VFJ-520 Full Automatic Vertical Packing Machine Manual

Content

1. Preface

Thanks for Choosing VFJ-520 vertical packing machinery. Please read this instruction thoroughly in order to get a better understanding of operation and maintenance. We also provide professional after-sale service in case you need.

The sell point of our VFJ-520 is easy operation, high efficiency, safety and stability. Some of the functions are different from the counting and filling device so this instruction only describes basic functions.

VFJ-520 is auto feeding, counting, forming bags, filling sealing, printing and carrying away.

If any problem occurs, please read the book to find a solution or contact with our after-sale service to better solve the problem.

Every single part of the electricity had been checked but if you have any trouble installing the machine, please contact us.

Operating according to the instruction will make it easier during the production and avoid unpredictable situation.

Operate in safe production environment.

Contact information of HONOR PACK.

CHINA.ZHEJIANG

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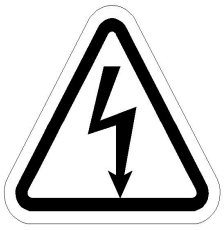
2. Safety Notice

2.1 Safety Notice and Marks

On the left side of this instruction, there are marks.

Please remember the following marks and their meanings.

For a safe using environment, every person using this machine must know the marks meaning.

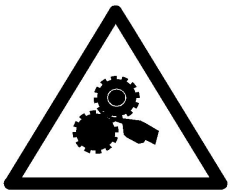


Dangerous

Dangerous marks stand for the working part may cause hurting and harming to people.

Warning

Warning marks stand for may cause damage to machine, people and need to operate to the instruction.



Notice

Notice marks stand for preventing unpredictable damage or problem to the machine or people when doing something to the target part.

Watch out

Watch out marks Stands for non-operator should keep a distance form the working machine.

2.2 Working environment

1). Temperature:0-40℃, humidity:35-85%

2). Power and voltage: AC 200V ~ 240V 50/60Hz

3). Installation requirement:

4). Frame of the equipment should safe and reliable

5). Frame should connect to ground electrode

6). Stay away from severe interference

7). Don't apply in corrosive environment.

2.3 Attentions

1). Read instruction and set the correct parameters at first running.

2). Connect the machine to ground electrode

3). Clean and withdraw all the products in side the machine before each running.

4). Sterilize contacting part of food and roll film everyday.

5). Cut off pneumatic and electric supply before maintenance or cleaning.

6). Fix must be done by profession engineer while electric and pneumatic parts break down.

7). No touching to the mechanical part and electric parts while machine was running.

8). Do not use shape object to touch the screen.

9). Machine cannot place at explosive environment.

3. Technical Parameters

3.1 Packing machine technical Parameters

Total power	2.2KW			
Packing product	puff food, cookies, beens, peanuts, nuts and etc; powder, flour and etc			
Packing material	OPP/CPP、CPP/PE MST/PE、PET/PE		Horizontal sealing heating element power(total)	800W/AC 220V
Thickness of the packing film	0.05—0.08mm		vertical heating pipe power	500W/AC 220V
Max roll film width	420mm		Measuring range of the bag	10—1200ml
Max bag size	200mm(W)x300mm(L)		Air pressure required	0.65Mpa
Packing speed	5—60bags/min		Air consumption	0.3m^3/min

Total weight	540Kg		Dimension	1080(L)*1300(W)* 1400(H)mm

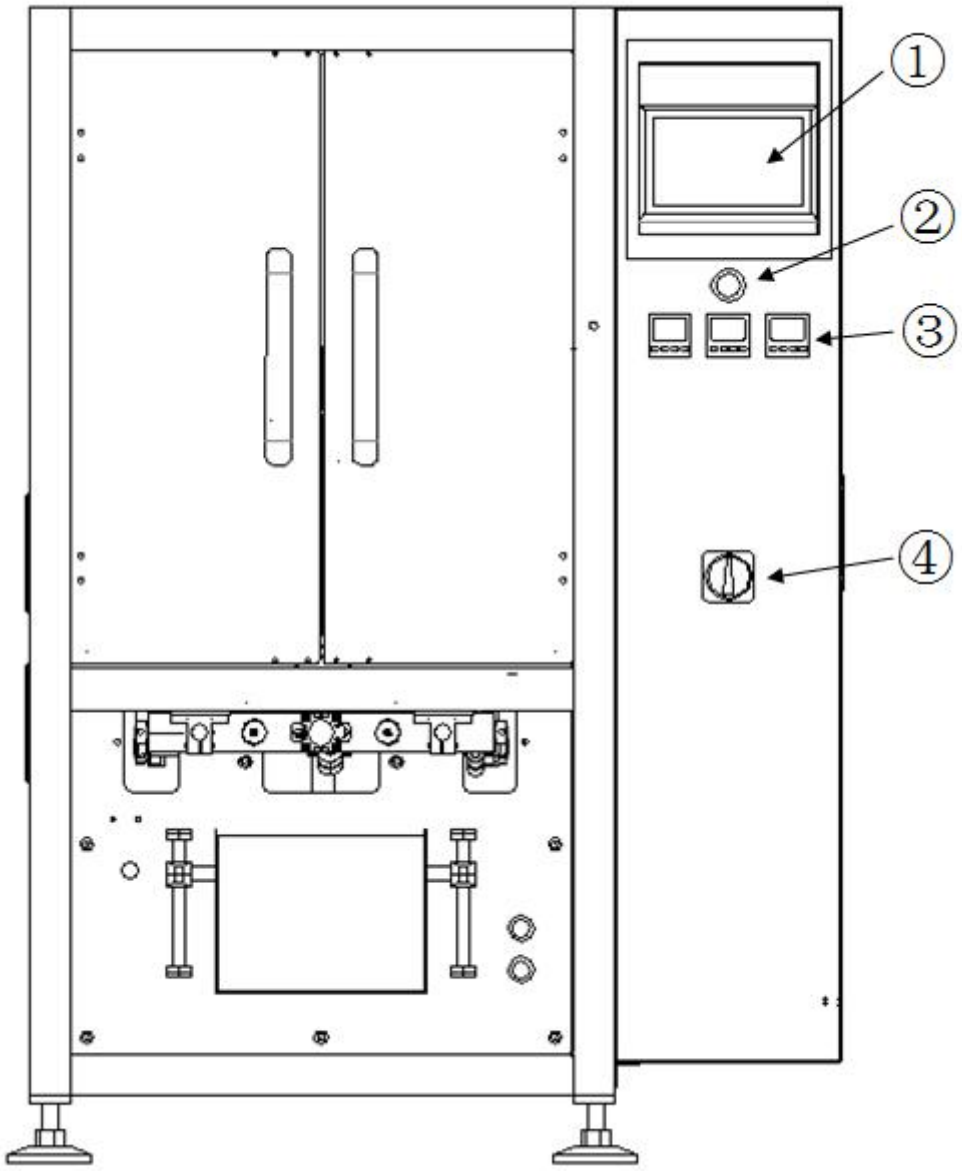
Note: Packing material should choose roll film which roll film width≤420mm, and the roll film inner Φ75mm, thickness of the film is 0.05-0.08mm, the surface of the film should be smooth, no pattern and words should be printed at the 10mm form the edge of the film, the eye mark color should be obvious telled from the background.

3.2 Optional accessories match with the machine

Name	Function
14 heads combine weigher	Matching with packing machine to reach high speed and accuracy
10 heads combine weigher	Matching with packing machine to reach high accuracy
Vibrating hopper	Vibrate feeding
Z shape elevator	Automatic feeding to the weigher
Single hopper elevator	Automatic feeding to the volumatic cup device
Bucket feeder	Manual droping block or fragil product to hopper to reach one dump one pack
Finished product elevator	Finished product carry away machine
Round rotating table	Round rotating table for easy picking.
Auger elevator	Matching with auger filler to elevate powder and flour product
Vacuum elevator	Elevating material in a good environment.
Auger filler	Measuring powder and flour product
Big four head weigher	Suitable for big bulk prodcut measuring and filling
Weight detecting machine	Selecting finished product which can not reach the target weight

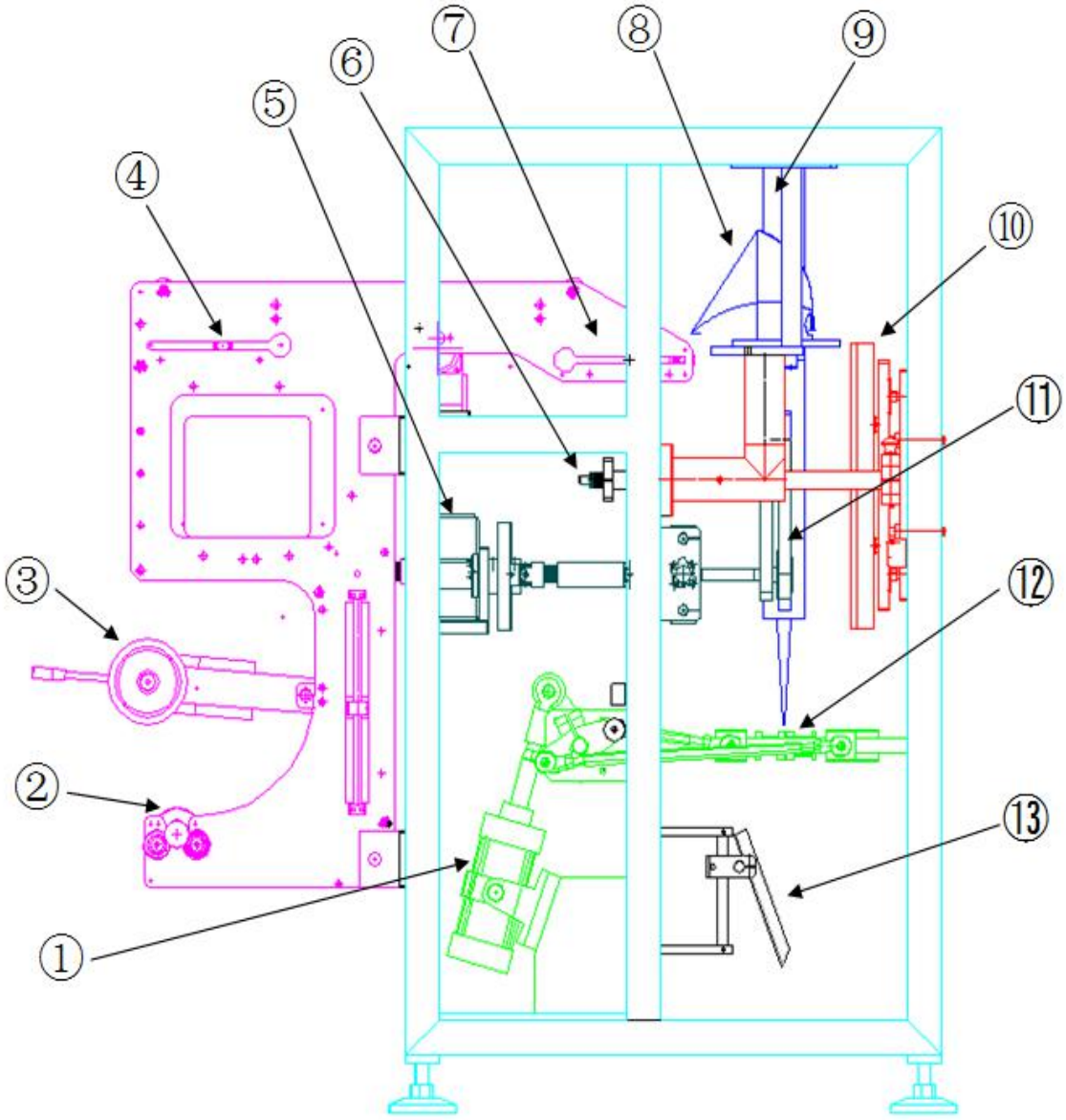
4. Machine installation

4.1 Structure of the machine



Pic.4-1 front side

1	operating system	2	Emergency stop
3	Temperature controller	4	Power switch



Pic.4-2 whole machine structure

1	Horizontal sealing cylinder	2	Roll film stablize Inflatable shaft
3	Roll film reducer motor	4	Date adjusting rod
5	Carry film motor	6	Vertical sealing position adjust wheel
7	Angle adjusting pole(roll film and collar)	8	Bag former collar
9	Bag former tube	10	Vertical sealing mechanism
11	Carry film belt	12	Horizontal sealing mechanism
13	Finish product buffer board		

4.2 Before turn on the Machine

1). Choose suitable leakage protection switch

2). If the material elevator works separately, pls choose leakage protection switch

according to the power and a PF power.

