

AUTO PACKING MACHINE



INSTRUCTION

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1– FOREWORD

This manual is used to ensure to effectively use and operate the automatic filling packing machine. Please to read it, so as to know each function's characteristics, operating procedures and operating instruction thoroughly before starting the machine.

1) Summary

This model is an automatic packing machine which is basic on advanced foreign technology and improved by our technician team. It can finish all processes from product feeding, metering, making bag, date printing, sealing and output automatically. This machine adopts servo motor & PLC control system, human machine with touch screen, photocell detector, digital temperature controller which makes the machine be simple and easy to operate. It is a good machine to improve the production capacity, reduce labor intensity and upgrade the packaging grade.

2) Safety Precautions

- (1) Please do not run the machine if you still have questions about the operation manual and safety requirements.
- (2) Please do not operate the machine if you were not trained or authorized.
- (3) Please read this manual to know all the operation details before running the machine.
- (4) Make sure the machine is installed & debugged well before mass production.
- (5) Make sure there is no other goods around or near the machine system.
- (6) Do not open the electrical box if the machine is with power.
- (7) Make sure there is an operator in the site when the machine was running.
- (8) Do not touch the sealing device and working parts of the machine when it's running.
- (9) Inspection & repair electrical control circuit should be completed by qualified electricians.
- (10) It is forbid to refitting the machine or installing non-approved devices & cutters or relative equipment to the machine without the supplier's advice.
- (11) If there were any questions without mentioned or doubt, please contact us for advice.
- (12) Please do not run the machine in harsh environments.

Note: For the safety of you, others and the equipment, please be sure to follow these safety

precautions, supplier won't be responsible if they do not according to the above requirements arising from accidents and incidents.

3) Feature & Specification

Voltage	single phase,220V/50HZ		Power	4.0KW
Packaging material	Complex foil		Power of Horizontal Sealing Heater	250W/55VAC/PC
Film thickness	0.05-0.12mm		Power of Vertical Sealing Heater	350W/220VAC/PC
Film width(Max.)	520mm		Working Pressure	0.65MPa
Bag Size(Max.)	80-350mm(L) 80-250mm(W)		Gas Consumption	0.5m³/min
Packing speed	5-30 packet/min		Dimension	L1310xW1180xH1680
N.W	560kg			
Application	Suitable for granule, powder, liquid with different measuring device.			

Note: Please take a note on the packing film, the film roll external diameter should be less than 350mm, internal diameter should be 75mm. Film thickness should be 0.04-0.1mm, surface should be flat and left 10mm edges without printing (the background should be pure color which is large difference from other places).

4) Machine Description

(1) Function

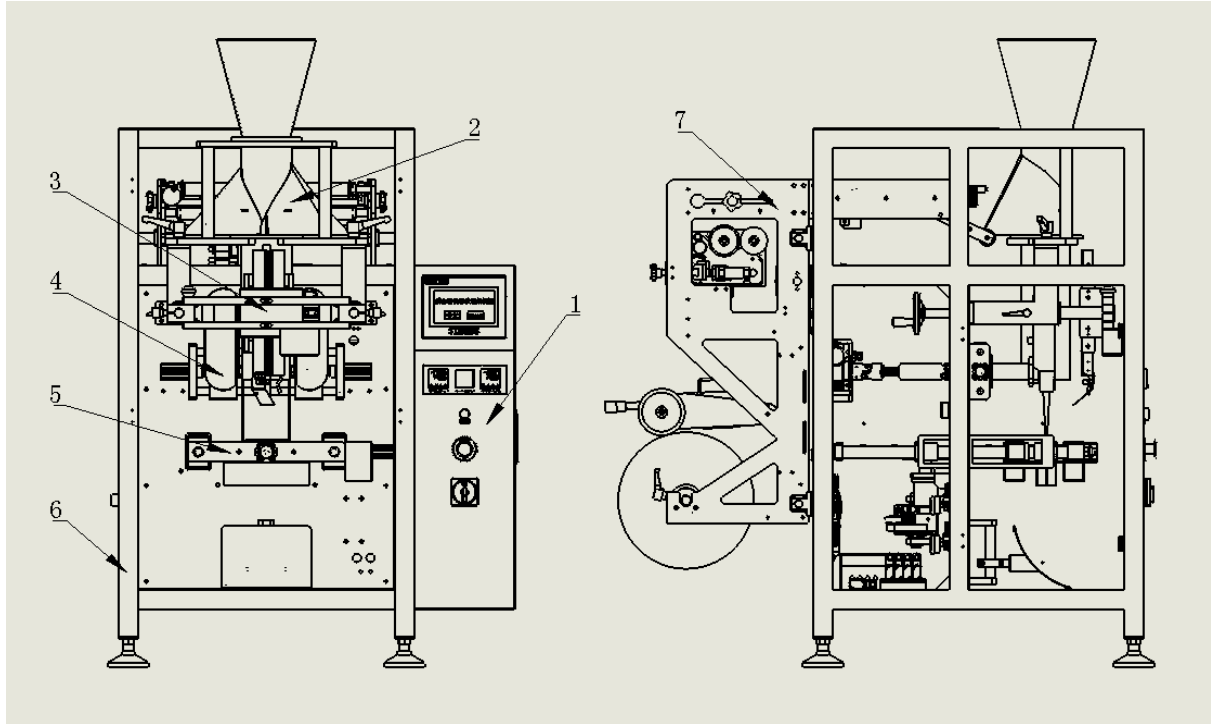
The packing machine system is suitable for packing sundry solid products, such as biscuits, candies, jelly, puffy flake and other food products, it also can pack commodity, hard-wares, plastic parts or other granular powder and so on.

