

INSTRUCTION MANUAL



Name: Automatic rolling round bottle labeling machine

Model: SAP-301

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Part I Solemnly Declare

The first. Points to Note

1. Operation of the equipment must be performed by a technician trained in operation.
2. The operation of the equipment shall be carried out in accordance with the instructions in the manual, or under the guidance of our company's technicians.
3. This technical manual is specially designed for the SAP-301 round bottle labeling machine (hereinafter referred to as the labeling machine). The purpose is to ensure professional use and adjustment of the equipment.

The second. Rights Reserved

The production company reserves the following rights:

1. Change and upgrade the mechanism components, electronic control components and software, including the specifications and brands of the components used, so as to maintain the advanced technology of the products, but do not promise to change the previously delivered products free of charge.
2. Our company has the authority to guarantee the integrity of the equipment. Without the guidance of the technicians of the manufacturer, we shall not modify the mechanical structure or electrical parts of the equipment without permission. In case of any damage caused by violation of this regulation, the modification party shall be responsible for it.
3. Our company has the intellectual property right of the equipment and the operation manual. If there is any plagiarism, we shall bear the legal responsibility.

The third. Safety Considerations

1. Danger! Be sure to use with ground wire to prevent electric shock.
2. Danger! Make sure the voltage doesn't overload.
3. Alert! The electrical box part and the line part shall be operated under

electrician's guidance.

4. Alert! Rotating parts need special attention to prevent pressure injury.

The fourth. Operation Cautions

1. Ensure that only trained and authorized personnel operate, deploy and maintain the equipment.
2. Only qualified people, professionals, and equipment engineers are allowed to complete the layout.
3. Operating the machine requires assurance:
 - Individual operators should be able to operate independently and safely;
 - The operator is able to fix minor errors in the operation;
 - At least two people should be able to guide the use of the equipment;

The fifth. Operating Environment

Do not use in the following environments:

- places with drastic temperature changes
- places where humidity is too high to produce dew
- where the vibration or impact is very strong
- where there is a lot of dust
- splash areas of water, oil and chemicals
- places with explosive and flammable dangerous articles

Part II Product introduction

The first.Basic Uses

It can be used for full-cycle/half-cycle, front-back double-label labeling of various cylindrical items, such as food cans, cosmetic bottles, medicine bottles, etc.

If an additional set of ribbon marking machine, can achieve labeling and printing production batch number and other information.

The second.Sphere of Application

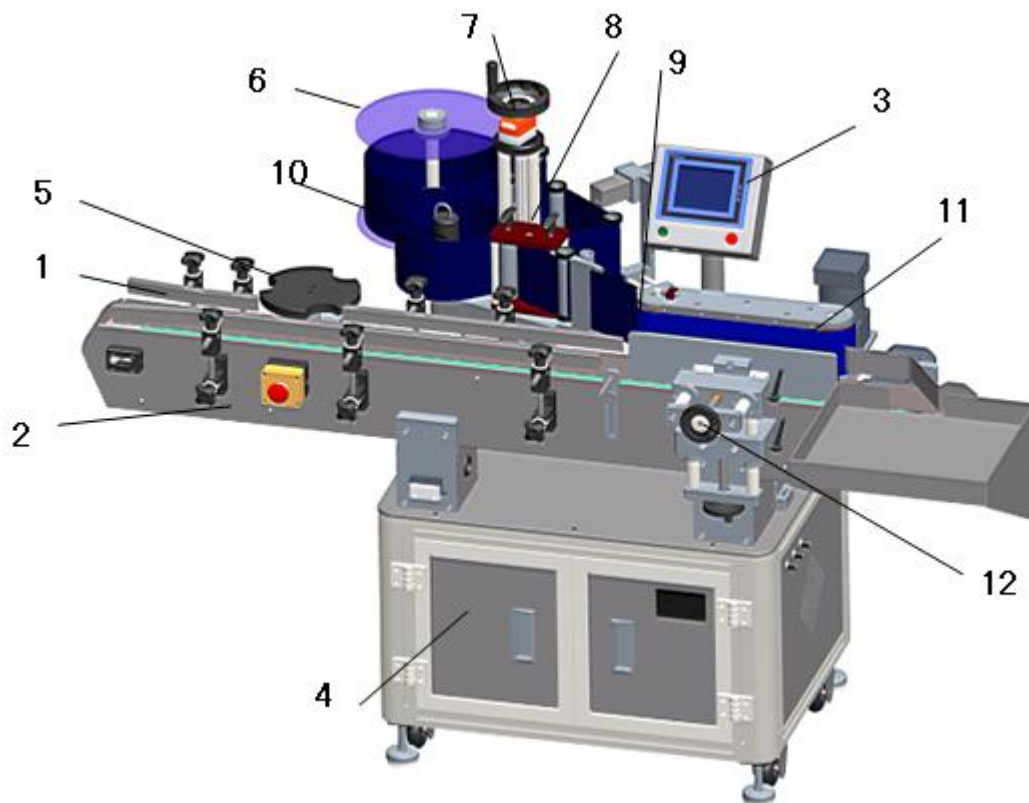
- Applicable label: adhesive label, non-drying film, electronic supervision code, bar code, etc;
- Applicable products: products requiring labels or films on circular and conical surfaces;
- Application industry: Widely used in food, medicine, cosmetics, daily chemical, electronics, hardware, plastic and other industries;
- Application example: PET round bottle labeling, plastic bottle labeling, canned food, etc.

The third.Technical Parameters

- Labeling accuracy: $\pm 1\text{mm}$ (Product and label errors are not included)
- Labeling speed: 40~150 pcs per minute (Related to product label size)
- Applicable product size: $\varnothing 25 \leq \text{product diameter} \leq \varnothing 100\text{mm}$
- Applicable label size: $20 \leq \text{width} \leq 175\text{mm}$, $20 \leq \text{length} \leq 250\text{mm}$
- Dimensions: 2130×1150×1280mm(length×width×height)
- Adapter power: 220V 50/60HZ
- Total weight: 185Kg

Part III Configuration

The first.Total View



1. **Guide Mechanism:** used to guide and correct products. Products of different sizes can be adjusted by connecting joints of guide bar.
2. **Conveying Mechanism:** transport the products to the right side for labeling, and send the pasted products away.
3. **Touch Screen:** man-machine dialogue window for various parameter adjustment.
4. **Electrical Box:** labeling electrical and mechanical gas control center, arrangement of various controllers and PLC.
5. **Bottle Mechanism:** adjust the distance of product separation by adjusting the speed of motor to meet the time required for labeling of the previous product.
6. **Label Tray:** placing the label roll.
7. **Up and Down Adjusting Mechanism:** Used to adjust the position of the upper and lower labels.
8. **Traction Device:** motivate the label movement, By pulling the backing paper, provide stripping power
9. **Label-peeling Plate:** stripping labels. Through the label around the formation

of R Angle, effectively peel off the label.

