

Automatic film sealing cutting machine

L-type series

Operate manual

Contents

I、Precautions before the boot		01
II、Notes for safe operation		01
III、Mechanical commissioning and operation		02
IV、Daily maintenance and routine maintenance		09
V、Matters need attention; matters needing attention		09
VI、Common troubleshooting		10
VII、Electrical schematic diagram	.	11

I、Precautions before the boot

- 1、Before operating the machine, the operator must read the operation instructions about the machine in detail before operating the machine.
- 2、Before connecting the power supply, check whether the power supply is normal, whether there is aging, damage, short circuit
Road break and other phenomena, in order to avoid equipment damage and cause unnecessary loss.
- 3、This machine is an electrical integrated equipment. Before operation, prepare an air compressor with sufficient length
8mm diameter connecting pipe.
- 4、After the machine is running, if any accident occurs, the power supply must be turned off first, and then the corresponding measures are taken.
- 5、This machine design is not suitable for the packaging of explosives.
In addition, if you need to package small items or liquid, powder objects, Need to first through the box type, tank type, packaging bag and other packaging molding, before packaging.
- 6、If the machine is modified without authorization, it will not be responsible for any danger.
- 7、All air pressure pipelines and cylinders shall not have contaminated items such as oil or water.

II、Notes for safe operation

- 1、Non-operators can not casually operate the machine. The operator must not seal the hand when the machine is running automatically

Under the knife or within the scope of the electric eye induction, so as not to cause safety accidents.

- 2、When the machine is running, the operator should not place the hand on the rolling part of the front and rear conveyor belt to avoid the hand injury or roll

Into the machine.

3、When the machine is running automatically, the safety door should be closed to avoid scald, pinching or cutting caused by contact with the sealing device danger.

4、When the position of the equipment is shifted, note the deviation of the conveyor belt due to the ground level problem.

5.This machine is going up the membrane, the membrane needs to be worn under the state of emergency stop, and the emergency stop can be lifted through the triangle board.

6、If the high temperature tape cracks, it must be replaced to avoid affecting the sealing quality and the service life of the sealing knife. If the film or other debris sticks on the sealing knife, wipe it clean with a dry cloth. When cleaning, the emergency stop switch must be in manual mode and pressed

Under. When doing the above cleaning, the total power supply must be turned off to ensure safety. Wear high temperature resistant gloves when cleaning the sealing knife.