(2) Features

- ① Imported PLC&color touch screen, human machine interface, easy operation and efficient.
- ② Separate pneumatic control and power control, noise is low and the circuit is more stable.
- ③ Two synchronous belt device with servo control system, less film pulling resistance, high orientation precision, bag design can be kept well and belts are more durable.
- ④ External film feeding mechanism, film setting is easier and faster.
- ⑤ Close down type mechanism, defending dust into machine inside.
- ⑥ Photocell detector tracking system, which would make the cutting position more accurate.

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- ⑦ Independent temperature control system which can suitable for different kinds of packing films.
 - ⑧ Working with all kinds of automatic metering device is suitable.
 - ⑨ PLC control which can upgrade and adjust function easily.

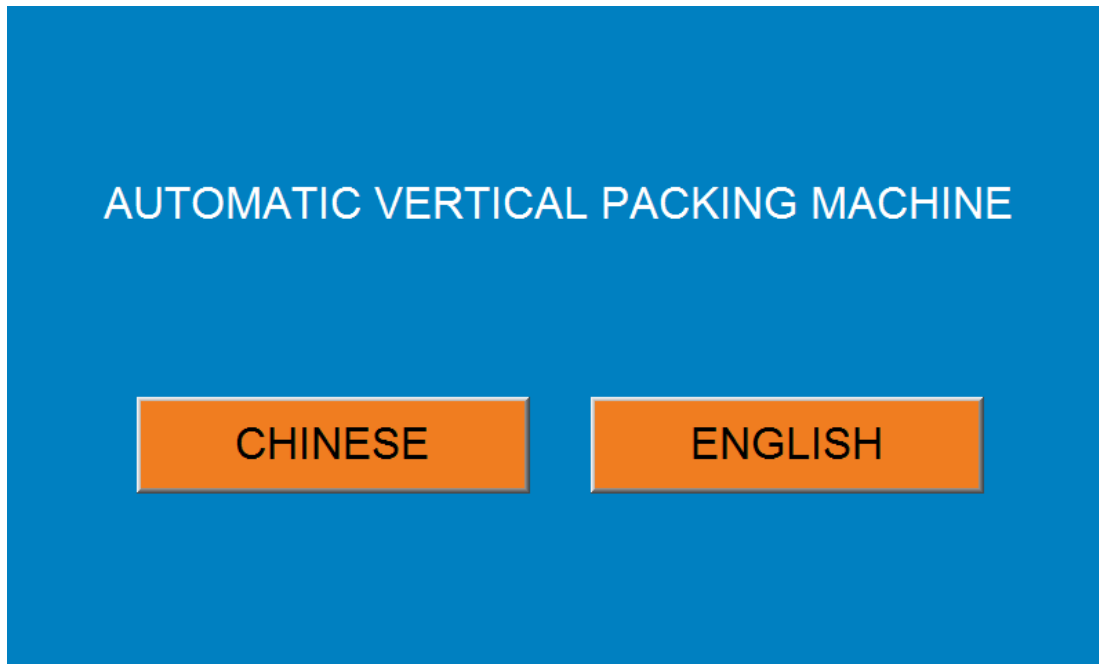
(3) Parts Name



- 1. Electricity Box
- 2. Bag Former
- 3. Vertical Sealing Device
- 4. Pulling Film Mechanism
- 5. Horizontal Sealing Device
- 6. Machine Frame
- 7. External film releasing mechanism

