U.S. SOLID

CONTINUOUS SEALING MACHINE

MANUAL NO.11798

1. PRODUCT INTRODUCTION

1.1 Products' application

This sealer is suitable for sealing all kinds of plastic films, which is widely used in fields of food, medicine,

chemicals, commodities and agriculture, etc. It is ideal sealing equipment for packing batch products in

factories and shops.

1.2 Products' feature

This sealer is ideal for sealing small packages, which adopts constant temperature control system and stepless speed adjusting transmission mechanism.

It has the advantages of high efficiency for continuous sealing, reliable sealing quality, superior structure and simple operation, etc.

The sealing direction of standard machine is from right to left. It can also be designed to seal from left to right according to customers' requirement.

After sealing, the pack has grid embossing or stripe embossing. Also blank smooth embossing is optional. Additional embossing roller or counter can be provided according to the customers' requirements.

The machine works with solid-ink coder to print the colored labels

while sealing. The coder is able to print highly legible letters in optional colors. And it can dry instantly with good adhesion property.

The machine can print two lines in font size four (18PT) or three lines in font size five (10.5PT) at the same time in R arrange. Every line can arrange 20 characters.

It applies to sealing different plastic films made from various materials.

1.3 Operation principles

After power supply is connected, electrothermal elements start to produce heat, which leads to rapid temperature rise of both upper and bottom heating blocks. Adjust temperature controller and speed-adjusting knob to get the required temperature and speed respectively. The sealing area of plastic packing bag is conveyed to the position between two sealing belts by conveyor belt first, then clamped by two sealing belts and delivered to the heating area. The plastic film is heated and softened. Under the pressure from pinch roller, the film binds. After this, the sealing part will be conveyed to the cooling area for cooling and forming, and then pressed by embossing roller for making stripe or grid pattern, and print the needed colored labels.

The running of transmission part of the sealer and printer is started

by motor, which drives sealing belts, guiding belts and conveyor belt through gears to run synchronously, and intermittently drive the printing mechanism to work synchronously.

1.4 Parameters of products

Power supply: 110V, 50~60 HZ

Power: 790 W

Sealing speed: 0 ~ 24m/min (adjustable)

Sealing width:10mm

Temp. range: 0 ~ 300°C(adjustable)

Single Layer Maximum Film Thickness: ≤0.1

Conveyor Table Maximum Load: ≤3kgs

No. of printing words: 13

2. SAFETY, PREPARATION AND EXAMINATION

2.1 Preparation for use

This instruction is a detailed description of the Movement, Storage, Installation, Startup, Operation condition, Maintenance, troubles & solutions and Repairing. The installation of machine is suggested to be operated by trained person.

Pls follow the maintenance instructions：

Before operating the machine, pls be sure to read the operation manual carefully and fully understand it.

If there is any question, pls contact the supplier.

2.2 Precautions on safety

Pls confirm the machine voltage, frequency to prevent the accident.

This machine is in power system of single-phase three-wire, and the yellow and green wire is protective earth wire which should be grounding and could not be removed.

The power cord should be protected from pressing, pulling, and should be winded when it is not used.

Do not touch the electrical devices inside the machine after the power is turned on.

Do not touch any driving parts to avoid injury when the machine is in operation.

Do not open the machine hull, protection cover etc. when machine is on so as to avoid pinching, scalding or electric shock.

Do not touch the heating blocks to prevent from burns.

When the machine is repaired, please proceed when the heating blocks are fully cool to avoid burns.

Do not use the machine in corrosive and dusty environments.

Keep the inside and outside of the machine clean and remove the surface adhesive materials from the Teflon belt in time.

Fill and exchange oil in worm-gear case regularly, and oil gear and sprocket (YP7408 semi-liquid gear oil).

When the machine is not in use, the power supply and air supply should be switched off.

Keep this manual properly for easy reference in the future.

This machine is produced as per the latest technology and security standard. There may be danger or damage under improper operation. Please notice the keywords “DANGEROUS”, “WARNING”, “TAKE CARE”.

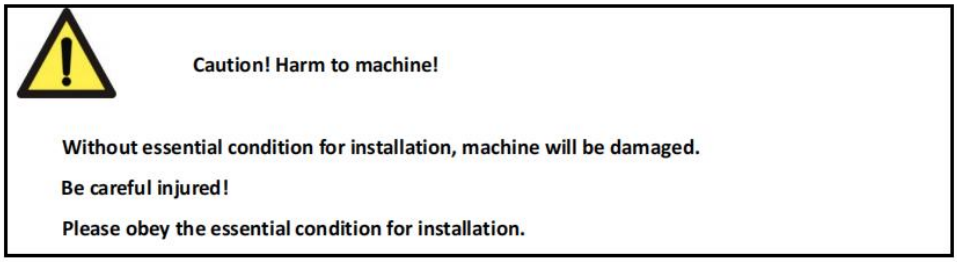
2.3 Operational environment

This product is designed to run under room temperature. If the environment is in bad condition (such as corrosive atmosphere, high temperature or temperature in frequent changes), please contact the manufacturer .

