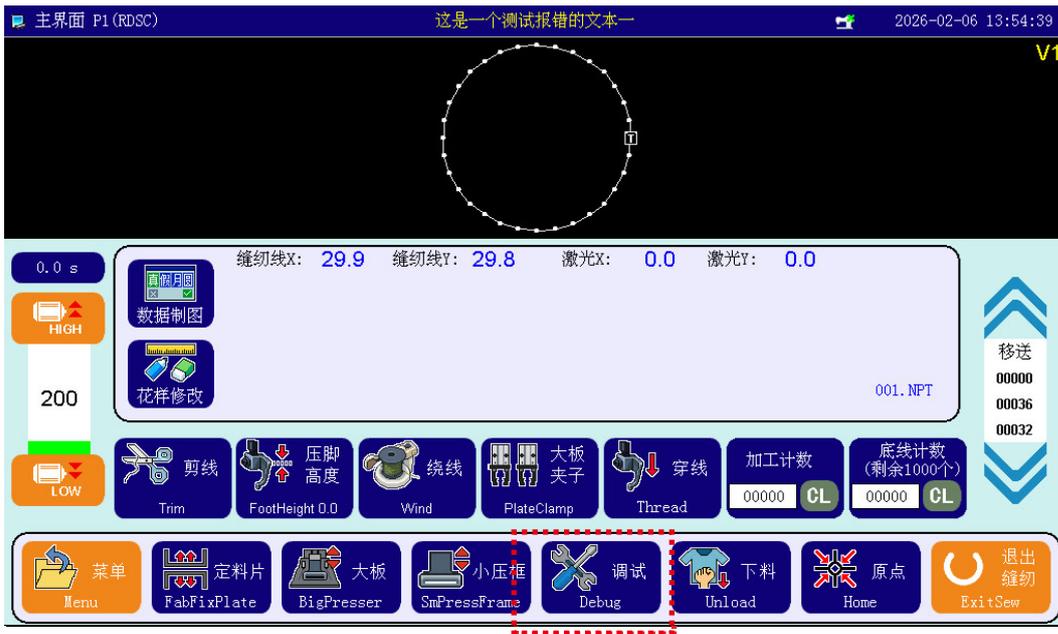
When the total bobbin thread count is set to 0, the bobbin thread counting function is turned off.

4 Test mold adjustment

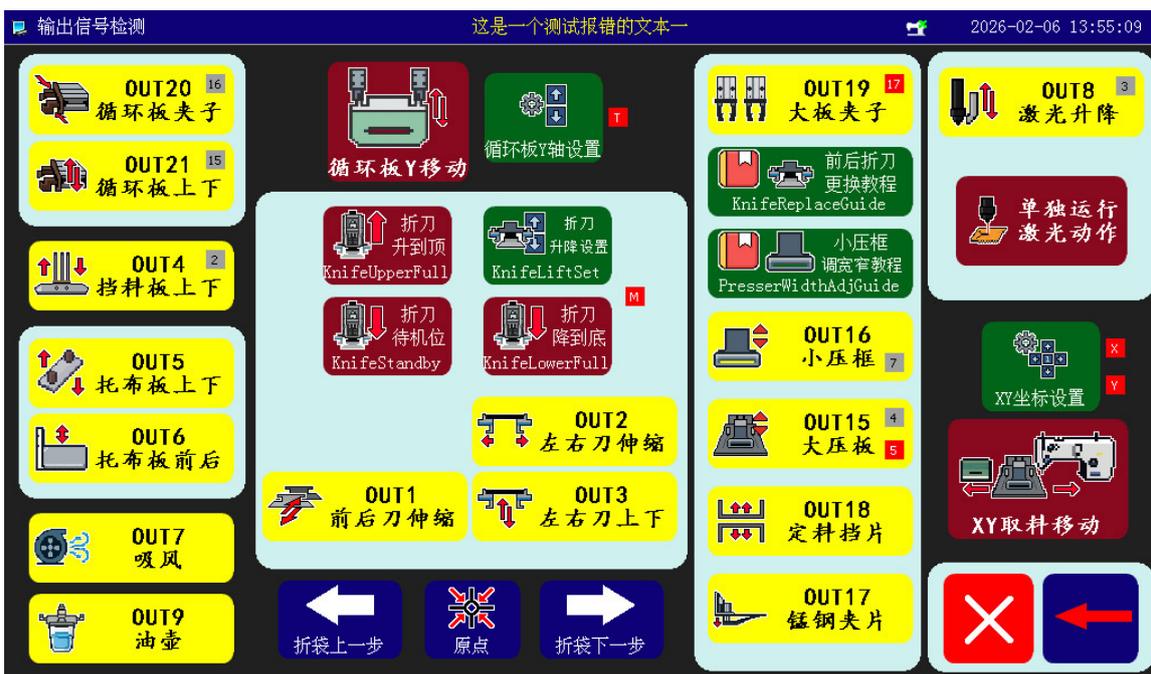
4-1 1 Material folding adjustment and testing

Before sewing, you must first set the material pick-up
The following screen:

Click the <Material Retrieval Test> button on the sewing interface to enter as follows

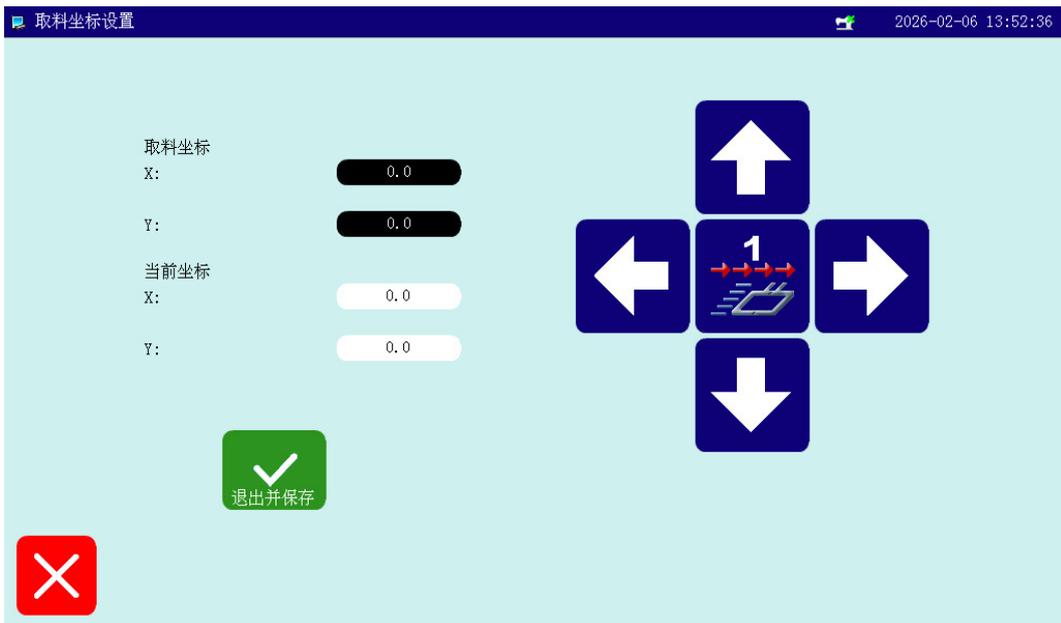


The button will directly skip the laser cutting, bringing the large board under the folding knife, a then step forward or backward to observe and adjust the position between the folding knife and the mold





Start/next

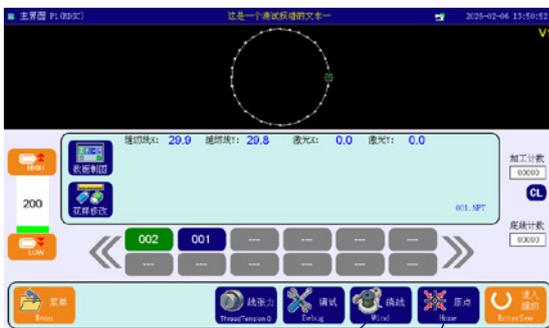


If you need to adjust the overall positional relationship between the folding knife and the mold, you can click  for fine-tuning in all directions. Please note that only single clicks are allowed. After calibration is completed, click to save before proceeding to the next step.

5 wind the bobbin thread

As shown in Figure A, click the origin button, then click the bottom line button to enter the winding interface, take out the bobbin and put it on the winding post (Figure 1), and put it on the winding post.

The bottom thread passes through the wire mouth and the wire clamp in turn (Figure 2). → Winding the bobbin counterclockwise for several times (Figure 3) → Put down the lock (Figure 4) → and take off a few stitches to prevent winding (Figure 5). → Start the device (Figure 6) → Winding completed Click (Figure B) to exit the winding program. → Load the bobbin and pull out the thread end (Figure 7) → Install the wire hole (Figure 8) → of the thread end piercing lock shell into the equipment (Figure 9) to finish winding the bobbin thread.



图A

底线 原点



图B

Start 启动



figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



Figure 9

6 thread the needle

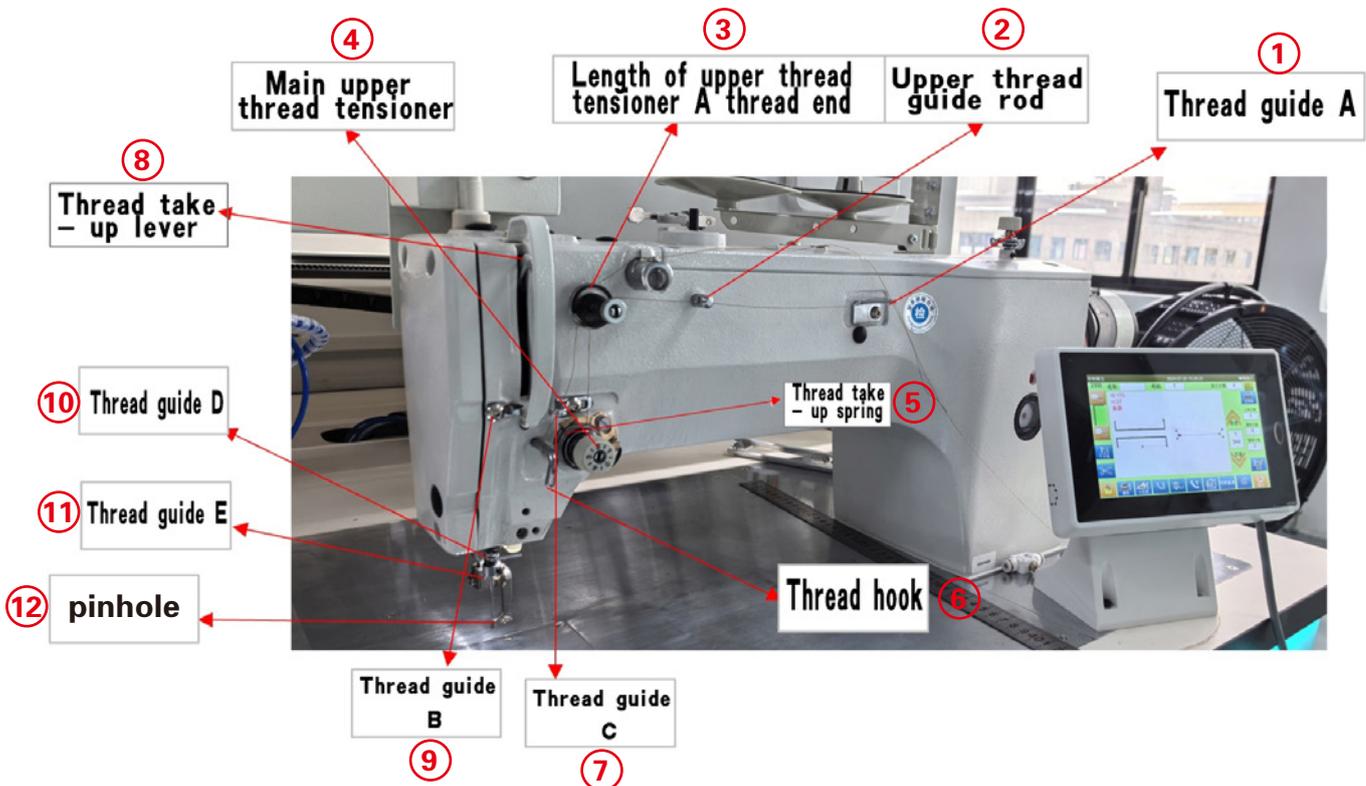
As shown in Figure 1, take out the upper thread to be replaced and put it on the bobbin. Then, as shown in Figure 2, thread it through the wire hole of the bobbin from the back, and then thread it through the thread guide A in turn. ① → Top thread guide rod ② → Face wire clamp A ③ → Top thread main thread clamp ④ → jumper reed ⑤ → Line crossing hook ⑥ → Wire feeder c ⑦ → Jumper bar ⑧ → Wire feeder B ⑨ → Wire feeder D ⑩ → Wire feeder E ⑪ → pinhole ⑫



figure 1



Figure 2



7 Air pressure value

Front and rear folding knives: 0.3 Mpa (the fabric is thick/hard and needs to be slightly adjusted)

Left and right folding knives: 0.3 Mpa (the fabric is thicker/stiffer and needs to be slightly increased)