III、 Mechanical commissioning and operation

3.1 、 Name of each mechanical component

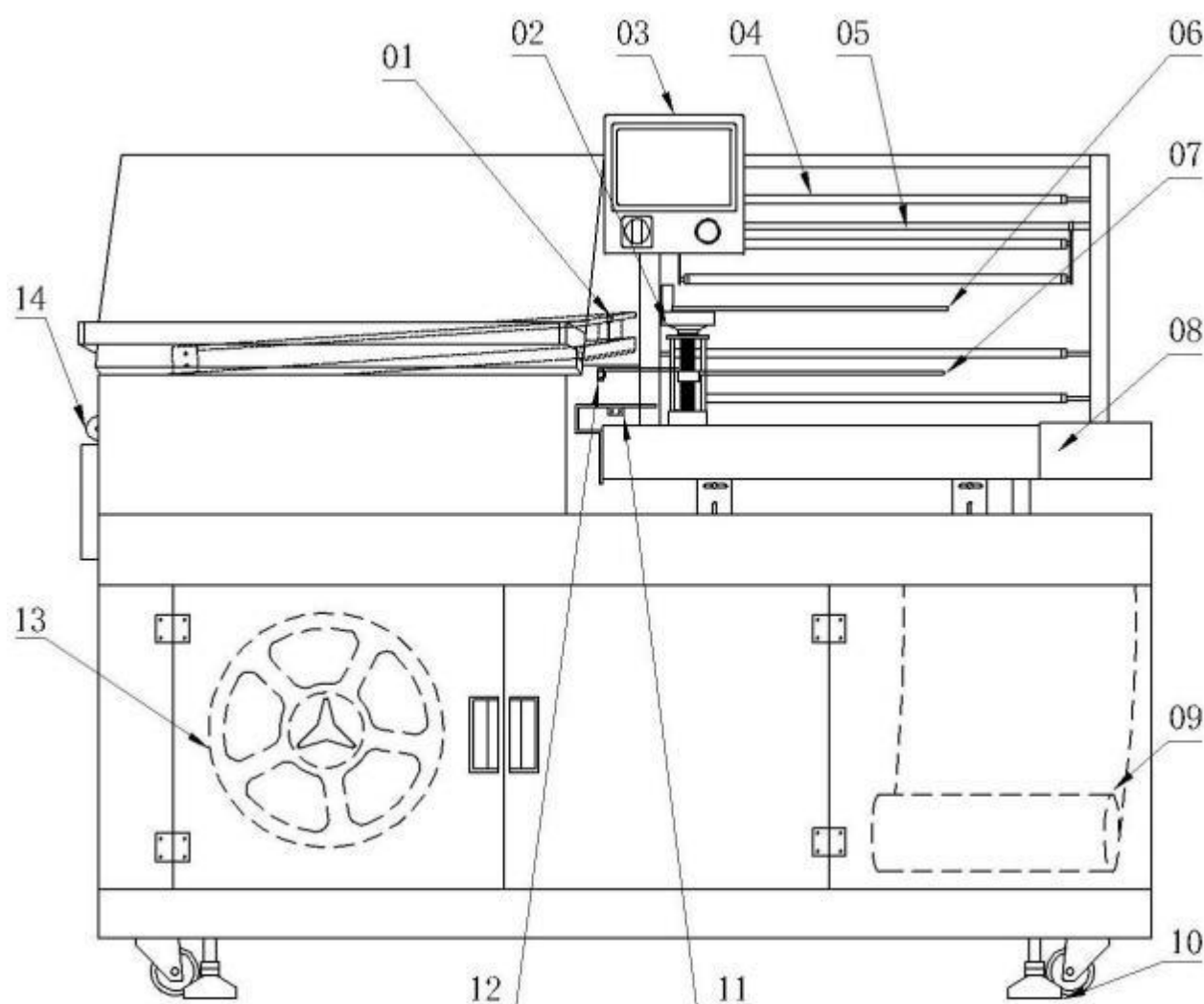


图1

01 Sealing system	01 Sealing system	01 Sealing system
02 Height-regulated handwheel	02 Height-regulated handwheel	02 Height-regulated handwheel
03PLC controller	03PLC controller	03PLC controller
04 Film potential drum	04 Film potential drum	04 Film potential drum
05 Tension balancing roller	05 Tension balancing roller	05 Tension balancing roller

3.2、 Mechanical technical parameters

Model	Dimension mm			Sealing size mm		Cutter height	Voltage	Power	Production capacity	Machine weight
	Length	Width	Height	Length	Width					
450L	1700	1050	1450	450	550	150mm	220V	1.35kw	15-25 bags/min	300kg
550L	1900	1060		550	650	150mm				320kg

3.3、 Operation panel

3.3.1 Manually operate the interface (P2)

- ① . **General supply :** Power control switch for the electrical system.
- ② . **Emergency stop:** Press this button to stop the conveyor belt, and the seal.
- ③ . **Heating open:** Heating switch. (A yellow flame when on state).
- ④ . **Horizontal seal temperature setting:** Set and control the temperature value of the transverse sealing knife (about 185°C is generally recommended).



P2



- ⑤ . **Vertical seal temperature setting:** Set and control the temperature value of the longitudinal sealing knife. (—About 185°C is recommended)
- ⑥ . **film-drawing:** Press that is to manually deliver the film.
- ⑦ . **Seal cut:** Press to manually.
- ⑧ . **Factory setting:** Internal testing for the equipment manufacturer.
- ⑨ . **Detection interface:** Detection of equipment-related signals (general In the case of professional maintenance or troubleshooting to do so need).
- ⑩. **Automatic interface:** Enter the automatic operation interface.