3. INSTALLATION

Before installation and operation, please read this manual carefully. You can get the information of the installation, starting, maintenance and operation of the machine. Supplier is not responsible for the problem caused by the operation against this manual.

3.1 Necessary conditions for installation



3.2 Installation environment

No inflammable and explosive gas is allowed.

Environment temperature：5-30°C. If need operation under other temperature, please confirm with supplier first.

Environment pressure, standard atmospheric pressure

Assure power environment satisfy requirements (refer to nameplate).

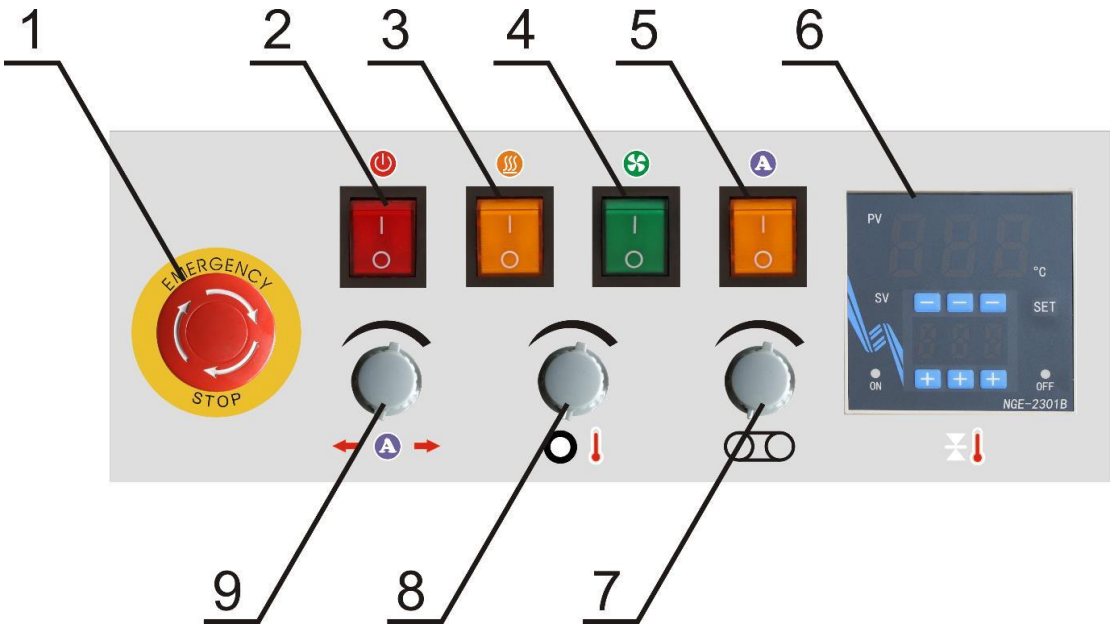
Leave enough space to assure good ventilation for heat dissipation. At least 10cm interspace.

Machine cannot be exposed to heat source and steam device directly. (such as steamer, dish-washing machine or stove)

Assure enough space to replace the easy worn spare parts.

4.STARTUP AND COMMISSIONING

4.1 Introduction to the controlling panel



No.	Name	Description
1	Emergency Stop	Used to stop the running of machine. Press it to stop the machine at any time. After pressing, the machine will stop all the operation.
2	Power	Used to turn on or off the machine power supply.
3	Heat Sealing	Optional opening and closing heat sealing function.
4	Fan	Open or close heat sealing / Open or close fan
5	Printer	Optional opening and closing solid-ink coding function.
6	Temperature Controller	Adjust the temperature of the heating block.
7	Speed Knob	Adjust the belt speed.
8	Solid -ink Temperature	Adjust the temperature of the heating block in the solid-ink.
9	Mark Position	Adjust the printing position on the bag film.

4.2 Power on

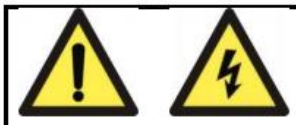
DANGER! ELECTRIC SHOCK!

Please abide by safety operating regulations.

Via rotating the Power Switch to start the machine.

After the connection with the power supply, the indicator light will be on. And the touch display will show the home page, which means the machine is now in the state of standby, and the machine is ready to be operated.

4.2.1 Starting power supply



WARNING! ELECTRIC SHOCK!

Ensure that the socket used has protective grounding wires.
Be careful! Power mismatch will damage the machine!
Please check the power parameters of the machine by referring to the machine nameplate.
Please comply with safety guidelines and national accident prevention measures.

Power/Ground：

- Check whether the power supply voltage is consistent with the voltage in the machine’s nameplate.
- Ensure the machine is properly connected to a grounded receptacle, so as to avoid the fire or electric shock (grounding line is the yellow green double color line).

- The cable must be free to move to avoid extrusion.
- Once the cable is damaged, please replace immediately.
- When there is machine malfunction or when the machine needs maintenance, please cut off power supply.