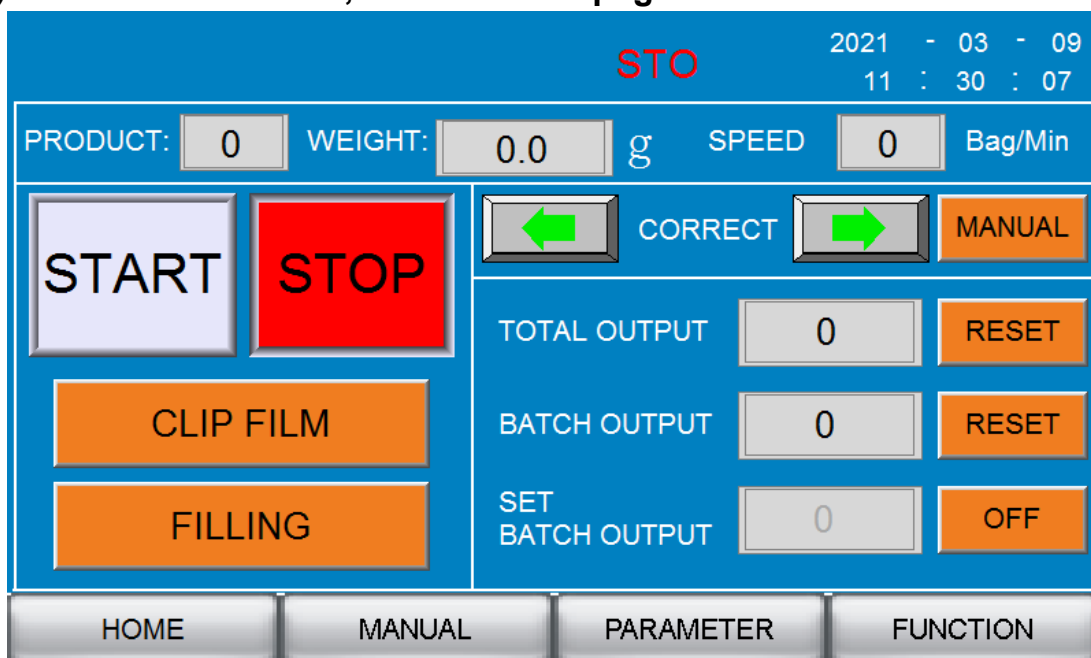
2- HMI Operation & Setting

(1) Turn on the power, the screen shows as follow





Touch “**ENGLISH**”, it will be in the main menu as below

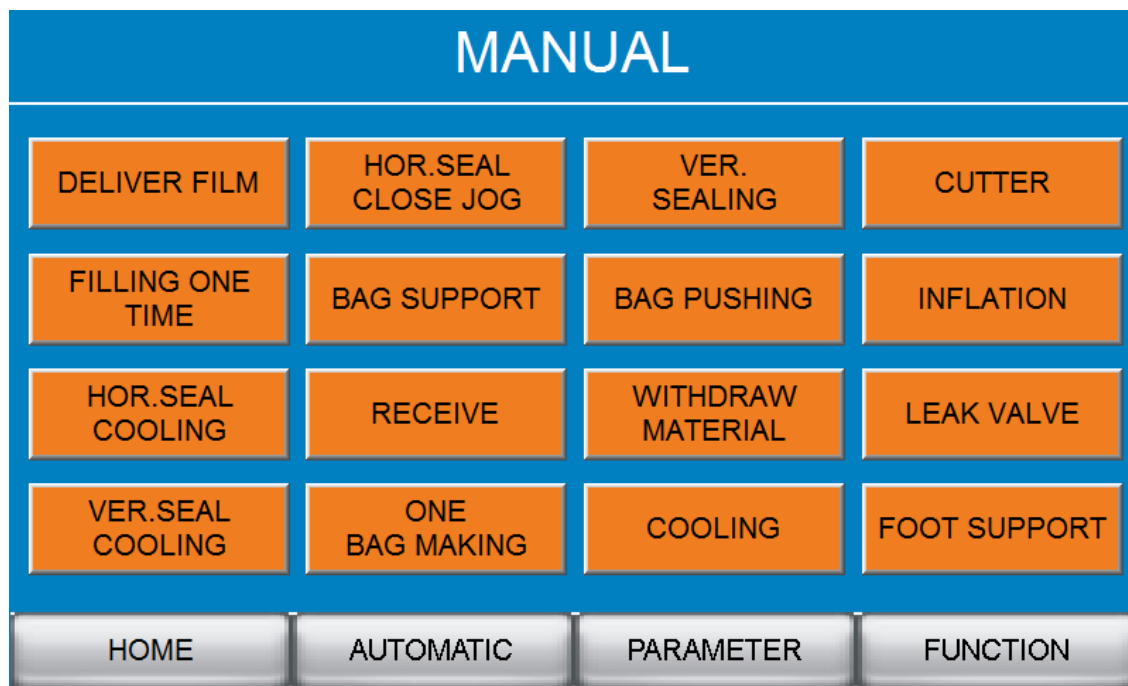
(2) Click “**AUTOMATIC**”, enter into the page as follow



◇**PRODUCT** : it shows the existing setting packaging data.

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- ◇ **WEIGHT** : it is the existing setting weight.
 - ◇ **SPEED** : the machine actual working speed.
 - ◇ **START** : click it, the machine will work as setting data.
 - ◇ **STOP** : click it, the machine will stop.
 - ◇ **CLIP FILM**: click it, the pulling foil cylinder works, to push the belt to clip the foil tight; click it again, the function close (when turns green color)
 - ◇ **FILLING** : click it, it will change into green color, meaning it is connected well with packer and will work synchronously; click it again, changes into Orange, meaning doesn't connect with packer.
 - ◇ **Rectify a deviation**: Click " " "to make the bag is packed well; If the bag is over left, click Right sign, if over right, click for left.
 - ◇ **TOTAL OUTPUT** : the total production capacity quantity.
 - ◇ **BATCH OUTPUT**: the total production capacity quantity of each working
 - ◇ **SET BATCH OUTPUT**: the machine will stop when finishes the production capacity (if set)

(3) Click “MANUAL” as follow page

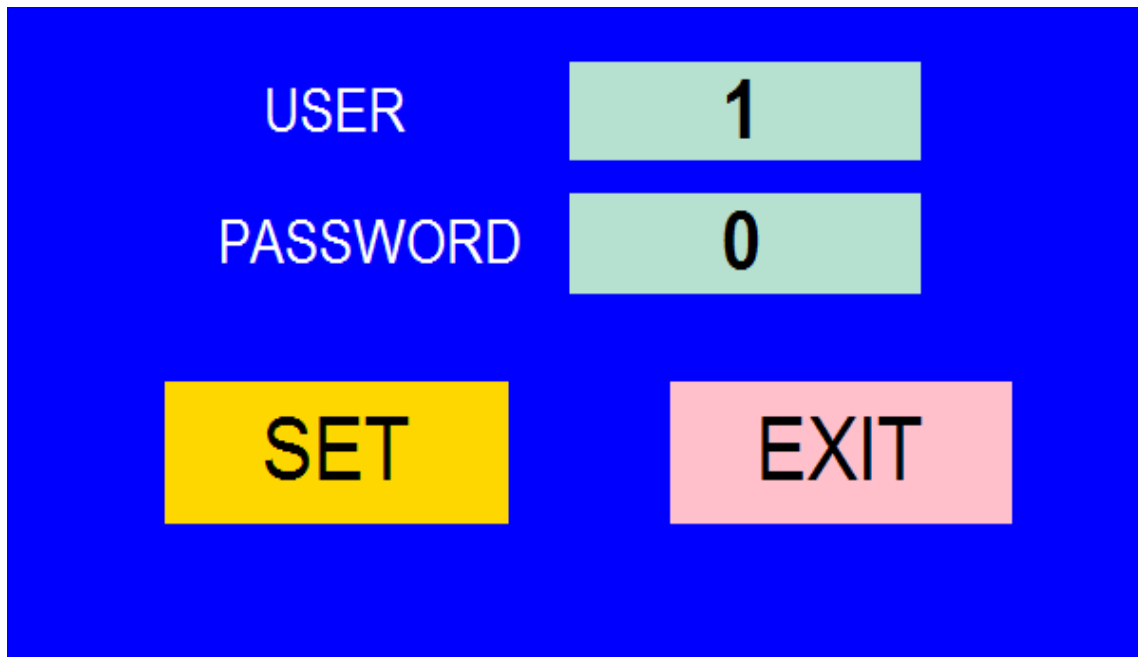


MANUAL is just a testing function (all the function can work only click it)