3). The machine must connect to the ground wire. (there is a mark on the machine frame)

4). Connect air pipe to pnuematic FRL behind the machine.

5). Install date printing code and ink ribbon

6). Turn on the power and set horizontal and vertical sealing bar and date printer to temperature needed, double check if the ribbon, roll film and eye mark is install correctly.

4.3 Install roll film

1). Put the roll film in the Inflatable shaft.

Pic.4-3-1 Film install

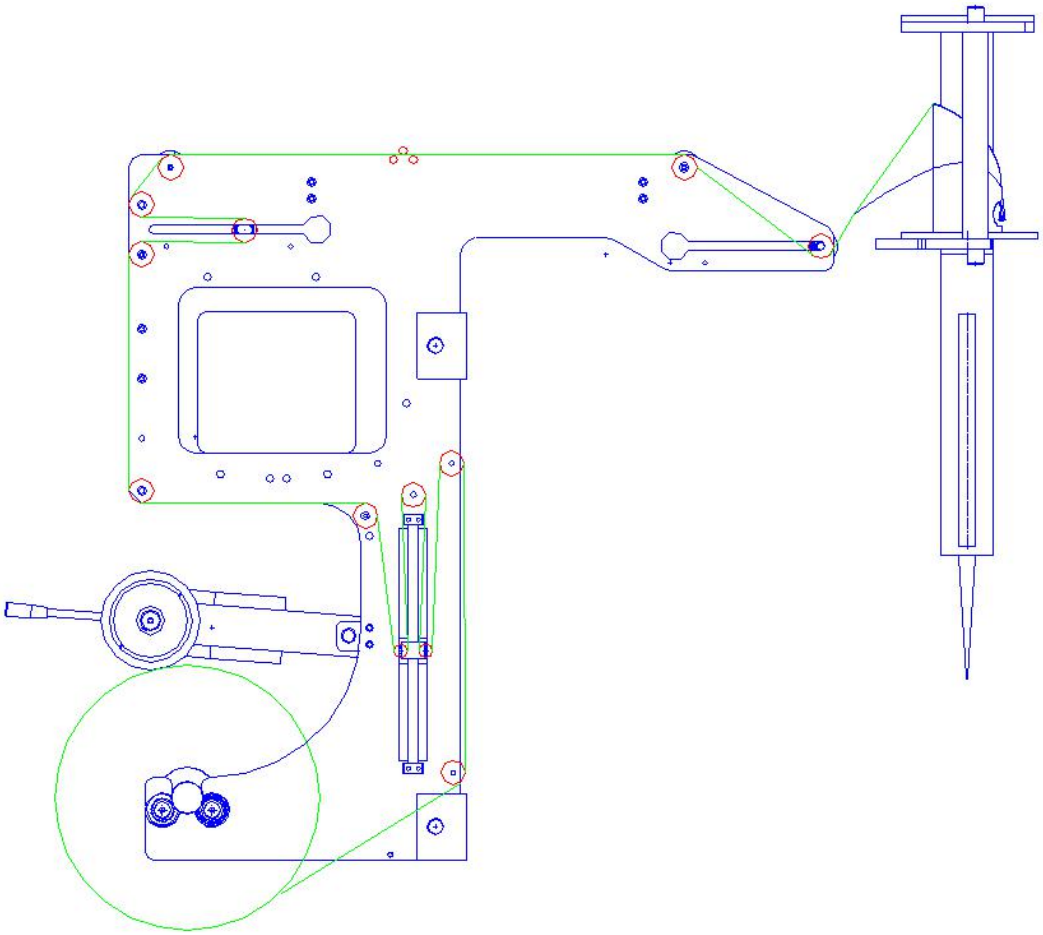
2). Correct the position according to the deviding ruler.

Pic.4-3-2 Adjusting position

3). Use the gas gun to fill up the Inflatable shaft in order to stablize the roll film.

Pic.4-3-3 Stablize the roll film

4.4 Film install drawing

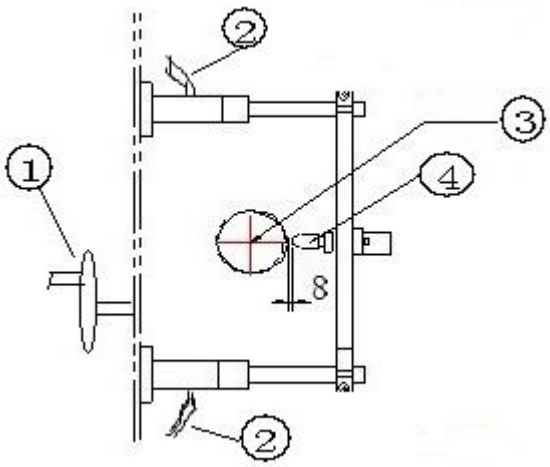


Pic.4-4 Film install drawing

4.5 Adjustment of vertical sealing

1). Bag former and vertical sealing adjusting (as the picture):

Stablize the bag former, loose ②, roll ① to adjust the distance of vertical sealing and bag former tube to be at 8mm(if the vertical sealing is direct press), and to be 2mm if the bag press type is side press. Finally lock ②.



Pic.4-5-1 Change bag former, adjust vertical sealing

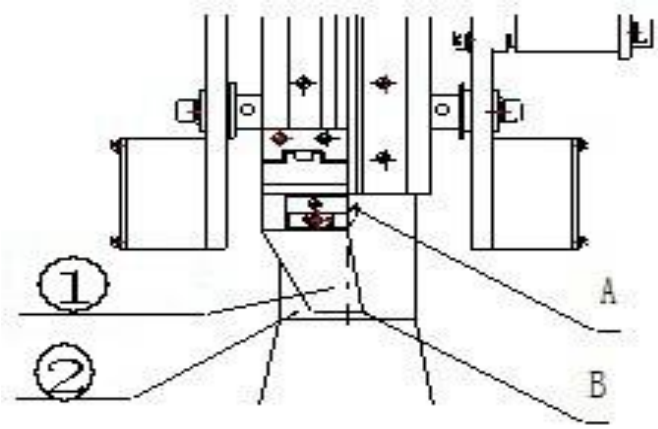
1	Hand wheel(adjust vertical sealing distance)	2	Tighten bolt
3	Bag former tube	4	Vertical sealing heating element

2). Back seal side turning (when using side sealing)

Open the side turning device, turn back seal to the side you want and close the side turning device

Requirement: Distance of forming tube and point A should be 2mm.

Distance of forming tube and point B should be 4mm.



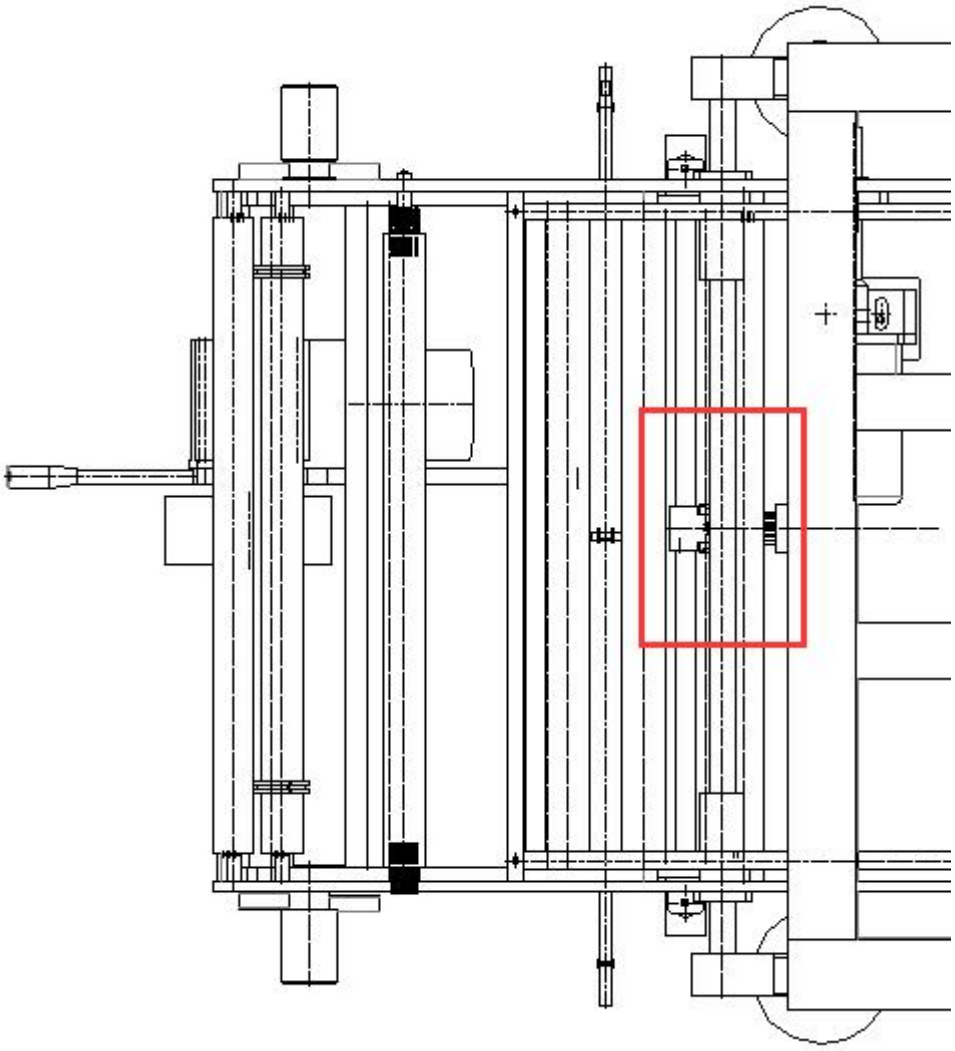
Pic.4-5-2 The edgefold on Vertical sealing device

1	Back seal turning device	2	Forming tube

4.6 Color code sensor detecting and adjusting

Optical fiber color code sensor detection sensor combines optical technology, photoelectronic technique and modem technology. It has high sensitivity, fast response speed, good anti-bias light interference capacity, small volume and easy operation strength. Working as a sensor in the packing machine operating system, color code sensor is making the code detection and location, bag length cutting, film rectifying easier. However, as customer's film is different from our testing film, the color code may not be catch. So its secsitivity will be need to set.

1). Loose the bolt of the sensor, move the sensor, the optical fiber bolt movement decide the point of the light, the smaller the better. Aim the light to the middle of the code (which is on the edge and are revert to the background color), then tight the bolt(as the picture).



Pic.4-6 Adjustment the color code position

2). After doing 1, press the ON bottom at the sensor amplifier while the red and the green light will on.

3). Then point the light to the background color which is normally brighter than the color code, press OFF while only green light on.

4). Testing of the color code. Pull the film using your hand, see if it is red and green light on when the light point at the color code(see if it is only green light on when the light point at background color.), if not, pls set again according to step 2 and 3.

5). When setting bag length, bag should be X+20mm.

5. Operation interface introduction

The operation interface mainly consists of the following 8 functions:

1). Contact us---the information of our company.

2). Language select---Normally with Chinese and English, and date setting.

3). Main page---function page easy access page

4). Auto---automatic running function and other shortcut.

5). Manual---manual test function.

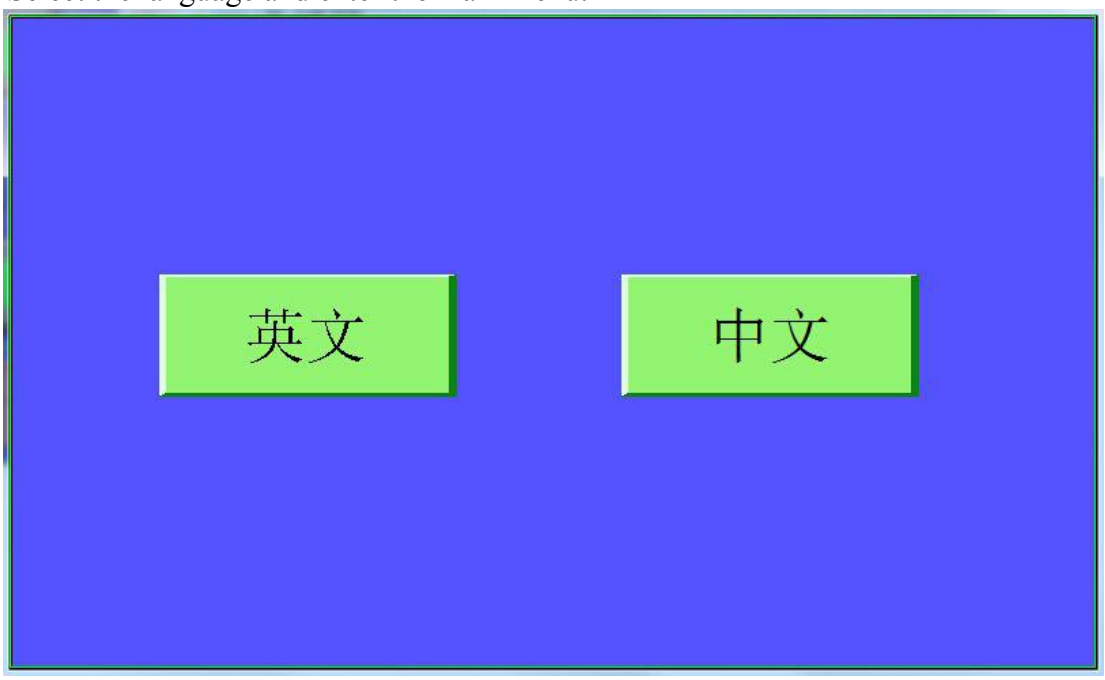
6). Function---open or close some function.

