

YCP-Y100 Hot Seal Card Packing Machine

User's Manual

(2006)

Beijing YC Digittech Ltd.

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WITH GRATITUDE:

We thank you for choosing YCP-Y100 Heat-seal card packing machine and are as one of the client of ours. You will obtain the all-round and thorough services.

Attention:

Before you install, adjust and operate the machine, please take some time to carefully read this user's manual, thus making you much more convenient in installing, adjusting and operating as well as assuring the machine works normally.

Control system of YCP-Y100 Heat-seal card packing machine

BYCD ® YCP-Y100 V1.10, 2005

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1 Safety directions

1.1 Safety prompts

The design of this machine is in accord with the safety rules for factories. The safety units equipped are used for protecting operators of machine and avoiding any danger caused by accident of machine itself. The operator should not just count on these safety units and also have to read and understand the safety preventive measures mentioned in the safety chapters of manual, then can start to run machine.

Note: unsuitable operation might do the harm to people and other equipments around the machine.

1.2 Safety points before operation

1.2.1 Confirmation before power on

- a. Be sure to do a routine examination mentioned in the safety chapters of the user's manual.
- b. Make sure that all safe doors of the machine are closed.
- c. Make sure that all operation switches of the machine are at normal positions.

1.2.2 Turn on power

- a. Make sure that the rotation of every motor is correct.
- b. Be sure that the indicators are right.
- c. Make sure that all safety units, for instance: safe protectors, the switches of the safe doors, the emergency button and the ground wire, are set correctly.

1.3 Safety points of operation

This machine has the parts for heating, would the operator not comply with the following safe items, the machine will have potential hazards.

1.3.1 The operator must get a trained and carefully read the following safe items as well as assure of having a good knowledge of all operation skills.

- a. The operator must know about the operation of the machine.
- b. Do not take off the safety, the protector, the emergency button and ground wire.
- c. Must know how to stop the machine in an emergency.

- d. Do not stop the machine, especially the heating parts by hand or other objects.
- e. It is prohibited for more one person to operate the machine at the same time.

1.3.2 The electric system and the mechanical system can be maintained only by the qualified technician.

- a. Turn off the power before open the door of electric cabinet.
- b. Be sure that all of the power supplies have been off before removing and changing electric parts.
- c. Use insulated tools when working.
- d. Neither using a fuse beyond the limit of design specification nor other metal wire.
- e. When changing any wire, must be sure to use one as the same color and standard as original.
- f. Be sure nobody use the machine before turn on power.
- g. Nothing is allowed to put on the control box or the work place, for example, water and food.
- h. Don't touch the switches or any electric parts of the machine by wet hands.

1.4 Prevent from seriously harming body

- a. Face to the machine and operate the panel with a regular process.
- b. Don't stretch out hands or any part of body into the running machine when bending down.
- c. Don't let other person close to the machine from the rear or side of it, when the motor is running.
- d. Don't stretch out hands or any part of body into the areas of shift moulds or other parts when the motor is running.
- e. In terms of indications to operate the machine and maintain the machine
- f. Don't examine and repair the mould when the motor runs and heat up the machine.
- g. Whenever being off the machine or make an adjustment, do remember to shut off power.
- h. If the machine has any abnormal circs, inform the superior or director so that to repair it.

2 Specification

2.1 Appearance of machine



2.2 Main technology parameter

| | |
|---------------------------|---|
| Applicable material: | PVC or other plastic material or paper card |
| Thickness of material: | 0.6-0.8mm |
| Size of material: | 54×85.6 |
| Temperature of heat: | ≤350°C |
| Temperature control: | ±2.0°C |
| Pressure of compress air: | 0.7MPa |
| Power supply: | AC220V 50Hz Single phase, 3 lines |
| Power: | 3.0kW |
| Output: | 4000-6000 cards per hour |
| Dimension: | L3200×W1200×H1900mm |
| Weight: | Approx 450 kg |

3 Installation

3.1 Environment of installation

3.1.1 Installation place Installation place should keep away from inflammable goods, no inflammable gas in the workshop and don't stack sundry goods around the machine.

3.1.2 Requirement of groundwork The machine should be installed in the standard industry workshop. The installation ground should be level, solid. The thickness of the concrete base should not be less than 50 mm. When the machine installed is at the second floor or above, must confirm that the load bearing of the floor meets the requirement.