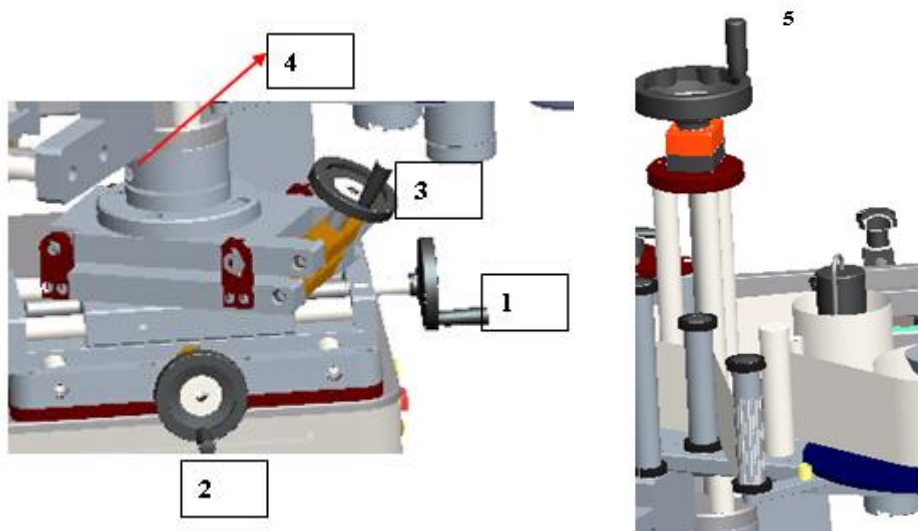
10. Receiving Mechanism: recycling base paper.

11. Cover Label Components: Cover the label

12. Overlaying Adjusting Mechanism: used to adjust the diameter and width of overlaying products;

The second.Local View

Labeling head adjustment mechanism, handwheel 1 is used for the front and rear position adjustment of labeling head, and the front and rear position of labeling can be adjusted; Handwheel 5 is used for up-down adjustment of label head. Loosen the lock screw and rotate the handwheel to adjust. Handwheel 3 is used to adjust the inclination of the label head, mainly used to adjust the case that the label attached to the workpiece cannot meet end to end. Handwheel 2 is used to adjust the forward and backward movement of the whole label head, and adjust the distance between the stripping plate and the surface of the bottle for easy labeling. Loosen the fastening screw at 4 places to rotate the whole label head to meet the expected requirements.



Part IV Electrical Part

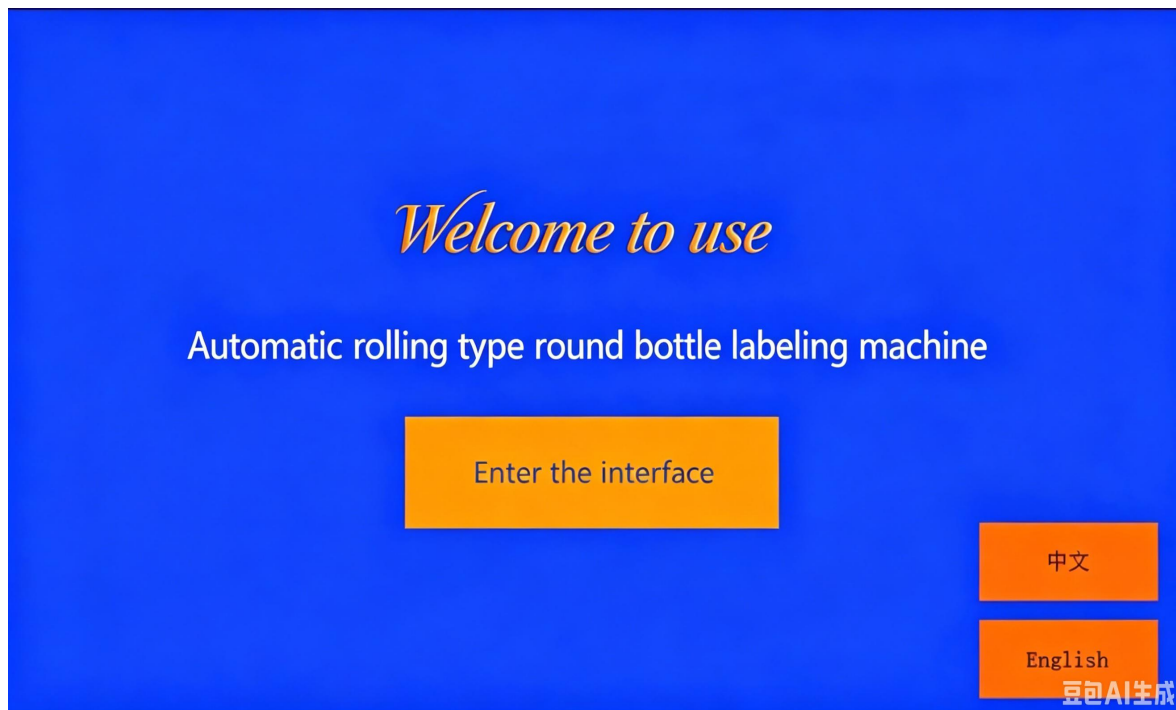
The first.Electric Control Principle

Through the input of product detection and product detection signals, the output is traction motor and overlaying motor signals after PLC processing, so that the traction motor and overlaying motor turn, thus completing the positioning and labeling of the product.