3.3.2 Automatic operation interface (P3)

- ① **Heating open:** Heating switch. (A yellow flame when on state). P3
- ② **Horizontal seal temperature setting:** Set and control the temperature value of the transverse sealing knife (about 185°C is generally recommended).
- ③ **Vertical seal temperature setting:** Set and control the temperature value of the longitudinal sealing knife. (Generally recommended about 185°C)
- ④ **Remainder of film :** Control the residue of the rear film of the package. The time should not be too short, otherwise the packaging is easy to be accidentally cut by a sealing knife. Note: (in the single point mode in the induction type, the calculation method of the rear margin is different. You can pay attention to the tracking and single point of the induction type in the following introduction).
- ⑤ **Seal cut time:** To control the sealing time of the film, a reasonable sealing time can be set according to the thickness of the film, usually 0.1–0.5 seconds (but the time is different due to the thickness of the package).
- ⑥ **Automatically:** The fact that the product is too close to the product will automatically open the safe distance, preventing the two products from being too close for miscut. (This feature is only available in tracking type mode in horizontal mode).
- ⑦ **Close connection:** The belt of the discharging conveyor table can extend a short distance and connect the gap between the discharging conveyor table and the feeding conveyor table, which is often suitable for smaller product packaging. (Equipment equipped with close connections will have this function).

⑧ **Production setting:** Can preset the quantity of products, reach the quantity automatically stop.

⑨ **Current production:** Number of products that have been sealed.

⑩ **Induction mode:** Is divided into "horizontal" that is to control and the packaging product horizontal direction parallel to the photoelectric switch and "vertical" that is to control and the packaging product vertical direction parallel to the photoelectric switch of two ways.

⑪ **Induction type:** Divided into "tracking" is detected the front of the product to the end of the product (generally applicable to more neat products), "single point" is detected the front, the end of the margin after the length of the control, the margin time is too short to mistakenly cut product, so for the first time use the function time set as long as possible, to try out the bag size consistent with the product again (generally applicable to the product irregular or product local hollow out, can make the light eye leakage cause secondary sealing and other mistakes.

3.4、Preparation before work

:

Put the machine on the flat ground. Before starting the machine, first check whether the parts of the machine are loose and displaced during transportation. Image, if found, should be adjusted and corrected.

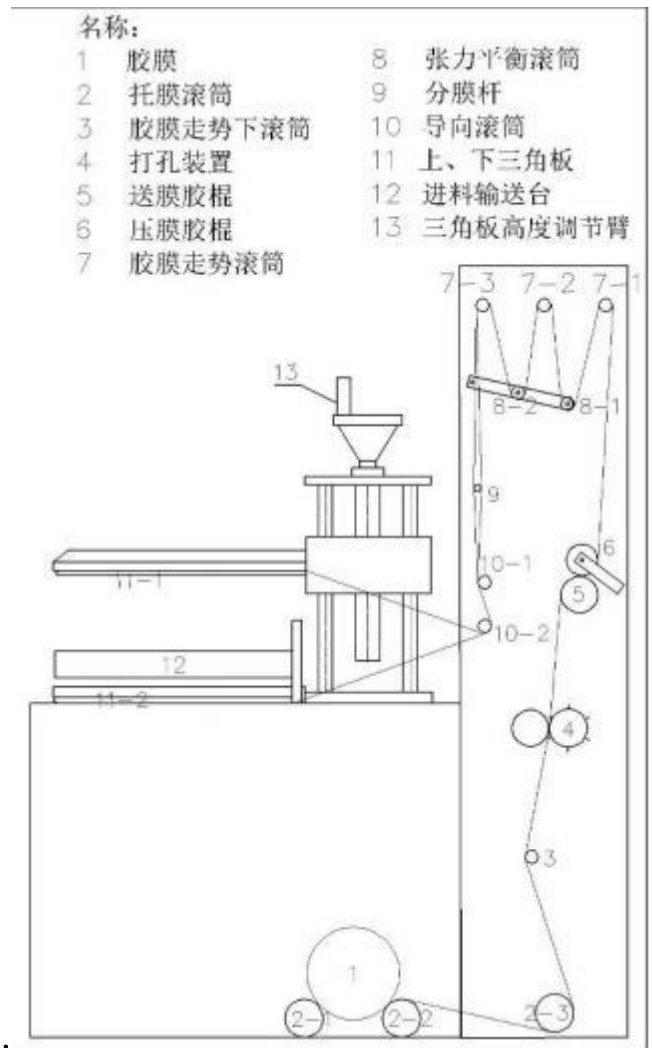
① **Connecting of the external gas source:** Connect one end of a soft windpipe with an outer diameter of 8mm to the air source, The other end is attached to the inlet joint under the machine and pushes the air pipe in place (P4) .