4.2.2 Startup procedure

- Connect the power and press the emergency stop switch, the indicator lights up, adjust the heating speed knob, then the transmission parts run synchronously.
- Fine tune printing wheel knob, make the printing wheel rotating. Adjust it to the appropriate pressure and fix the limit screw.
- Turn on the heater switch, then the green light of temperature controller lights up. According to the material and thickness of the packing bag, adjust the temperature controller to the desired temperature. When the heating block begins to warm up, the machine shall be turned on at the same time.
- That whether it is necessary to turn on the fan for cooling depends on the material and thickness of packing bag.
- Optional opening and closing solid-ink coding function according to actual need.
- Adjust mark position to regulate the printing position on the bag film.

- Flatten and align sealing opening, then feed the bag by aligning the bag opening with the feed opening. When the bag opening is gripped by the sealing belts, which makes the bag moving
- forward automatically, at that moment, please do not push it in or pull it out by force, otherwise there will be irregular sealing or breakdown.
- If it is found that there is dirt attached to the sealing belt or the heating block, stop the sealer and clear it. Do not clear the dirt with hands when the temperature is high.

4.2.3 Stop operation

In order to prolong the service life of the sealer, before turning off the machine, please return the temperature-regulating knob to position 0 firstly, and turn on the fan. At the same time, the indicating temperature begins to fall and the sealing belt should still be in state of running. After several minutes later, when the temperature drops below 100℃, it is allowed to turn off the fan and main power switch.

4.2.4 Emergency stop switch

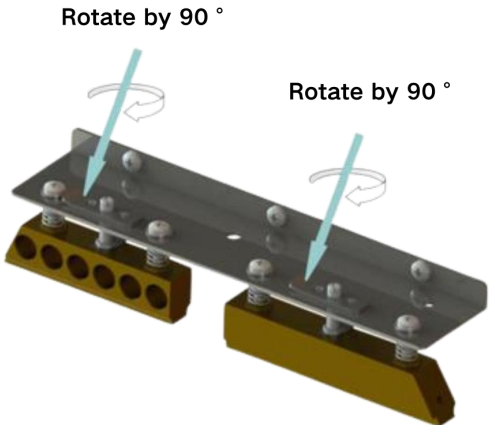
At any time, the machine stops immediately after pressing the emergency stop switch. The emergency stop switch is a

self-locking switch, and it needs to be rotated by a clockwise 120 degrees to open.

4.3 Commissioning

4.3.1 Replacement and adjustment of the sealing belt

Remove the safety cover, after the heating block cooling, rotate retaining washer by 90 ° on both upper heating block and upper cooling block to lift both two blocks, then loosen the springs on both embossing roller and pinch roller, meanwhile, remove the guiding belt, so as to make it ready for removing sealing belts (as below figure).

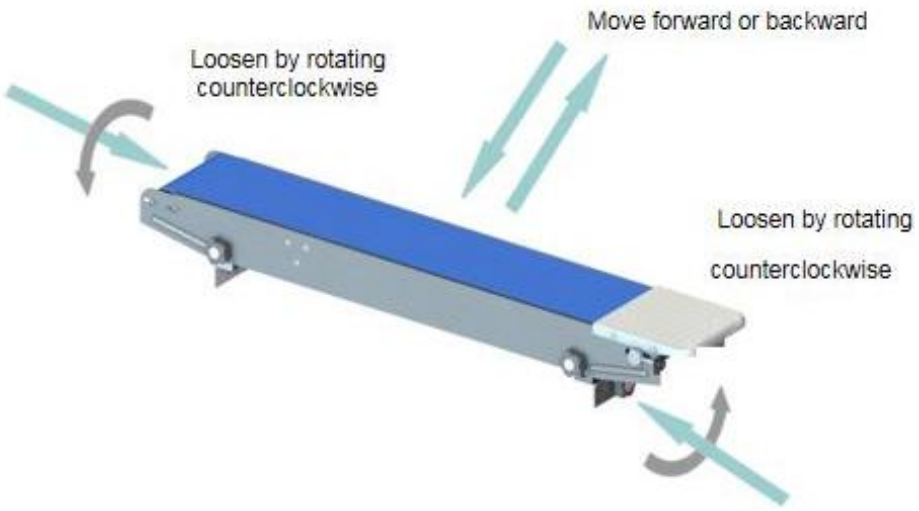


- Move the driven wheel seat (adjusting block) towards heating block, and remove the sealing belt.
- Replace it with a new sealing belt and install the guiding belt back.

- Adjust the driven wheel, heating blocks, cooling blocks, and pinch roller etc. to the original position.
- Connect the power supply to test the machine.
- Install the protection cover. When the temperature reaches the setting temperature, the machine is ready for work.