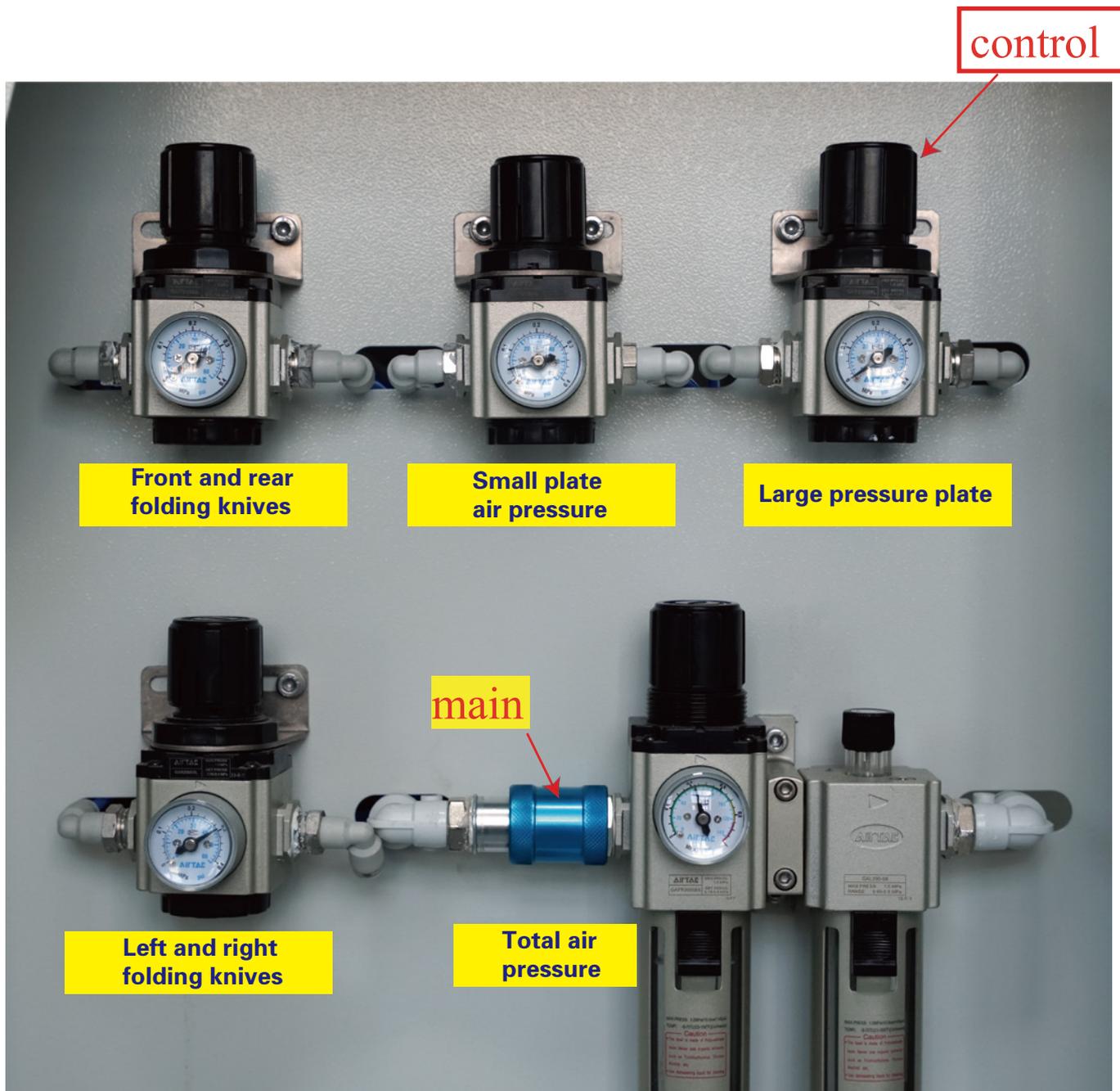
small board air pressure: 0.1~0.2 Mpa (slightly less than the air pressure of large platen)

Large pressure plate: 0.1~0.2 Mpa

Total air pressure: 0.4~0.7 Mpa (equipment below 0.4Mpa cannot work)

Cylinder master valve: on/off

Adjustment method of air pressure value: pull up the regulating valve and rotate it clockwise or counterclockwise to adjust the air pressure.



8 Power supply connection

The machine works entirely on power supply.

The cable is connected to a two-phase 220V-50Hz power socket; Before installation, check the power of the grounding system connected to the machine; The power supply reaches 2kW.



Figure 1

9 Pneumatic system connection

When the machine is connected to the external air pressure outlet, ensure sufficient air flow. can ensure that the actuator maintains a constant pressure of 0.7MPa(7 standard atmospheres), Check that the pressure regulator "P" is adjusted to 0.7Mpa (Figure 2).

Installation attention

The machine must only be installed by professionals.

The manufacturer cannot be responsible for any property or personal loss caused by improper installation of the machine. These installation errors are mainly due to non-compliance with instructions and failure to meet the main connection requirements.

Note: If the machine is installed on a suspended surface, check whether the surface can bear the weight of the machine. There should be no inflammable or explosive materials or objects in the area where the machine is located.

A space of 1 meter must be left around the machine to operate and maintain the machine. The machine must be placed on a hard and flat surface. Turn the nut of the anchor (Figure 3) to adjust the height.



Figure 2

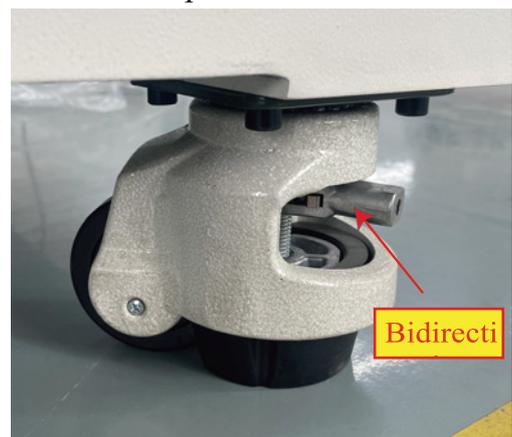


Figure 3

10 Foot Pedal Connection

Locate the foot switch connection port at the position indicated by ① on the right side of the equipment. Insert the foot switch correctly into the interface and turn ② clockwise to lock the connection. If you need to add a small board to assist the foot switch, insert the connector (Figure 3) into the OUT18 interface ③ of the main board. At this time, the foot pedal controls the lifting and lowering of the small board. Users can choose to add it according to actual production needs.



Figure 1

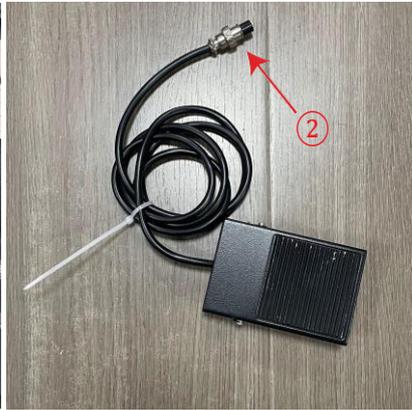


Figure 2



Figure 3

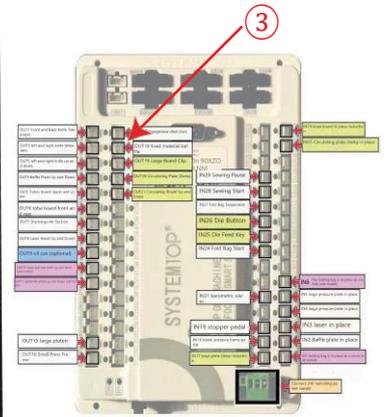


Figure 4

11 Language Selection

As shown in the figure, in the control panel, click Folder Options (Figure 4), then click Accessibility (Figure 5), and then click Language Selection (Figure 6). Select the desired language from the system's preset options to complete the language setting.

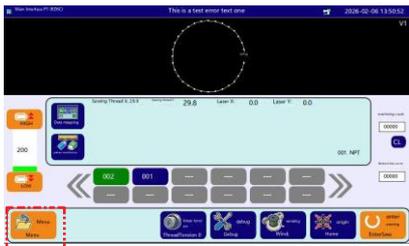


Figure 4



Figure 5



Figure 6



Figure 7

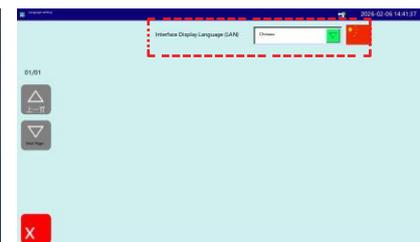


Figure 8

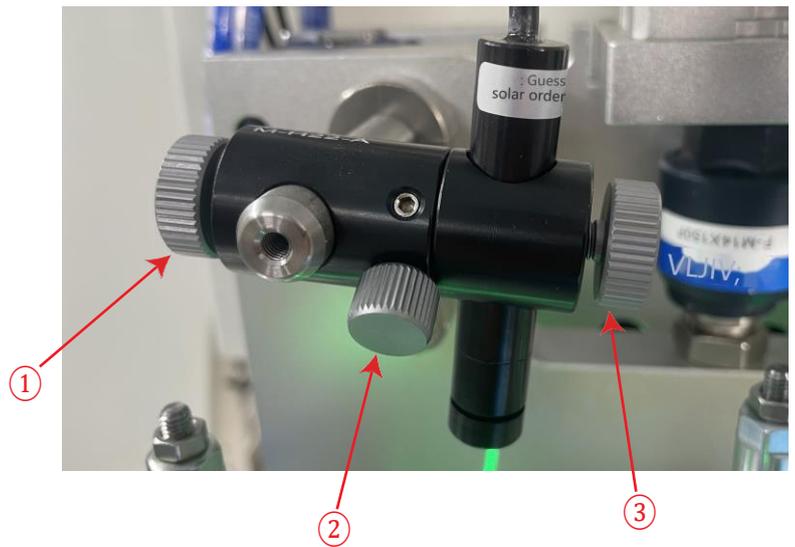


Figure 9

12 Infrared

As shown in the figure, the infrared beam is fixed by three screws.

- ① Controls the left and right direction of the infrared beam;
- ② Controls the front and back direction of the infrared beam;
- ③ Controls the rotation direction of the infrared beam.



13 Laser

Laser debugging method of Zhongke Xinli fully automatic laser bag opening machine, the specific steps are as follows:
 1. Adjustment of the rear reflector: Open the back panel of the machine and use a PVC transparent plate to block the reflector (Figure 1). Press the laser (Figure 2). If the burning position is not in the center of the small diameter (Figure 3), adjust the slider for left and right deviation and adjust the three positioning screws for up and down tilt (Figure 4) until the burning position is centered.



Figure e 1



Figure e 2



Figure e 3



Figure e 4

2. Adjustment of the front reflector: Place the PVC plate in front of the front lens (Figure 5) and press the laser (Figure 6). When observing the deviation of the burning point, adjust the back of the lens.

Use three positioning screws (Figure 7) to center the burning position.



Figure e 5



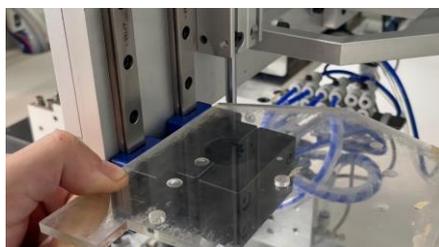
Figure e 6



Figure e 7

3. Adjustment of the focusing tube bracket and the machine exhaust hole: Place the PVC plate above the focusing tube bracket and the machine exhaust hole in turn to check the burning position.

Is it centered?



4. Install the focusing cylinder: Insert the top of the focusing cylinder into the upper sleeve without leaving any gaps, and tighten the screws. Stick tape on the bottom and use laser to check if the burning position is centered.



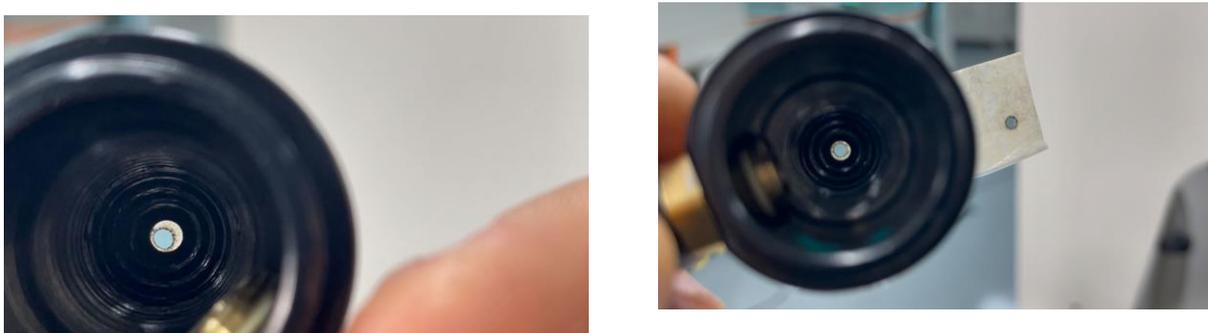
5. Install focusing lens: screw the screw groove face down onto the lens, insert the lens with the concave surface facing up, tighten the other screw groove face up, and install it clockwise onto the focusing cylinder. Apply tape below to observe the burning position.



6. Fine tuning of smoke exhaust outlet: Place cardboard on the smoke exhaust outlet and observe the edge of the burning hole. If it is not smooth, adjust the positioning screw of the upper reflector.



7. Install laser blade: Apply adhesive tape underneath the blade, press and remove the laser, observe the burning hole from the inside, and repeat the above steps for fine adjustment if not centered.