P4

② Inspection of air pressure:
External pressure of external air source is 6kg / cm², check whether the pressure gauge is about 5kg / cm² (the factory is adjusted in the standard range when the factory), when the machine is working normally, The pressure should not exceed 6kg / cm², otherwise the pneumatic parts are easy to be damaged. Note that the external incoming air source pressure must not exceed 9kg / cm², otherwise the pneumatic elements such as the pressure regulating filter will be damaged.

③ Adjustment of air pressure: If it is found that the pressure gauge on the regulator filter is not in the normal range, the following adjustments shall be made, gently pull the lid button of the regulator up, Clockwise rotation, the pressure increases, if the pressure decreases, adjust the pressure, must be gradually and evenly adjusted to the required pressure, and then to pressure down the cover button, and make the gap in the bump on the cover base (i. e., locked).



P5

- . 1胶膜 - Adhesive film
- . 2托膜滚筒 - Support film roller
- . 3胶膜走势下滚筒 - Adhesive film trend downward rolling guide
- . 4打孔装置 - Punching device
- . 5送膜胶棍 - Film feeding adhesive rod
- . 6压膜胶棍 - Film pressing adhesive rod
- . 7胶膜走势滚筒 - Adhesive film trend roller
- . 8张力平衡滚筒 - Tension balance roller
- . 9分膜杆 - Film separation rod
- . 10导向滚筒 - Guiding roller
- . 11上、下三角板 - Upper and lower triangular plates
- . 12进料输送台 - Feeding conveyor
- . 13三角板高度调节臂 - Triangular plate height adjustment arm

3.5、 Equipment work adjustment

3.5.1、 Membrane material and specifications: folded film, film material thickness 0.015-0.1mm product width $W + \text{product height } H + 100\text{mm}$ 。

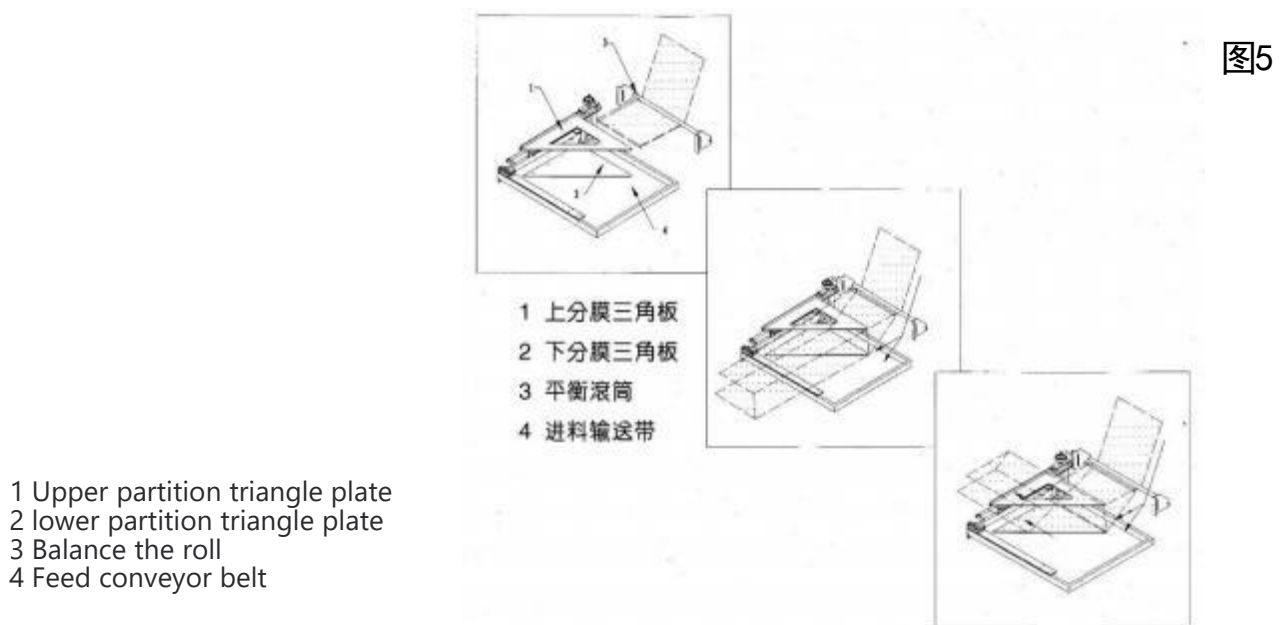
3.5.2、 Membrane material guide device: (P 4) When installing the membrane material, please turn the power switch off, This is conducive to operation safety.