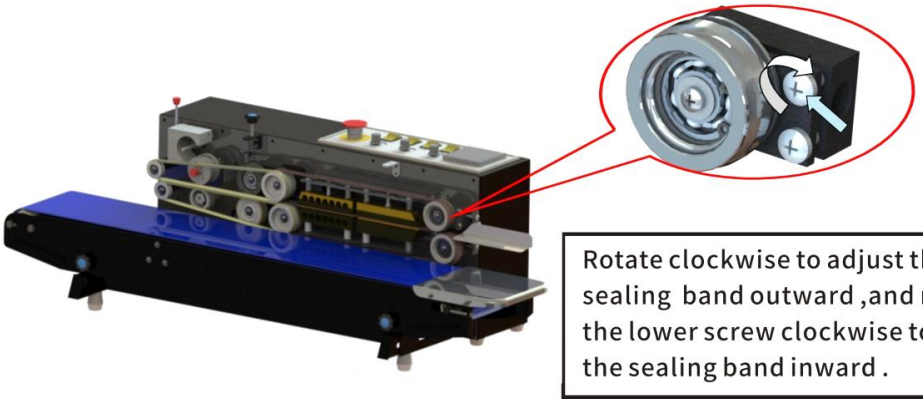
4.3.2 Forward-and-backward adjustment of conveyor table

Loosen the adjusting knobs on both sides first, and then move the conveyor table forward or backward in the long slot along the feet. Tighten the knobs on both sides after finishing the adjustment.



4.3.3 Adjustment of sealing belt deviation

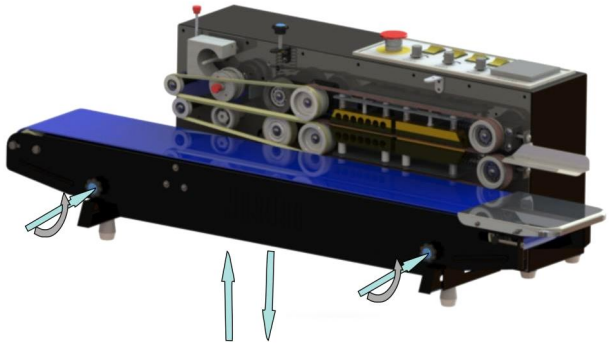
If the sealing belt deviates, the sealing belt can be adjusted by adjusting the screws in the driven wheel seat (adjusting block) (as below figure).



Rotate clockwise to adjust the sealing band outward ,and rotate the lower screw clockwise to adjust the sealing band inward .

4.3.4 Adjustment of conveyor table height

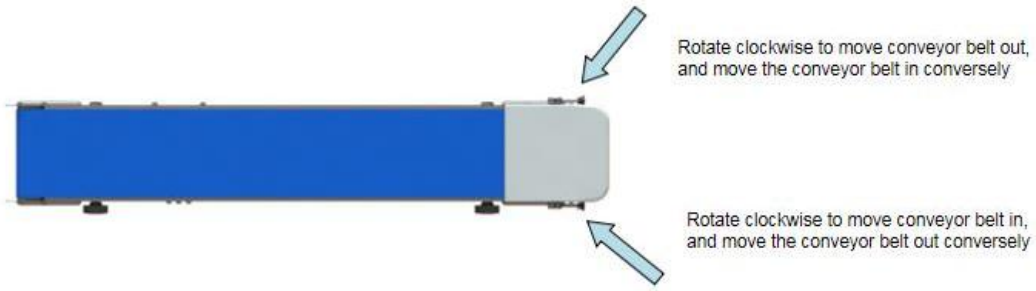
According to different materials, if it is needed to adjust the height of the conveying table, adjust the conveying table height by the adjusting knob in front of the conveyor table (as below figure), and tighten it after adjustment.



Rotate counterclockwise to loosen ,which can make the conveyor table lift up and down as needed .

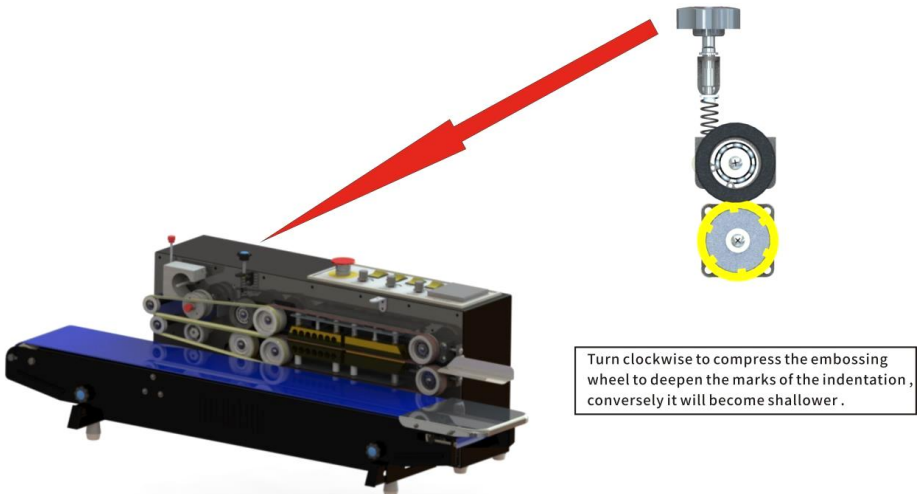
4.3.5 Adjustment of conveyor belt running deviation

If the conveyor belt run deviation, the conveyor belt can be adjusted by adjusting knob on the right side of conveyor table (as below photo). Keep the conveyor belt under tension state when adjusting, and it is not allowed to adjust when the conveyor belt under relaxed state.



4.3.6 Pressure adjustment of embossing wheel

If there is a need to make the pattern of the embossing wheel deep or shallow, adjust the adjustment knob at the top of the embossing wheel (as below photo).