8. Measurement and Fixing:

As shown in Figure 1, the distance from the laser focusing lens to the stage is approximately 76.2mm. If there is any deviation, the overall height of the lens can be adjusted using the condenser tube bracket shown in Figure 2. The focusing lens is a type of lens, and it needs to be disassembled and wiped periodically. When installing, pay attention to the concave and convex surfaces of the lens, as shown in Figure 3, with the convex surface facing up and the concave surface facing down.

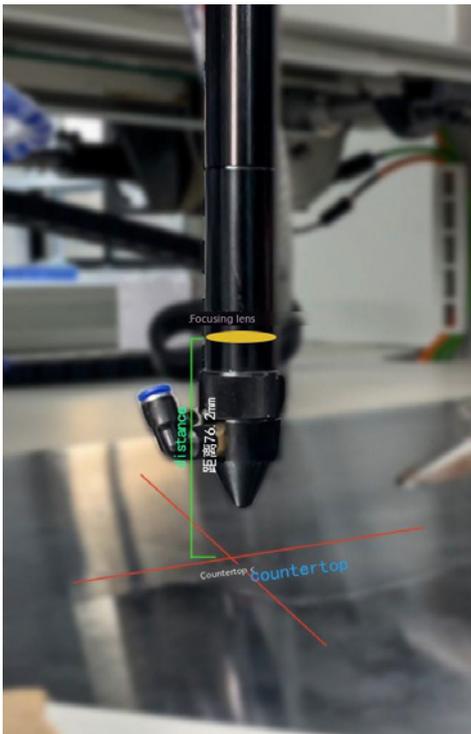


Figure 1



Figure 2

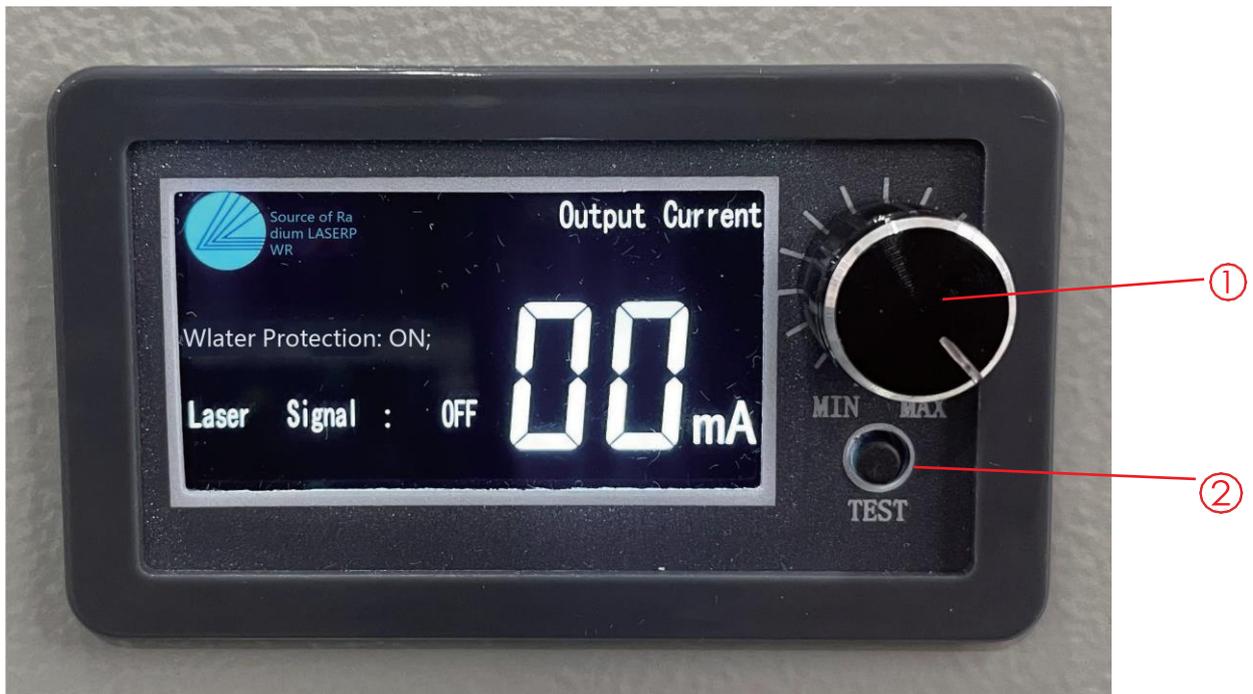


Figure 3

9. Install Pipes: Install the suction pipe and cooling pipe, and complete the laser debugging.



14 Laser Parameter Settings



① The current damper can adjust the size of the laser current (the larger the current, the stronger the laser)

② Laser testing

When facing fabrics that are difficult to cut, we need to slow down the laser or cut multiple times, so we need to set the laser accordingly, and vice versa. Taking fabrics as an example in the future

Adjust needle spacing: In the laser settings options, reduce the laser needle spacing value slightly (the smaller the laser needle, the denser the laser cutting)



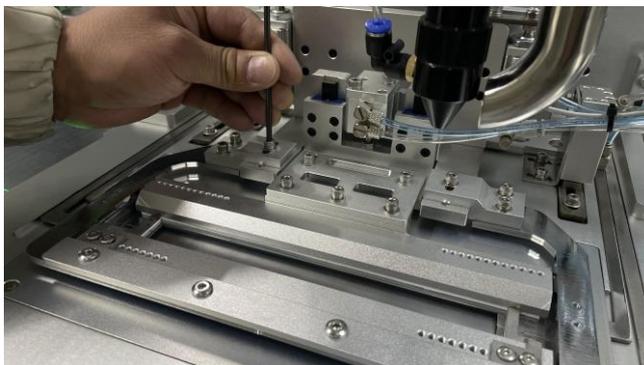
If the fabric is still difficult to cut through through the above settings, we need to enable laser reinforcement, which means reciprocating cutting. We only need to set the laser reinforcement option to the desired length.

15 Mold Replacement

15-1 Mold replacement for the large board section

1. Disassembly steps

- Click the "Lift Small Pressure Plate" button on the control panel. Use the corresponding hex wrench to carefully loosen the 2 fixing screws of the small pressure plate. The removed screws should be placed properly to avoid loss.



- Unscrew the 4 screws of the protective plate in sequence and gently remove the protective plate. At the same time, gently lift the spring pressure plates on both sides with your hands and take out two fixed material baffles.



- Find the 4 fixing screws of the small tablet below and unscrew them in order. Click on "Large Tablet" in the control panel, lift the large tablet, and remove the small tablet from below. This completes the disassembly of the large tablet module.



2. Installation steps

- Take out the mold to be replaced, accurately place the small pressing plate into the corresponding slot, and then tighten the 4 fixing screws in sequence to ensure that the lower pressing plate is firmly installed.
- Lower the large board and place the two fixed material baffles into their corresponding slots.
- Click on the "material blocking plate" in the control panel to check if the opening and closing are smooth, then click again to lift the small pressure plate. Place the protective plate into the corresponding slot and tighten the 4 fixing screws in sequence.
- Click "Small Plate Lifting" on the control panel to lift the small pressure plate and place it on the corresponding slot. Pay attention to aligning the inner frame edge of the small pressure plate with the corresponding position of the material blocking plate as shown in the figure, and finally tighten the corresponding fixing screw. The installation of the large board module mold has been completed.



15-2 Folding knife module mold replacement

1. Disassembly steps

- Using the corresponding Allen wrench, unscrew the four fixing screws of the folding knife in sequence and remove the four folding knives.



2. Installation steps

- Install the four folding blades into their corresponding positions. The installation standard is that when the folding blades are closed, their outer edges should be in a straight line (Figure C). If there is a deviation in position, the specific position of the folding blades can be adjusted by using the corresponding sliders of each folding blade (Figure A). Enter the "Material Pickup Test" to bring the large board under the folding blades. The gap between the folding blades and the material stop should be determined according to the actual fabric thickness (Figure B).

Note: Based on a fabric thickness of 1.5 mm, the distance between the edge of the folding knife and the inner pressure frame of the mold shall be approximately 1.5 mm in all directions.

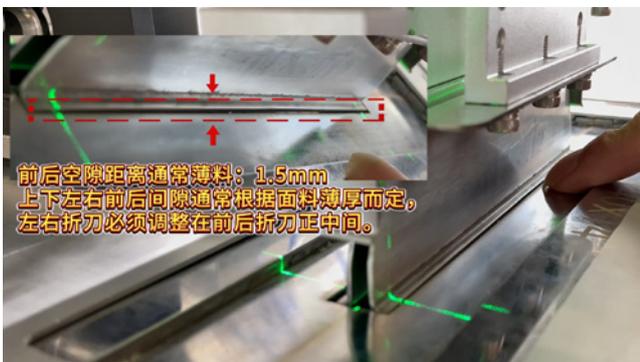
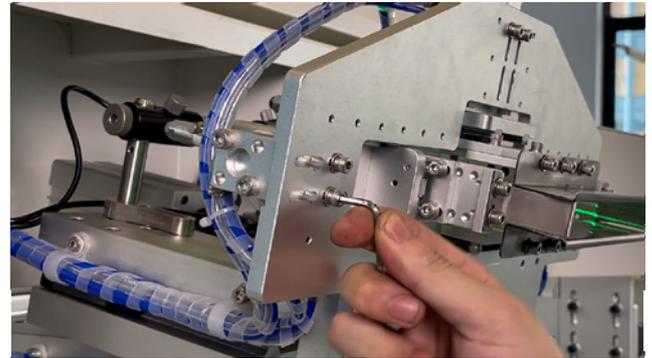


Figure B

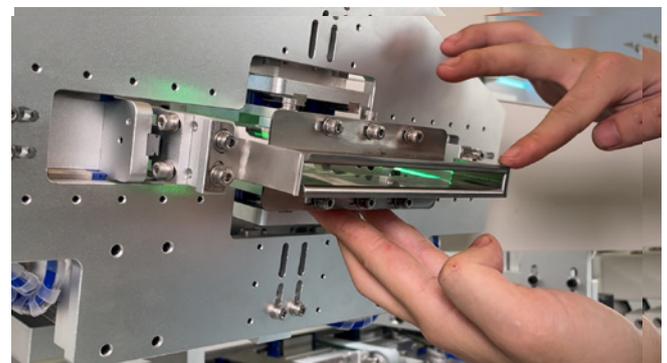


Figure C

- The height at which the folding knife falls depends on the thickness of the fabric (Figure D), and can be adjusted by loosening the screw of the corresponding connecting piece of the folding knife

Section (Figure E): If you need to adjust the height of the four folding blades as a whole, you can adjust them through the folding blade height settings on the control panel (Figure G). After the folding blades are installed, lower the large plate at the folding position. You can use infrared adjustment to adjust the positioning light to the required position.

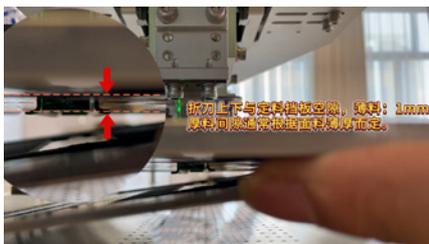


Figure D

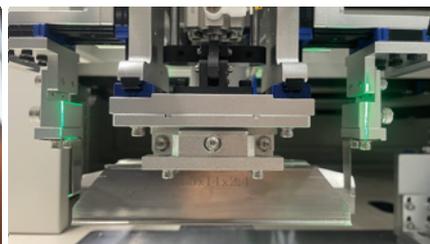


Figure E



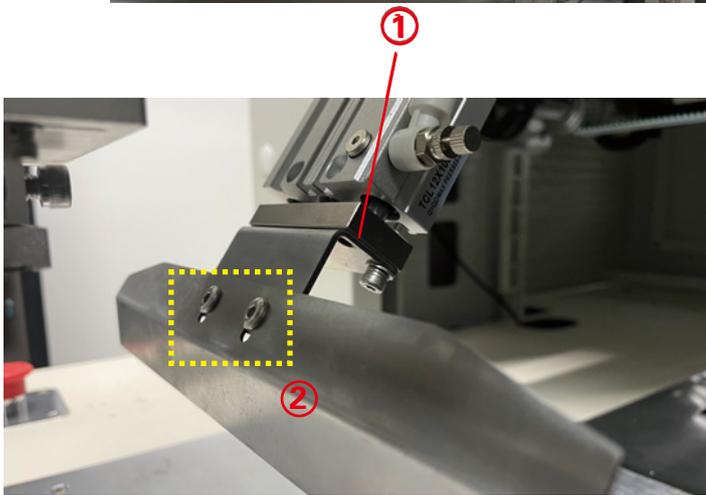
Figure F

- According to actual needs, fine-tune the components in conjunction with the control panel and set the relevant parameters of the opening.



