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# Chapter 1 Equipment explanation

## 1. Usage and features

a) This machine suitable to be used in solid & regular products.

- Food: instant noodle, biscuit, bread, chocolate, jelly, candy, popsicle, etc
- Industrial products: adhesive tape, soap, leechdom, box, tray, hotel article etc.

b) Function character: it is widely used flow-pack machine. Excellent sealing ability, sealing line clear, tidy, flexible, tight. Steady operation, low noise

## 2. Specification and parameters

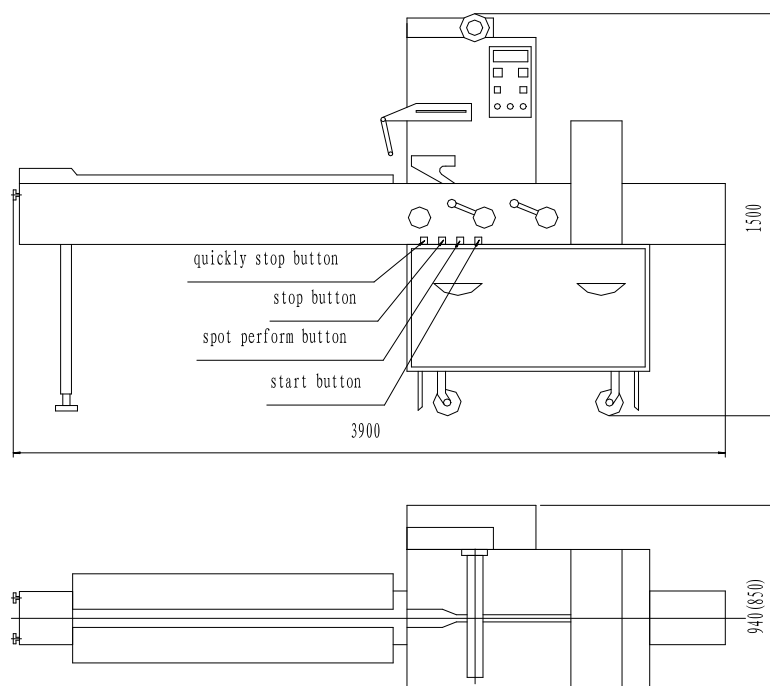
ITEM	REMARK		
PACKAGING FILM	OPP/CPP、CPP/PE etc.; must used in roll, outer diameter $\leq$ 300mm, inner diameter is 75mm, the surface of the film must be unknot, no wave on the edge of the film, the color mark must evidently different to the color of the film.		
TYPE	420	350	
BAG SIZE	L(120*350)*W(30-200)*H(5-70)	L(80-300)*W(30-160)*H(5-60)	
SPEED	35-120bag/min	35-180bag/min	
FILM THICKNESS	0.03-0.07MM	0.04-0.07MM	
MAX FILM WIDTH	400MM	320MM	
MAX OUTER DIAMETER	$\leq$ 300MM	$\leq$ 300MM	
POWER	POWER SUPPLY	220V、50HZ	220V、50HZ
	TOTAL POWER	3.2KW	2.75KW
MACHIEN SIZE	SIZE	L4200×W1000×H1520MM	L3900×W950×H1500MM
	WEIGHT	750KG	600KG
CRATE SIZE	MAIN MACHINE	L1750xW1250xH1650	L1590xW1100xH1740
	TAIL FRAME	L2550xW520xH420	L2560xW380xH350

### 3. List of spare parts.

Parts		Tools	
Heat tube	2	Inner turret spanner	1
Solid relay	1	monkey wrench	1
Cutting knife	1	Screwdriver	1