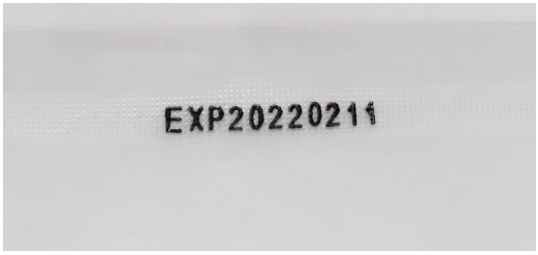


4.3.7 Printing mechanism adjustment method

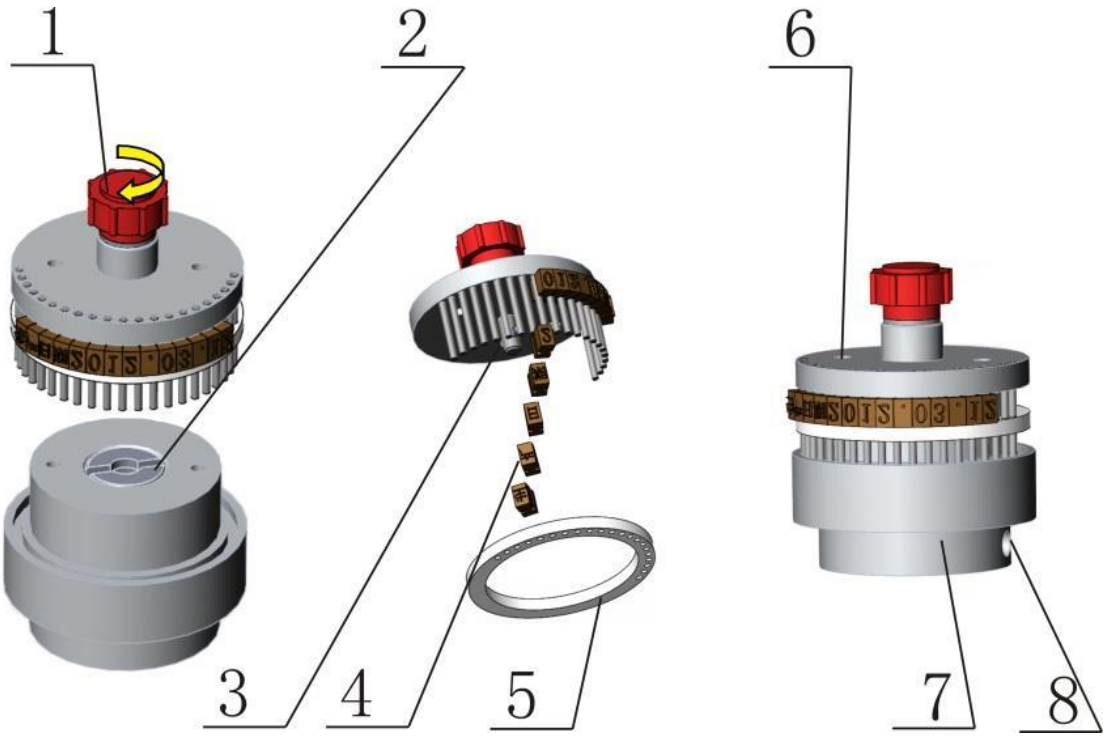
- The character R-type (as shown below).

R Type

R Type



- Character replacement (see below).



NO.	Name
1	Printing Wheel Pin
2	Printing Wheel Shaft Cover
3	Lateral Pin
4	Character Kit
5	Silicone Rubber
6	Locating Pin
7	Printing Wheel
8	Printing Wheel Set Screw

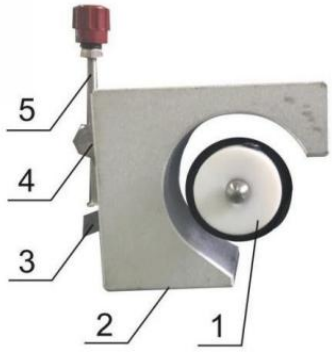
① Rotate the pin on the printing wheel cover to let the lateral pin come out of the groove, then the printing wheel shaft cover will automatically open. Take off the cover to replace the character.

② After replacing the character, press the silicone rubber, then cover the printing wheel cover, insert the lateral pin into the groove of the printing wheel shaft cover, and press the printing wheel pin and rotate to fix.

- Adjustment of space between ink roller and character kit

① Rotate screw (5) clockwise, then ink roller (1) will be tilted and move away from the printing wheel. Rotate screw (5) counterclockwise, the ink roller (1) will press against the printing wheel by the elastic element.

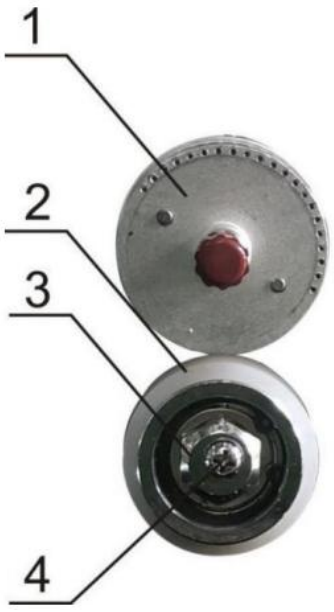
② Adjust the adjustment screw (5) of ink roller swing link, and rotate the printing wheel, then the character kit will contact with the ink roller (1).And the ink roller can be easily driven by hand.