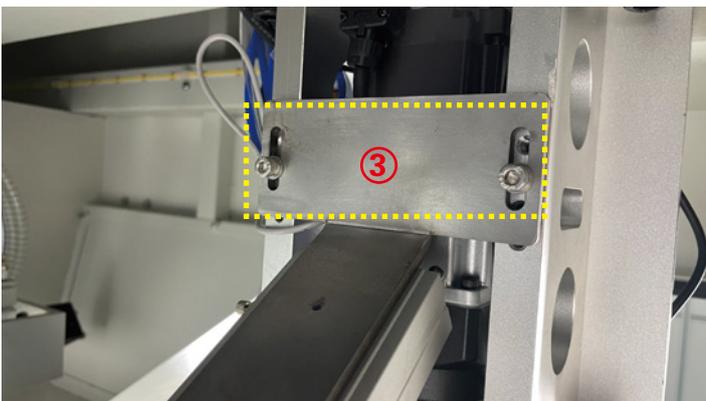
Figure G

1.6 Material Stop Telescopic

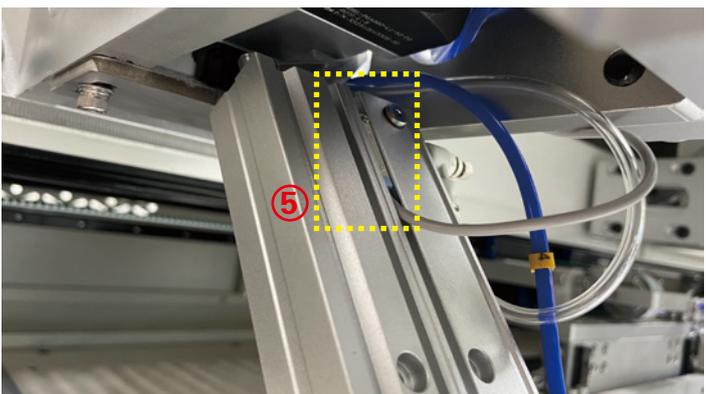


① Control telescopic height, suitable for finetuning the front and rear distance

② Control the tilt and drop of the material stop plate



③ Control the front and rear position of the telescopic cylinder. When ① the length cannot meet the production needs, the front and rear position of the cylinder can be adjusted by these four screws. It is usually rarely used for adjustment.



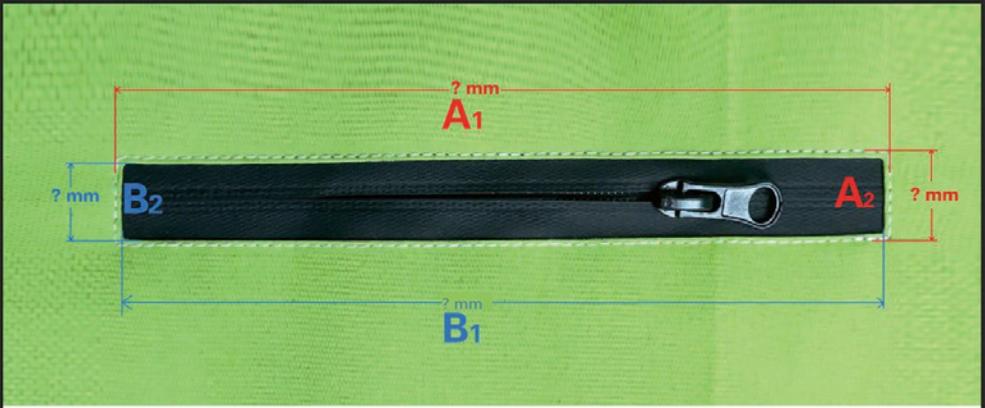
When the position of the cylinder changes ⑤ ③ the position of the sensor must also change accordingly

17 Mold Customization

Before customizing the mold, it is necessary to accurately measure the size of the finished pocket, as shown in the figure below, to understand the size of the stopper and facilitate the determination of the size customization of each part of the mold.

Usually, the size of the small pressure plate and the inner frame of the small pressure plate are determined based on the size of the suture, and the size of the stopper determines the size of the closed inner frame of the material blocking plate and the size of the front, back, left, and right folding knives.

At the same time, it is necessary to determine the thickness of the fabric, specifically in millimeters.



Formula for calculating die size

Fixed sheet: $(B1 + \text{fabric thickness} \times 2) \times (B2 + \text{fabric thickness} \times 2)$
Manganese steel sheet/press frame: $(A1 + 3) \times (A2 + 3)$

Left and right knives: $(B2 - \text{fabric thickness} \times 4) \times (\text{fabric thickness} \times 2)$
Front and rear knives: $(B1 - \text{fabric thickness} \times 2) \times (\text{fabric thickness} \times 2)$

Example



Fixed flap: 183x11
Manganese steel sheet: 186x15.3
Left and right jackknife: 6x2.0
Front and rear jackknife: 176x2.0

18 Laser coolant replacement

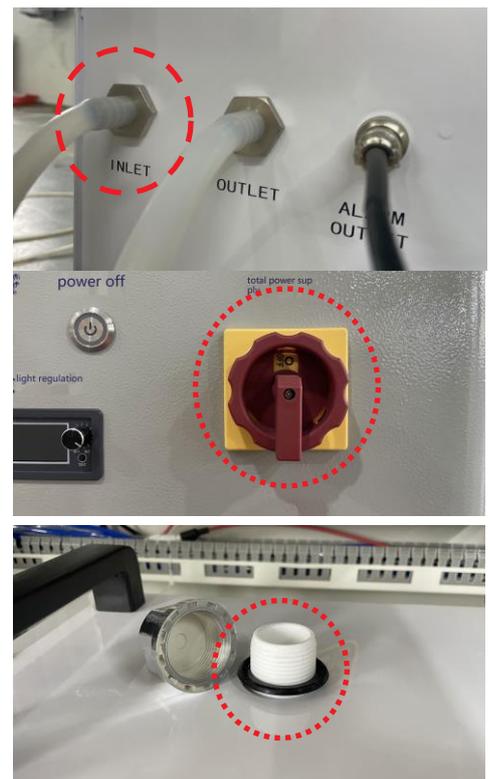
When the ambient temperature is below 0 °C, it is necessary to replace the laser coolant with antifreeze to avoid the laser tube from breaking due to cold. The specific method is as follows:

- 18-1 With the machine off, open the side door of the machine body, locate the laser water tank inlet pipe (INLET), unplug it, and place the unplugged silicone tube into a water container.
- 18-2 Then turn on the main power of the machine, and water will flow out into the container until the equipment emits a water shortage alarm sound, then turn off the power switch. Return the silicone tube to its original position and secure it with a rolled strap.
- 18-3 Locate the water inlet on top of the water tank, unscrew the cap, and inject coolant into the water tank, adding approximately 5L. After filling, tighten the cap. The laser tube coolant replacement is complete.

Laser cooling fluid:

Colorless ethanol glass water or alcohol diluent (recommended)

The alcohol dilution ratio is 3:2 (pure water 3: alcohol 2)



19 Shuttle Adjustment

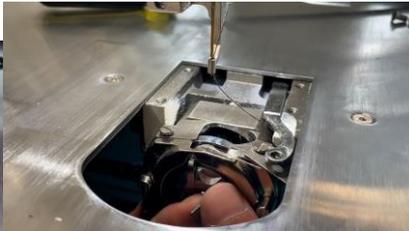
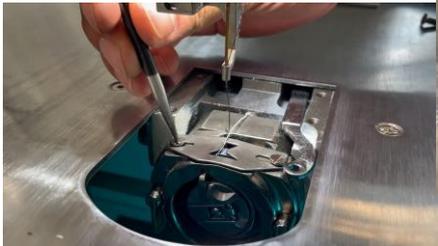
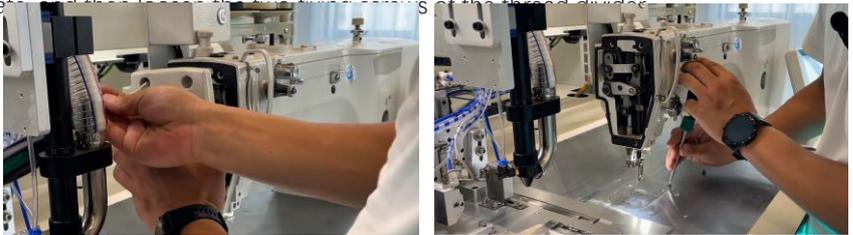
1、 Preparation work

Before adjusting the rotary shuttle, please make sure to turn off the power of the equipment to ensure safe operation. Prepare the necessary tools, such as screwdrivers, etc.

2、 Adjustment steps

1. Disassembling Components: Remove the faceplate to confirm the needle bar height. Next, remove the four fixing screws of the needle plate, remove the needle plate and then loosen the two fixing screws of the thread divider.

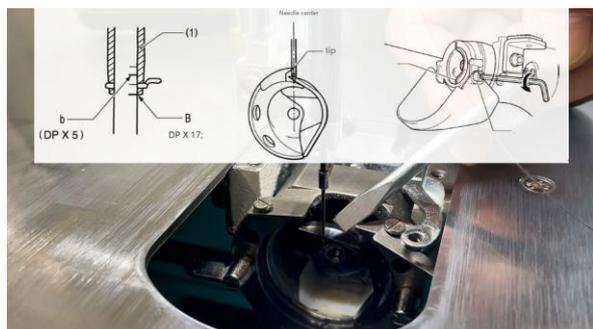
Pull the thread divider back and push it back, then remove the shuttle case. Lower the presser foot, remove the thread, and then remove the outer cover of the main bed and the shuttle.



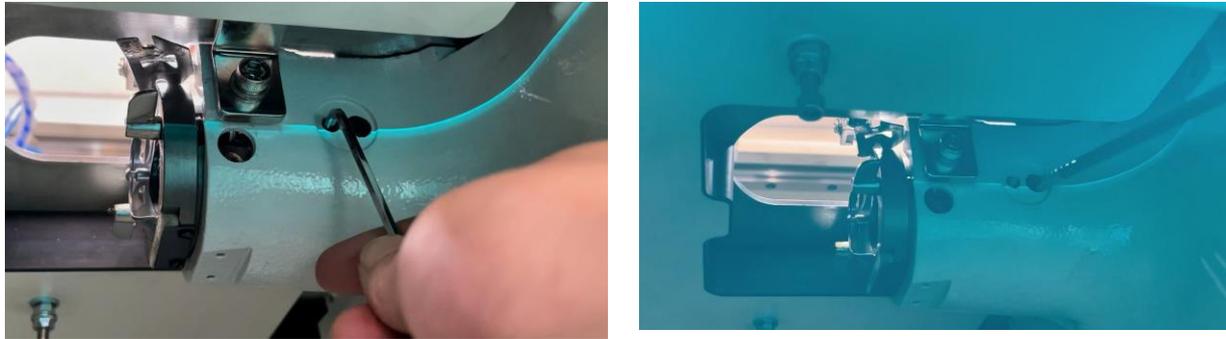
2. Confirming Needle Height and Spacing: Adjust the needle height so that the upper end of the needle thread hole is flush with the upper end of the horn; this is the lowest point of the needle bar. Confirm that the spacing between the needle and the horn is 0.01-0.08 mm.



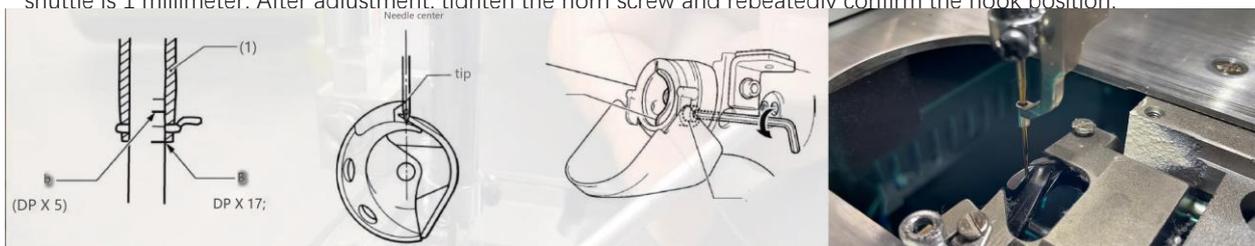
3. Install the shuttle and confirm the hook position: Install the shuttle, adjust the hook position of the shuttle to hook it to the top of the needle threading hole by 1 millimeter (1-1.5 millimeters is also acceptable).



4. Adjust the distance between the needle and the shuttle: Loosen the fixed screw of the shuttle, use a straight screwdriver to adjust the eccentric screw, turn it to the right, and the distance between the shuttle and the needle will decrease; Turn left to increase the spacing. Adjust the spacing to 0.01-0.08 millimeters and tighten the fixing screws after adjustment.



5. Adjust the hook position of the front and rear machine needles of the rotary shuttle: Loosen the fixing screw on the cow horn, adjust the hook position of the front and rear machine needles of the shuttle, so that when the needle rod of the machine needle rises, the distance between the upper end of the machine needle hole and the upper end of the shuttle is 1 millimeter. After adjustment, tighten the horn screw and repeatedly confirm the hook position.



6. Installation components: First, install the outer swing arm of the large bed and fasten the locking buckles on both sides. Install the splitter again, first push the splitter back, then turn the needle down and push it forward, so that the distance between the triangular edge of the splitter and the needle is 1 millimeter (1-1.5 millimeters can be used), tighten the fixing screw and confirm whether it collides with other objects. Next, install the large cutting board, ensuring that the top pillar of the moving knife is consistent with the top pillar of the wire cutting rod. After flattening, reinstall and tighten the 4 fixing screws. Finally, cover the top and reinstall the shuttle shell.

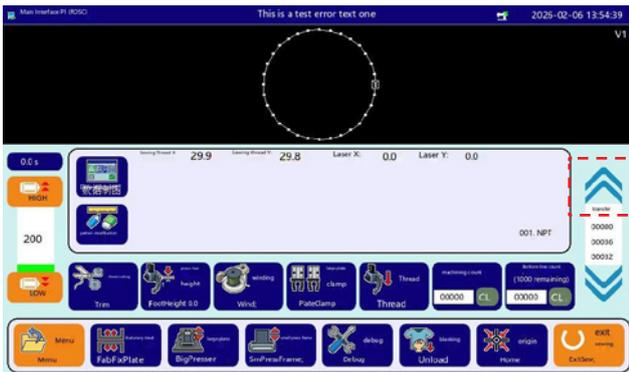


III. Precautions

1. Careful operation is required during adjustment to avoid damaging equipment parts.
2. After adjustment, check again whether each component is securely installed and whether the stitch position is accurate. Only after confirming everything is correct should you connect the power for a test run.