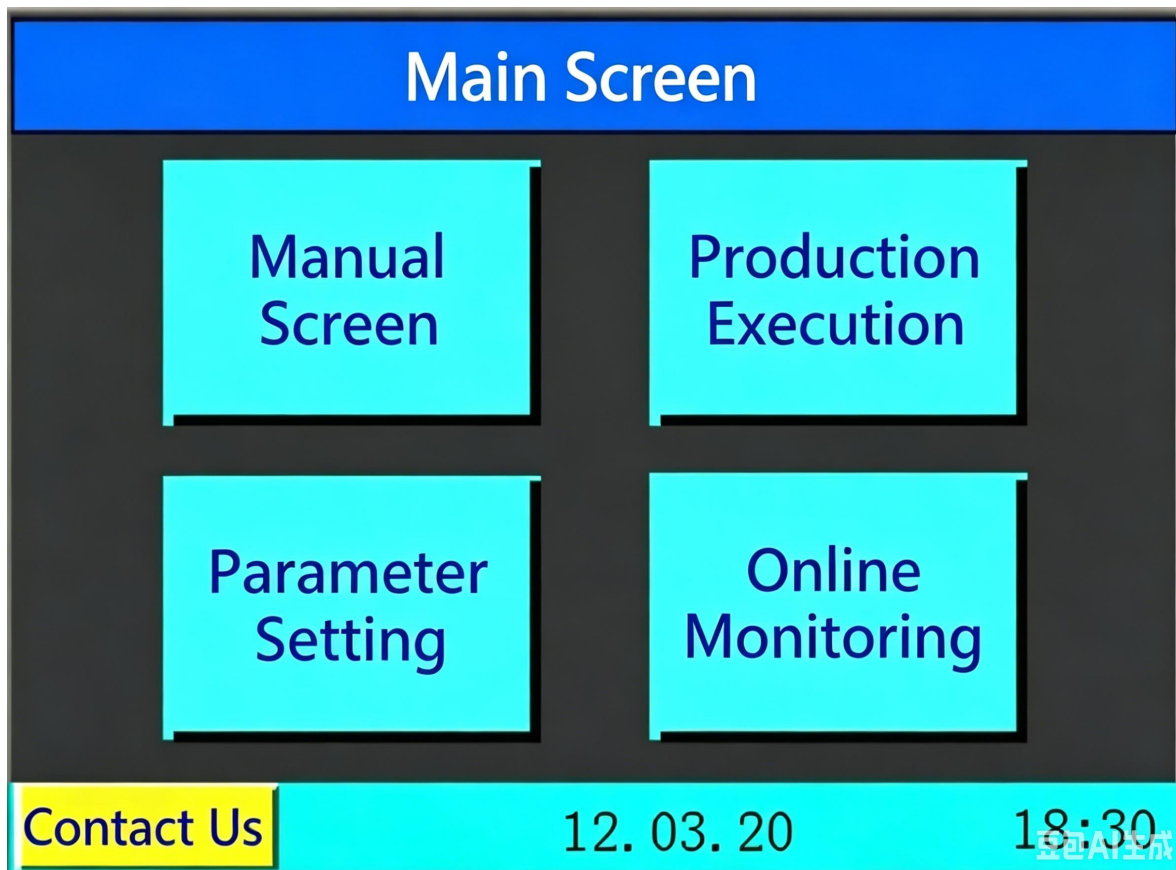
The second. Control Interface

1.Touchscreen Interface

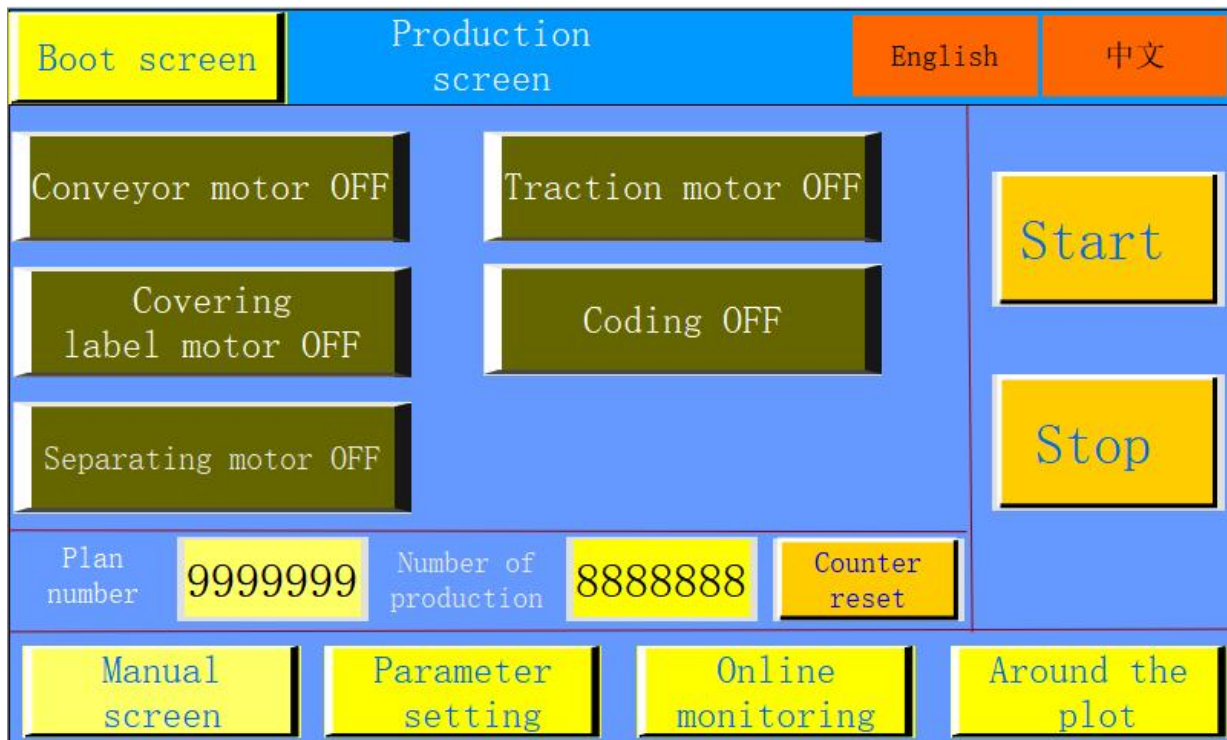
1.1 Startup Interface: start the touch screen of the labeling machine to enter the page first. At this time, it needs to be initialized for about 1 second. Click at any point of the screen to enter the "main screen".