NO.	Name
1	Ink Roller
2	Ink Roller Heating Block
3	Swing Link
4	Adjust Pillar
5	Adjustment Screw

- Pressure Adjustment of Printing Wheel and Silicone Wheel:

There is no contact between the characters on the printing wheel and the silicone wheel when it is not working. Loosen the screw (4) on the front of the silicone wheel and rotate hexagonal nut of the eccentric wheel (3) so that the character kit in rotation can contact with the silicone wheel(2). If printing a thicker bag, it needs to be loosen more, and the pressure should not be too high, then tighten the screws when adjustment is ready. (As shown below).



NO.	Name
1	Printing Wheel
2	Silicone wheel
3	Eccentric Wheel
4	Screw

- Temperature adjustment of printing wheel and ink wheel:

All the adjustment knob is at “0” position when the machine is shipped from the factory. Users need to adjust them according to needs. The temperature can be appropriately lower when the ink roller is first used. After a period of time, the temperature can be

appropriately increased to make the deeper ink out to extend the life. When the ink roller reaches the operating temperature, use a white paper to lightly touch the outer surface of the ink roller, and it is preferable that the paper be stained with a little ink. And the set temperature must be moderate.

- **Adjustment of marking position:**

According to the length of the bag, users can set the position of the printed label by rotating the position indicator knob.

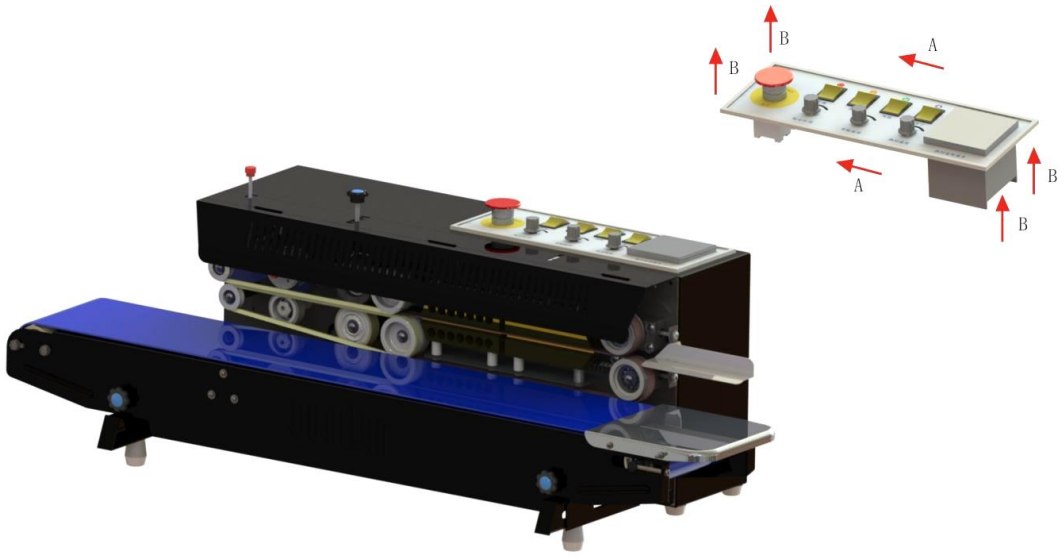
- **Adjustment of printing lines:**

Arrange characters within the set range, and then fix the characters in the needed axial position using the supplied silicon strip

4.3.8 Control panel removal method

- First, remove the back cover of the chassis;
- Second step, remove the emergency stop switch (by turning out the red knob on the emergency stop switch counterclockwise, and then turning out the silver clasp under the red knob counterclockwise), and remove the pins on the front and rear sides of the temperature controller;

- Third step, push the control panel into place in the direction of arrow A in the figure below (at this time the housing and control panel are loose), then take out the control panel as shown by arrow B.



5. STANDARD OPERATION & PARAMETER SETTING

TAKE CARE! INJURED!

Please refer to this manual to operate this machine. It is not allowed to discharge the necessary protection cover or hull.

TAKE CARE! CLAMPED!

When the machine is running, it is forbidden to put hands into the driving wheel to avoid clamping hands!

TAKE CARE! SCALD!

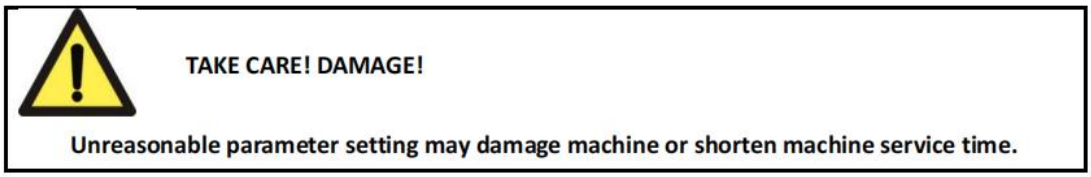
When sealing, the temperature outside the surface of heating block can reach over 200℃. Even after cooling, it is still with high temperature.