- ◇ **DELIVER FILM:** means making a bag as setting bag length.
- ◇ **HOR.SEAL CLOSE JOG:** means the horizontal sealing has one time action.
- ◇ **VER SEALING:** means the vertical sealing has one time action.
- ◇ **CUTTING:** click it, the cutter works one time.
- ◇ **FILLING ONE TIME:** the feeding device will fill one time as setting weight.
- ◇ **BAG SUPPORT:** means the device has one time action.
- ◇ **BAG PUSHING:** means the device has one time action.
- ◇ **INFLATION:** the inflation function has one time action (if have this function)
- ◇ **HOR.SEAL COOLING:** the horizontal sealing has cooling function; it acts one time.

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- ◇ **RECEIVE**: the receive product device acts one time.
 - ◇ **WITHDRAW MATERIAL**: click it, the feeding device works, but machine doesn't form the bag.
 - ◇ **LEAK VALVE**: this is only for POWDER package.
 - ◇ **VER.SEAL COOLING**: the vertical sealing has a cooling function; it acts one time.
 - ◇ **ONE BAG MAKING**: making an empty bag as setting data.
 - ◇ **COOLING**: cooling device acts one time (usually for sealing parts)
 - ◇ **FOOT SUPPORT**: the device acts one time.

(4) Click “PARAMETER”, enter into as follow:



The screenshot shows a blue background with white text. At the top, the word "PARAMETER" is partially visible. Below it, the text "USER" is followed by a light green box containing the number "1". Below that, the text "PASSWORD" is followed by a light green box containing the number "0". At the bottom, there are two buttons: a yellow button labeled "SET" on the left and a pink button labeled "EXIT" on the right.

USER: 1 ; PASSWORD: 11111

(**Note**: please keep the information well to make sure packing machine is operated by related professional people and keep the packing machine works well as setting parameter).

(5) Input User and Password, click the “SET”, enter the page as follow

PARAMETER SETTING(1/5)								
PRODUCT:	1	2	3	4	5	6	7	8
WEIGHT:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BAG LENGH	0	mm	SPEED		0	Bag/Min		
FILM DELAY	0.00	S	SERVO FREQUENCY		0	Hz		
VERTICAL LENGTH	0	mm	BAG LENGTH RATIO		0.0	P		
HOR.SEAL DELAY	0.00	S	HOR.SEAL TIME		0.00	S		
VER.SEAL DELAY	0.00	S	VER.SEAL TIME		0.00	S		
HOME		AUTOMATIC		MANUAL		FUNCTION		

PARAMETER SETTING is a function setting page, total 5 page

◇**PRODUCT**: total 8 group different setting optional; before setting, need to choose group.

◇**WEIGHT**: only for weight showing.

Following is the explanation for Page 1

◇**BAG LENGTH**: making the bag length as setting well; if the bag length is different as setting, please revise the “1mm IMPULSE QUANTITY”, the data is bigger, the bag is longer.

◇**SPEED**: means the required packing machine setting; it is affected by other data setting.

◇**FILM DELAY**: means how long to pull the film after the horizontal sealing finishes (usually 0.2-0.4s).

◇**SERVO FREQUENCY**: the working frequency of servo; the data is larger; the speed is faster (usually 20000-28000).

◇**VERTICAL LENGTH**: it is the sealing heater length;

◇**BAG LENGTH RATIO**: when the actual bag length is different as setting; change this data, the data is bigger, the bag is longer.

◇**HOR.SEAL DELAY**: how long horizontal sealer to sealing after pulling foil finished (usually 0).


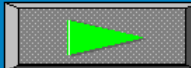
◇**HOR SEAL TIME**: the horizontal sealing time, different thickness is different (usually 0.4-0.8S)

◇**VER.SEAL DELAY**: how long vertical sealer to seal after pulling foil finished (usually 0).

◇**VER SEAL DELAY**: the vertical sealing time, different thickness is different (usually 0.3-0.6S)

(Note: please Store the data after each revision)

(6) Click “” to enter the Page 2 as follow:

PARAMETER SETTING(2/5)										
PRODUCT:	1	2	3	4	5	6	7	8		
WEIGHT:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
CUTTER DELAY	0.00	S				CUTTER TIME	0.00	S	ON	
INFLATION DELAY	0.00	S				INFLATION TIME	0.00	S	ON	
BAG SUPPORT DELAY	0.00	S				BAG SUPPORT TIME	0.00	S	ON	
BAG PUSHING DELAY	0.00	S				BAG PUSHING TIME	0.00	S	ON	
RECEIVE DELAY	0.00	S				RECEIVE TIME	0.00	S	ON	
HOME		AUTOMATIC		MANUAL		FUNCTION				

◇**CUTTER DELAY**: how long the cutter to act after horizontal sealer starts, usually 0.25-0.4S, the data is too big or too small, it cannot cut the foil well.