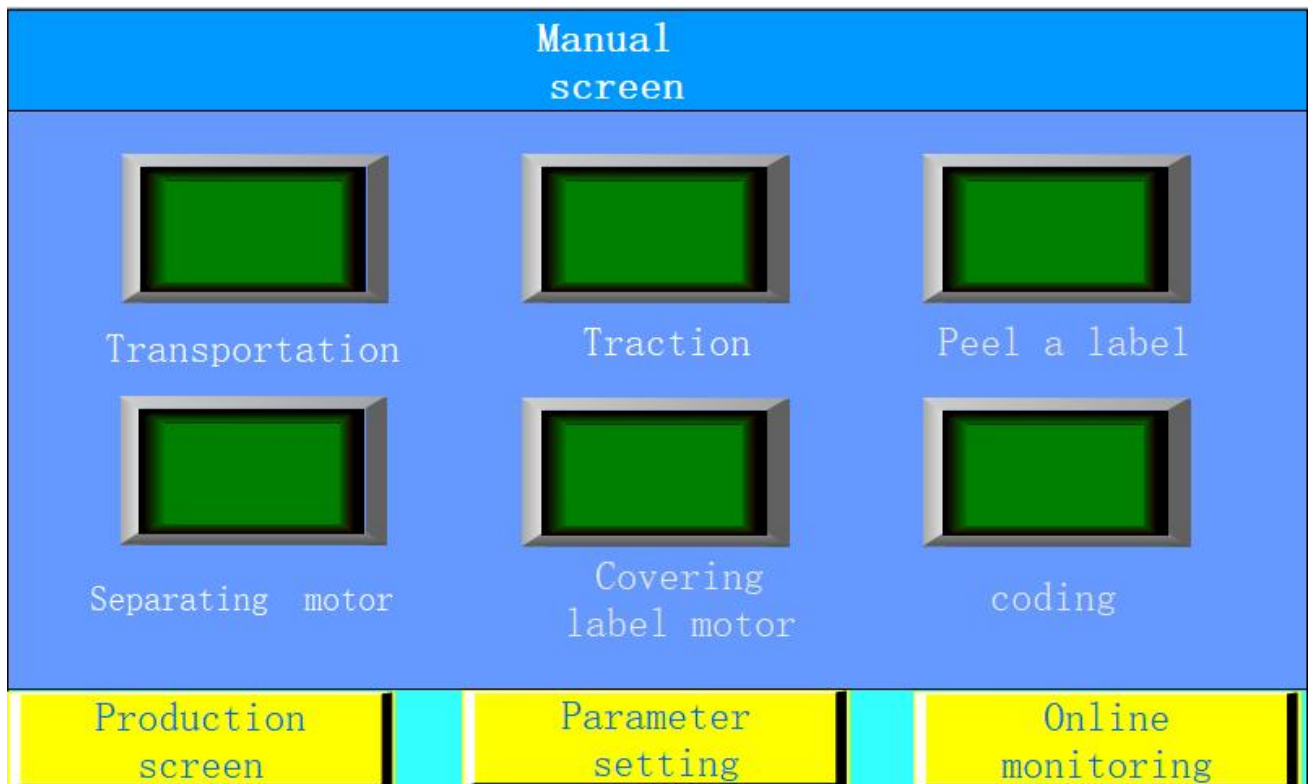
1.2 The Main Screen:the main interface of the touch screen, can enter each interface



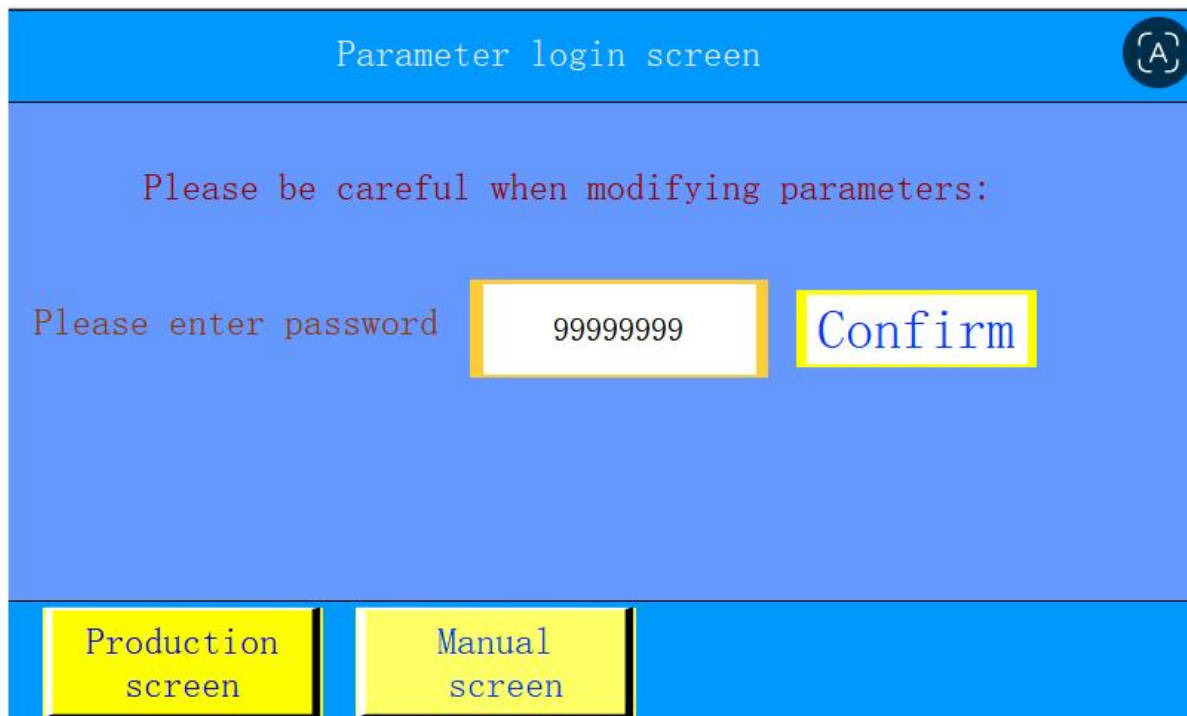
1.3 Production Screen: Click the start button to enter the automatic operation state. Click the corresponding button to control the switch of traction motor and overlaying motor. Click manual operation to enter the manual operation screen, click parameter setting to enter the parameter setting screen, and click count reset to reset the corresponding production number.