5.1 Preparation, adjustment and inspection before operation

- This machine is equipped with a grounded three-hole socket. The power supply used should be well grounded to ensure safety in production.
- When in first time use or when there is too long time interval after use, the electric heating element will be affected with damp, it should be operated in normal operation after preheating in low temperature for a few minutes.
- According to the bag shape and size, adjust the conveying table height and forward-and-backward position.
- According to the shape and size of the sealing line to the mouth, adjust the position (inlet).
- According to thickness of the sealing material, adjust upper and lower heating blocks, and the clearance between upper and lower cooling blocks, adjust the pressing force of retaining washer to control the clearance between the two sealing tapes, adjust clockwise to lift (increase clearance) and counterclockwise to fall (narrow clearance). The clearance between two sealing belts is equal to about the thickness of one layer of packing bags, so that the sealing fastness and embossing sharpness of the bag can be ensured and the

clearance between two ends of the seal are not too long.

5.2 Parameter setting



- Unreasonable parameter setting may damage the machine or shorten the service time.
- Unreasonable parameter setting may cause all procedures or sealing not to be completed correctly.
- If any question about machine's operation or function of the machine, please contact the manufacturer or distributor.

✸ Speed Parameter Setting

- There is a speed adjusting knob in the control panel to adjust the sealing speed, clockwise rotation is to increase the sealing speed, counterclockwise rotation is to reduce the sealing speed.

✸ Optimal Parameter

- The distance between bag sealing center to the edge of the bag is 10 ~ 20 mm.
- Bag sealing quality is determined by the three elements of heat sealing temperature, sealing speed and pressure.

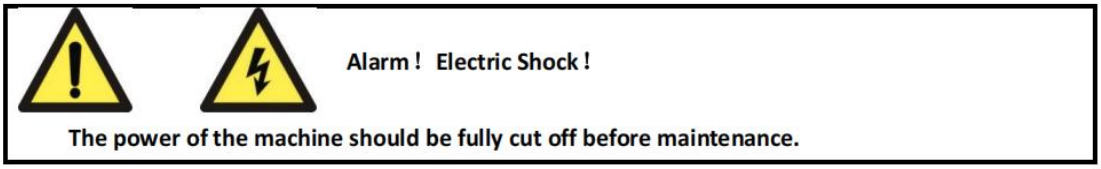
- Temperature setting should be adjusted slowly from low to high according to the thickness of the bag.
- Speed setting should be adjusted slowly from slow to fast according to the sealing effect.

The sealing pressure is adjusted to appropriate pressure before the machine leaving factory, and it is suitable for most product bags. If after adjusting temperature and speed, the bags cannot get the ideal sealing effect, please adjust the belt-pressing wheel to make pressure change from low to high slowly so that to get the expected sealing effect.

✸ Common material heat-sealing temperature reference table

Material Name	Thickness (um)	Recommended temperature setting (℃)	Heat-sealing speed (m/min)
LDPE	30～160	105～150	6～10
MDPE	40～120	115～120	7.2～10.2
HDPE	40～90	125～150	7.2～10.2
PP	40～60	135～160	7.2～10.2

6. MAINTENANCE



Daily maintenance to the machine is necessary to lengthen the service life of the machine and to achieve best packing effect. If the machine is frequently used (more than four hours per day), it is suggested to do professional maintenance every three month. If the machine is used less than four hours per day, it is advisable to do comprehensive maintenance very six month (according to place, environment and product). However, some users could do simple following maintenance to the machine according to their Practical needs.

6.1 Attention for maintenance

- The power of the machine should be fully cut off, the power cord should be pulled out from the socket in the wall.
- If the machine runs incorrectly or there is some abnormal noise during operation, please immediately turn off the power and contact manufacturer.
- Please do not wash the machine with high pressure washer which will do much damage to the electronic components and

other spare parts in the machine.

- Please do not let the water flow into the control panel, or it will do damage to the electric circuit.
- If the operator’s maintenance to the machine is not according to this manual, the manufacturer will not take responsibility for any failure or damage of the machine.

6.2 Maintenance schedule

Schedule	Contents of Maintenance
Daily	1.Use the brush to remove the substance attached to the appearance of the sealing belt and guiding belt. 2.Use wet cloth to clean the appearance of the conveyor belt. 3. There is no noise or abnormal noise during motor operation.
Monthly	1.Check whether the sealing belt is worn or not 2.Check whether the guiding belt is worn or not 3.Clean the carbon brush of the motor
Half a year	1.Check the worn situation of the carbon brush of the motor which is suggested to change once a year 2.Adding lubricating grease to the gears which are exposed without cover.
Year	1.General inspection shall be conducted according to the above items. 2.Check whether the rubber wheel is aging, and replace the rubber wheel if the aging is serious. 3,Check the temperature controller temperature rise time, temperature rise to the set value more than 10 minutes to consider replacement. 4.Check whether the switch, emergency stop, potentiometer, fan and other electrical components operate normally. 5.Check the gear, shaft, universal joint and coupling of the transmission part, add grease, and replace the parts with serious strain when necessary. 6.Clean the worm gear box and replace the lubricating oil (Great Wall brand 000# extreme pressure lithium grease lubricating oil).