① Place the film on two rollers above the machine and note that the opening of the film is facing the back of the machine

Edge, the right side of FIG. 5, and adjust the membrane to prevent the membrane material from moving left to right

The retaining membrane base at both ends of the material, so that it is just attached to the two ends of the membrane material.

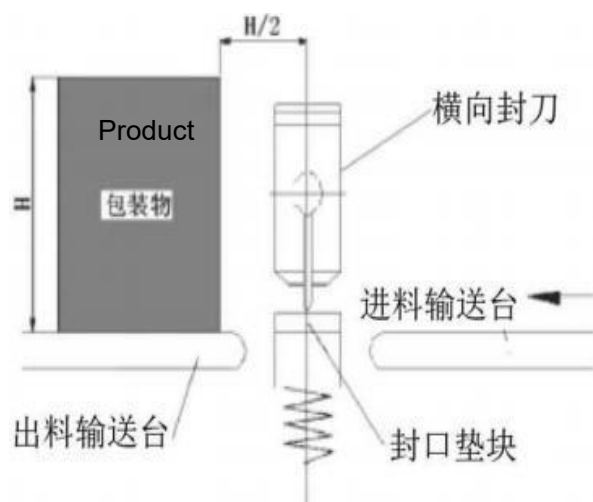
② Rotate film clutch handle (upper right of machine)



- ③ Pull down the film material in the direction shown in (Figure 4) and pass through each drum.
- ④ After passing through the drum, pull the membrane material out of about one meter, and then pass through the membrane three from the feeding table
The corner plate penetrates the film. (See Figure 6)
- ⑤ Pull away the film material in front of the membrane triangle plate. Refold the film material toward the conveyor belt.
- ⑥ First the membrane material through the upper membrane plate, and then the membrane material through the lower membrane plate.
- ⑦ After the upper and lower membrane material wear out together, pull out a little, and then pull the opening part of the membrane material to pull the waste belt
ingress.
- ⑧ When the membrane material passes through the drum and the upper and lower membrane triangle plate, the membrane clutch is reset. That is, the film cannot be delivered.)
- ⑨ Adjust the conveying channel according to the height and width of the package. As shown in Figure 7, the height adjustment handle adjusts the upper membrane triangle plate up and down, so that the bottom surface of the membrane triangle plate is 1 cm away from the package.
- ⑩ The width adjustment handle adjusts the feed work table to move back and forth, so that the width direction of the package is just passed without getting stuck.

3.5.3、Machine adjustment Settings:

- ① **Sealing temperature:** Turn on the power supply and turn on the heating switch. According to the material and thickness of the film material, Adjust the vertical and horizontal temperature controller to the appropriate temperature, generally set at about 180℃ is appropriate.
- ② **Seal cut time:** According to the material thickness of the shrinkage film, adjust the appropriate sealing time (generally in 0.4-0.8 seconds), the sealing time is to cut the film and the sealing effect is best, too long will reduce the packaging efficiency and burn the film, too short will affect the sealing effect or cutting.
- ③ **Resiamount of packaging film:** According to the size and contraction requirements of the package, set the appropriate film front margin (about the height (H) value of the product), and the front margin of the film is adjusted by the position of horizontal photoelectric detection, that is, move to the left to reduce the front margin of the film, and otherwise increase. The margin after the film is realized by the adjustment of the margin time relay, that is, the longer the time, the less, the less; the margin before and after the film is roughly equal.
- ④ **Adjust for the sealing alarm switch:** The main function of the alarm switch is to stop sealing the items in the operation, and protect the sealing knife and items from damage. When the alarm switch is not working normally, the alarm switch can be fine-adjusted (P 9).