7). Parameter setting---adjust the bag length, speed, pull film delay, pull film frequency and other detail parameters.

8). Alarm---shows the problem occur in the machine program.

5.1 Starting

Select the language and enter the main menu.

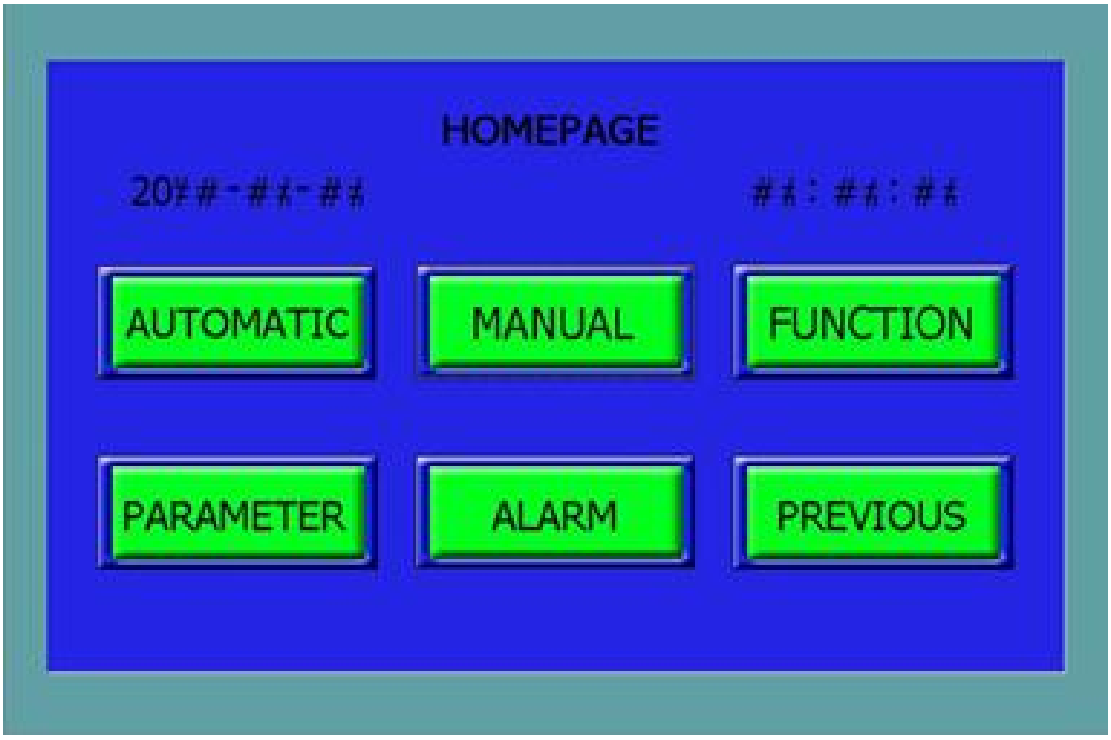


Pic.5-1 Startup interface

5.2 Main menu

Choose the option to enter.

Press time part can change date and time.

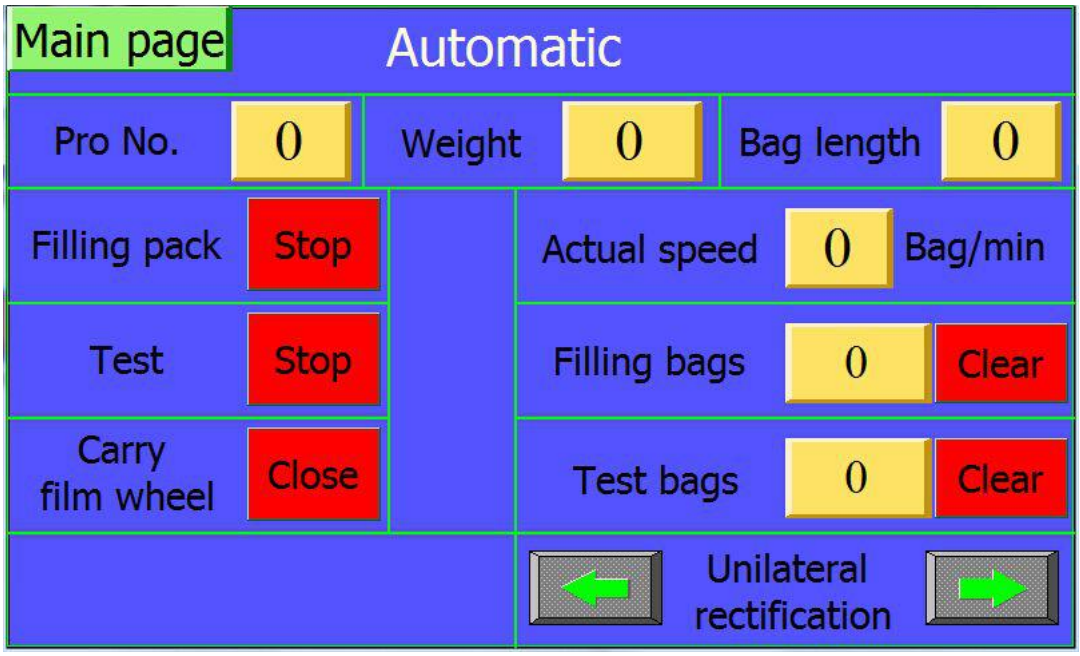


Pic.5-2 Main menu interface

Auto	Auto running according to the preset parameter and function.
Manual	Test the machine working according to the manual option
Function	Open or close the additional function according to the need.
Parameters	Adjust function and parameters.
Alarm	Set the parameters of the alarm sector
Pre page	Back to the start up interface

5.3 Automatic

Select Auto from Main menu to enter the Auto page.(P-5-3)

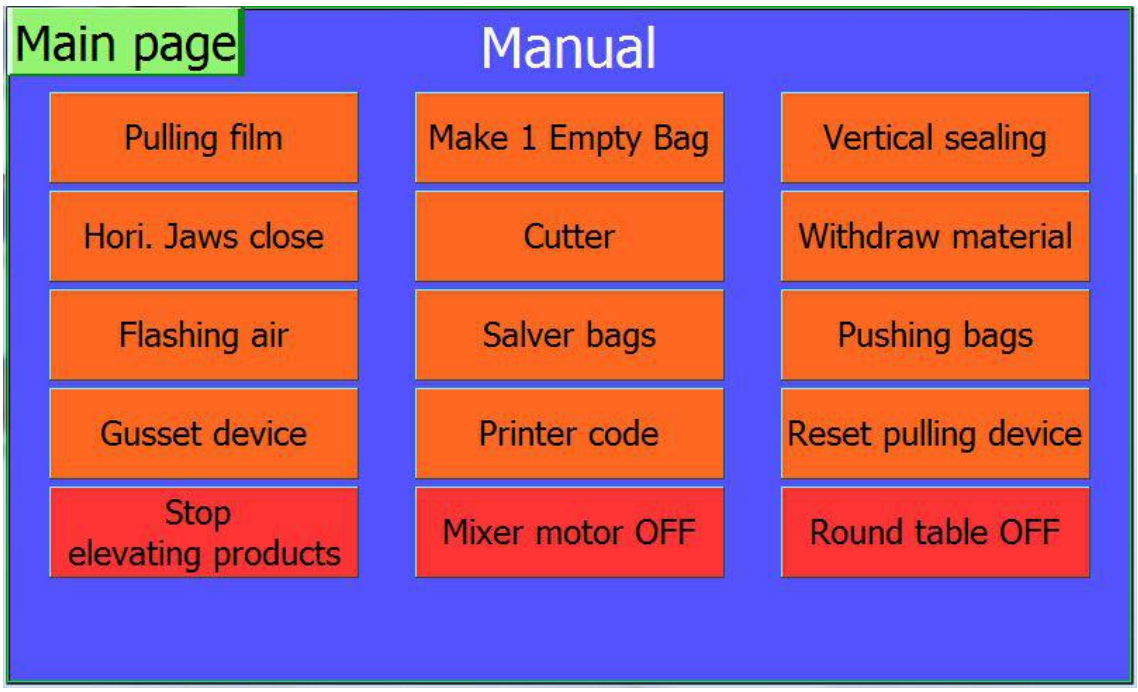


Pic.5-3 Automatic operation interface

Product	No. of the product which you could set certain product parameter for it.
Weight	The target weight you choose this program to be.
Bag length	The bag length which apply right now
Filling pack	Press filling pack it will auto run packing process and press stop it will stop.(two bottom in one)
Test	Press test, machine will start making empty bags for testing.
Carry film wheel	Press the bottom, will open or close the carry film wheel
Spin	Change the number of turns(only match with auger filler)
Actual speed	Actual packing speed.
Pull film structure	Jog will make the structure move up and dowm step by step.(when the machine is horizontal pulling film structure)
Filling bags	Records of the filled bags
Testing bags	Records of the tested bags
Clear	Clear the records
Rectify	Rectify the film of back seal error(when the machine contain rectifying function)

5.4 Manual page

Select manual bottom and enter the following page (as the picture 5-4):



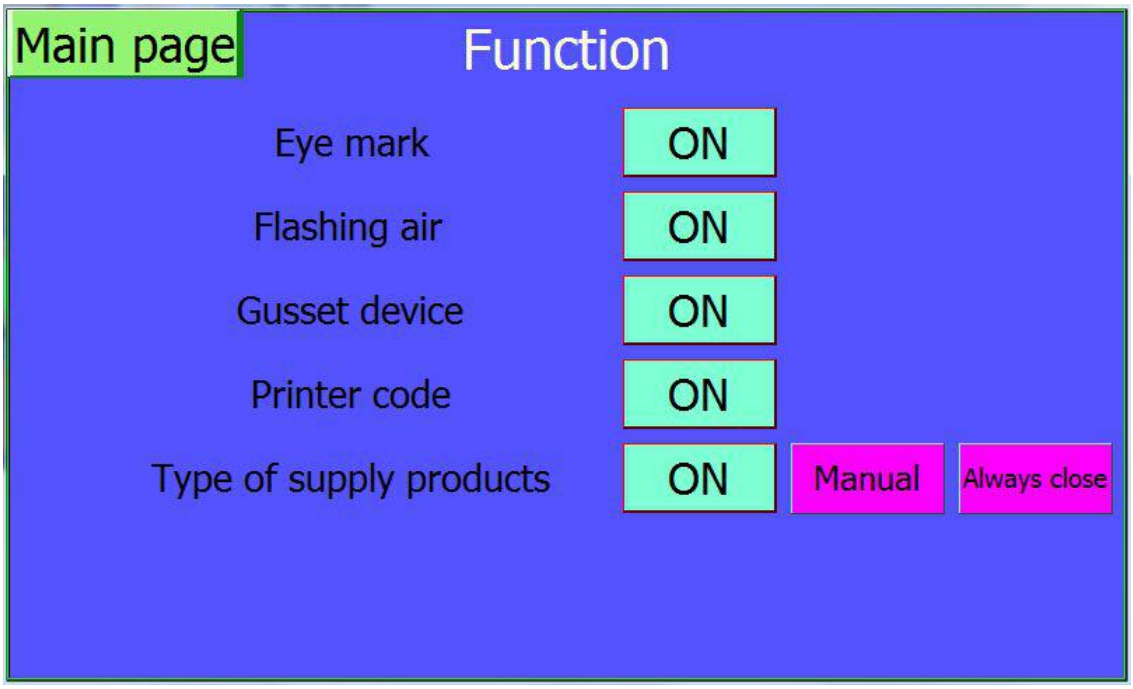
Pic.5-4 Manual page

Pulling film	Run the film according to the preset bag length
Make one empty bag	Making empty bags one by one according to the preset parameter
Vertical sealing	Make vertical sealing run once
Horizontal sealing	Make horizontal sealing run once
Cutter	Make cutter run once
Withdraw material	Withdraw material in the counting filling device
Flashing air	Run flashing air function once
Savler bag	Run savler bag device once
Pushing bag	Run pushing bag device once
Gusset device	Run gusset device once
Printer code	Run printer device once
Reset pulling device	Reset the servo motor or horizontal film pullling structure(only in the machine which have these device)
Stop elevating products	Manual elevator the products(only effective when the manual mode to be turn on in the function page)
Mix motor off	Turn on or off mix motor(only work when you have auger filler)
Round table off	Turn on or off round table
Pull film device up	Move the pull film structure up once(only when the machine is hori.sealing pull film)