## Chapter2 Appearance and parts explanation

### 1. Appearance of the machine



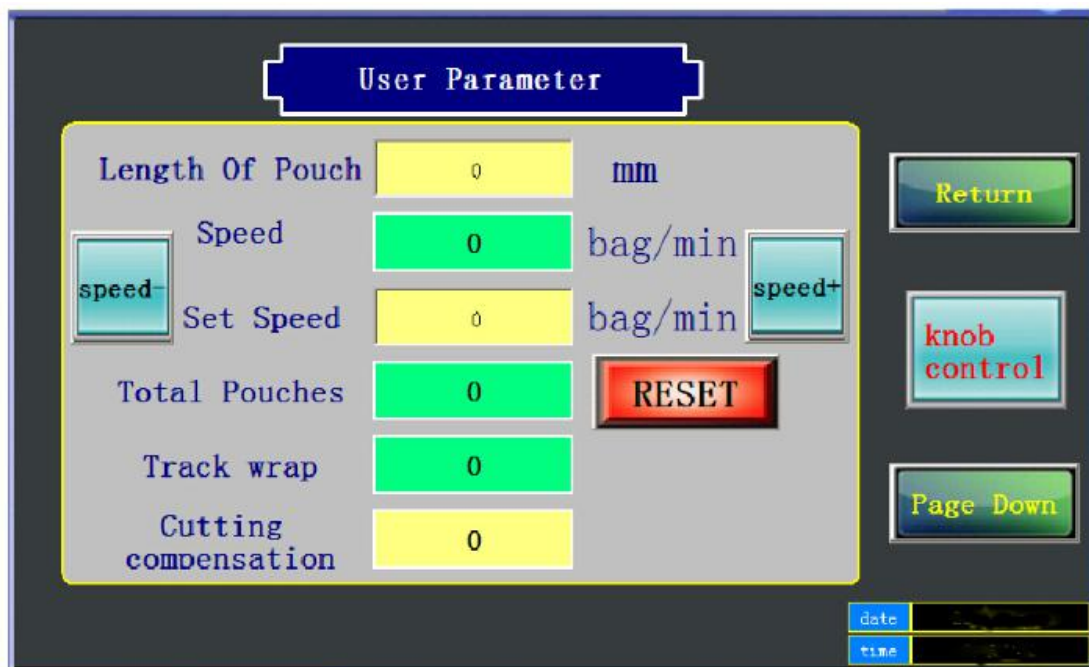
### 2. The use explanation of start、spot perform and stop button.

- 1) Presses the start button and then the machine begin to work.
- 2) Press the spot start button, the machine works under the preset speed. Release it, the machine stops.

- 3) The start and spot perform buttons should be used according to the speed knob.
- 4) Press the spot perform button and release it at once, the machine stops. Press but not release, the machine will keep moving till the knife dado moves to the horizontal position.
- 5) Emergency stop button is used to stop the machine when accident happens.

## Chapter3 control board and using explanation

### 1. PC control board



### 2. The operation of control board

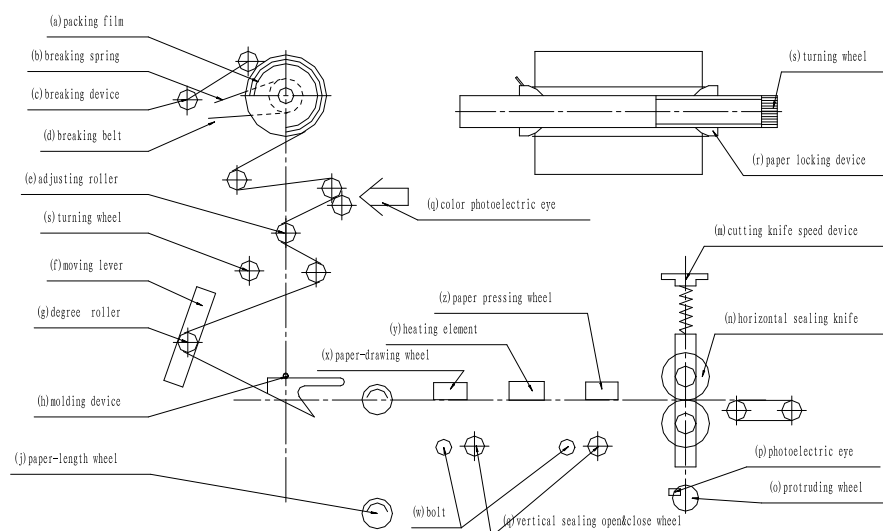
- A) Panel can display (can not changed)
- a. Display of the packing accumulative total number
  - b Display of the speed of the packing
  - c Display of the length of packing bag (measurement: mm)
  - d.compensate number, don't change it. (set it 10)
- B) Changeable data
- a. Setting of the length of the packing bag : ( measurement : mm ) Method : press the [SET]button, then press ▲▼, then data the wanted; then press [ENT], the preset data can be changed.
- Notice: when tracing the color mark, have to set the “tracing the color mark ” to “yes”.