◇**CUTTER TIME**: the cutter action time, usually 0.2-0.25S.

◇**INFLATION DELAY**: how long to start action after pulling foil finished.

◇**INFLATION TIME**: the inflation device action time.

◇**BAG SUPPORT DELAY**: how long to start action after pulling film finished.

◇**BAG SUPPORT TIME**: the bag support action time.

◇**BAG PUSHING DELAY**: how long to start action after pulling foil finished.

◇**BAG PUSHING TIME**: the bag pushing action time.

◇**RECEIVE DELAY**: how long to start action after pulling foil finished.

◇**RECEIVE TIME**: the receive device action time.

(Note: please Store the data after each revision)

(7) Click “” to enter the Page 3 as follow:

PARAMETER SETTING(3/5)									
PRODUCT:	1	2	3	4	5	6	7	8	
WEIGHT:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
HOR.SEAL COOLING DELAY	0.00	S	HOR.SEAL COOLING TIME	0.00	S	ON			
VER.SEAL COOLING DELAY	0.00	S	VER.SEAL COOLING TIME	0.00	S	ON			
LEAK VALVE DELAY	0.00	S	LEAK VALVE TIME	0.00	S	ON			
DELAY FEEDING MATERIALS	0.00	S	DELAY FULL OF MATERIAL	0.00	S	ON			
FILLING DELAY	0.00	S	JOINT BAG	0	P	ON			
HOME		AUTOMATIC		MANUAL		FUNCTION			

- ◇**HOR.SEAL COLLING DELAY**: how long to start action after pulling foil finished.
- ◇**HOR.SEAL COOLING TIME**: the horizontal sealer cooling action time.
- ◇**VER.SEAL COOLING DELAY**: how long to start action after pulling foil finished.
- ◇**VER.SEAL COOLING DELAY**: the vertical sealer cooling action time.
- ◇**LEAK VALVE DELAY**: how long to start action after auger filler starting.
- ◇**LEAK VALVE TIME**: how long to stop action after auger filler finished.
- ◇**DELAY FEEDING MATERIALS**: how long to start to feed after detecting no material.
- ◇**DELAY FULL OF MATERIAL**: how long to stop feeding after detecting full material.
- ◇**FILLING DELAY**: how long to start to fill after pulling foil finished.
- ◇**JOINT BAG**: cutting quantity of together bag. (option function)

(Note: please Store the data after each revision)

(7) Click “” to enter the Page 4 as follow:

PARAMETER SETTING(4/5)								
PRODUCT:	1	2	3	4	5	6	7	8
WEIGHT:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VERTICAL SEAL DELAY-2	0.00	S	VERTICAL SEAL TIME-2	0.00	S			
SEALING DELAY	0.00	S	PRE-SEALING	0	mm			
ACC/DEC TIME	0.000	S	FILLING TIMES	0	P			
SCREW PULSES	0.00	P	BAG SUPPORT TIMES	0	P			
SCREW SERVO FREQUENCY	0	Hz	HORI SEALER FIRST		PULL FILM FIRST			
HOME		AUTOMATIC		MANUAL		FUNCTION		

◇**VERTICAL SEAL DELAY-2**: how long the ver. sealer 2 start to act after pulling foil finished (usually 0); when the required bag length is longer than the vertical sealer, it needs this function to realize twice pulling foil;

◇**VERTICAL SEAL TIME 2**: the vertical seal time 2 action time (usually 0.3-0.6S)

◇**SEALING DELAY**: except pulling foil, others action delay time.

◇**PRE - SEALING**: hor. sealer start to act before pulling foil finished, (to increase the packing speed)

◇**ACC/DEC TIME**: buffered time to start and stop pulling foil.

◇**FILLING TIMES**: filling times before package.

◇**SCREW PULSES**: effect the weight, the data is bigger, the weight is heavier. (the function only for powder package)

◇**BAG SUPPORT TIMES**: supporting bag times.

◇**SCREW SERVO FREQUENCY**: the screw moving speed, the data is bigger, the speed is faster.

◇**HORI SEALER FIRST/PULL FILM FIRST**: the machine first step is sealing or pulling foil (long press 5S to switch)

(8) Click “” to enter the Page 5 as follow:

PARAMETER SETTING(5/5)								
PRODUCT:	1	2	3	4	5	6	7	8
WEIGHT:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COOLING DELAY	0.00	S	COOLING TIME	0.00	S	<input type="checkbox"/> ON		
FOOT SUPPORT DELAY	0.00	S	FOOT SUPPORT TIME	0.00	S	<input type="checkbox"/> ON		
<div>HOME</div> <div>AUTOMATIC</div> <div>MANUAL</div> <div>FUNCTION</div>								

◇**COOLING DELAY**: how long to start to act after pulling foil finished.

◇**COOLING TIME**: how long to take to finish one time cooling.

◇**FOOT SUPPORT DELAY**: how long to start to act after pulling foil finished.

◇**FOOT SUPPORT TIME**: how long to take to finish one time food support.

(10) Click “**FUNCTION**” to enter the following page:

FUNCTION(1/2)			
PARAMETER BACKUP		PARAMETER RESTORE	
<input type="checkbox"/> SCREW	<input type="checkbox"/> ROTATE	<input type="checkbox"/> WEIGHER	
EYEMARK TRACKING	<input type="checkbox"/> OFF	<input type="checkbox"/> ON	
EYEMARK MAKE UP	0	mm	
CORRECT DELAY	0.00	S	
TOTAL ALARM	<input type="checkbox"/> ON	<input type="button" value="RESET"/>	
TEMPERATURE	<input type="checkbox"/> ON	DOOR	
FILM	<input type="checkbox"/> ON		
EYEMARK	<input type="checkbox"/> ON	TIMES	0 P
PACKING FILM	<input type="checkbox"/> ON	TIMES	0 P
PRODUCT	<input type="checkbox"/> ON	DELAY	0.0 S
CODE MACHINE	<input type="checkbox"/> ON	DELAY	0.0 S
<div>HOME</div> <div>AUTOMATIC</div> <div>MANUAL</div> <div>PARAMETER</div>			

◇**SCREW/ROTATE/WEIGHER**: long press 5S to choose the suitable measuring way.