7 TROUBLESHOOTING

7.1 Troubleshooting

Problem	Reason	Solution
The machine does not work	1. The power is not connected.	1. Check the electric outlet
	2. The fuse is broken or high resolution circuit breaker trips.	2. Replace the fuse and high resolution circuit breaker
	3. The emergency stop switch is pressed but there is no reset.	3. Reset the emergency stop switch.
Conveyor belt is off-tracking	1. The active axle is not parallel to the driven axle.	1. Adjust two adjusting screws of Driven Wheel Seat.
Sealing belt is easily broken	1. Too much tension on sealing belt.	1. Adjust the vertical adjusting screw on driven wheel seat, so as to make sealing belt neither too tight nor too loose
	2. Sealing belt is off tracking.	2. (see the point above).
	3. Crease on sealing belt.	3. No crease on sealing belt.
	4. Adhesive film or other dirt attached to sealing belt surface.	4. Clean the surface of sealing belt in time
	5. Sealing belt is easy to be scorched.	5. Clearance between two heating blocks is too small or temperature is too high.

Problem	Reason	Solution
Embossing is not clear	1. Embossing wheel is worn out.	1. Replace embossing wheel.
	2. Pressing spring on embossing wheel is not tightened enough.	2. Adjust the tightening spring of embossing wheel.
There is resistance when the sealing belt is conveying	The clearance between heating blocks or cooling blocks is too small, the friction is too much.	Adjust the clearance between sealing belts properly, which should be about thickness of packing bag in one layer, so as to ensure strong sealing and clear printing, but not make the two ends of sealing part extend too long.
There is block or fold phenomenon when the packing bag is conveyed to middle pressing wheel or embossing wheel	Too much pressure caused by pressing wheel or embossing wheel.	1. Adjust the pressing wheel or embossing wheel to proper pressure, so as to make the clearance between two sealing belts be about thickness of packing bag in one layer. So that not only ensure the strong sealing and clear printing, but not make the two ends of sealing part extend too long. 2. Adjust limiting screw after adjusting clearance.
Conveyor belt is off-tracking	The active roller shaft is not parallel to the driven roller shaft	1. Adjust the two adjusting screws of the driven roller shaft (rear axle).
Conveyor belt and sealing belt don’t move synchronously	The conveyor belt is not tight	1. Tighten the chain of driving roller shaft (front shaft) and middle shaft properly. 2. Tighten the conveyor belt properly

Problem	Reason	Solution
Solid-ink does not work	1. The power is not connected.	1. Check the power line is inserted or not and the indicator light is bright.
	2. The main control circuit board is not inserted or is in poor contact.	2. Check whether the pin of circuit board is tight, and whether the wire lead dropped out.
	3. The main control circuit board is damaged.	3. Check the circuit board, and replace the components.
Printing wheel does not work	1. The contact of start sensor is stuck	1. Remove obstacles.
	2. The sensor is not clean and the photocoupler hole is blocked by dust.	2. Remove the dirt from the surface of the optocoupler hole. 3. Check and replace components. 4. Repair the clutch.
Printing wheel cannot stop	1. The sensor (groove optical coupling) damaged, displaced, or the surface gathered dust.	1. Replace or install the positive sensor (groove optical coupling) or remove dirt from the surface of the photocoupler.
	2. The main control circuit board is damaged.	2. Check the circuit board, and replace the components.
Solid-ink heating block or printing wheel does not heat	1. Electrical heated tube or wire is damaged.	1. Replace the heater.
	2. Heating circuit board is damaged	2. Replace the circuit board.
	3. Potentiometer on the knob is damaged.	3. Replace the potentiometer.

Problem	Reason	Solution
	4. Carbon brush holder is displaced.	4. Adjust and tighten the nut.
	5. Carbon brush holder is damaged.	5. Replacement.
The temperature of solid-ink heating block is out of control	Temperature control relay is damaged.	Check and replace components.
The heating position is out of control	1. Loose screws of printing wheel.	1. Fasten screws
	2. The main control circuit board is damaged.	2. Check and replace components.

7.2 Motor maintenance

（1） Stop and check the machine when any abnormal occurs to motor, do not use the machine until problem is solved.

（2） Dedust and clean motor regularly. Ethyl alcohol, gasoline and liquid with benzene chemicals should be avoided, otherwise it will affect the paint of motor cover.

（3) Carbon brush is designed to be used 2500 hours continuously and commutator 2500 hours. The toner on the internal of motor and surface of commutator should be cleaned every 120 hours after use.

The commutator should be wiped by ethyl alcohol. Replace carbon brush and commutator immediately when they were worn out.

（4）The motor should be used indoors under normal atmospheric temperature to avoid friction, exposure to rain, and chemical corrosion, etc.. Please contact the supplier or manufacturer first if the motor is to be used in bad condition (such as exposure to Corrosive atmosphere, temperature higher than 30°C or lower than 5°C).

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