- C) The usage of the temperature controller
- The temperature controller is devices which can be used to control the set temperature.
  - It can be modified between 0-399 degree, for which depend on the packing film and the air temperature around the machine, the thickness of the air temperature around the machine. The best temperature set on the device shall be fit to make outcome sealed bag perfectly airproof and smooth.
  - The temperature is independent on to the vertical & horizontal sealing device separately. That shall be adjusted carefully
  - Operation: Turn on the switch, press the increase bottom  $\uparrow$  or decrease bottom  $\downarrow$  till you com the date needed .Bottom  $\leftarrow$  is moving space bottom which is spare bottom only.
- D) Usage of the speed knob on the main machine
- This knob is used to adjust the speed of the machine .Turn it clockwise, the machine gain speed, turn it anti-clockwise slow down.
  - It must be turned to the minimum as duty off the speed is too fast to be controlled when restart.

## Chapter4 Parts adjustment

### 1. Steps of paper loading

- Place the packing film on the rollers, opening gap right side.
- Fine adjust the paper where (t) and make the film right on the middle of the roller
- Coil the packing film as shown sketch 3-A, put the film through the bag-making device to the paper-drawing where.(x)



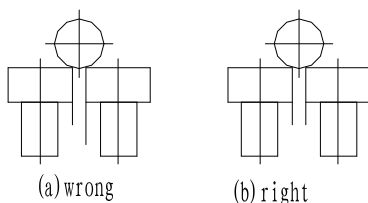
4. Parallel the two sides of the packing film, through it to the paper-drawing wheel as shown on the right sketch, then press the paper tightly by using the clutch wheel

## 2. Adjustment of packing film tensile force

As the packing film putting through the bag-making device, the paper would be hindered if the cohesion is not equal. It must be adjusted before start the machine.

- a. problem: packing film two side tight ,loose in the middle or vise versa, or one side tight, one side loose .( solution: swing the moving *lever*(F),move the *roller*(G)up and down
- b. After starting cohesion adjustment, start the machine .If the paper in the bag –making device to be felt by hand too loose or too tight ,adjust the fine turning wheel(S).Anti clockwise makes tight, clockwise makes loose.
- c. After starting the machine, turn the fine turning manual wheel(r), which located behind the machine and beside the electric box, to adjust it if the paper jam as shown on sketch.

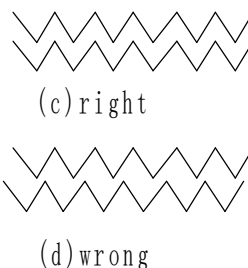
After starting the machine, turn the fine turning manual wheel(r) to adjust the film if the outcome products are found unparallel. Turn clockwise to set inside, turn anti clockwise to set outside .Turn slightly till the two sides parallel.



## 3. Adjustment of vertical parts and cautions

The ideal effect of vertical sealing shall be airproof and clear line. Otherwise it shall be adjusted.  
Method:

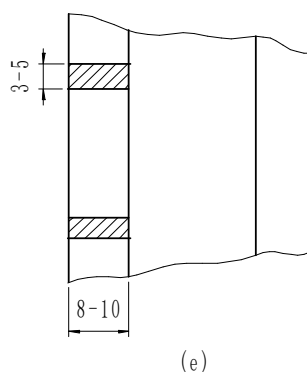
- a. Place one carbon paper between white papers. Cool them through the vertical sealing device, if the result is just like the one shown on the right (C), which is correct. If the result is like the one shown below (D), that is wrong.



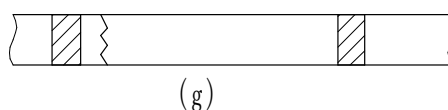
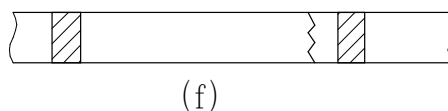
- b. unfasten the bolt.
- c. knock it slightly down till the outcome result becomes correct
- d. Be patient in case damage the surface .
- e. The highest level of the two wheels shall not beyond the panel ( usually 0.5-1mm away from the panel)
- f. Under the condition of good lines and suitable temperature, yet the bag-sealing is not perfect, then adjust the bolt(W),make two rollers stay closer or wider till the bag-sealing become satisfactory .
- g. If all the adjustment above have been taken, yet the bag-sealing is not satisfactory, check the heating element in the sealing device .if the display shown on the temperature control is normal, but the heating element on the side burned, then replace the heating element .as replacing, make sure the circuit is connected right and no creep age at all before start the machine.

## 4. Usage of the photoelectric eye tracing system

Photoelectric eye tracking system includes programming controller & color label & electric eye & switch of each packing-bag (those without color label cannot be supervised, the color shall be in deep color, block is even better. color label specification:8-10mm horizontal,3-5mm vertical.