Hori.jaws open	Open horizontal jaws(only the machine have hori.sealing servo)
Pull film device down	Move the pull film structure down once(only when the machine is hori.sealing pull film)

5.5 Function page

Press the function bottom and enter



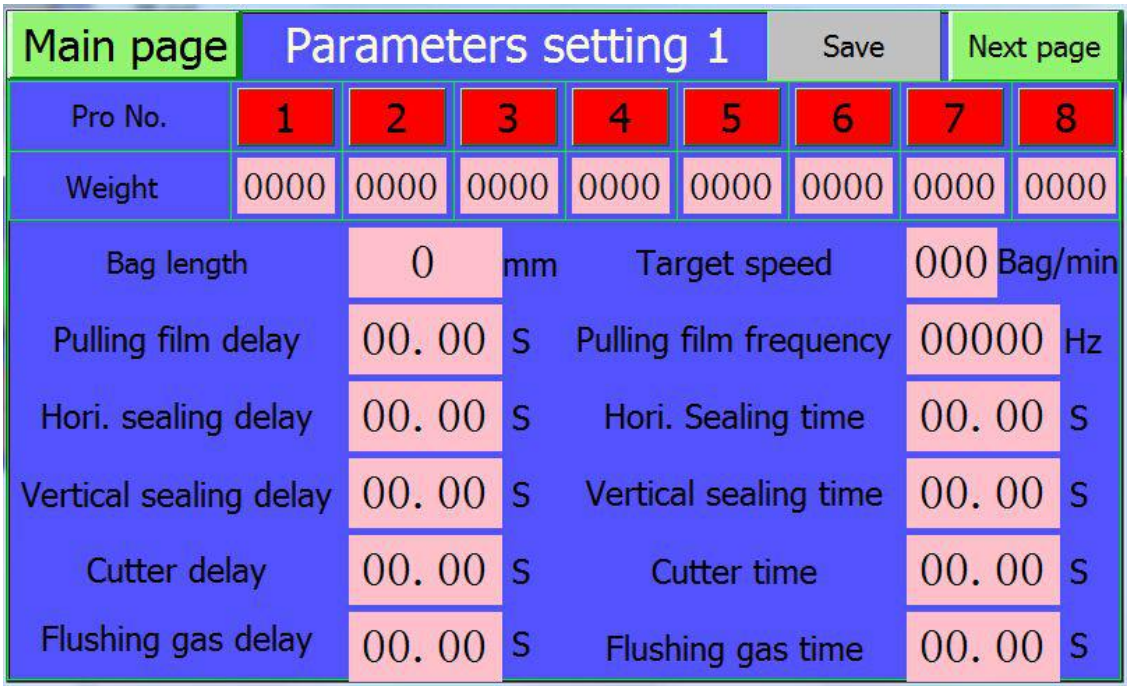
Pic.5-5 Function page

Eye mark	Turn on/off eye mark tracking
Flushing air	Turn on/off flashing air
Gusset device	Turn on/off gusset device
Printer code	Turn on/off code/date printing
Type of supply products	Turn on/off elevator, when on, you can chose auto elevating or manual.

5.6 Parameter setting

Select parameter bottom and enter (as the picture 5-6-1)

5.6.1 Parameter setting page 1:

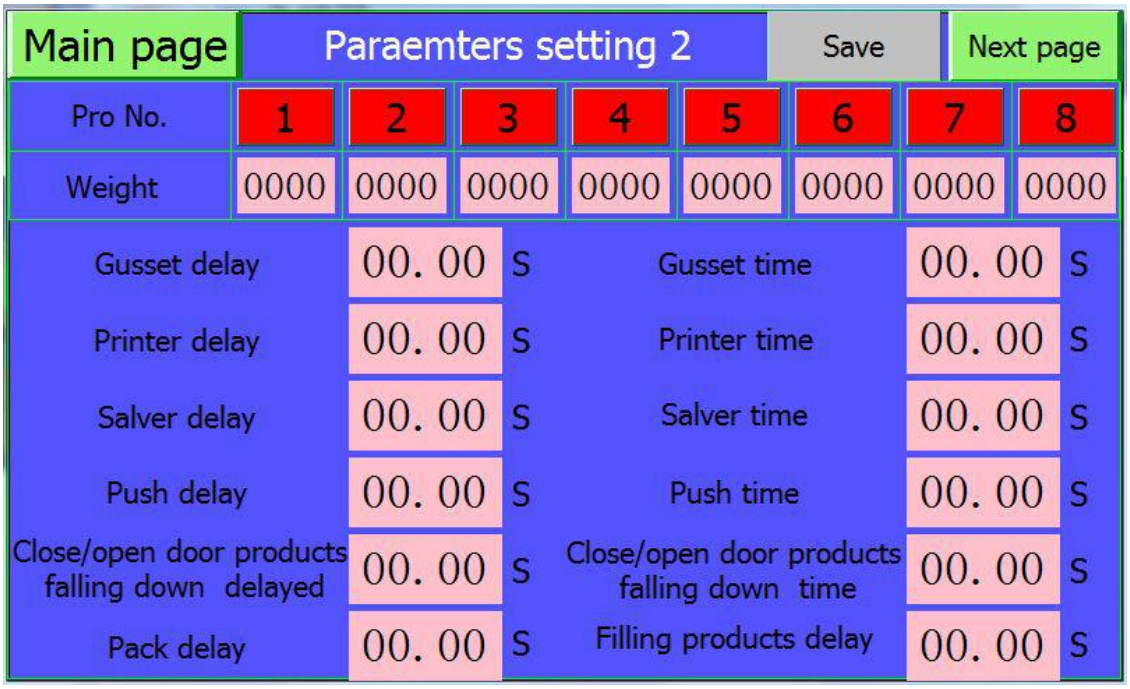


Pic.5-6-1 Parameter setting page 1

Save	After changing the parameter you should save
Next page	Click to enter next page
Pro.no	You can restore 8 product parameter
Weight	You can mark weight of the parameter preset
Bag length	Set the bag length you need(if you turn on the eye mark, the bag length need 20mm longer than the eye mark distance)
Target speed	Preset the packing speed
Pulling film delay	Pulling film servo motor delay(the delay time after a serial movement of hori.sealing vertical sealing, cutter, flushing and gusset device)
Pulling film frequency	The speed of the film pulling motor(lager the number, faster the speed), the number should not exceed 60000hz
Hori.sealing delay	Hori. Sealing electronic magnet close delay time.
Hori.sealing time	Hori. Sealing electronic magnet close time
Vertical sealing delay	Vertical Sealing electronic magnet close delay time
Vertical sealing time	Vertical Sealing electronic magnet close time
Cutter delay	Cutting delay time
Cutter time	Cutting time
Flushing gas delay	Delay time of the flushing air

Flushing gas time	Flushing air during time

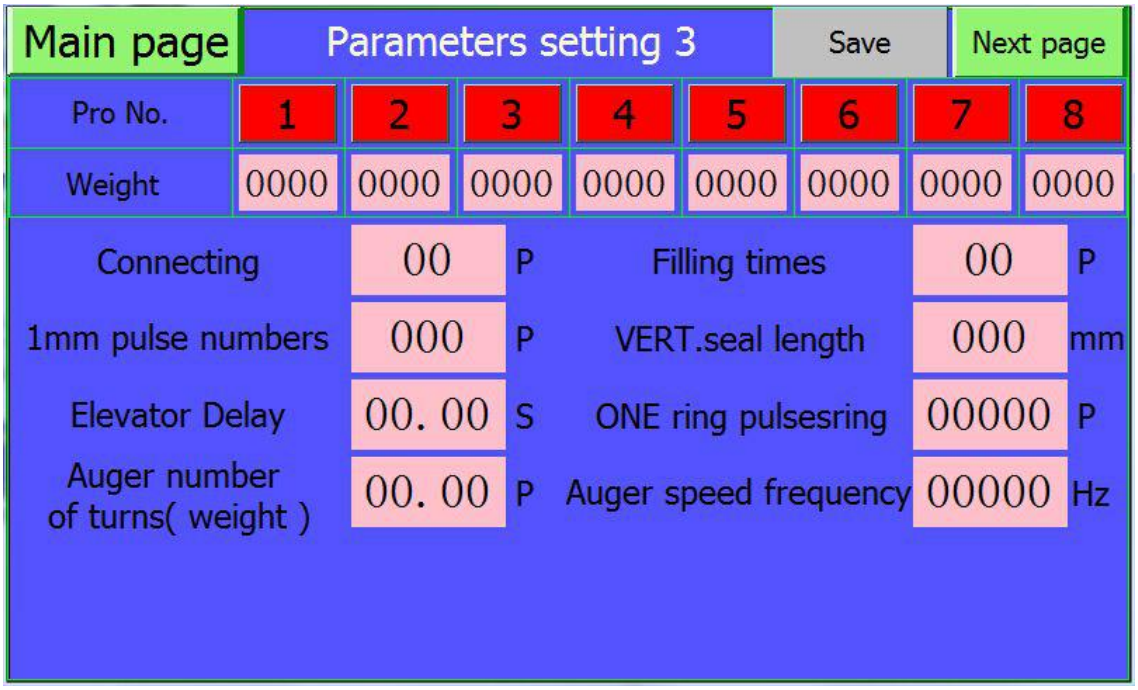
5.6.2 Parameter setting page 2:



Pic.5-6-2 Parameter setting page 2

Gusset delay	The delay time of the gusset movement
Gusset time	During time of the gusset movement
Printer delay	Delay of code printing
Printer time	Code printing time
Salver delay	Salver delay time
Salver time	Salver time
Push delay	Push product delay
Push time	Push product during time
Open/close door products falling down delay	Leak proof delay time
Open/close door products falling down time	Leak proof open time
Pack delay	Sealing delay after filling signal
Filling delay	Delay time to fill when cutting run

5.6.3 Parameter setting page 3:

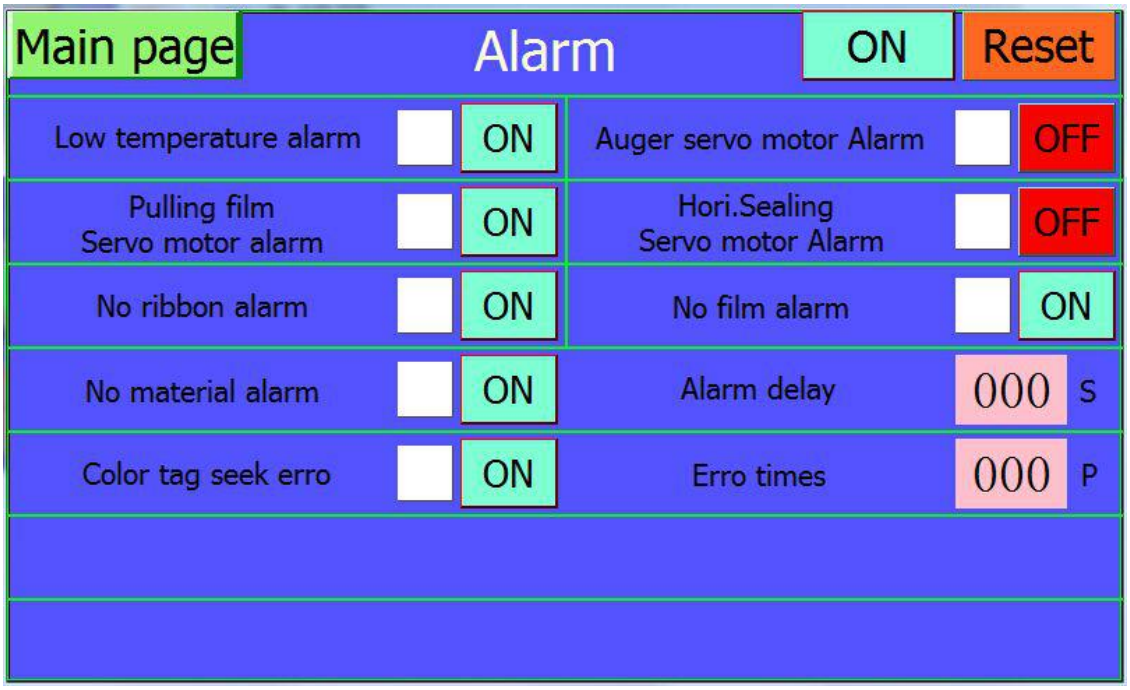


Pic.5-6-3 Parameter setting page 3

Connecting	Number of serial bags
Filling times	Sealing after filling__times
1mm pulse number	Pulse number required when pull 1mm film
Vertical sealing length	Length of vertical sealing, when the preset bag length longer than vertical length, it will need two times of pulling film
Elevator delay	The delay time of adding material when detecting there is no material
One ring pulse ring	The required pulse of one spin of the auger
Auger number of turns(weight)	The spin time of the auger, more spins, more product filling, and more weight.
Auger speed frequency	Spinning speed of the auger
Pull film structure up delay	The pull film structure go up delay time(only functional in horizontal sealing pull film machine-320V)
Pull film structure start point	Set the pull film structure back to the start point (only functional in horizontal sealing pull film machine-320V)