20 Needle Position Setting

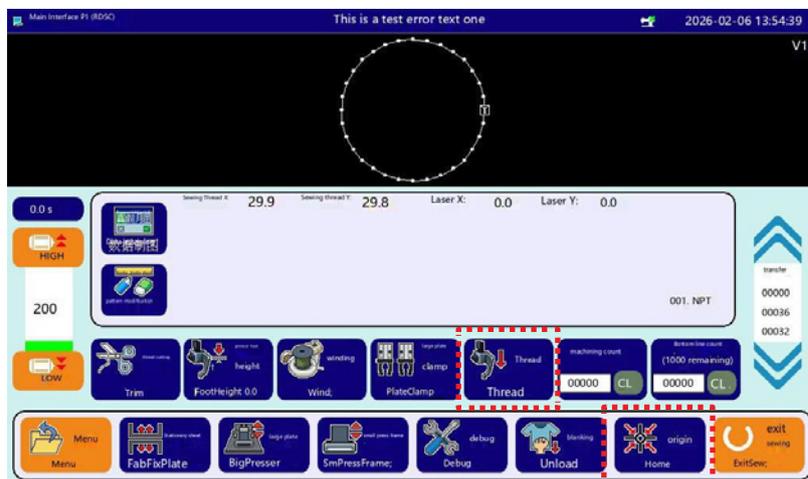
1. Preparation: After changing the mold, prepare for needle position setting in conjunction with the sewing program.
2. Check the Gap Between the Presser Foot and the Small Presser Plate
 - ' Start the machine, enter the sewing interface, press fast forward. After the laser travels along the large plate and reaches the sewing position, find the first point, click the presser foot button to lower the presser foot, and observe whether there is a gap between the presser foot and the small presser plate. Ensure the presser foot does not touch the small presser plate.



- ' Using the same method, check the gap between the presser foot and the small presser plate at the second, third, and fourth points in sequence. As long as the needle does not touch the small presser plate, it is acceptable. Because the material guide is open during sewing, a gap must be ensured.



3. Complete the needle position setting operation: After checking all four points correctly, click OK, lift the presser foot, and click the reset button.



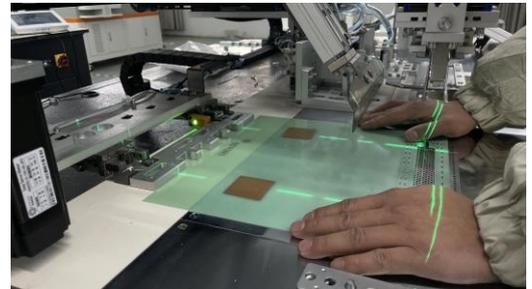
4. Sew a sample pocket and adjust parameters: After resetting, sew a sample pocket and adjust the relevant parameters of the data plate according to the actual effect.

21 Install the Circulation Plate

1. When the circulation plate is needed, the circulation plate option can be turned on in the function switch in the tab.



2. Press the feed button. After the circulating plate clamp opens, place the circulating plate A. When the sensor light on the circulating plate machine illuminates, press the feed button again to make the circulating plate clamp clamp up.



3. Press the clamp button to bring the large board to the folding area, remove the circulating plate A, and place the circulating plate B in the correct position. At this time, the sensor light on the circulating plate clamp will illuminate. Press the feed button to make the circulating plate clamp clamp up.



The circulation plate installation is now complete.



22 Folding Emergency Stop Start

I. Folding emergency stop button

1. Function: If the folding is not done properly or the laser cutting effect is not good during the folding process, you can press the folding emergency stop button directly, and the machine will stop working immediately.
2. Reset operation: After pressing the folding emergency stop button, you need to rotate the emergency stop button clockwise to reset. After the emergency stop button is reset and lifted, the large pressure plate will automatically reset.
3. Subsequent operation: After the large pressure plate automatically resets and returns to the origin, the fabric on the machine can be removed to continue the subsequent operation.

II. Material Pickup Test Buttons

1. Forward and Backward Buttons: During the material pickup test, the forward and backward buttons control the material pickup action; one controls forward movement, and the other controls backward movement.
2. Folding Start Button (Also Functions as Forward Material Pickup): The folding start button can be used as the forward button in the material pickup test function, functioning the same as the forward button in the material pickup test.



Folding
Emergency
Stop

Start / Forward

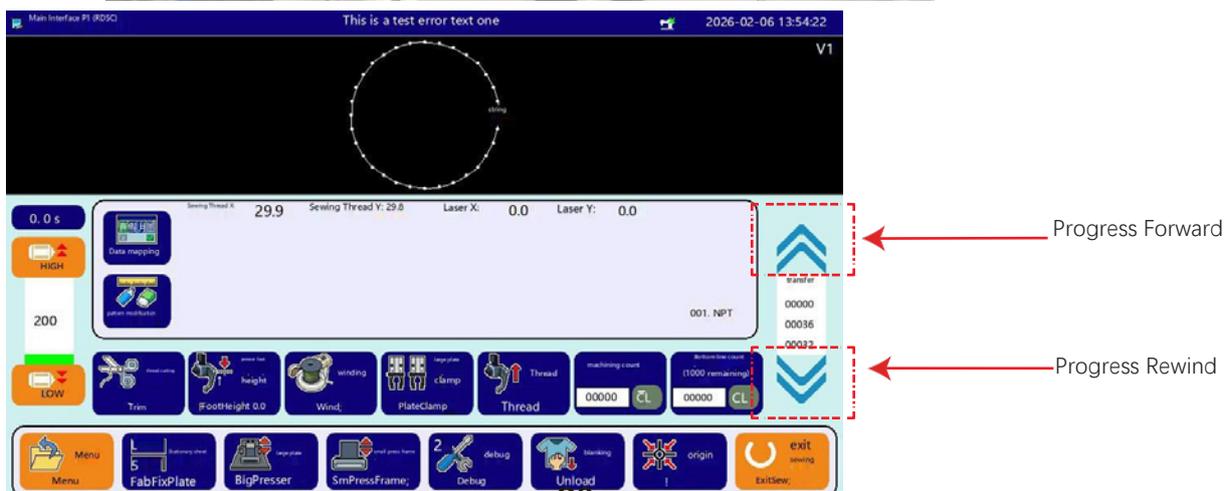
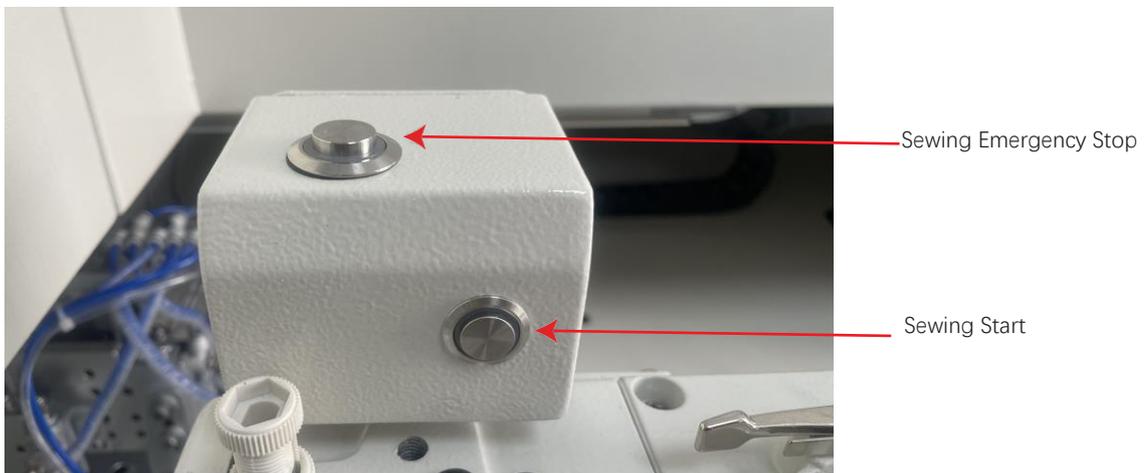
23 Sewing Emergency Stop Start

I. Sewing Emergency Stop Button

1. Function 1: Handling Thread Breakage or No Bottom Line: During sewing, if a thread breakage or no bottom line is encountered, pressing the sewing emergency stop button will immediately stop the machine. Afterward, operations such as threading and changing the bottom line can be performed.
2. Function 2: Handling Unexpected Situations: For example, if the fabric is in place, the folding start button is pressed, and the laser cutting has begun, but the zipper is not properly positioned (currently set to one start), the sewing emergency stop button can be pressed immediately after the laser cutting is completed to pause the machine process.
3. Reset Operation: After handling the corresponding issues (such as threading, adjusting materials, etc.), release the sewing emergency stop button. If the emergency stop is pressed due to a broken thread, the "backward forward" option must be selected on the display screen to move the sewing position back to the original line where the thread broke.

II. Sewing Start Button

After completing the above operations, press the sewing start button, and the machine will automatically continue sewing on the overlapping line; if the emergency stop is pressed due to an unexpected situation, the pressure plate will move to the next process and automatically start working after releasing the emergency stop button.

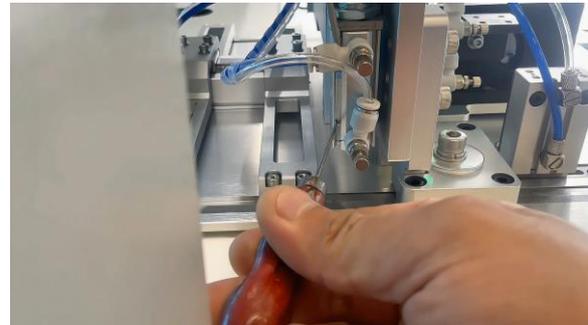


24 Troubleshooting the Large Platen Lower Sensor

In actual production, changes in fabric thickness are frequently encountered. If the lower sensor of the large platen is not adjusted because it is currently in the position of the previous fabric, an error code will appear. In this case, we need to manually clear the alarm.



Press the sewing emergency stop button to ensure safe operation. Locate the square-headed sensor on the left side of the large platen. This sensor detects the platen's falling position. Use the corresponding flathead screwdriver to loosen the sensor's fixing screw.



Move the sensor up and down to the appropriate position. The sensor's indicator light will illuminate. Then, use a screwdriver to tighten the sensor's fixing screw. Finally, click the OK button on the control panel to clear the alarm.



Release the sewing emergency stop button and press the start button again. The machine will continue the previous sewing operation and complete the pocket sewing.

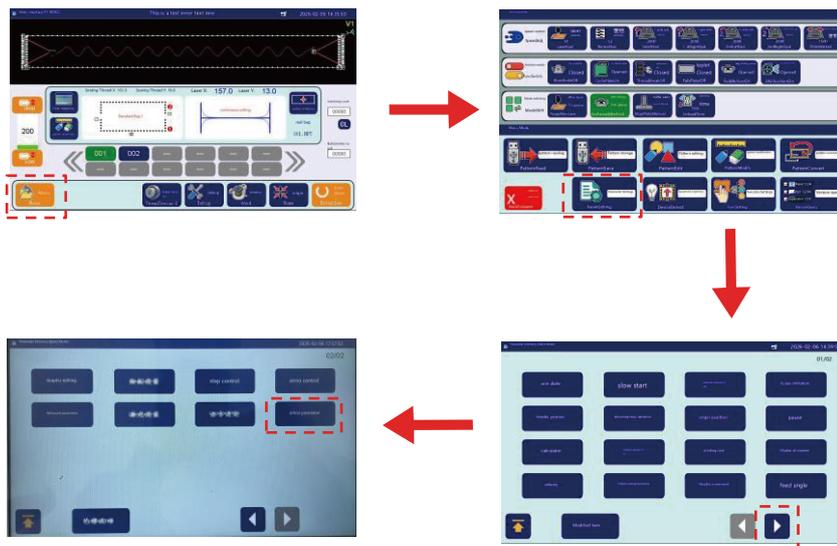


25 Modify Pattern

Modifying patterns is encountered in daily operations. When facing special process requirements, you can intuitively modify the pattern and laser by modifying the pattern. You can perform operations such as overall movement, needle deletion, needle addition, point movement, and area modification according to actual production needs.