- (1) Method & procedure:
  - a. Measure the exact length between two color labels.
  - b. Start the machine without filling material, adjust the length to the needed date.(shown on the control panel D7)
  - c. Load the paper film, spot the machine, stop it as the film just passes the knife, and press the compensation bottom on the panel. Move the color label on the film to the knife cutting position, release the screw cup on the adjustment roller (e),turn the photoelectric eye (g).9at this moment ,the green light under the beam emitted from the photoelectric eye shall be off),fasten the screw cup then start the machine
  - d. After starting the machine, the photoelectric eye will start tracking .if the cutting knife is on the position as shown on the sketch(g),the roller(e ) shall be moved a little bit right.



(2) Pay attention to the follow issue:

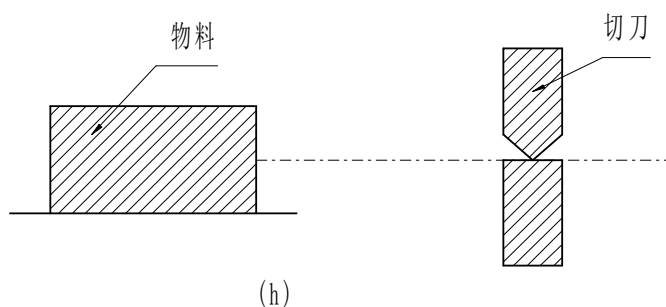
- a. The red light on the photoelectric eye shall flash as the machine working,
- b. As the machine working, two compensation lights on the control panel shall flash one by one if the light flashes more often, it means that the length of the packing bag is too long, it shall be shorten. Then method of adjustment pleases reference to the P3.

## 5. Adjustment of the speed of horizontal sealing

- a. Adjustment of the speed for horizontal sealing shall be taken no matter how long the packing bag will be. Otherwise the sealing will be poor.
- b. The adjustment shall be based on the knife cutting speed and the speed of packing film. It means that it shall not make to paper jam or make to paper too tense.
- c. If paper jam, the cutting speed is too slow. Adjust the manual wheel (m), turn it anti clockwise .
- d. If paper is too tense, the cutting speed is too fast, Adjust the manual wheel (m), turn it clockwise till it becomes perfect.

## 6. Adjustment of knife rack on the horizontal sealing device

- a. As shown on the right sketch (h), the height of the packed material shall parallel to the upper and lower cutting knife so that the sealing is the best.
- b. If the height difference is too big, the knife shall be adjusted.



Method: See the sketch on the right Release four bolts on the knife rack; turn with spanner the big bolt on the middle of the rack: clockwise up, anti-clockwise down.



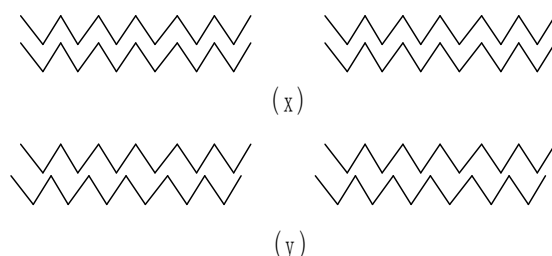
Fasten all bolts as finished.

## 7. Adjustment of the knife dado on the horizontal sealing device

The quality of the knife dado is essential to the quality of the sealing. The knife is made under strict supervision so that the quality is excellent. Do not move it so often. If it must be moved, do some test first: put a carbon paper between two pieces of white paper and test it in the machine, if the line is clear and even, it is not necessary to move the knife?

Adjustment method:

- a. If the two knife make error at the same account , release the bolt on the gear of the axis on the lower knife .(M10),gently knock the knife dado left or right till comes to the place Fasten the bolts again,



- b. If the two knife make error at different account, it must be adjusted separately, Release the bolt 9M10), gently knock the knife dado left outright till it comes to the right place

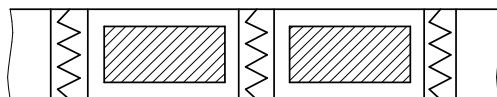
## 8. Adjustment of the cutting knife

- a. Adjust it when the paper cannot cut apart. Set some copper plate on the button before adjustment. The perfect result is cut the paper with little noise.

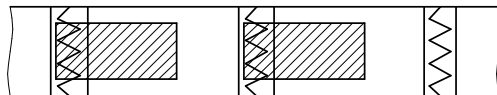
- b. If all the effort has been taken yet the result is not satisfactory, replace the knife, At adjustment, the knife must be heated to 10 degree.