◇**EYEMARK TRACKING:** click “OFF” or “ON” to open or shut up the function.

◇**EYEMARK MAKE UP:** revise the data to change the detect position, so that
change the cutting position (bag length). (usually 20)

◇**CORRECT DELAY:** start to correct the foil to left or right side.

◇**RIBBON ALARM:** when no ribbon or has problem, there is a alarm sign and machine stops working.

◇**DELIVER SERVO ALARM:**

◇**NO ETECTING EYE MARK SIGNAL :**

◇**NO PRODUCT ALARM:** when photocell eye detects no material will alarm (the right “ALARM DELAY “means how long it will action once no material)

This is an alarm sign with STOPPING or ALARM when some function has problem

◇**TEMPERATURE :** between the required temperature and setting temperature is more than or less 5°C, there is a alarm sign, so that avoid wasting packing film.

◇**FILM :** when the servo has problem, there is an alarm sign and machine stops working.

◇**EYEMARK :** when setting the color code, the photocell eye cannot detect the color code, there is an alarm sign and stops (the right side “TIMES” means the allowable detect times, if over, the alarm action).

◇**PACKING FILM:** when no packing film, there is a alarm sign and stops working (the right side “TIMES” means the allowable detect times before alarm, usually 3-5 times)

◇**PRODUCT :** when photocell eye detects no material will alarm (the right “DELAY” means how long it will action once no material)

。

◇**CODE MACHINE :** when no ribbon or has problem, there is an alarm sign and machine stops working.

3- Installation Notes and Method

Installation Noted

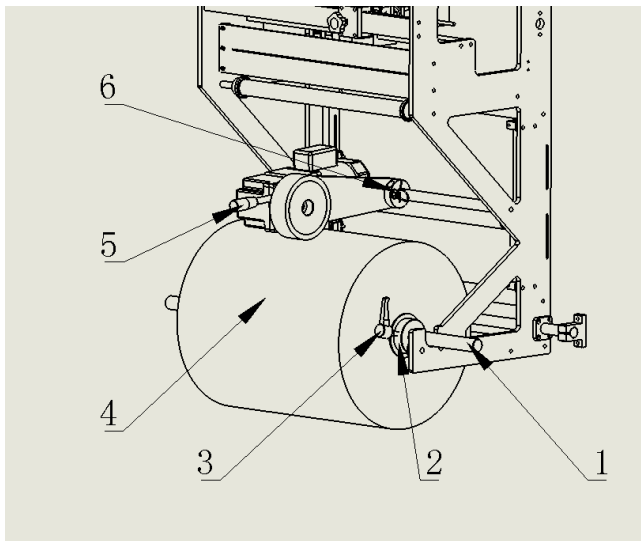
1) vertical packer、finished product conveyor should connect with leakage protection not

less 16A,380VAC power

- 2) Please don't not forget install earth wire
- 3) Please connect the air tube to the triplet of basic packing machine, the original pressure should be over 0.7Mpa
- 4) Install the ribbon date printing
- 5) Install the packaging film

Installation Method

- 1) Installation method of packaging film

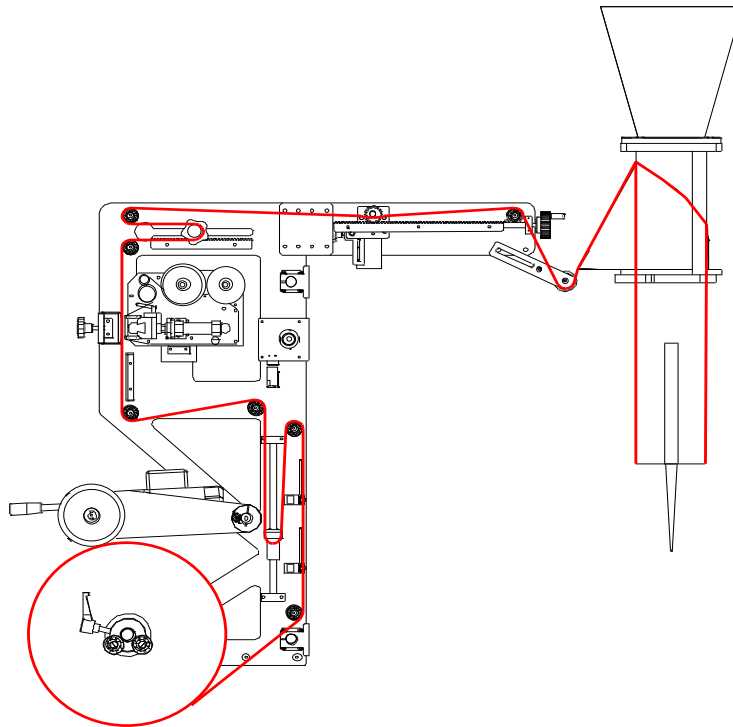


- | | | | |
|-------------------------------|----------------|-----------|-----------------|
| 1. Packaging Film Axle | 2. Film Holder | 3. Handle | 4. Packing Film |
| 5. Pressure Film Wheel Handle | 6. Ring-pull | | |

- ① Pull up "Pressure Film Wheel Handle", sounds "ka", stopping pull, now the pressure film wheel stays impending.
- ② Loose "Handle", Take "Film Holder" out, then put "Packing Film" into "Axle", "Packing Film" should be in the middle.
- ③ Put "Film Holder" back, locking "Handle".