26 System Default Action Parameter Reference Table



Item	Parameter Name	Value	Status
01/08	Small pressure frame up down delay(ResPara1)	500	✓
	Fold knife whole up down delay(ResPara2)	800	✓
	Reserved Para(ResPara3)	300	✓
	Reserved Para(ResPara4)	350	✓
	Fixed material 1 expansion and contract delay(ResPara5)	350	✓
	Fixed material 2 expansion and contract delay(ResPara6)	280	✓
	L-R Short fold knife up down delay(ResPara7)	200	✓
	L-R Short fold knife open close delay(ResPara8)	100	✓
	F-B Long fold knife up down delay(ResPara9)	500	✓
	F-B Long fold knife open close delay(ResPara10)	150	✓

Item	Parameter Name	Value	Status
02/08	Down bracket lift delay(ResPara11)	1	✓
	Down bracket L-R move delay(ResPara12)	800	✓
	Big pressure frame up down delay(ResPara13)	350	✓
	Manganese steel clips open close delay(ResPara14)	200	✓
	Bag blocking eyebrow board expansion contract delay(ResPara15)	650	✓
	Bag blocking eyebrow board up down delay(ResPara16)	150	✓
	feed material time(ResPara17)	1500	✓
	Fix material baffle position(ResPara18)	SSP	✓
	Up down fixed material whether open simultaneously(ResPara19)	same time	✓
	Whether to pause after laser(ResPara20)	Pause	✓

Action Para 2026-02-09 10:08:24

03/08

Resened Para(ResPara21) Turn off ✓

Whether use down drag board function(ResPara22) NO ✓

Is the L-R short folding knife effective(ResPara23) No ✓

Whether the second receiving needs to be pressed a button(ResPara24) Need pressed button ✓

X loop board tray coor(ResPara25) 2000 ✓

Y loop board tray coor(ResPara26) 3666 ✓

Resened Para(ResPara27) 250 ✓

Resened Para(ResPara28) 200 ✓

Big pressure clamp clip open close delay(ResPara29) 250 ✓

Oilcan opening time(ResPara30) 200 ✓

Page Up

Page Down

✗

Action Para 2026-02-09 10:08:26

04/08

Oilcan opening interval count(ResPara31) 5 ✓

Resened Para(ResPara32) 4 ✓

Y loop board tray safety length(ResPara33) 700 ✓

Resened Para(ResPara34) Use ✓

Resened Para(ResPara35) 3500 ✓

Loop board clip rise delay (ResPara36) 200 ✓

Loop board clip fall delay (ResPara37) 200 ✓

Loop board clip inset delay (ResPara38) 200 ✓

Loop board clip release delay (ResPara39) 100 ✓

Loop board tray fixed open delay(ResPara40) 200 ✓

Page Up

Page Down

✗

Action Para 2026-02-09 10:08:28

05/08

Loop board tray fixed close delay(ResPara41) 200 ✓

Resened Para(ResPara42) 500 ✓

Whether or not to use loop board(ResPara43) Install and use ✓

Whether true bag secondary splicing is open suctioned(ResPara44) OFF suction ✓

Whether to shield bag folding action(ResPara45) No shielding ✓

Whether to pause after fold material(ResPara 46) Not pause ✓

Y front feeding distance of true bag second retrieval material (ResPara47) 0 ✓

Resened Para(ResPara48) Invalid ✓

Real bag once cycle board action(ResPara49) Left side drawing board ✓

Baffle plate/Bag blocking eyebrow mode(ResPara50) Manual mode ✓

Page Up

Page Down

✗

Action Para 2026-02-09 10:08:31

06/08

Empty feeding speed for material retrieval from right to left once(ResPara51) 2000 ✓

Return the empty feed speed of the seam from left to right once(ResPara52) 2000 ✓

Empty feeding speed for material retrieval from right to left twice(ResPara53) 2000 ✓

Return the empty feed speed of the seam from left to right twice(ResPara54) 2000 ✓

Other ordinary empty feed speed(ResPara55) 1500 ✓

X loop tray speed(ResPara56) 3000 ✓

Y loop tray speed(ResPara57) 3000 ✓

Resened Para(ResPara58) 0 ✓

Resened Para(ResPara59) 0 ✓

Resened Para(ResPara60) 0 ✓

Page Up

Page Down

✗

Action Para 2026-02-09 10:08:33

07/08

Resened Para(ResPara61) 0 ✓

Resened Para(ResPara62) 0 ✓

Resened Para(ResPara63) 0 ✓

Resened Para(ResPara64) 0 ✓

Resened Para(ResPara65) 0 ✓

Resened Para(ResPara66) 0 ✓

Resened Para(ResPara67) 0 ✓

Resened Para(ResPara68) 0 ✓

Resened Para(ResPara69) 0 ✓

Resened Para(ResPara70) 0 ✓

Page Up

Page Down

✗

Action Para 2026-02-09 10:08:36

08/08

Resened Para(ResPara71) 0 ✓

Resened Para(ResPara72) 0 ✓

Resened Para(ResPara73) 0 ✓

Resened Para(ResPara74) 0 ✓

Resened Para(ResPara75) 0 ✓

Resened Para(ResPara76) 0 ✓

Gear ratio of X-axis motor(ResPara77) 100 tooth large wheel ✓

Front back fold cut lift type(ResPara78) Motor ✓

Middle PF sensor type(ResPara79) Outer sensor ✓

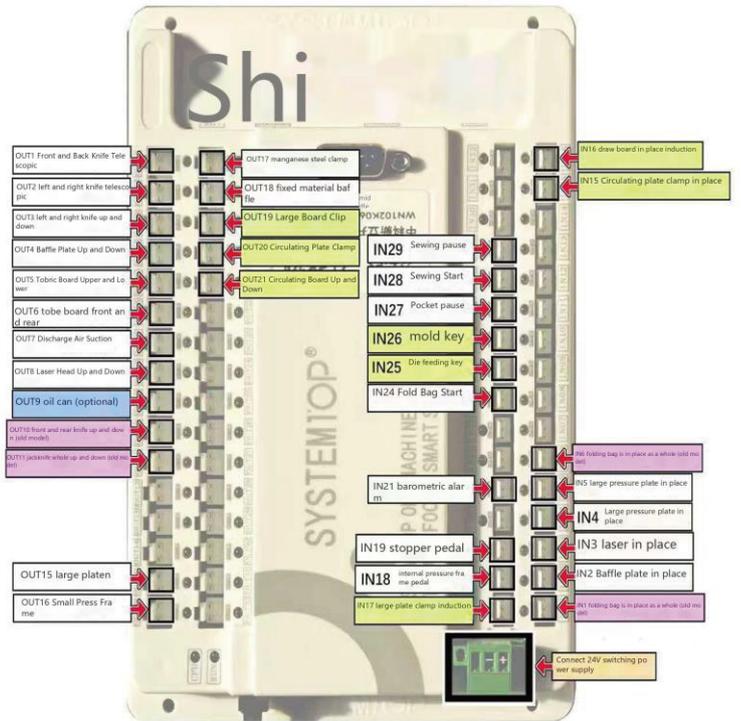
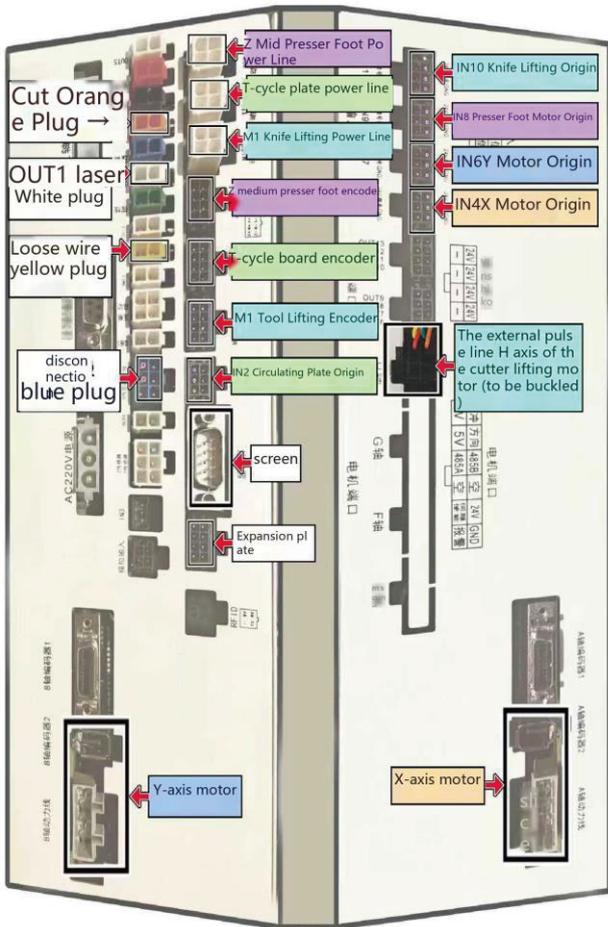
Loop board y motor find origin direction(ResPara80) Forward ✓

Page Up

Page Down

✗

27 Common Error Codes



- EX-003 Laser lifting sensor timeout. Please check if the external laser lifting sensor is working properly. Check the laser upper position sensor corresponding to the IN3 signal on the expansion board.
- EX-004 Lifting cylinder 1 upper position sensor timeout. Please check if the lifting cylinder 1 upper position sensor is working properly. Check the upper position sensor corresponding to the cylinder-type folding lifting cylinder on the IN1 expansion board.
- EX-007 Lifting cylinder 2 upper position sensor timeout. Please check if the lifting cylinder 2 upper position sensor is working properly. Check the lower position sensor corresponding to the cylinder-type folding lifting cylinder on the IN6 expansion board.
- EX-021 Air pressure detection abnormal. Please check if the device is malfunctioning. Check expansion board IN21, air pressure detection
- EX-054 Bag lip rise to position sensor timeout, bag lip rise to position sensor timeout Check expansion board IN02 signal corresponding to the stop plate's position sensor
- EX-115 Large pressure plate position detection timeout, large pressure plate position detection timeout Check expansion board IN04 signal corresponding to the large pressure plate's position sensor
- EX-116 Large pressure plate lower position detection timeout, large pressure plate lower position detection timeout Check expansion board IN05 signal corresponding to the large pressure plate's lower position sensor
- EX-118-1 IN7 small pressure frame lower position sensor not lit, check expansion board IN07 signal corresponding to the small pressure frame's lower position sensor
- EX-118-2 IN15 circulation board position sensor not lit, check expansion board IN15 signal corresponding to the circulation board's position sensor
- EX-118-3 IN16 circulation board clamp sensor not lit, check expansion board IN16 signal corresponding to the circulation board clamp sensor
- EX-118-4 IN17 large plate clamp sensor not lit Check expansion board IN17 signal corresponding to the large plate clamp sensor

24 care and maintenance

When replacing machine parts, maintaining or disassembling the machine, the power supply and air pressure source must be disconnected. Only professionals can perform the following operations.

1 motor cleaning

Disassemble the air pipe regularly and clean the motor with the air nozzle.

2 Needle plate cleaning

Loosen the screw (Figure A), then clean the needle board and restore it.

3 Rotary shuttle lubrication

Regularly check the lubricating oil level in the oil tank (Figure B) and top it up with white oil if necessary.

4 Belt tension

After six months of running-in, the X-axis and Y-axis synchronous belts need to be checked for tension, and the tension needs to be adjusted if it is slack.

In case of tooth jumping and mold collision.

5 Guide rail maintenance

After the equipment runs for three months, it is necessary to clean the linear hairs and black sludge around the guide rail and slider on the equipment with an air gun and a rag, and apply Mobil No.2 grease or grease with better performance again. In the process of use, the inspection and maintenance shall be carried out in a three-month cycle.

6 Screw fastening

All screws need to be checked and tightened after the equipment has been running for two months.

Solid, in case of looseness, affecting equipment production; Check the locking screws of all cylinder throttle valves to prevent the fastening screws from loosening and the cylinder speed from changing, which will affect the cooperation of the whole machine.

7 Wire wool cleaning

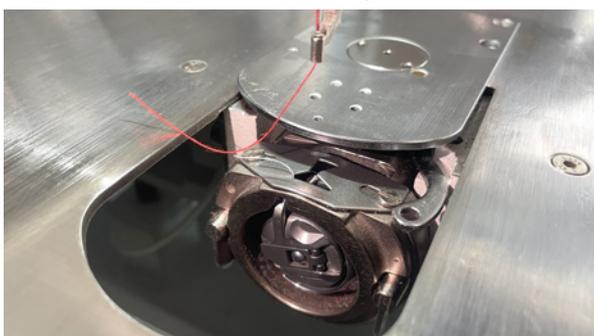
After the equipment runs for three months, it is necessary to control the electric cabinet, air suction components, air. Clean the thread hairs in the fan and other positions to avoid blocking and affecting heat dissipation.

8 Table cleaning

Keep the countertop clean at any time, free of foreign objects and stagnant for a long time. It is necessary to wipe sewing machine oil on the countertop for maintenance.

9 Anti-freezing measures

In cold areas, when the room temperature is below 0 degrees Celsius, the laser tube needs to be replaced with antifreeze to prevent the laser tube from cracking due to cold freezing.