## Chapter5 opposition adjustment of the packed material

- a. Put a material on the belt, spot start the machine and wait till the packed material has been put into the packing bag, stop the machine and examine the sealing quality. If the sealing is just like the sketch (j), it shall be adjusted.



(i) right



(j) wrong

- b. Different length of packing shall be adjusted separately. Turn the belt chine (i) clockwise or anti clockwise at the same time.
- c. Keep turning till the packed material was put on the middle of the packing bag. The adjustment can be performed till the machine is not running.

## Chapter6 problems and solutions

Problem	Cause	Solution
1. Running the paper	<ol style="list-style-type: none"> <li>1. Packing film not in the middle.</li> <li>2. Cohesion not suitable.</li> <li>3. Material hinders the paper.</li> <li>4. Molding device too narrow.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust the manual wheel.</li> <li>2. Reference the chapter 4, point 2.</li> <li>3. Put up the molding device till the material does not hinder the paper.</li> <li>4. Adjust the manual wheel of the molding, take some release.</li> </ol>
2. Photoelectric eye run to the wrong place	<ol style="list-style-type: none"> <li>1. Length is not correct.</li> <li>2. The driving wheel too dirty.</li> <li>3. Photoelectric eye no response.</li> <li>4. Switch on the knife dado no response or running position.</li> <li>5. Braking device too tight or too loose.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reset the length.</li> <li>2. Clean the roller.</li> <li>3. Check the color label,, adjust the span between paper and the photoelectric eye .or adjust the sensitive knob on the photoelectric eye. When the label right below the eye, the red &amp; green light on the eye shall be off, if the label move away, the lights on</li> <li>4. Adjust the span between the switch and the protruding wheel,(2-3),when the</li> </ol>

		upper knife and lower knife are parallel, the light will on. 5. Adjust the baking belt
3. Knife cut to the packed material	1. Material pusher and cutting knife not work together well 2. Position of the molding device changed 3. Knife dado too high or too low.	1. Adjust the fine turning manual wheel 2. Adjust the spring. 3. Adjust the dado till the knife just in the middle of the packed material
4. Air leasing in the vertical sealing device.	1. Temperature too high or too low, bad quality of the film. 2. Span between the rollers too wide or too loose.	1. Adjust the temperature, replace the paper. 2. Adjust the span.
5. Air leasing in the horizontal sealing device.	1. Temperature too high or too low. 2. Knife dado dirty, or bad film. 3. Position of knife & upper knife not correct.	1. Adjust the temperature. 2. Clean the dado or replace the film. 3. Adjust the position of dados.
6. Alarm on the panel	1. No proximity switch. 2. No electric eye. 3. Knife encoder. 4. Film encoder. 5. Knife inverter. 6. Film inverter.	1. Change the proximity switch or try to check the trace point. 2. Change the color label electric eye; check the trace point; adjust the sensitivity of electric eye. 3. Change the film length electric eye; adjust the distance with the encoder. 4. Change the film encoder or coupling. 5. Change the knife inverter or check the voltage. 6. Change the film inverter or check the voltage.
7. Temperature controller can't control the temperature or no display	1. Heating tube or thermocouple is damaged. 2. Solid relay is damaged. 3. Power supply too	1. Replace the heating tube or thermocouple. 2. Replace the solid relay. 3. Replace the temperature controller.

	high or unstable.	
8. Display on temperature controller flicker.	1. Copper circle is dirty. 2. Copper circle & copper brush dose not connect well.	1. Clean the copper circle. 2. Adjust the copper circle & copper brush.

## Charpter7 list of packing

No.	NAME	UNIT	QUANTITY	REMARK
1	SPARE PARTS	SET	1	/
2	TOOLS	SET	1	/
3	MANUAL	SET	1	/

## Charpter8 Programming controller explanation

Symbol meaning:

INPUT	
SYMBOL	MEANING
X0	photoelectric eye
X1	switch on the knife dado
X2	paper-length photoelectric eye
X3	“+”compensation bottom
X4	“-”compensation bottom
X5	start bottom
X6	stop bottom
X7	spot start bottom
X17	EMERGENCY STOP BOTTOM
OUTPUT	
SYMBOL	MEANING

Y0	transducer start/stop/spot output
Y1	Vertical sealing electromagnetism valve
Y2	“+”compensation output(M494, M492, M21)
Y3	“-”compensation output(M493, M491, M22)
Y4	Positive run symbol of film inverter.
Y5	Reverse run symbol of film inverter.

### Circuit Picture