1.4 Manually Screen: click the corresponding button to achieve the corresponding action, as shown in the figure below:

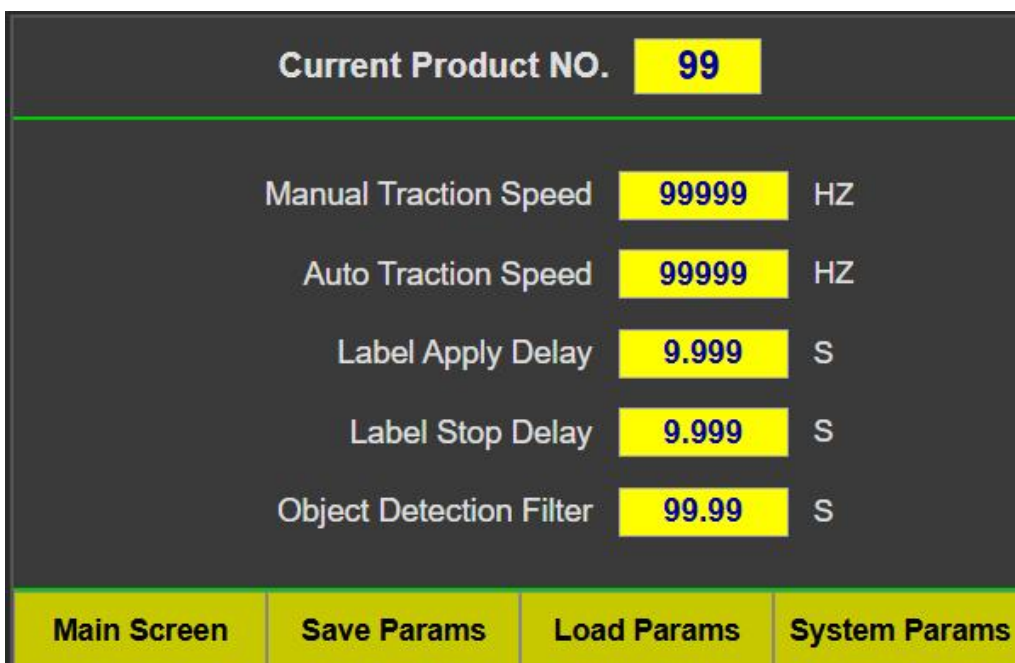


1.5 Parameters login screen, enter the correct password to enter the modification Settings of various parameters, as shown in the following picture:



The image shows a 'Parameter login screen' with a blue header and a light blue background. The text 'Please be careful when modifying parameters:' is displayed in red. Below it, the prompt 'Please enter password' is followed by a text input field containing '99999999' and a 'Confirm' button. At the bottom, there are two yellow buttons labeled 'Production screen' and 'Manual screen'.

1.6 Parameter setting screen: in this page, you can modify each parameter, as shown in the following two pictures:



The image shows a 'Parameter setting screen' with a dark grey background. At the top, 'Current Product NO.' is displayed next to a yellow box containing '99'. Below this, a list of parameters is shown, each with a yellow input field and a unit: 'Manual Traction Speed' (99999 HZ), 'Auto Traction Speed' (99999 HZ), 'Label Apply Delay' (9.999 S), 'Label Stop Delay' (9.999 S), and 'Object Detection Filter' (99.99 S). At the bottom, there are four yellow buttons: 'Main Screen', 'Save Params', 'Load Params', and 'System Params'.

Current Production: NO. Refers to the product number, which can be set, saved and called for 10 product parameters;

Manual traction speed: Refers to the speed at which the traction motor strips the label in the manual state;

Automatic traction speed: Refers to the speed of the traction motor when marking in the automatic state, and the setting range (200-32000)

Test content filtering: It is mainly used to filter the induction signal of labeling products when they are still in the sensor position after labeling, so as to prevent the traction motor from pulling out the label again

Stop the time delay: The time after the label gap is detected by the Label sensor

Labeling delay: refers to the delay time of labeling when the labeling machine senses the labeling product and adjusts the labeling position, usually 0, which can only be set when the sensor fiber and the adjusting mechanism cannot be adjusted to the correct labeling position;

Parameter saving: save the current product number labeling parameters, the machine can save 10 groups of product labeling parameters!

Parameter call: call the saved product number labeling parameter, convenient for debugging!

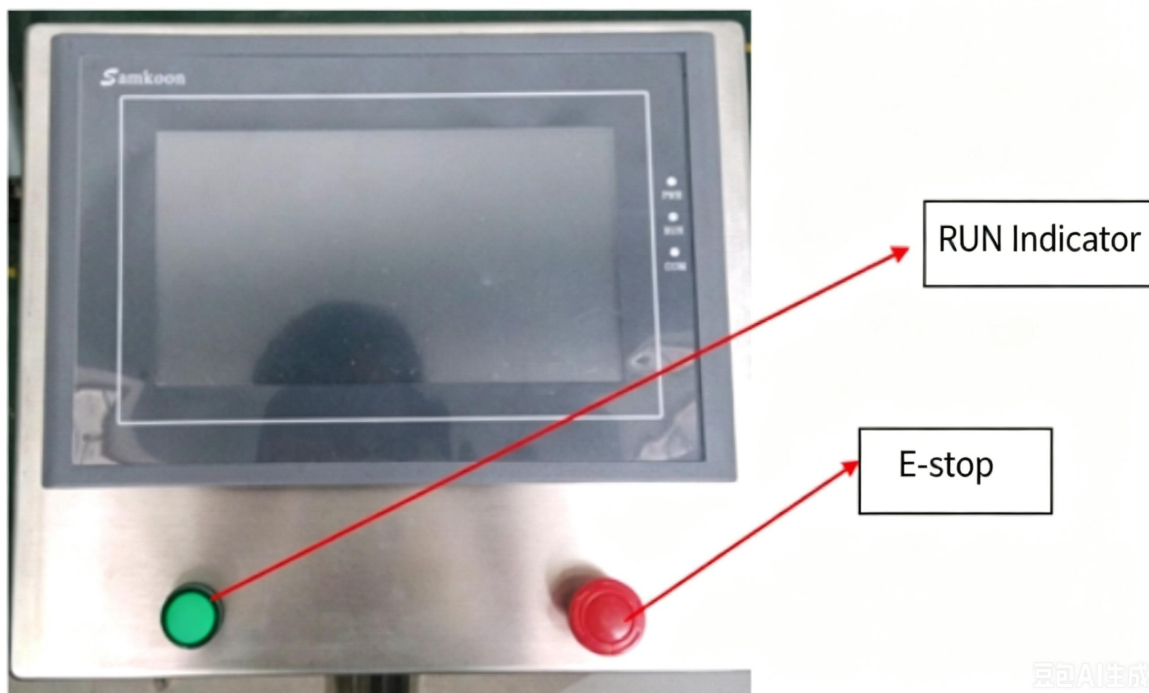
1.7 System parameter screen: mainly used to modify the login password when setting parameters.