横向封刀 - Horizontal sealing knife
包装物 - Packaging material
进料输送台 - Feeding conveyor
出料输送台 - Discharge conveyor
封口垫块 - Sealing pad/block

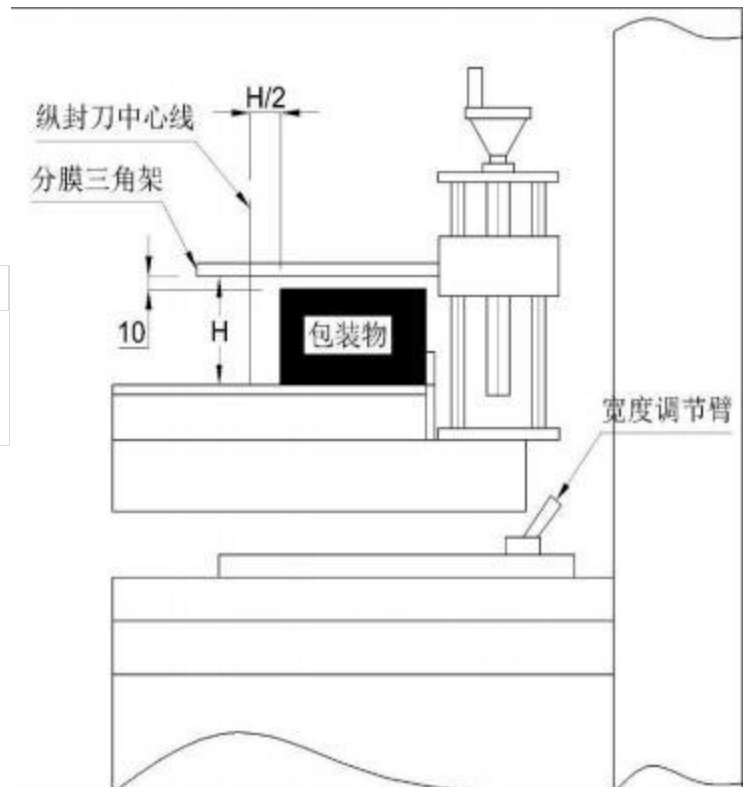
P9

⑤ Garbage collection :

a) After starting, the sealing and cutting action is carried out several times. When the waste flowing out of the sandwich belt reaches about two meters. (see Figure 10), the waste film is passed through the rollers and then fixed on the waste film wheel.