-
- ④ Hold “Pressure Film Wheel Handle”, Pulling “Ring-pull”, put down “Pressure Film Wheel Handle” slowly.

2) Diagram of Install Packing Film



4- Common Problems & Solutions

Problem	Reason	Solution
Click Star , not working	1、 Check "emergency" is reset or not 2、 Frequency converter, Servo controller shows RC	1、 Reset the "emergency" 2、 Shut up the power for 2 minutes, star again.
Leakage switch trip	Heat electrical leakage	Examine all electrical appliances
Sealing roller not hot	1.Breaker protection tripping 2.Heat burn out 3.Temperature control meter damage	1.Excluded the short-circuit, then re-close 2.Replace heat 3.Replace temperature control meter
Temperature control meter digital repeated beats	Thermocouple loose or damage	Tighten or replace Thermocouple

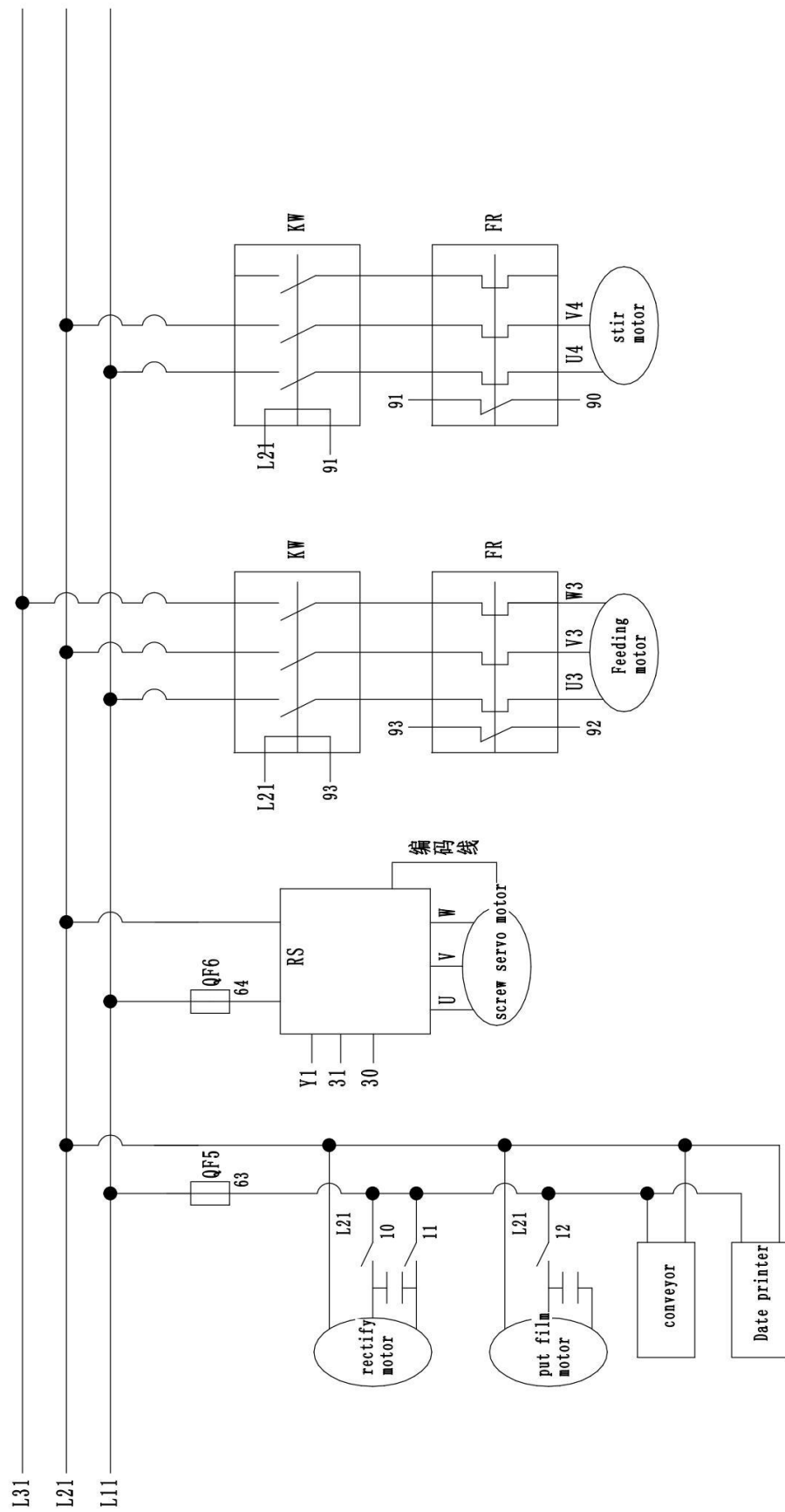
When stop, temperature is normal. After startup, temperature decreases	1.Environmental is low voltage, cause heat power decrease 2.Heat power too small	1.Reduce packing speed or increase pressure device 2.Replace
Packing seal leakage	1.Temperature is not enough 2.Pressure is not enough 3.Sealing have not enough time 4.Front and back roller seal not neat 5.Stuffing	1.Rise temperature proper 2.Check total pressure is 0.65Mpa 3.Add sealing time 4.Carefully adjusted the parallelism of sealing seal 5.Adjust feeding material time or inflatable delay
Unable to control cutting or cut half bag	1.Packaging film edge puckering or light quality problems caused by photoelectric mis-operation 2.Photocell detector sensitivity not adjustment well 3.Bag length setting is not enough cause bag not neat	1.Replace packing film 2.Readjustment of photoelectric sensitivity 3.Enlarge bag length setting
Load film not smooth	1.Load film cylinder pressure not enough or too big 2.Belt skid or damage 3.Packaging film electrostatic too big	1.Check load film pressure whether 0.65Mpa 2.Use blades shave fur surface or replacement 3.Replace packing film