2. Control button

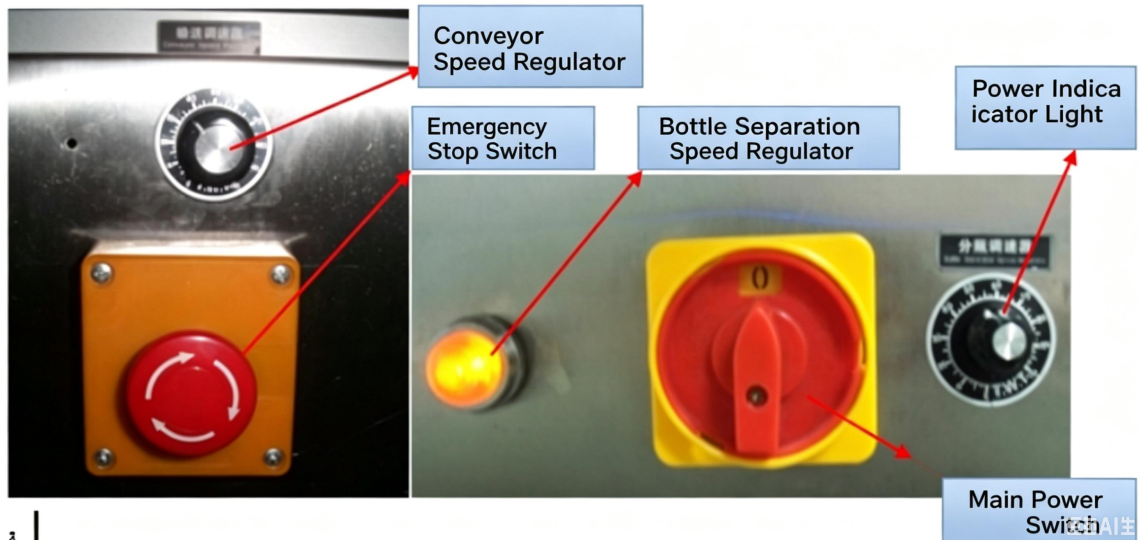
2.1 Emergency stop switch: for emergency stop, press down to stop the automatic operation of the system, and reverse clockwise to reset.

Operating indicator light: indicates whether the labeling machine is in working state, and the light indicates working state.



2.2 Conveying Governor: it is used to adjust the conveying and overlaying speed, clockwise twist, speed up, counterclockwise reverse.

2.3 Cylinder Governor: used to adjust the speed of the minutes, clockwise twist, speed up, counterclockwise opposite. The following figure:



Part V Adjustment part

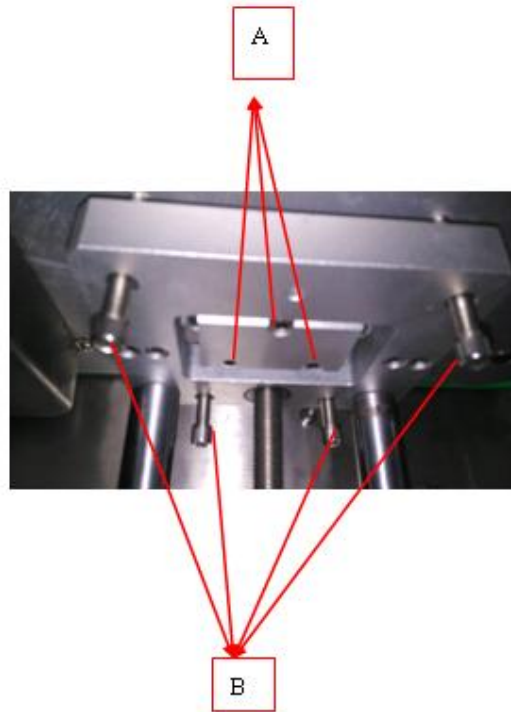
The first. mechanical adjustment

1.The conveying adjustment is extensive adjustment to ensure that the bottle can be transported to the labeling station and come out smoothly after labeling. During the whole process, there is no deviation and no handstand. Bottles of different specifications can be moved in and out by adjusting the height of the guide rod.

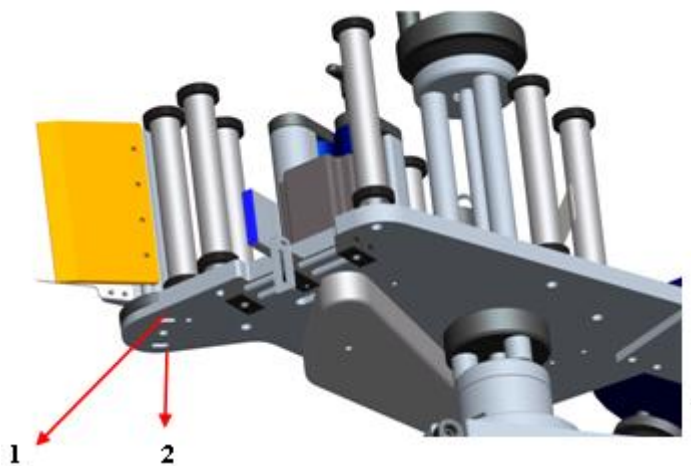
2.Label head adjustment. For each adjustment, loosen the corresponding locking screw. It can be adjusted by hand wheel; The axis of the horizontal adjusting lever can be used as the reference to adjust the inclination; The axis of the vertical

adjusting rod can be used as the axis for 360 degree adjustment.