5.7 Alarm

Click alarm to enter (as picture 5-7)



Pic.5-7 Alarm interface

Low temperature alarm	Alarm will be tricked when the actual temperature lower than preset temperature 10℃.
Auger servo alarm	When problem occur to the auger servo
Film pulling servo alarm	When problem occur to the pull film servo
Hori.sealing alarm	When problem occur to the hori.sealing servo
No ribbon alarm	When date printer run out of ribbon or has a problem, the alarm will be trick. The time on the right is the delay time.
No film alarm	When detecting there is no film signal, the alarm will be tricked
No material alarm	When the material sensor detects no material, the alarm will be tricked.
Color tag seek erro	When turn on the eye mark tracking, the alarm will be tricked if there is no eyemark be tracked.

Note:

①Reset: only can reset eye mark error alarm. Other alarm will reset when fix the problem.

②The machine will stop when there is an alarm being tricked

③Pls save the parameter after change, otherwise, the parameter will not restore

④The parameter setting will affect the packing speed directly. The larger the parameter is, the slower the packing speed will be.

6. Troubleshooting

Fault type	Reason	Eliminating method
No response when touch the touching screen	1. Check the alarm 2. Servo controller alarm No communication between PLC and human-machine interface	1. Reset the alarm 2. Turn on the machine after 20 seconds after turn down the machine, and set the horizontal sealing to the original place. Check the communicate wire.
Electric leakage switch trips	1.the wire cover is tore out. 2.heating sheet and other electrical appliances have electric leakage	1.check protective tube of the switch 2. check electric appliances one by one, eliminate
Sealing jaw not hot	1. protector of open circuit trips 2. heating sheet burnt out 3.temperature control meter damaged	1. check and eliminate open circuit, recover it 2. replace heating sheet 3. replace temperature control
Can't modify the temperature setting or display abnormal.	Thermal couple connect loose or damage	Tight the Thermal couple or change it.
Temperature is normal when closedown, but descends continuously when running	1. environmental voltage is low, causing descending of power of heating sheet 2. power of heating sheet is too low	1. reduce packing speed or add voltage stabilizing device 2. replace it with heating sheet of bigger power
Air leak at sealed mouth of packing bag	1. temperature is insufficient 2. pressure is insufficient 3. sealing time is too short 4. irregular front and back horizontal sealing rolls 5. material clamped	1. properly increase temperature 2. check if total pressure is 6.5 kilograms 3. properly increase sealing time parameter 4. carefully adjust parallel status of mouth of horizontal sealing roll 5. adjust baiting time or inflation delay
Cutting position or cut into half a bag can not be controlled	1. side of packaging film cockles or photoelectric wrong action caused by poor quality of light path 2. sensitivity of photoelectric head isn't adjusted well 3. bag set length is insufficient and different lengths caused 4. Belt wear out and is not rough to	1.replace packing film 2.re-adjust photoelectric sensitivity 3.increase bag length 4.close the eyemark tracking, make 5 empty bags to see if the length is same. If not the belt is to smooth, pls clean it. 5.asume the eyemark distance is X

	carry the film 5.the board under the eye mark sensor is out of shape. 6.bag length is set not correctly, the length is lower than the eyemark distance	pls set the bag length to be X+50MM.
The film cannot be carried down	1. pressure of conveyance film cylinder is insufficient or too much 2. belt slides of damaged 3. static of packing film is too big	1. check if pressure of conveyance film is 2.5 kilograms 2. scrape surface of belt with saw sheet or replace it 3. replace packing film
Cannot cut the bags	1.the knife/cutter is rust or bend 2.sealing jaw mesh diviation 3.cutting delay and cutting time is not match	1.file the cutter or change the cutter 2.adjust the sealing jaw position so that the cutter can come out. 3.set the cutting delay and cutting time appropriate.
Code is not clear or air leakage of the printing area	1.temperature is not appropriate so the ribbon cannot print. 2.distance is to far between the film and the printer. 3.tempreture is too high or the pressure of the cylinder is too high 4.ribbon has bag quality.	1.adjust the temperature to suitable one. 2.adujust the distance 3.lower the pressure of the cylinder 4.change the ribbon
Motor not working or work all the time when turn on the power	1.starting capacitance break. 2.solid relay or intermediate relay break. 3.problem occur in the motor	1.change the starting capacitance 2.change solid relay or intermediate relay 3.change motor
Film pulling system and conveyor not working	1.servo motor or driver error alarm 2.frequency converter overload alarm	1.close the power and restart after one minute. Check the alarm code on the servo screen and tell us. 2. close the power and restart after one minute, check the alarm code on the coverter screen and tell us.
Broken bags and seal jaw clip the product	1.Product dropping time is not appropriate 2.speed too fast and material too light 3.bag length is too short 4. packing time and dropping time is not match	1.adjust the dropping time. 2.lower the packing speed 3.adjust bag length 4.adjust the parameter.

7. Maintaining

7.1 Wearing part replacement

1). If the carry film belt wear out, pls loose M6 bolt on the top, replace the belt and tight the bolt again.

2). Replace the cutter, loose two M5 bolt and take out the cutter in the cutter groove (mind the heat if the jaw was heating), replace it and tight the bolt. Also install the cutter according to the division.

3). When run out of ribbon, take out the rest of the wheel from the wheel groove and replace with new ribbon. (pls review the code printer install and using instruction)

7.2 Maintaining

1). On the first running, pls make sure all the bolts are tight, and check form time to time. If there is any abnormal noise, pls stop the machine immediately. Pls keep the machine running for 2-3 min after installation or before working.

2). Check the FRL oil tank, and keep the oil more than 1/3. If oil needed to be added, pls use 20# pure engine oil

3). Keep the eyemark sensor clean and keep the electric part from moisture.

4). Tighten the bolt of the sealing (if there is any bolt is loose) after stop using the machine.

5). Before running the machine, pls add the oil cup full with 20# engine oil.

6). Take out the roll film to prevent it bend the roller.

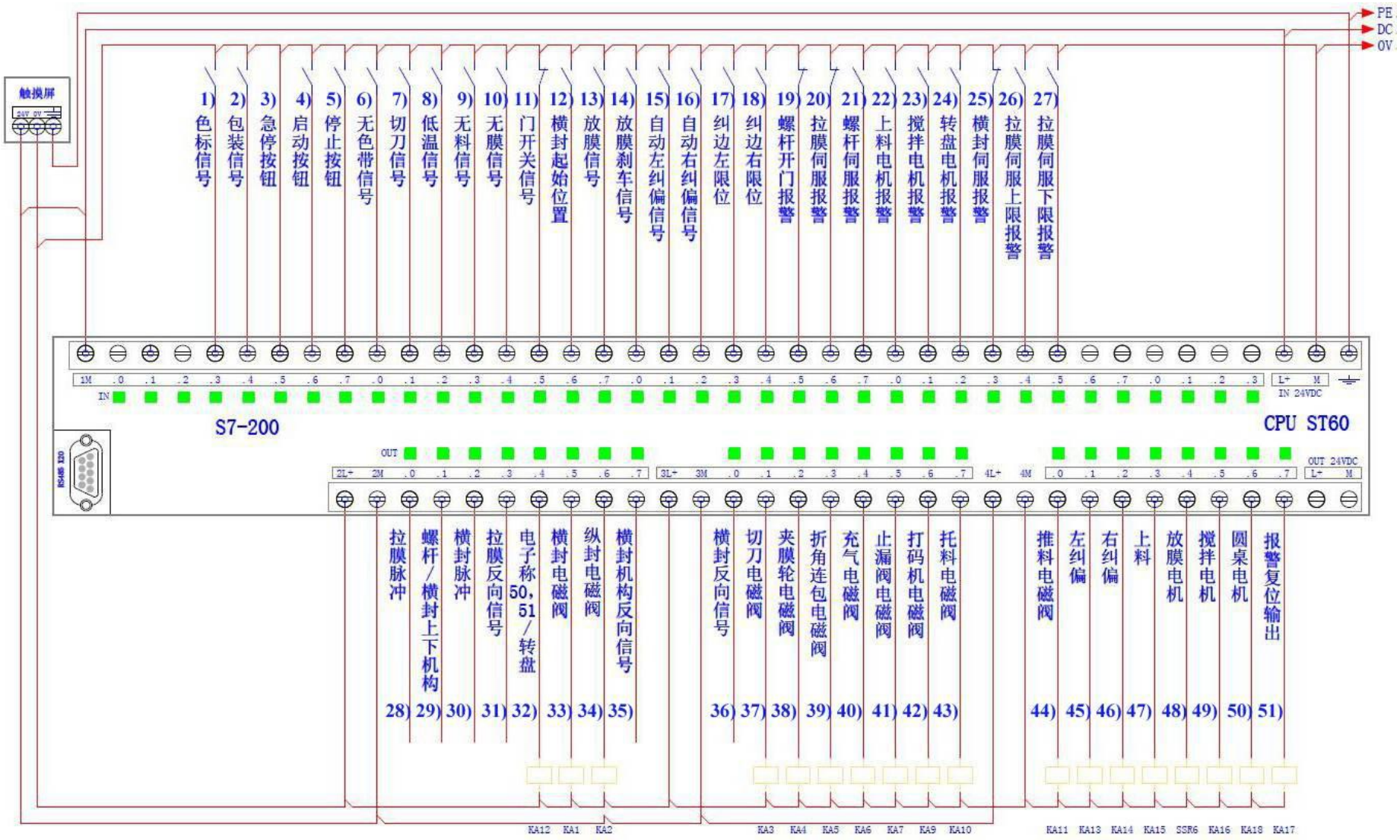
7). When running, if broke bag situation happen, pls use emergency stop, and use cooper brush to clean the sealing jaw.

8). First change of engine oil of the gear box is 40 hours using. Thereafter, per 1000 hour using should change once.

9). If the machine haven’t been used for a long time, pls keep the machine running testing mode for 0.5-1 hour, every 5-6 day once.