图A

Figure A

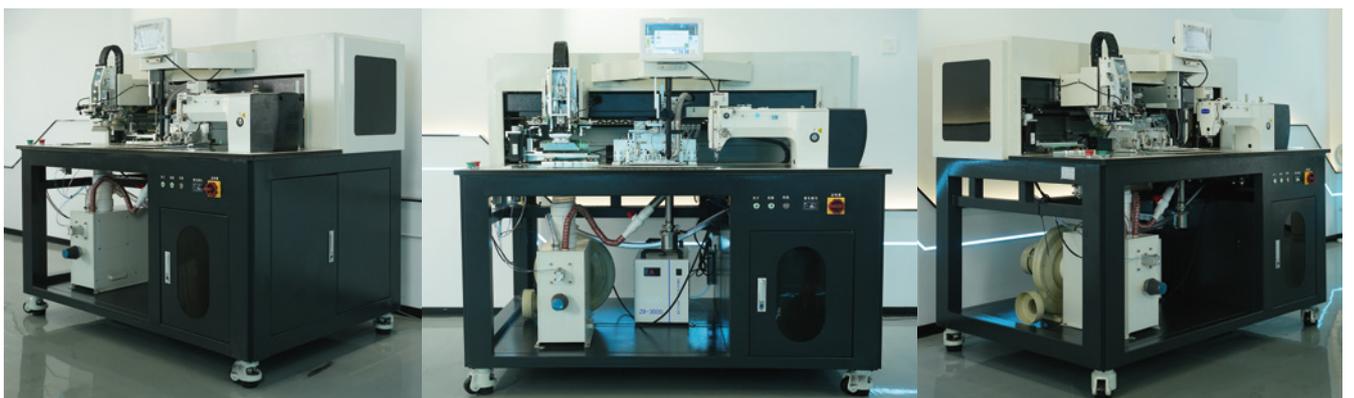
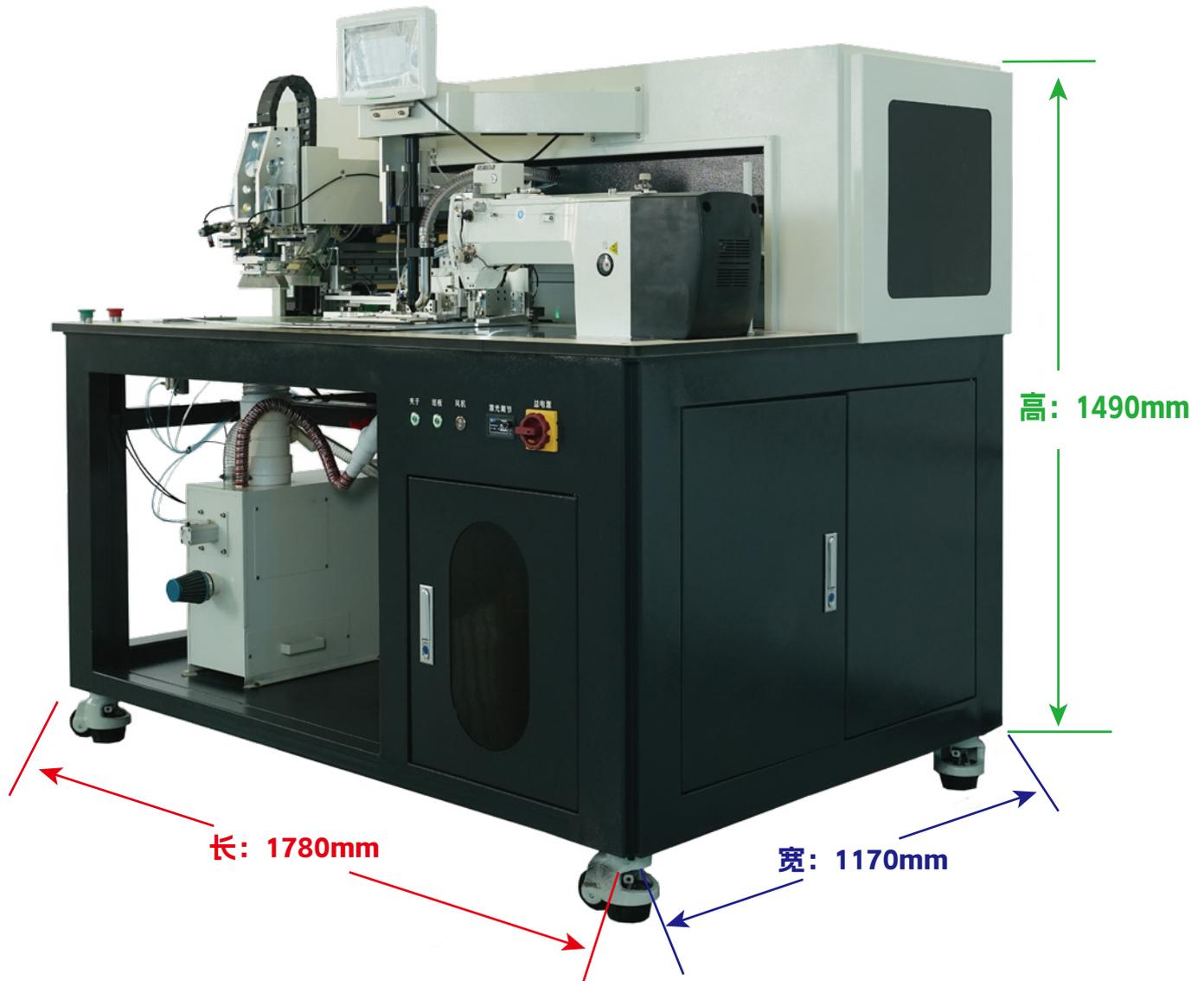


图B

Figure B

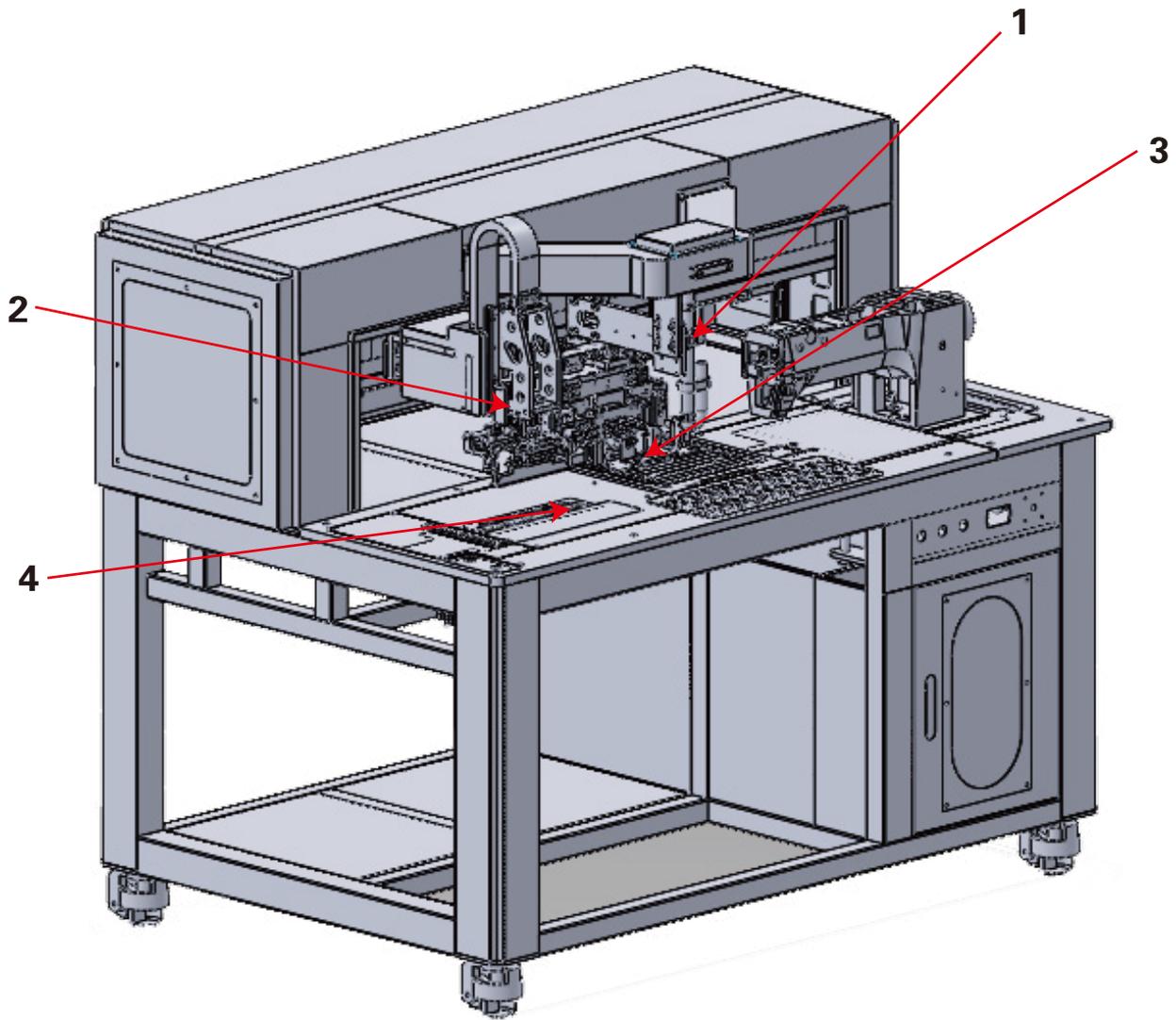
附录一

Outline and dimensional diagram of Automatic Laser Bag Opening Machine Z5



附录二

Schematic diagram of the final assembly position of the Automatic Laser Bag Opening Machine components