3. Adjust the overlaying mechanism, loosen the 'A' screw, and then use the 'B' screw to adjust the veracity of the overlaying shaft. As shown in the figure below



4. stripping plate adjustment, unscrew the stripping plate connection mechanism on the two screws 1 and 2, stripping plate can swing a certain Angle. As shown below:



The second. Sensor adjustment

label sensor



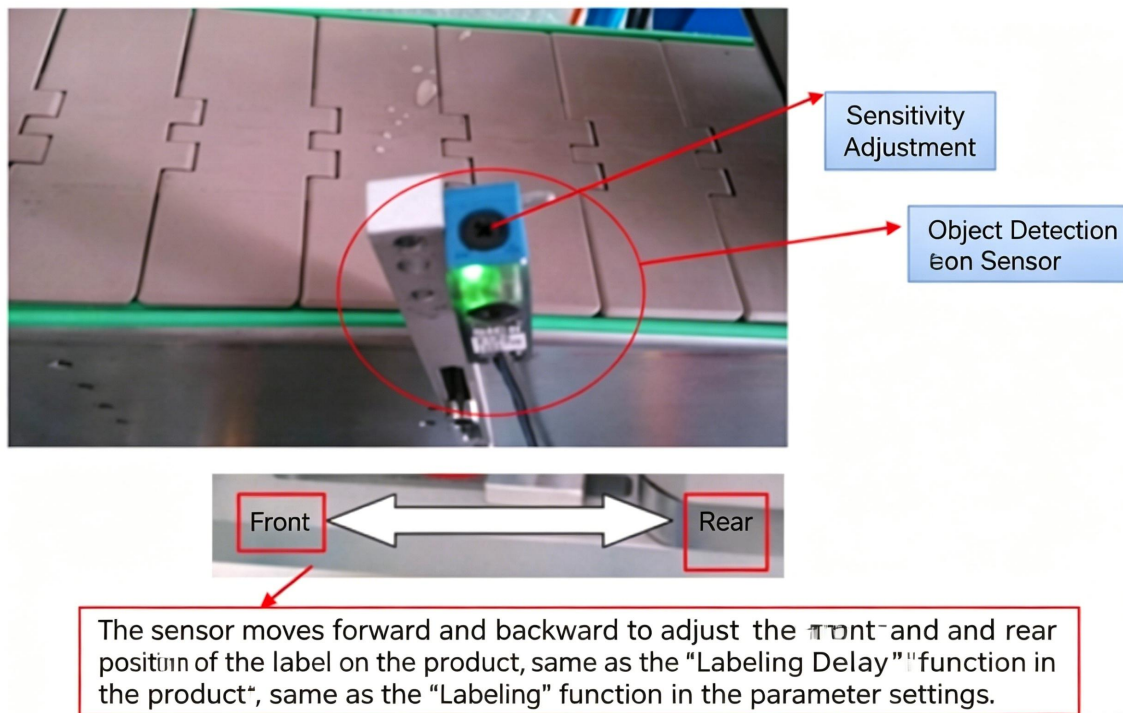
1.Connected to the power supply, under the unlocked, the label from the trough by sensor, at the same time hold down the '+' '-' button after 1 seconds to loosen, the yellow indicator light flashing, then manually pull two or three labels (tags to tighten state), and then click on the '-', or pull back and forth near the tag interval, then click on the "--". After the adjustment, pull the label and you can see that the indicator switches between on and off.

2.Press the "+" and "--" buttons at the same time and hold them for 3 seconds to lock the electronic eye and prevent others from operating. Press the "+" and "--" buttons again and hold them for 3 seconds to unlock

3.The forward and backward movement of the electronic holder can control the length of the label off the marking knife. As shown in the figure above, moving forward makes the label length longer; Move back and the label length gets shorter.

Product Sensor

It can be adjusted before and after, as shown in the figure below. The middle part of the box is divided into electronic eyes for measuring objects.

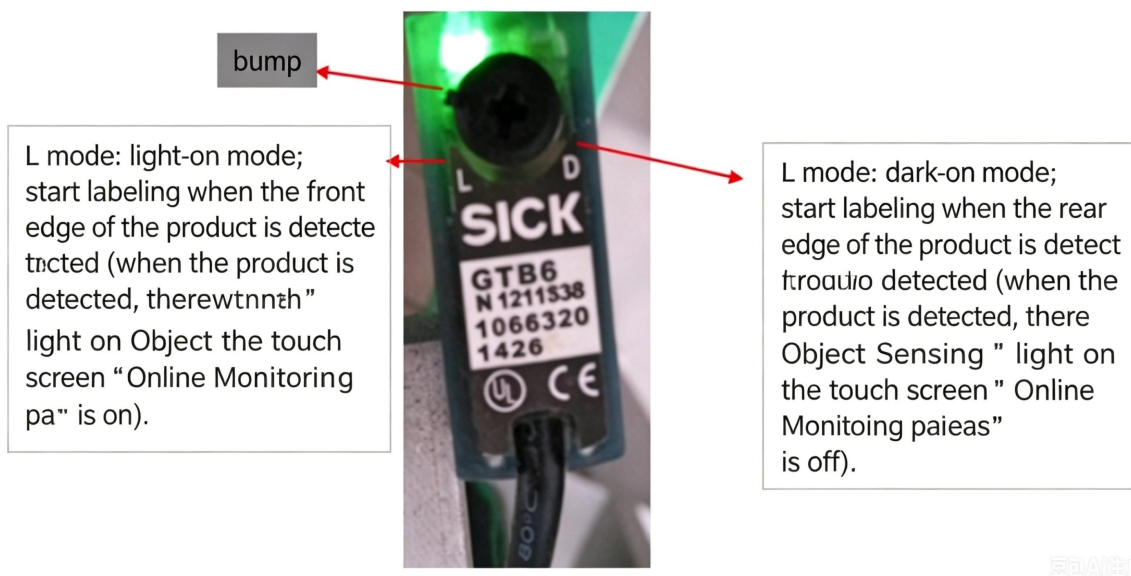


1. Aim the sensor at the product. If the sensor signal lamp is not on, adjust the sensitivity knob clockwise with a small screwdriver, or bring the sensor close to the product.