5- Machine Maintenance

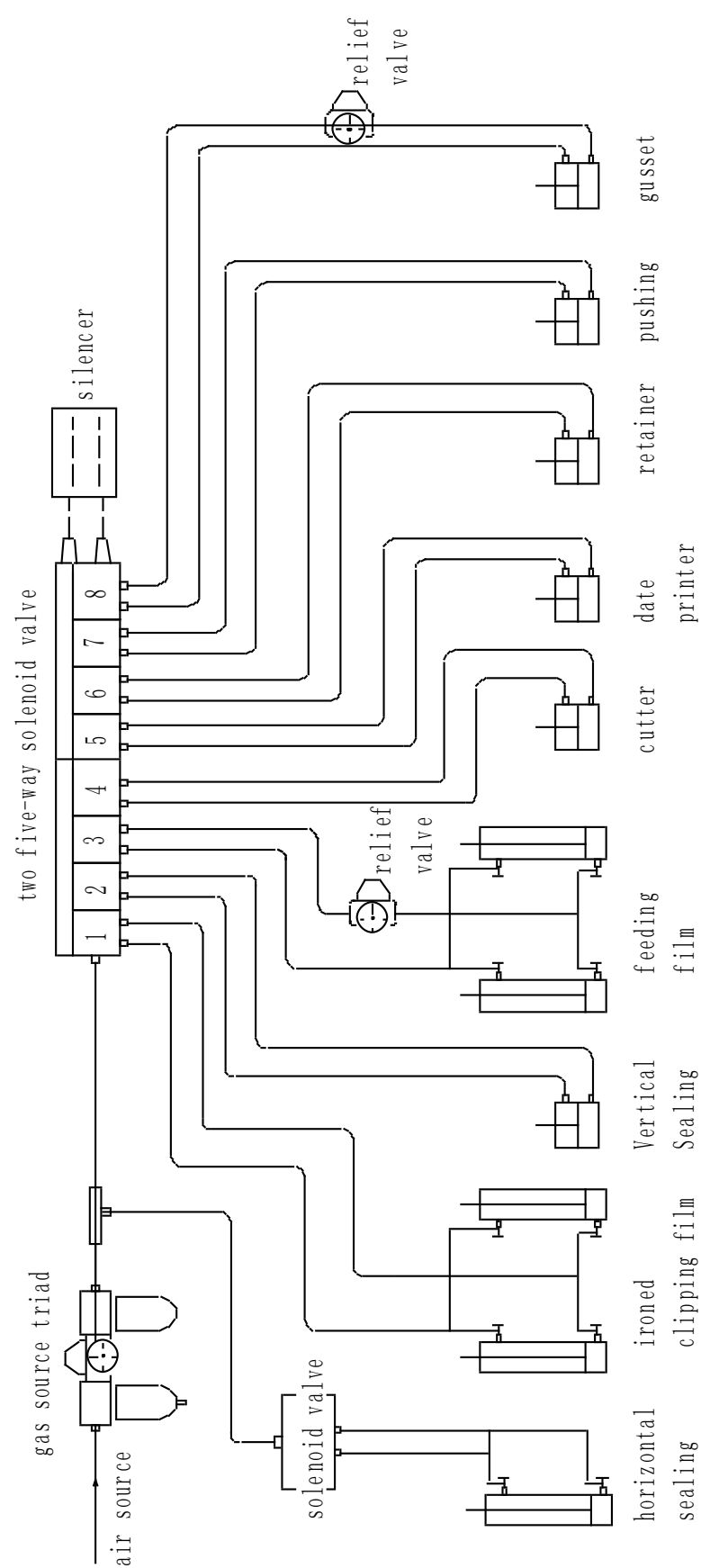
- 1) Before starting the machine, or close, need to clean the machine, food through parts must strictly disinfected parts.
- 2) On the day before work, please check the oil tank air three junction are kept in 1/3 above, if less than 1/3, should be injected 20 # pure oil to about 1/2 of tank.
- 3) Each day should be at the horizon seal support fill 20# oil
- 4) When go off work should remove the unused packaging film in order to avoid bending support tube.
- 5) If start machine that on the vertical sealing or horizon sealed with material, must immediately stop machine, using copper brush cleaning the vertical sealing or horizon sealed tooth surfaces.

6- Circuit Diagram:





7- Pnuematic Diagram



8- Consumable Parts

Name	Specification	Quantity
Horizontal sealing heat pipe		Two PCS
Vertical sealing heat pipe	/	One PCS
Word grain	Match with printer	One Set
Cutter	/	One PC
Thermocouple	/	One PC
Color ribbon	/	One PC
Printer heat pipe	/	One PC

9- Tool Box

Name	Specification	Quantity
socket head wrench	2.5mm-10mm	One set
Open spanner	5.5-24	One set
brush	/	One PC
oiler	/	One PC
scissor	/	One PC
Date printer instruction	/	One PC
Temperature meter instruction	/	One PC
Electric eye instruction	/	One PC
Packing Machine instruction	/	One PC
Servo motor instruction	/	One PC
Touch screen instruction	/	One PC
PLC instruction	/	One PC