8. Electric diagram

8.1 IO point diagram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DC
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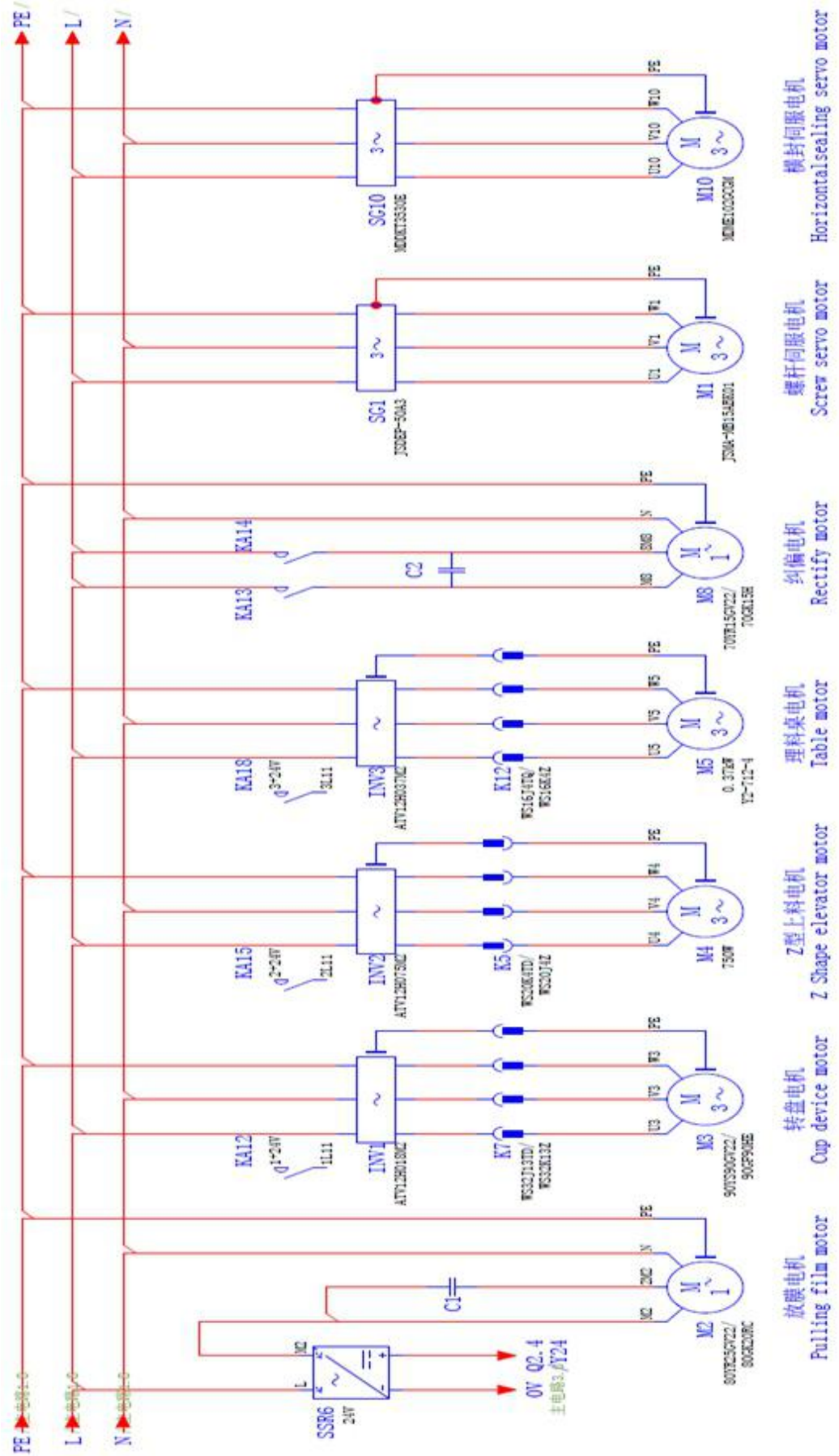
1) 色标信号
2) 包装信号
3) 急停按钮
4) 启动按钮
5) 停止按钮
6) 无色带信号
7) 切刀信号
8) 低温信号
9) 无料信号
10) 无膜信号
11) 门开关信号
12) 横封起始位置
13) 放膜信号
14) 放膜刹车信号
15) 自动左纠偏信号
16) 自动右纠偏信号
17) 纠边左限位
18) 纠边右限位
19) 螺杆开门报警
20) 拉膜伺服报警
21) 螺杆伺服报警
22) 上料电机报警
23) 搅拌电机报警
24) 转盘电机报警
25) 横封伺服报警
26) 拉膜伺服上限报警
27) 拉膜伺服下限报警
S7-200
CPU ST60
IN 24VDC
OUT 24VDC
28) 拉膜脉冲
29) 螺杆/横封上下机构
30) 横封脉冲
31) 拉膜反向信号
32) 电子称50,51/转盘
33) 横封电磁阀
34) 纵封电磁阀
35) 横封机构反向信号
36) 横封反向信号
37) 切刀电磁阀
38) 夹膜轮电磁阀
39) 折角连包电磁阀
40) 充气电磁阀
41) 止漏阀电磁阀
42) 打码机电磁阀
43) 托料电磁阀
44) 推料电磁阀
45) 左纠偏
46) 右纠偏
47) 上料
48) 放膜电机
49) 搅拌电机
50) 圆桌电机
51) 报警复位输出
KA12 KA1 KA2
KA3 KA4 KA5 KA6 KA7 KA9 KA10
KA11 KA13 KA14 KA15 SSR6 KA16 KA18 KA17

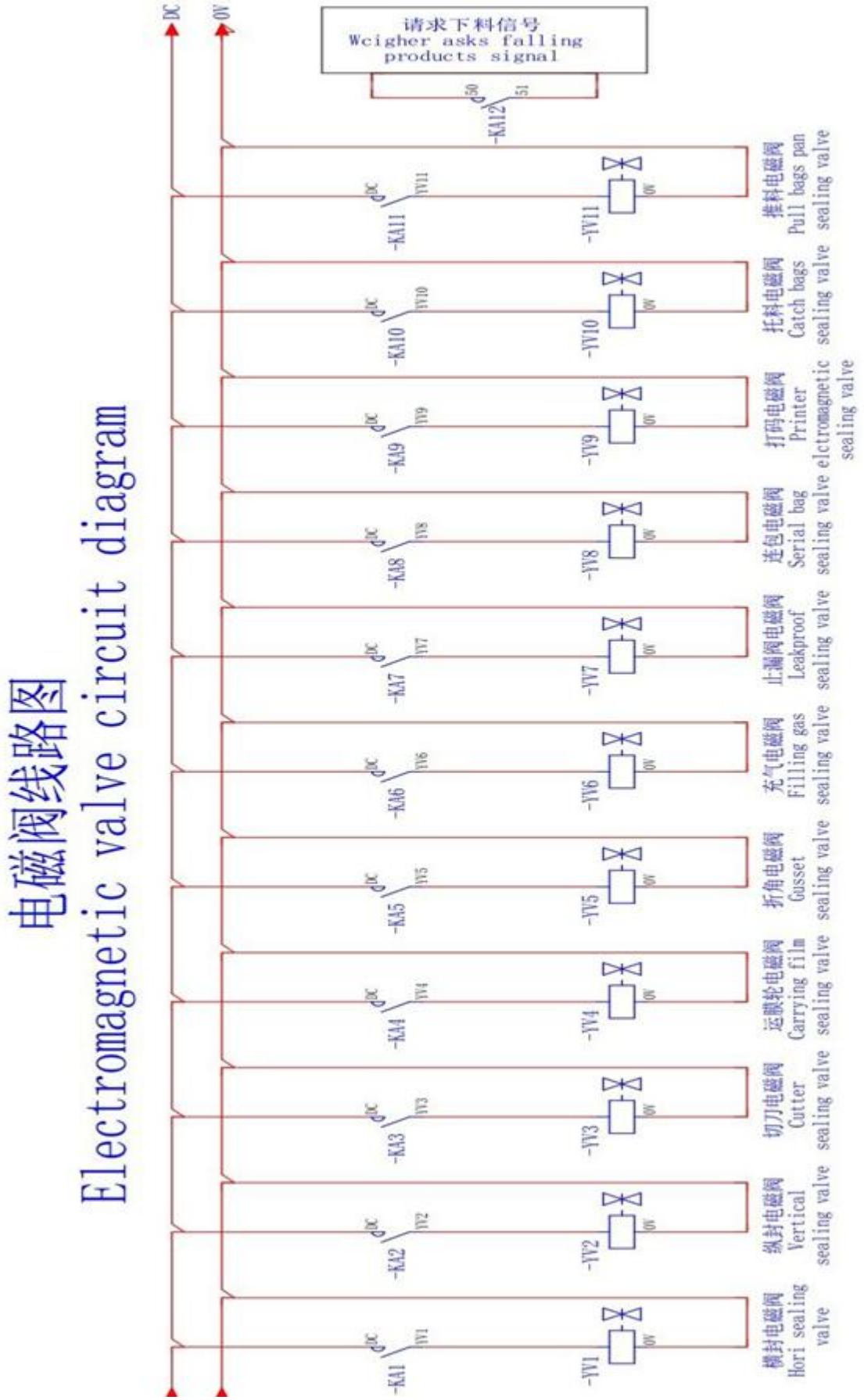
All translation for the IO point diagram:

1)	color code signal	26)	pull film servo up limit alarm
2)	packing signal	27)	pull film servo lower limit alarm
3)	emergency stop bottom	28)	pull film pulse
4)	pneumatic bottom	29)	auger/horizontal sealing up-down structure
5)	stop bottom	30)	horizontal sealing pulse
6)	no color ribbon signal	31)	pull film reverse signal
7)	cutter signal	32)	weigher 50, 51/volume cup device
8)	low temperature signal	33)	horizontal sealing electromagnet
9)	no product signal	34)	vertical sealing eletromagnet
10)	no film signal	35)	horizontal sealing up-down structure reverse signal
11)	door safety signal	36)	horizontal sealing reverse signal
12)	horizontal sealing original position	37)	cutter electromagnet
13)	film release signal	38)	carry film wheel electromagnet
14)	film release break signa	39)	gusset device/serial bag making eletromagnet
15)	auto film position rectify signal-left.	40)	gas flushing electromagnet
16)	auto film position rectify signal-right	41)	leak proof electromagnet
17)	rectify left limit	42)	code printer electromagnet
18)	rectify right limit	43)	bag salver electromagnet
19)	auger filler gate open alarm	44)	bag push electromagnet
20)	pull film servo alarm	45)	rectify film position-left
21)	auger servo alarm	46)	rectify film position-right
22)	Material elevator motor alarm	47)	elevate product
23)	mix motor alarm	48)	film release motor
24)	volume cup device motor alarm	49)	mix motor
25)	horizontal servo alarm	50)	round table motor
		51)	alarm reset output