3.1.3 Environment of installation It has a ventilation installation in the workshop that is airtight and dustless.

3.1.4 Requirement of power supply Power supply is AC220V/50Hz, single phase with 3 lines and the earth wire should reliably be grounded. The earth resistance: $< 0.1\Omega$, the earth wire $> 2\text{mm}^2$.

3.2 Load and unload machine

On the basis of the mark of the center of gravity, select hoist position. Make sure that the machine is balanceable throughout lifting. When using a crane to lift, it is necessary to select a proper sling rope. The rope should be pulled straight and try first to slide down. Do not let the level component of forces of the rope damage the outside and any parts of the machine.

3.3 Unpack and lay down machine

3.3.1 Check the outer packaging to see if damaging, if it is, please inform of the supplier. Unpack the outer packaging.

3.3.2 Use a gradienter to adjust the level of the machine, adjust the altitude of the stand feet of the machine until the machine is level. Four wheels should hang in the air without bearing.

3.4 Connection of parts and components of machine

3.4.1 The unit of film transmission and the part of collecting cards of the machine are packed individually.

3.4.2 The unit of transmission film is equipped on the left of the machine. First joint the aluminium alloyed components in the light of the signs, next screw down the fix bolts, then connect an air hose and electric wires with the major machine.

3.4.3 The part of collecting cards is equipped on the right. First screw down the fix bolts, next connect wires with the major machine.

3.5 Connection of main power supply of machine

Caution: Connect the main power supply of the machine only by the qualified technician. The voltage of the power supply of the machine is AC220V, DC24V. If carelessly connect incorrect wires, it may result in getting an electric shock, the machine is damaged and injury or loss of life of people.

3.5.1 The machine itself has a three-pin plug, directly plug in the socket. The machine must be grounded safety.

Caution: Never sharing a single earth wire by 2 machines or more.

3.6 Connection between the air source and machine

The air connector of the machine is on the left side. Open the door at side-rear and insert the air hose into the connector. The diameter of the air hose is 8 mm. Adjust the air pressure as 0.6 MPa.

4 Operation

4.1 Show of key-press

4.1.1 Power on (green, reset switch) When pressing down it, put through power source, the system gets power.

4.1.2 Power off (red, reset switch) When pressing down it, cut off power source, the system power off.

After putting through power source, every electric appliance is at the situation of power through and standby. The heating parts start to heat up. The motor of separator, the motor of scrap collecting and the motor of cutter start.

When needing to stop the machine, commonly turn off power supply, if not work for a long time, pull out the power plug.

No other than putting through power, every electrical appliance can work.

4.1.3 Emergency button (turning reset button)

a. Press down this button, PLC immediately stops the output.

b. If work gets any abnormality status, press down this button at once, the machine stops running, so that to find out the reason of abnormality status.

c. After eliminating the fault, turn the button clockwise and stop turning as well as releasing by hearing the click of spring rebound. Free from the self-lock of the emergency stop and reset.

d. After freeing from emergency stop, press the start button on the touch screen to restart operation.

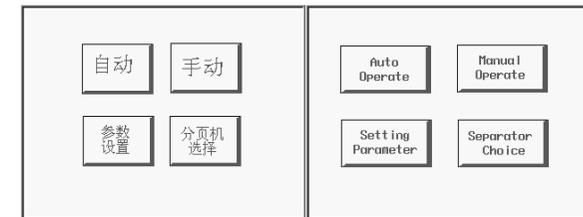
4.2 Menu of the touch screen and definition of key-press

4.2.1 Initial menu

Press down the power button to put through power supply, then showing a menu as below:



Touch **中文** to enter a Chinese menu, touch **English** to enter an English menu.



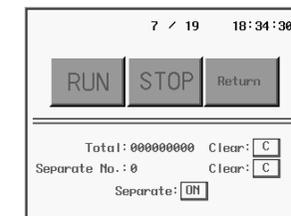
Touch **Auto Operate** to enter an automatic operation menu.

Touch **Manual Operate** to enter a manual operation menu.

Touch **Setting Parameter** to enter a set parameter menu.

Touch **Separator Choice** to enter a select separator menu.

4.2.2 Automatic operation menu



Explain every key as below

Either **RUN** is pressed down, the machine is automatically running in the light of the set parameters.

Either **STOP** is pressed down, the machine stop running.

Either **Return** is pressed down, return to previous menu.