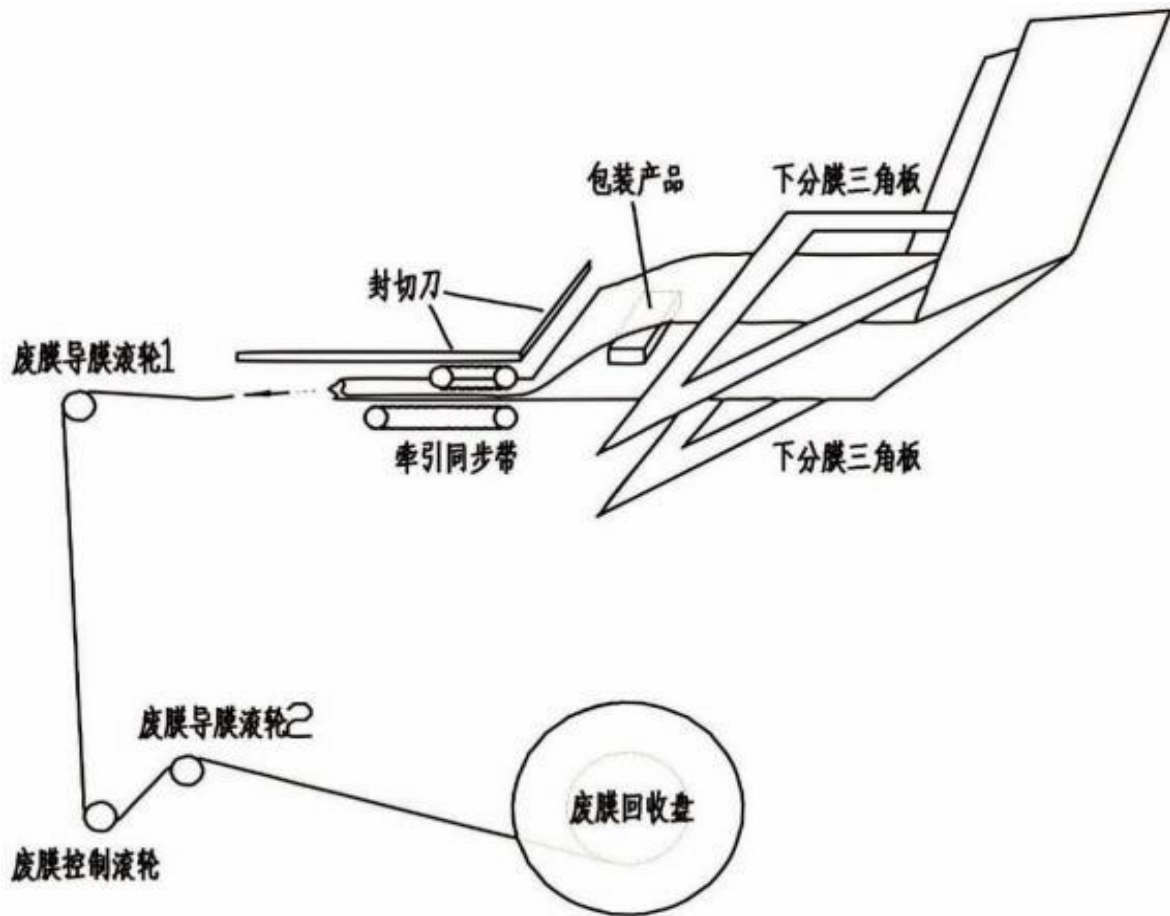
b) When the waste film wheel is full, unscrew the fixing knob and remove the front disk, to take out all the waste material.

.	纵封刀中心线 - Vertical sealing knife center line
.	分膜三角架 - Film separation tripod
.	宽度调节臂 - Width adjustment arm



3.5.2 Brief description of packaging process

Put the function switch in the automatic position and perform the installation and commissioning of the membrane material as described above. Then turn on the power switch, the power indicator light is on, the conveying part begins to run, put the packaging on the feeding table, surface, it must be noted that the packaging should have a proper gap between each other, otherwise there may be two packaging packaging at the same time. As long as the packaging is continuously input, the machine can do the packaging work continuously, and The package is automatically sent to the contraction system for contraction.



P10

- . 包装产品 - Packaged product
- . 下分膜三角板 - Lower film separation triangular plate
- . 封切刀 - Sealing and cutting knife
- . 废膜导膜液轮1 - Waste film guide roller 1
- . 牵引同步带 - Traction synchronous belt
- . 下分膜三角板 - Lower film separation triangular plate
- . 废膜导膜液轮2 - Waste film guide roller 2
- . 废膜回收盘 - Waste film recovery disk
- . 废膜控制滚轮 - Waste film control roller

【Safety warning!!!!!!!!!!!!!! Do not touch the seal knife with hand, otherwise there is a risk of scald】

IV、 Daily maintenance and routine maintenance

In order to keep the machine working steadily for a long time and keep the sealing in good condition, always follow the following item:

- 1、 After daily work, carefully clean the sealing part with a dry cloth. Please seal the knife before the temperature drops. If the sealing knife is cleaned below 70 C, the Teflon coating of the sealing knife surface may be damaged. Clean seal
Wear high temperature resistant gloves when knife.
- 2、 Movement parts, such as the sediment attached to the shaft, rod, shaft sleeve and chain, sprocket, must be cleaned regularly,
And fill with lubricating oil (after power off).
- 3、 Do a good job of protecting the contact surface of the sealing knife, namely the silicone strip. If the outer high temperature lacquer cloth is burned, it should be more immediately exchange. If it continues to use, it will not protect the following silicone strip, and affect the sealing quality quantity, the newly replaced lacquer cloth must keep flat, no wrinkles.
- 4、 If the sealing knife cannot be used normally due to wear, the sealing knife must be replaced.
- 5、 When repairing and maintaining the machine, be sure to cut off the power supply before the repair and maintenance work.

V、 Matters need attention

- 1、 The machine must be reliably grounded to protect the personal safety.
- 2、 All pneumatic components are set by the factory, it is best not to adjust, if really need to adjust, should
Under the correct guidance of professional and technical personnel.
- 3、 When the air path has no air pressure, the sealing knife assembly falls by itself, which is a normal phenomenon.
- 4、 When the machine is working, the palm and other parts of the operator are not allowed to contact with the operating parts of the machine, especially it is even more dangerous under a sealing knife.

5、 When setting the sealing temperature, the principle from low to high, and the temperature is not allowed at one time

Very high, otherwise it will easily burn down parts such as heating.

6、 The surface of the sealing knife is coated with Teflon coating, which must not be scraped away with sharp tools, otherwise the film is very good

Easy to stick to its surface, will seriously affect the packaging work.

7、 In case of machine failure, the power supply must be cut off as soon as possible, so as not to cause greater losses. Find out the cause,

It can only be put into use after normal repair.

8、 Non-professional technical personnel shall not change the wiring mode of electrical lines without authorization.

VI、 Common troubleshooting

Fault phenomenon	Fault phenomenon	Fault phenomenon
The PLC screen is not bright	The power switch is damaged	Replace
	The air switch is damaged	Replace
	Panel power switch is damaged	Replace
	Internal connection failure	Check, measure
Circuit breaker trip	Short circuit and damage of electrical components	Check, replace
The film was not cut	The sealing cutter pressure is not uniform	Adjust
	The sealing knife was partially damaged	Replace
	Insufficient gas source pressure	Adjust to normal pressure
Poor operation or lag of the conveyor belt	The conveyor belt tension is too loose	readjust
	The conveyor belt tension is too tight	readjust
	Bad gear of the conveying motor	Replace
The opening arm does not move	The seal solenoid valve is damaged	Check, replace
	Insufficient gas source pressure	Tune to 5Ka/cm ²
The sealing arm rises spontaneously on the way	The Safety device is too sensitive	Upper and lower fine-tuning of the alarm switch
The sealing arm drops itself on the way	The deviation of the radiation sensor position is relatively large	Readjust
	There is dirt on the sensor surface	Wipe it with a soft cloth
The sealing knife has no temperature	The electric heat pipe is damaged	Testing and replacement
	The temperature controller is damaged	Testing and replacement
	Relay damage	Testing and replacement
	Bad temperature controller	Testing and replacement
	Thermocouple is open and damaged	Adjust or replace
	Relay damage	Testing and replacement
The seal is not firm	The sealing knife will fit poorly with the silicone pad	Testing and replacement
	The temperature is set too low	Adjust the set temperature
	The sealing time is too short	Extended sealing time
	The gas source pressure is too small	Tune to 5Kg/cm ²
The entrainment does not move	Poor mixing motor	Testing and replacement
	The brake part of the clamp motor is abnormal	Testing and replacement
	The inclusions are too tight	Readjust
	The sandwich material is too loose	Readjust
	The transmission part is short of oil	Fuel oil

	Bad line connection	Check, measure
The recycling waste wheel does not turn	Poor waste motor	Check, measure
Waste material breaks during recovery	The waste material does not flow smoothly	Adjustment and inspection

VII、Electrical schematic diagram

This line diagram is only for reference during machine maintenance, please pay attention to save it. Line changes due by the machine without further notice.