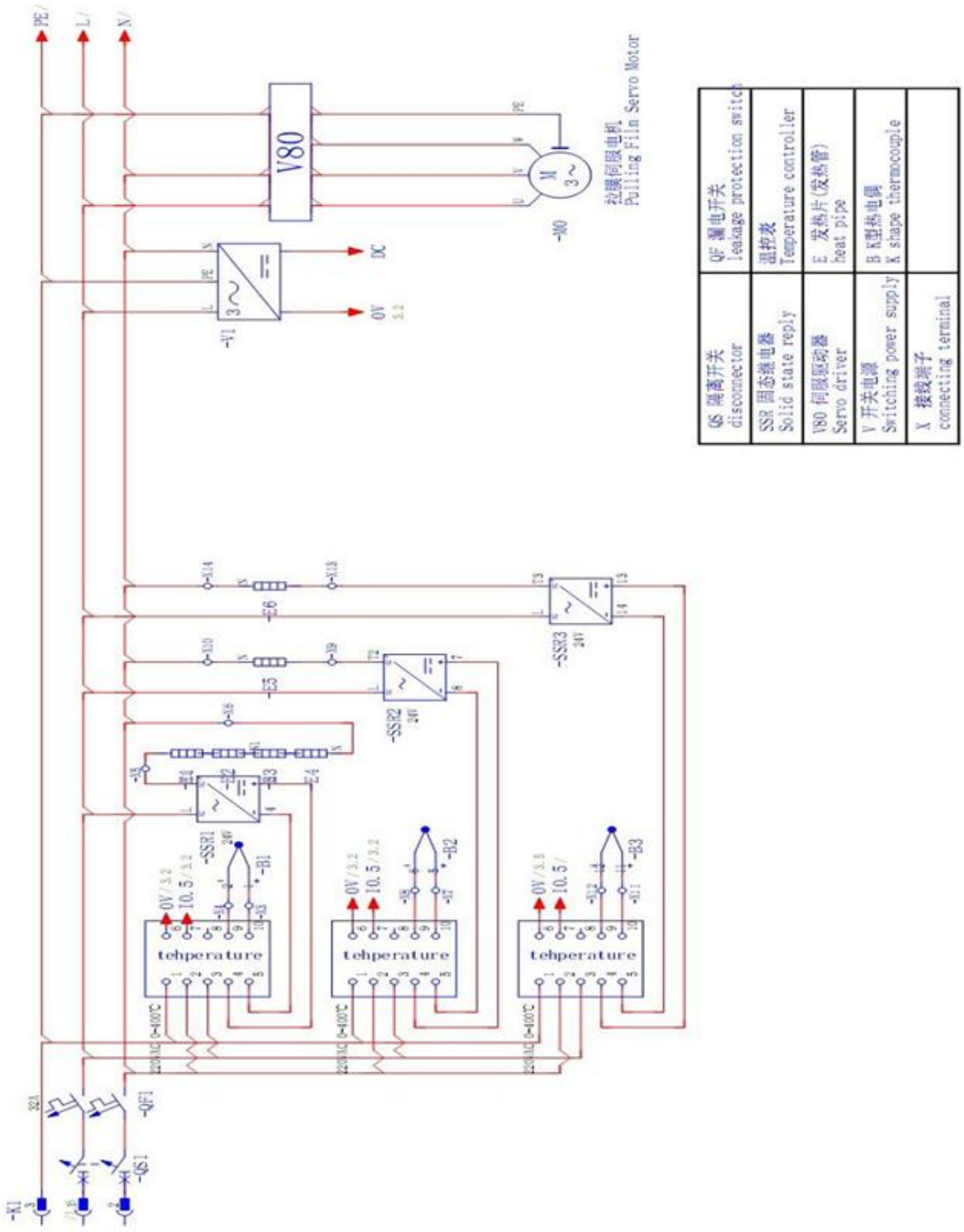
8.2 Main electric circuit diagram



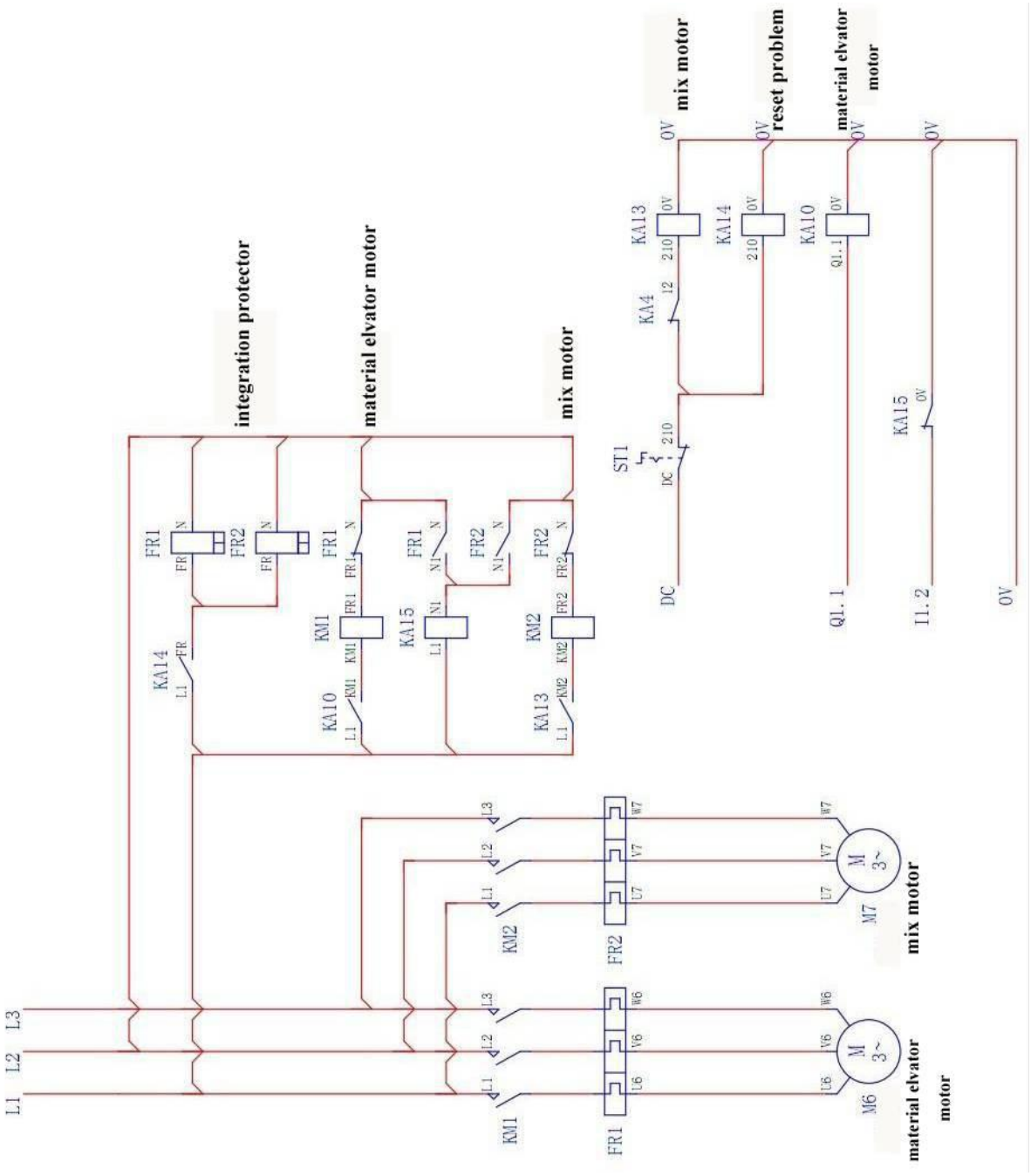
8.3 Electromagnet circuit valve diagram



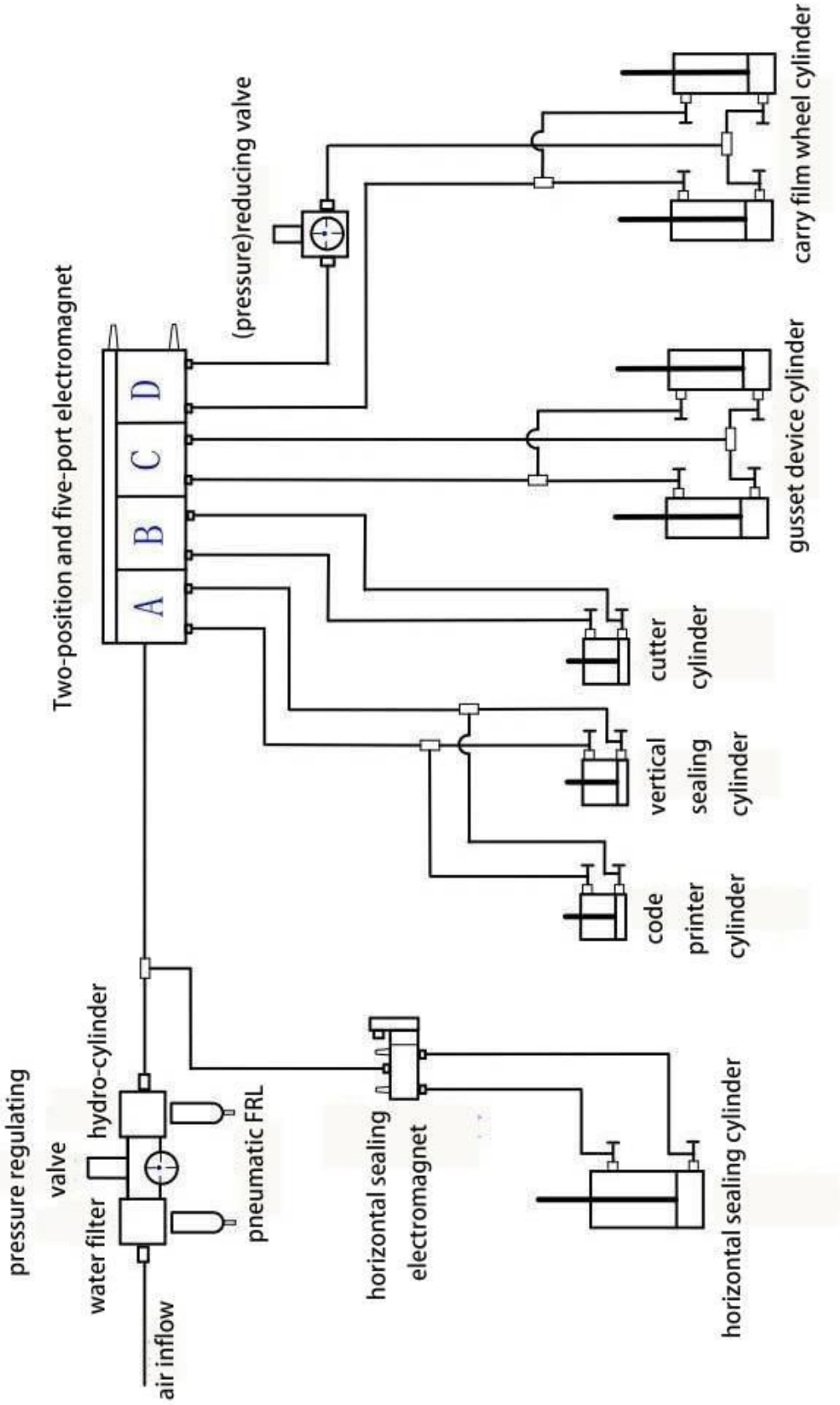
8.4 Weigher and cup device circuit diagram



8.5 Auger device circuit diagram



9. Pneumatic diagram



10. Listing of spare parts with the machine

Accessory List:

Horizontal sealing heat susceptor ---------- 4 pieces

Vertical sealing heat pipe ---------- 2 piece

Interior hexagon spanner 4-10mm ---------- 1 set

Open ended spanner 14-17----------1 set

Open ended spanner 8-10 ---------- 1 set

Carrying film synchronous belt ----------2 pieces

Copper brush 120mm ---------- 1 piece

Blade 263mm ---------- 1 piece

Oil pot 150ml ----------1 piece

Word Button ---------- 1 box

Printing date specification---------- 1 piece

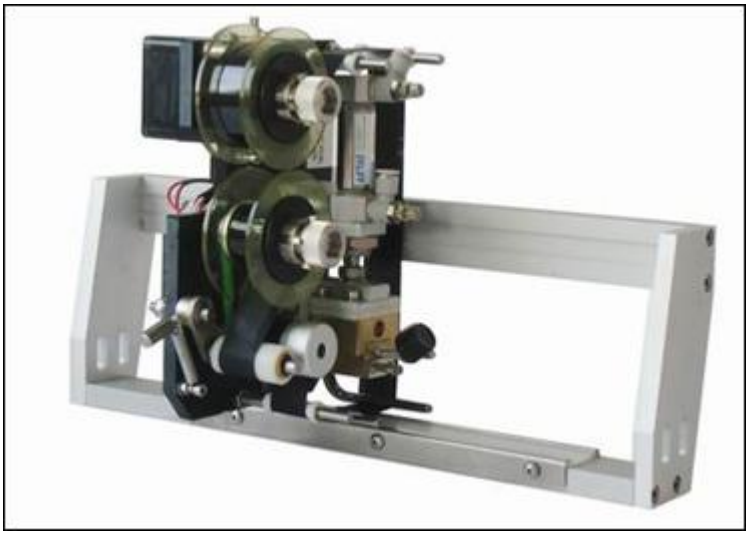
Temperature controller specification ----------1 sheet

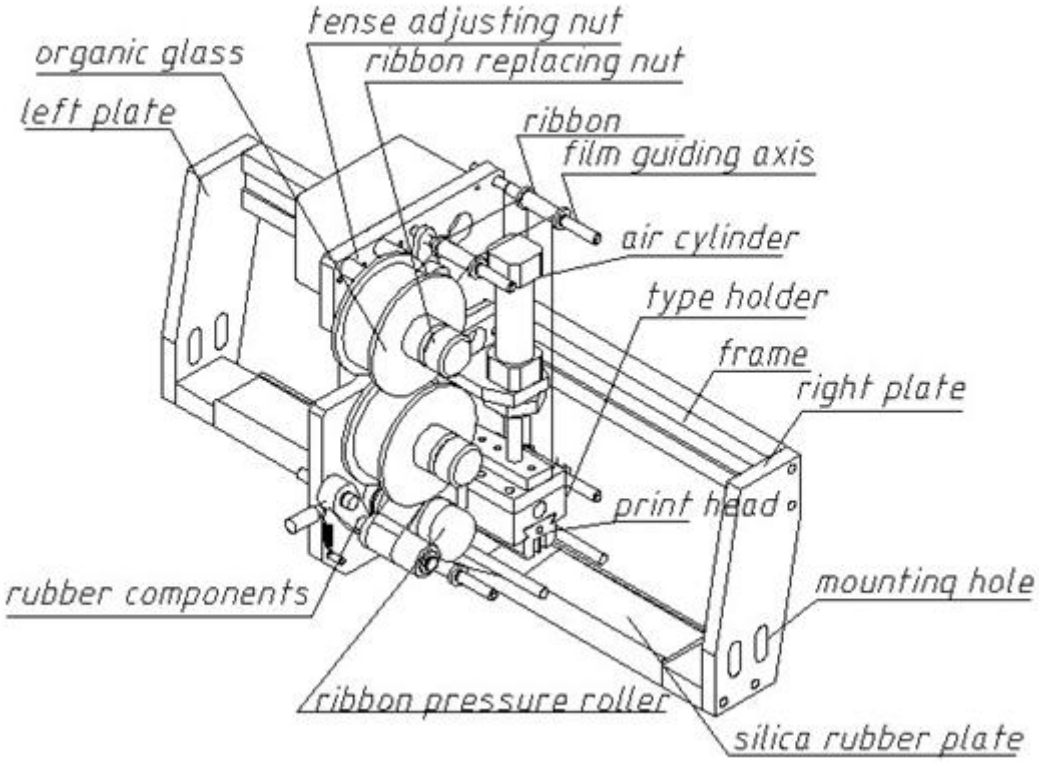
11. Attachments

11.1 Code printer manual

Pneumatic Ribbon Date Coder Manual

1) Main Structure





2) Performance and Technical Parameters

The ribbon coder is applicable to vertical intermittent packing machines like bag filling sealing machine, granule packing machine, liquid packing machine and