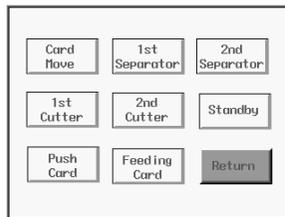
Separate No. Show the number of each bunch of cards, set on the menu of set parameter.

Clear Press down **C** to clear the set number of cards cut off, then packing by single.

Separate **OFF** or **ON** means the separate function is at start condition, press down **OFF** to change to **ON**, the separate function is at turnoff condition.

4.2.3 Menu of manual operation

Touch **Manual Operate** to enter the menu of manual operation.



Explain every key as below:

Card Move Press down it, packed cards move forward. The distance of movement is as the value set in the set parameter. The unit of the value is pulse, 1mm=43.333, or 1=0.023mm.

1st Separator Press down it, the first group (out side) of the separator acts. Release to stop.

2nd Separator Press down it, the second group (inner side) of the separator acts. Release to stop.

1st Cutter Press down it, the first group (on the left) of the hot seal cutter acts. Release to stop.

2nd Cutter Press down it, the second group (on the right) of the hot seal cutter acts. Release to stop.

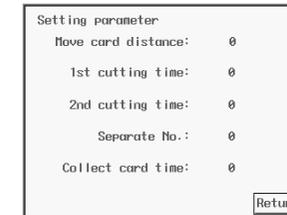
Push Card Press down it, the cylinder of pushing card into film strap acts. Release to stop.

Feeding Card Press down it, the tooth-like belt acts and push a card into the film strap. Release to stop.

Return Press down it, return to the previous menu.

4.2.4 Menu of set parameter

Touch **Setting Parameter**, enter into the menu of set parameter.



Meaning of every parameter:

Move card distance: The distance of card moved after hot sealing in automatic mode, i.e. the width of packed products. In manual mode, it is a distance of film strap moved by pressing down **Card Move** once.

That numerical value's unit is as pulse, 1mm=43.333 or 1=0.023mm.

The width of 60mm corresponds to the numerical value of 2600.

1st cutting time: In the automatic mode, it is a continuance time of pressing of the hot seal cutter of the first group (on the left).

Commonly set that value between 8-10.

2nd cutting time: In the automatic mode, it is a continuance time of pressing of the hot seal cutter of the second group (on the right)

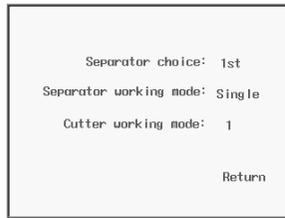
Commonly set that value between 8-10.

Separate No.: Cut the continual cards already packed to a piece of one single card or many cards.

Collect time: A continuously run time of the motor of collecting card.

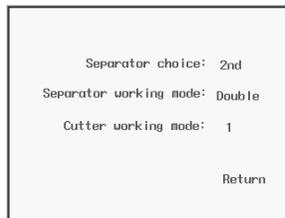
4.2.5 Menu of separator choice

Touch **Separator Choice**, get into the menu of separator choice.



Separator choice: Select No.1 separator (outside group) or No.2 separator (inside group).

Separator working mode: Select a single one or double ones to work. When selecting double ones, it packs double cards.



Cutter working mode: Only selecting 1.

4.3 Preparation work before operation

Note: before turn on the machine, connect through the air source, rise the hot seal cutter. When turn off the machine, put the waste cards under the hot seal cutters.

4.3.1 Select the work mode of the separator. See paragraph 4.2.5.

4.3.2 Set parameter. See paragraph 4.2.4.

4.3.3 Fix the packing film strap.

- Adjust the position and the parallelity of the hob of pressing broken line.
- Adjust the pressure and the parallelity of the rubber roller of conveying film strap.
- Check the proximity switch under the framework of delivering material and see if it is effective. When the metal flake closes to the switch, the red light should be on, otherwise it needs to adjust.

d. Place the metal partition board (at the entrance of the table board of the host machine) in between two layers of the film strap, so that separating the broken line.

e. Pass the underlayer of the film strap through the underside of the fork of separating film that is at the place where cards go into the film strap.

f. Insert the film strap into the traction rolls.

g. Enter into the menu of manual operation through the touch screen, press down **Cord Move** to pull out the film strap. See the paragraph 4.2.3.