1 激光组件
Laser component

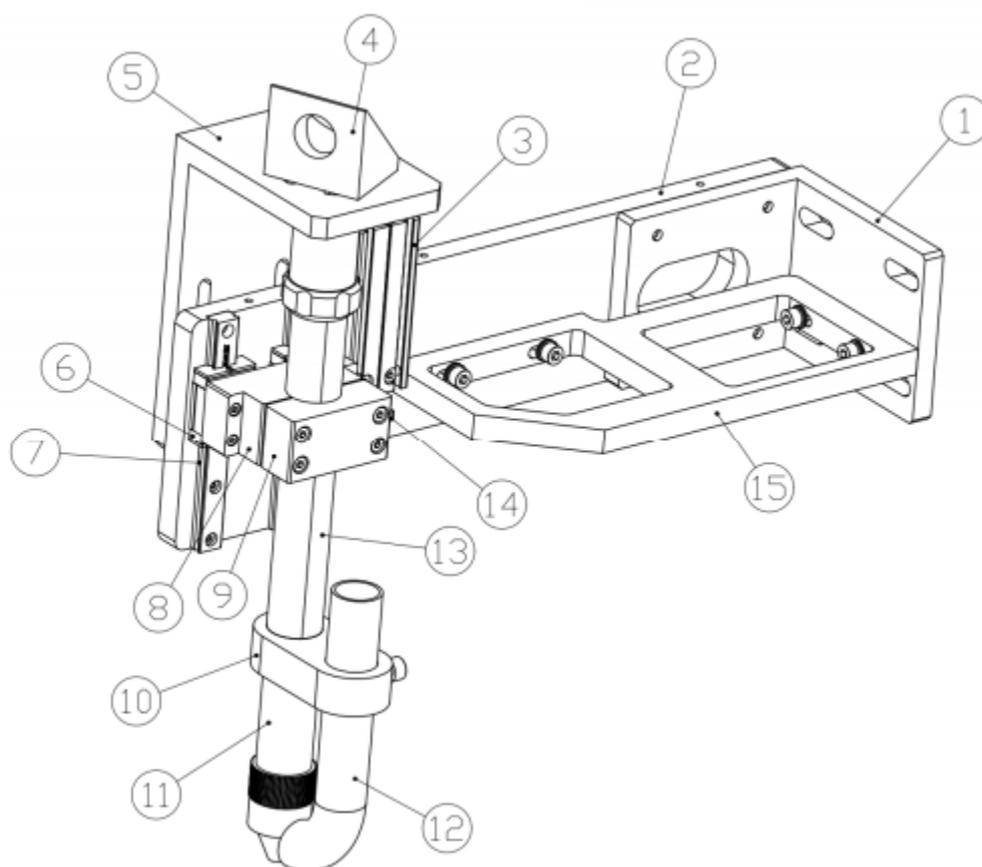
2 折料组件
Folding component

3 缝纫组件
Sewing components

4 拖布组件
Cloth support component

1 激光组件

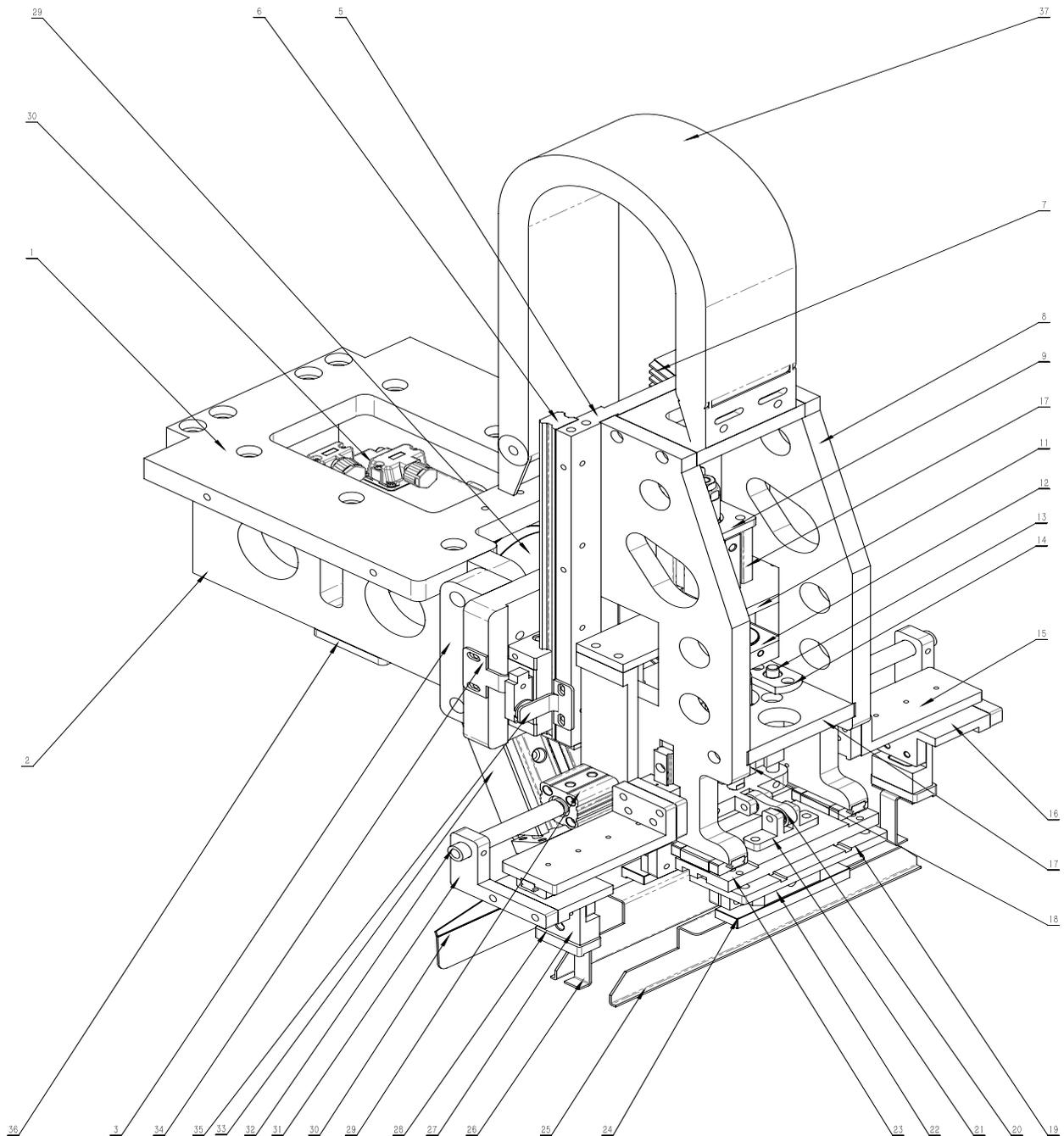
Laser component



序号/No.	名称/Description	数量/Qty
1	激光头安装脚架 Laser head installation bracket	1
2	激光头固定底板 Laser head fixed bottom plate	1
3	气缸 Cylinder	1
4	目镜 Eyepiece	1
5	目镜支撑架 Eyepiece support bracket	1
6	滑块 Slider	2
7	导轨 Lead rail	2
8	激光头固定座 Laser head fixing seat	1
9	激光头固定座压板 Laser head fixed seat pressure plate	1

10	激光头连接排气管安装板 Installation plate for connecting laser head to exhaust pipe	1
11	激光头 Laser head	1
12	排气烟囱 Exhaust chimney	1
13	激光延长管 Laser extension tube	1
14	激光头升降连接板 Laser head lifting connection plate	1
15	激光头固定底板支撑架 Laser head fixed base plate support bracket	1

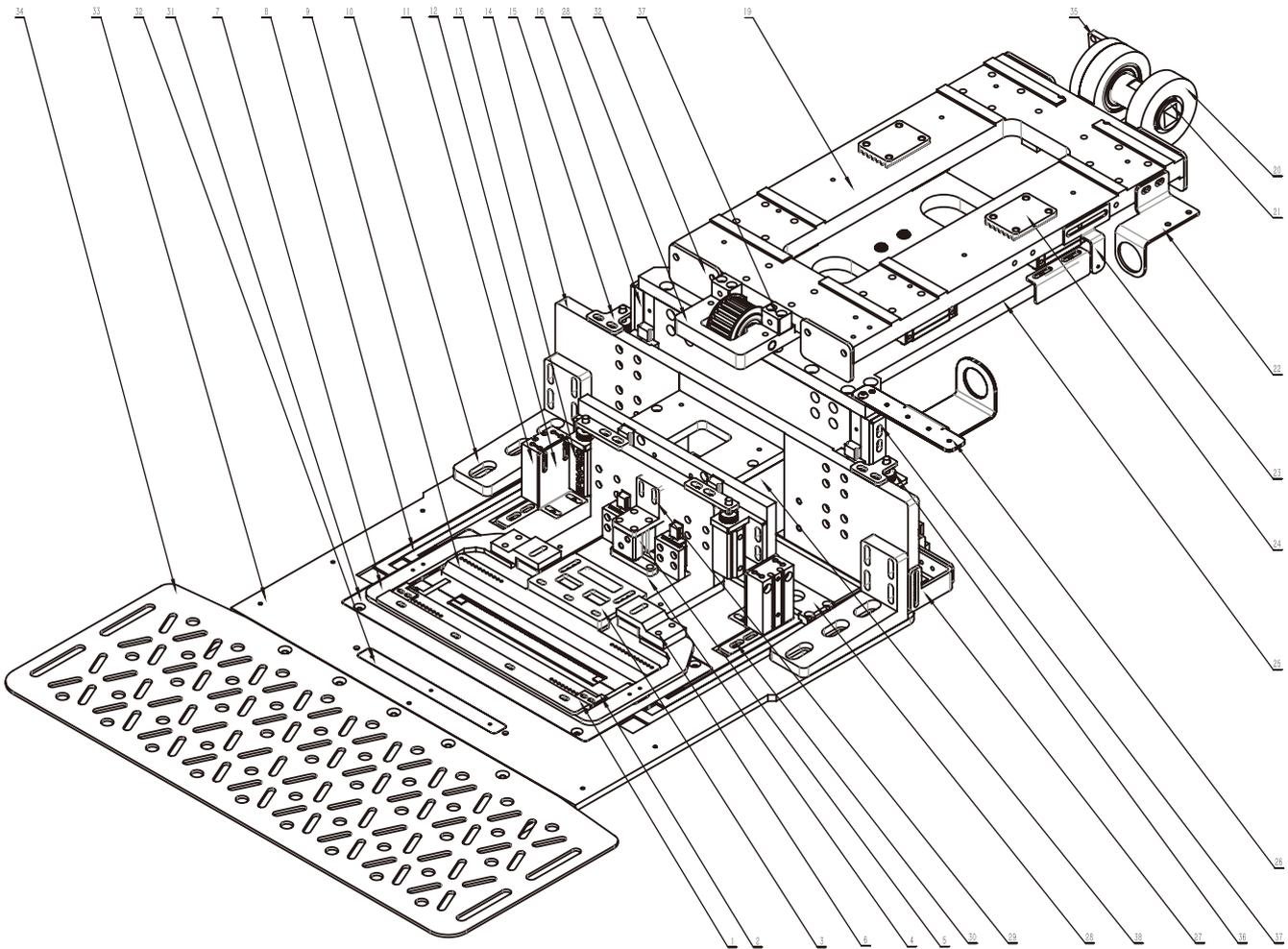
2 折料组件 Folding component



Self-drying leaf	Part number	说明	Lou
	Folding part mounting bracket plate		
2	Folding part connecting reinforcing plate		2
3	Folding motor		
4	Folding reducer		
5	Folding lifting base plate		
6	Track 15x227		2
7	Rack		
8	Folding part guide mounting base plate	Symmetrical parts	2
Dai	Left and right folding knife lifting cylinder mounting base		
10	Left and right folding knife lifting cylinder		
11	Left and right cylinder lifting bridge plate		
12	Front and rear translation cylinder mounting base		
13	Guide shaft		2
14	Linear bearing		2
15	Left and right slider mounting base	Symmetrical parts	2
32	Left and right folding knife holder mounting bridge plate		
17	Linear bearing mounting plate		
18	Front and rear folding material up and down cylinder		
31	Front and rear folding material connecting block 2		2
20	Figure-8 movable block		2
29	Figure-8 movable block mounting base		2
27	Front and rear folding knife mold changing mounting frame		2
23	Front and Rear Folding Connector		2
24	Front and rear folding knife holder		2
28	Front and rear folding knife		2
26	Left and right folding knife		2
27	Left and right folding knife mold changing mounting frame		2
28	Left and right folding knife mounting frame		2
29	acq1 2X5 cylinder		2
30	Material fixing auxiliary plate		
31	Horizontal sliding connecting plate	Symmetrical parts	2
32	Inner rayon guide		2
33	tel I 2x I 00s cylinder		
34	Folding lifting sensor mounting hardware		
35	Folding lifting sensor sensor		
36	Setting cylinder mounting hardware		
37	Cable chain		

3 缝纫组件

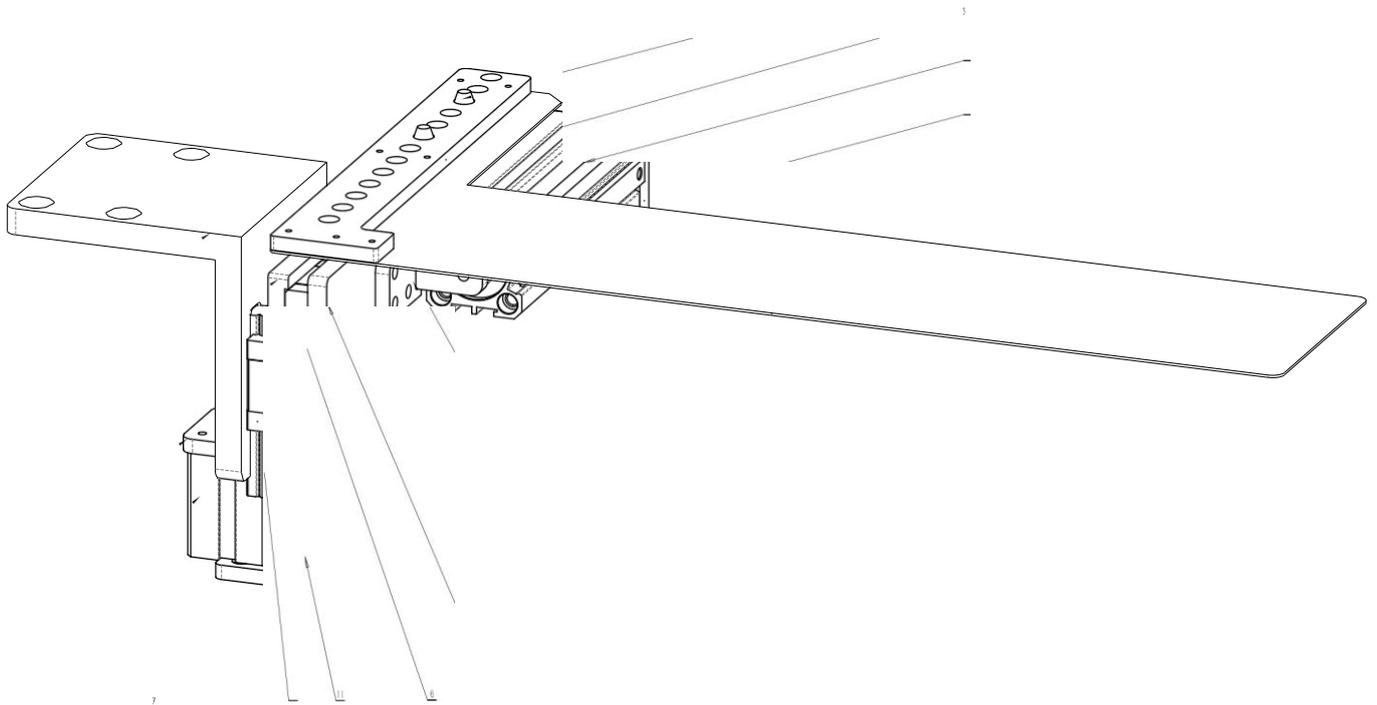
Sewing components



Project Number	Part Number	Instructions
	External pressure frame	
2	Left and right small pressure strips	
3	Internal pressure frame fixing plate	
4	Internal pressure frame center bottom plate	
5	Internal pressure frame lifting cylinder	
6	External pressure frame connection fixed small plate	
7	External pressure frame connection plate	
8	Front and rear torsion bars of the gear plate	4
9	Internal pressure frame	
10	Fixed connectors for large boards	
11	Drill steel plate opening and closing cylinder	
12	Drill steel plate opening and closing cylinder fixing seat	
13	External pressure frame lifting companion cylinder	
14	Sewing lifting drag board connecting plate	
15	Sewing lifting drag cylinder connector	
16	Sewing part installation base plate	
17	Y-axis driven wheel mounting plate	
18	碰撞片 Collision piece	
19	X-axis slide block plate	
20	Y-axis drive wheel mounting bracket	

21	Y-axis guide block		
22	Tracheal installation positioning bracket		
23	Inductive Anpei Frame		
24	Belt pulley fixed pressure plate		
25	Y-axis slide block plate		
26	Fixed installation bracket for tracheal joint		
27	Installation bracket for sensor behind the large board		
28	Sliding table cylinder fixing bracket		
29	Internal pressure frame installation cylinder fixing bracket		
30	Drilling steel sheet target bracket		
31	Shame board		
32	Drill steel plate front fixing plate		
33	Osaka		
34	Big board you cloth aluminum plate		
35	Y-axis slider connecting block		
36	Sewing lifting cylinder		
37	Sewing lifting cylinder fixing bracket		

4 Mop assembly
Cloth support component



Item number	Part number	Description	Counting Entanglements
	Mop Mechanism Fixing Bracket		
	Mop Drill Steel Plate		
	Mop Drill Steel Plate Fixing Aluminum Plate		
4	Mop Slider Connecting Plate		
	Drill Steel Plate Fixing Base		
6	LRMI 2X220 linear guide		
7	LRMI 2 Slider		4
8	LRMI 2X7 Oh Track		2
9	SDA20XI5s		
10	Mop Lifting Cylinder Fixing Seat		
11	Mop Lifting Cylinder Moving Plate		
12	Guide Bar		
13	Mop Translation Cylinder Connecting Plate		
14	Mop Translation Cylinder Fixing Seat		
15	SDA-25XII 0		