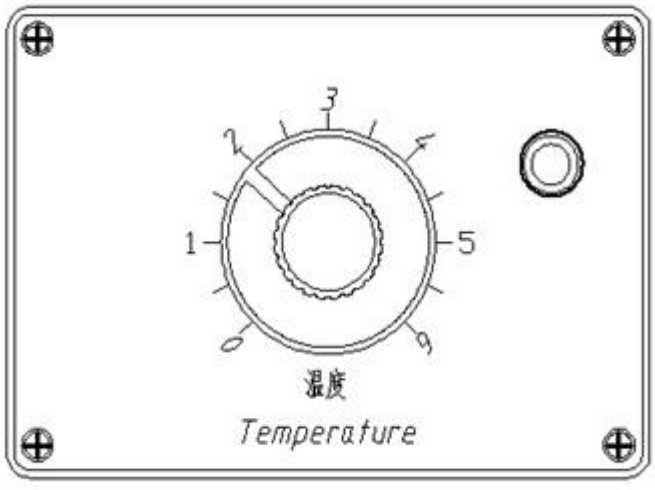
labeling machine to print production date, lot number, price and weight on any soft packaging material such as plastic film, PP, OPP, paper bags, label, leather and so on. It adopts high precision cylinder, the print speed synchronous with packing speed, and the coding results accurate and efficient.

It adopts thermal printing ribbon and the out print characters are clear and endurable. With compact size, easy operation, repair and maintenance, it is widely used in the industries of foodstuff, beverage, and pharmaceuticals etc.

Technical Parameters

Driver	Air Cylinder
Print Speed	0-150 times/min
Power supply	Single Phase 220V/50Hz 150W
Print Area	For single row: max. at 4*35mm, 15 types. For double row: max. at 8*35mm, 30 types For triple row: max. at 12*35mm, 45 types.
Dimension	400mm*210mm*250mm
Weight	4kg
Consumable	Ribbon (max. width at 35mm, diameter of standard core at 25mm)

3) Description of Control System



Panel of Temperature Control Box

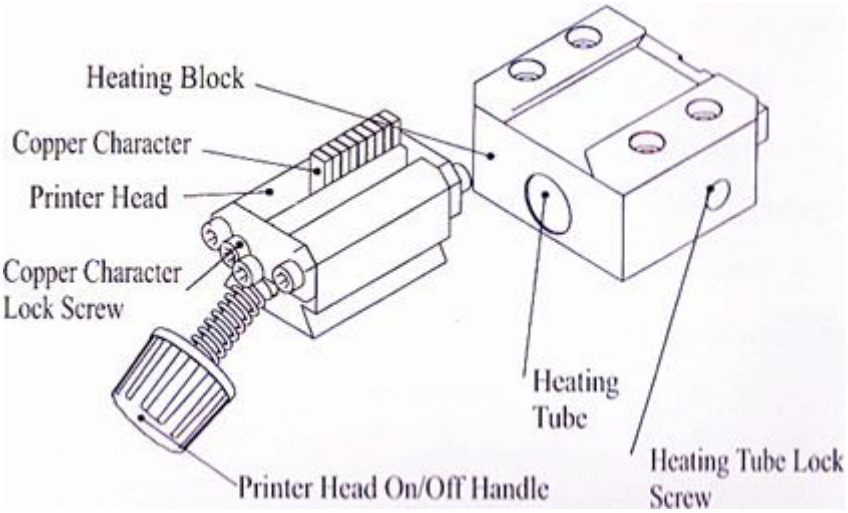
Temperature

Scale	0	1	2	3	4	5	6
Temperature℃	0	80	100	120	140	160	180

Temperature Control Knob: Turn on the power, the controller system automatic boot up the heating function. Set temp. control knob at position 2 and the heating indicator lamp lightens red. After preheating for 3-5 minutes, turn on the work switch, coding machine begins printing. Turn the temp. control knob clockwise to speed up heating, Conversely, turn counter-clockwise to slow down. To preheat the machine quickly, turn the temp. control knob at max. position, after the required temperature is obtained and then adjust it to the optimal scale. When the temperature reaches highest point, the constant temp. lamp lightens green.

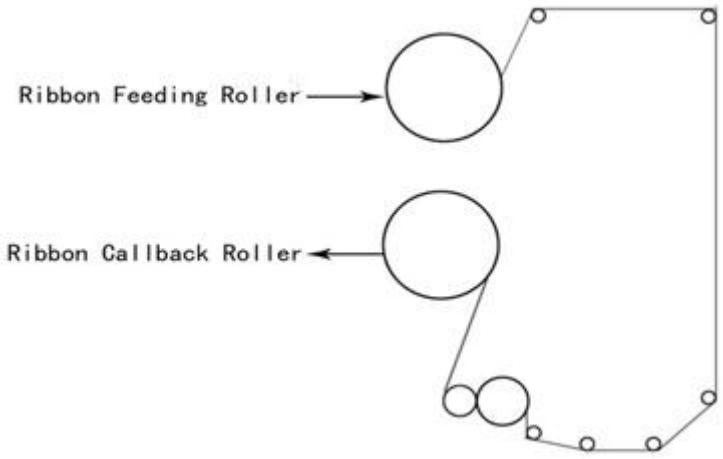
4) How to Install and Replace Character Types

Slightly push inwards print head handled, at the same time, turn it by 90-180℃, Undo hook head and pull out print head, and unscrew the brass character locknut on print head to replace characters types. The types should be arranged at the same height without deflection. Never use a metal rod to knock the types, as it may damage them. (As shown in the diagram)



5) How to Install and Replace Ribbon

Unscrew (not screw out) the ribbon replacing nut on ribbon feeding roller, take off active organic glass baffle, mount on thermal printing ribbon and active baffle. The baffle should be close to the side of thermal printing ribbon. Wind the ribbon in the way indicated in the diagram below. Unscrew the ribbon replacing nut on ribbon callback roller, take off active baffle, mount on hollow paper cylinder (the remains of used-up paper cylinder), glue the ribbon tip onto the hollow paper cylinder with sticker in the same direction as indicated in the diagram, mount on active baffle, then screw in the ribbon replacing nut.



6) How to Adjust Ribbon Width

Adjust the axial position of ribbon retainer, but no need to adjust the inside retainer, to make the distance between the two retainers 1mm wider than ribbon width.

7) How to Adjust the Resistance of Ribbon Feeding

Ribbon should be kept not to be loosened (moderately tightened at least) when coding machine is running a printing program. Try to minimize the resistance of ribbon feeding, but not too low, as thermal printing ribbon must be assured of enough tension after printing so that it will not be stuck to the material printed, or run crooked when ribbon is moving.

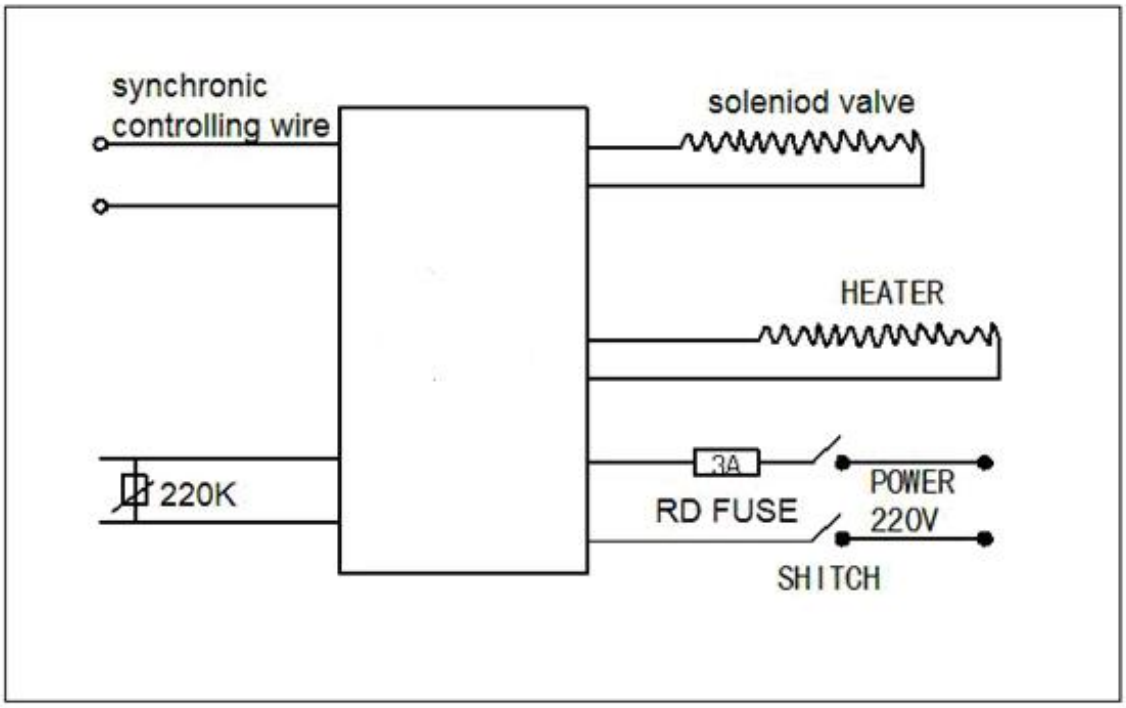
8) How to Adjust the Stroke of Connecting Rod

Adjust the stroke of connection rod according to the thickness of the materials to be printed on. Make sure that printer head is able to closely press upon the materials when at the lowest position, 1-2mm lower than the highest point of the materials to ensure clear printing. Over high pressure will result in ribbon and material broken, and unclear printing; ultralow pressure also will cause unclear printing.

9) How to Adjust the Stroke of Ribbon Feeding

Adjust the space adjusting screw for ribbon feeding stroke up and down to alter the ongoing space of ribbon, upward for less space, and downward for larger. The space between rows should better be kept at 1mm, thus to save the ribbon.

10) Description of Circuit Theory



11) Common Failures, Causes and Solutions

Failure	Cause	Solution
Unclear printing	Temperature too low	Inadequate preheating, it should take at least 15 minutes. In the case of emergency, set the temp. control knob to max. scale and then reset at the optimal scale to lower the temp. after temp. is obtained.
	Too high temperature which causes scalded and colorless character	Lower the temperature
	Ultralow printing pressure	Tighten the pressure adjusting bolt. Then adjust the length of connecting rod to lower the height of print head.
	The ribbon too tense to move	Loosen tension adjusting nut.
	Ribbon being wet or oiled	Replace new one
	Silica rubber plate aged	Replace new one

	Abnormal feeding of ribbon	Check the unidirectional ribbon feeding parts. Pull tight the spring of pressure roller to raise pressure.
	character not suitably located	Reinstall the characters to a uniform height without deflection.
Failure of printing	The face and back of ribbon oppositely installed.	Reinstall ribbon
	Heating block fails to heat	Check heating tube and heating circuit board.
Crooked running of ribbon	Guide bars deformed and nonparallel	Readjust the parallelism between guide bars.
	Guide ribbon retainer improperly located	Readjust the position of retainer.
	Pressure roller and ribbon feeding roller nonparallel	Replace pressure roller or ribbon feeding roller.
Ribbon broken	Over high temp.	To lower temperature
	Over high printing pressure	To adjust the length of connecting rod and raise the height of print head.
Coding machine fails to work	Control box damaged or malfunction	Make sure all wires well and correct contacted. Replace control box.

12) General Maintenance

To avoid the printing ribbon to be sticky or slip and effect the clarity of printed characters, please use the absolute alcohol clean the surface of rubber pressure roller, pressure roller and the belt guiding pole regularly. Keep lubricated between slider and draw runner, lubricate with grease once very week.