2. For abnormal detection of sensor, small cross screws can be used to adjust the sensitivity, and the clockwise adjustment can enhance the sensitivity, so that the farther the distance of sensor induction is; Counterclockwise adjustment reduces the sensitivity, the shorter the sensing distance. If there is a signal, the yellow signal light will be on, as shown below:



3.L/D mode



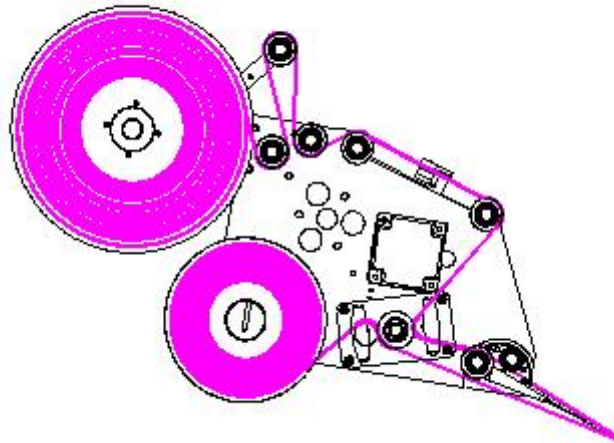
As shown in the figure: if the convex point of the knob is adjusted close to the L edge, it is the L mode; When the convex point is close to D, it is D mode. By default, it is L mode.

Part VI operation part

The first.Around the label

Detour the label according to the following diagram, tighten the label, tighten the mechanism shrapnel and tighten the label, press the label with the brush at the stripping board and lock the traction mechanism.

Label winding diagram



The second. Mechanical operation

Mechanical operation is generally connected to the power supply, manual state for related actions to coordinate adjustment.

1. Conveying mechanism, regulating conveying mechanism to ensure that bottles can be smoothly transported to the labeled position and sent out. Generally, placing bottles on both sides of the conveying mechanism for adjustment shall be referred to relevant chapters on operation methods.

2. Adjust the spacing and front and rear positions of the dividing cylinders by the dividing mechanism and the release parts to the two dividing cylinders. Refer to the relevant chapters for the methods of adjusting.

3, The positioning mechanism, put the bottle between the positioning mechanism and the overlaying mechanism, adjust the high and low position of the three

overlaying axes and the front and rear position of the positioning mechanism, to ensure that the workpiece axis and the three overlaying axes are parallel.

Part VII Product Maintenance and Maintenance

Keep and clean

1.Replace the insurance: This equipment USES ac power supply, and fuse

should be used to prevent overload.

2.Cleaning mechanism: friction roller cleaning mechanism, using alcohol to clean the mechanical parts to be cleaned; Clean electrical boxes using commercial neutral cleaning fluid.

Cleaning areas needing attention:

- Do not use cleaning tools with damage to the mechanical surface;
- Do not use corrosive plastic appliances;
- Do not use acidic solutions.

3.Routine maintenance

The design of the labeler is easy to adjust, but you still need to check regularly to make sure the delivery of the tape is correct (in case of multiple use);

- Depending on the environment you need to carry out periodic inspection of the machine, in order to maintain the normal operation of the machine;

- Get rid of waste paper and debris.
- Remove oil residue from rollers and edges;
- Clean the sensor lens with a soft brush or cloth.

4.Maintenance

The parts of the labeling machine have been chrome-plated oxidation treatment, with anti-rust function, but in the process of placement, still need to pay attention to anti-rust, the use of anti-rust oil spray each stainless steel and iron parts, with a soft cloth gently wipe evenly, {oh-40 anti-rust oil}

Part VIII Common troubleshooting

1. The bottom paper is broken

The breakage of the bottom paper is closely related to the quality of the bottom paper of the label, the scratch of the bottom paper in the traction way of the label,

and the adhesion of the label.

First of all, check the bottom paper is not cut, if cut the bottom paper, you need to replace the high quality of the bottom paper. recommended the use of glaxine base paper, and requires the label supplier to control the depth of die cutting, not to hurt the bottom of the paper.

The second step, check whether there is scratch in the label winding, eliminate scratch factors.

The third step, such as the label adhesion, the label is easy to tear. Control the length of the next label to ensure that it does not stick to the labeled products. This can be achieved by moving the sensor or by using the stop-mark delay of the touch screen.

2. Labeling deviation exceeds 2mm

Label deviation and label alignment, label and product axis is not parallel, labeling product upward shift, product error several factors, check the above several factors, and then carry out targeted solutions.

Label is not aligned, relax the traction mechanism, pull the label back and forth, let it automatically straight. After the label is straight, clamp the limit ring on both sides to guide the label.

The label is not parallel to the product axis, which can be realized by adjusting the inclination of the label head.

When labeling, the product moves up, which results in this situation, because the three gluing axes of the replacer are not parallel to the product axis. It can be adjusted to be parallel.

Product error. In the process of bottle making, the uneven bottom of the bottle will cause the head and tail deviation, which can only be solved by controlling the quality of the bottle.

3. Labels are marked with folds or bubbles

The main factors of label folding are as follows: 1. Inconsistent marking speed, incomplete marking and bottle quality. The marking speed is not consistent with the marking overlaying speed. It can be solved by adjusting the marking speed to be slightly faster than the line speed of the overlaying wheel. During the whole

marking process, the workpiece cannot pull the label out. 2. The overlaying is not complete. It can be solved by adjusting the parallel of the three rollers of the overlaying mechanism and the bottle. 3. Bottle quality, repeated several times will have wrinkles can be identified as a quality problem, only to control the quality of the bottle can be solved.

4. Continuous label

Sensor sensitivity is related, adjust the sensitivity is ok, adjust the method please refer to the previous section of sensor adjustment. If the adjustment sensor still cannot be solved, the label may be beyond the scope of application of the selected sensor, or the sensor damage, the need to consult the manufacturer.

5. Strip the label board at the bottom of the paper relaxation

Bottom paper relaxation and traction speed is too low and traction mechanism skidding related, if the traction speed is too low, the increase of traction speed can be solved; If the traction mechanism slip, then tighten the lock screw of the traction roller until the backing paper does not slip.

6. Label head fold

Put the workpiece at the positioning labeling place, make the positioning cylinder work in the manual state, press the workpiece, hold the workpiece with hand, manually pull the motor, observe the working state of the label when it is just attached, and then solve it.

Service commitment

The company in line with the principle of customer first, to provide customers with satisfactory pre-sales and after-sales service.

1. Provide professional technical consultation before sales, and guide customers to choose reasonable models.
2. Provide training services for the use of labeling machine, and guide customers to use and maintain the labeling machine properly.

3. Provide technical support services and guide customers to solve the problems of labeling and film sticking.

4. The equipment is guaranteed for one year and maintenance service is provided.

Thank you for your use. If you are not satisfied with the quality, performance and service of the equipment, please give us your valuable Suggestions!