4.3.4 Place the cards in

a. Adjust the handwheel of the separator to make the gap of friction wheels is close to the thickness of a card.

b. Place cards in and enter into the menu of manual operation through the touch screen, touch **Separator** to see if movement is right as well as whether there is a double-card. See the paragraph 4.2.3.

4.3.5 Place the lead strips at both sides of the front end of the dentate belt well, to make the cards delivering easily. Enter the menu of manual operation and touch **Feeding Card** to see if movement is right as well as whether there is a double-card. See the paragraph 4.2.3.

4.3.6 Set temperature

Set the temperature of the hot seal cutter through the temperature controller in the temperature control box. Press down the SET key, the number flicker and enter into an amendment mode. Press ◀ to move amendment position and press ▼ or ▲ to reduce or increase the number. After 8 seconds once complete the amendment the data is stored and the number stops flickering. The temperature normally set around 200°C.

The highest temperature must not be over 350°C.

4.4 Operation of machine

Before formally operating it should complete each preparatory work.

a. Press down the “Power” button, The system gets through electricity, and show the initial menu. Press **English** to enter the selection menu. Set the parameter and select the separator then going to run the machine.

b. Press **RUN** the machine starts to automatically work.

c. Fix a scrap strap on the material collecting disk.

d. See if the position where a card goes into film strap is correct, is it not, enter in the menu of manual operation and adjust the position of film strap through manual operation. The way is:

➤ Enter into the menu of set parameter, change **Move card distance** to a smaller number, for example, to 100.

➤ Enter into the menu of manual operation, press Card Move, adjust the position of film strap until satisfying.

➤ Enter into the menu of set parameter and change **Move card distance** back to original number, for example, to 2600.

➤ Return to the menu of operation.

Note: if use an unfold film strap (film strap with a width 230mm), in advance adjust the position where folding it.

5 Adjustment and maintenance

5.1 Adjustment of convolution unit

Before using machine, be sure of correctly adjusting the unit of convolution, it is a key of guarantee the machine running normally.

Before leaving factory the unit of convolution has been adjusted, normally no need to adjust. The matter of adjustment includes:

Solenoid switch When there is a metal flake approaches to the switch, the red light on it is on. This guarantees to deliver material intermittently.

The plate of folding material Use it with unfold film. Adjust the position where to fold film through adjusting the slope angle of it. Adjust a guide rod and a transition wheel at the same time. The height of the core axis of the material frame should be corresponding with the tail of the plate. Its tightness and looseness should be proper. After completing adjustment, do not adjust again at random.

The hob of pressing broken line (easy tear off) The pressing line should not be too depth. Over depth will influence the quality of following working procedure and the running of machine. Be careful of the parallelism of both ends when adjusting.

The feeding unit of film strap Adjust the parallelism of both rollers through handles to make sure that film strap does not wiggle right and left in feeding.

5.2 Maintenance of machine

| Item | Method and matter of maintenance | Period |
|------|--|-----------|
| 1 | Keep the machine clean and dry, regularly clear every part of mechanism. | Once/wk. |
| 2 | Must clean up and lubricate every motion part (each guide pillars) in regular. | Once/wk. |
| 3 | Examine whether the electrothermal tubes get any damage. | Once/wk. |
| 4 | Check up the joint and tighten bolts to see if they are loose, according to conditions to screw up or change. | Once/2wk. |
| 5 | Examine the wire connections of every part to see if they are loose and cracked, according to conditions to reconnect or change wires. | Once/4wk. |
| 6 | Examine all fixing bolts thoroughly, according to conditions to screw up or change. | Once/6m. |
| 7 | Use lithium base grease to lubricate all bearings. | Once/6m. |

6 Spare parts along with machine

| No. | Name | Model | Quantity |
|-----|--------------|------------|----------|
| 1 | Synchro belt | XL236 | 2 pcs. |
| 2 | Synchro belt | XL220 12mm | 2 pcs. |
| 3 | Synchro belt | XL210 12mm | 2 pcs. |
| 4 | Synchro belt | XL120 12mm | 2 pcs. |
| 5 | Synchro belt | XL168 12mm | 2 pcs. |
| 6 | Synchro belt | XL94 12mm | 2 pcs. |
| 7 | Synchro belt | XL180 | 1 pc. |
| 8 | Heating tube | 10×100 | 2 pcs. |
| 9 | Heating tube | 10×80 | 3 pcs. |
| 10 | Thermocouple | 3m | 2 pcs. |
| 11 | Hex wrench | | 1 set |