Operation Manual of Auto Wash Mark Bonding Machine

Model:MB6009A

Power off before installation, maintenance and repair. Before use and operation the device, operator must be familiar with the operation procedures and the safety knowledge, to avoid causing injury, death and equipment damage. There are danger, warning, caution three safety precautions in this manual.

Danger: Misoperation can be dangerous, possibly causing death or injury.

Warning: Misoperation can be dangerous, possibly causing death or injury.

Caution: Misoperation may causing injury, article damaged and death.

Warning

1. When the machine in automatically running or manual operation mode, Non-professional are not allow to enter the yellow and black warming tape area. If professionals need to enter this area for installation or maintenance, please make sure the machine is powered off, to avoid wrong operation and cause injury. if the operator need to enter this area for operating, there must be space enough for dodging (please do not enter the narrow space to operate), to avoid the equipment failure and causing injury or death.

2. When the clamp cylinder limit alarm occurs, please turn off the compressed air and emergency stop button before maintenance and adjust and test machine.

Before operation, must to press the the emergency stop button, to avoid the equipment failure and causing injury or death.

3. When yourself or other people is in danger, please press the Emergency stop button.

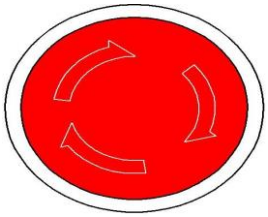

Image:Emergency stop button

Pls make sure the machine is OK, then can relieve Emergency stop state.

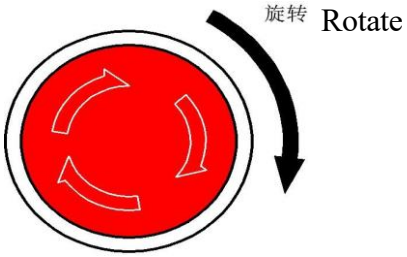

Image: relieve Emergency stop

Caution

Danger

When the following logo are posted up on the machine , must be strictly observed.Otherwise, it is possibly causing accident.

Beware of pressing hands: pay attention to safety during operation to prevent being caught.

Beware of electric shock: There is a strong electricity in the circuit, non-professionals are prohibited from opening it. To avoid cause major accidents due to electric shock.

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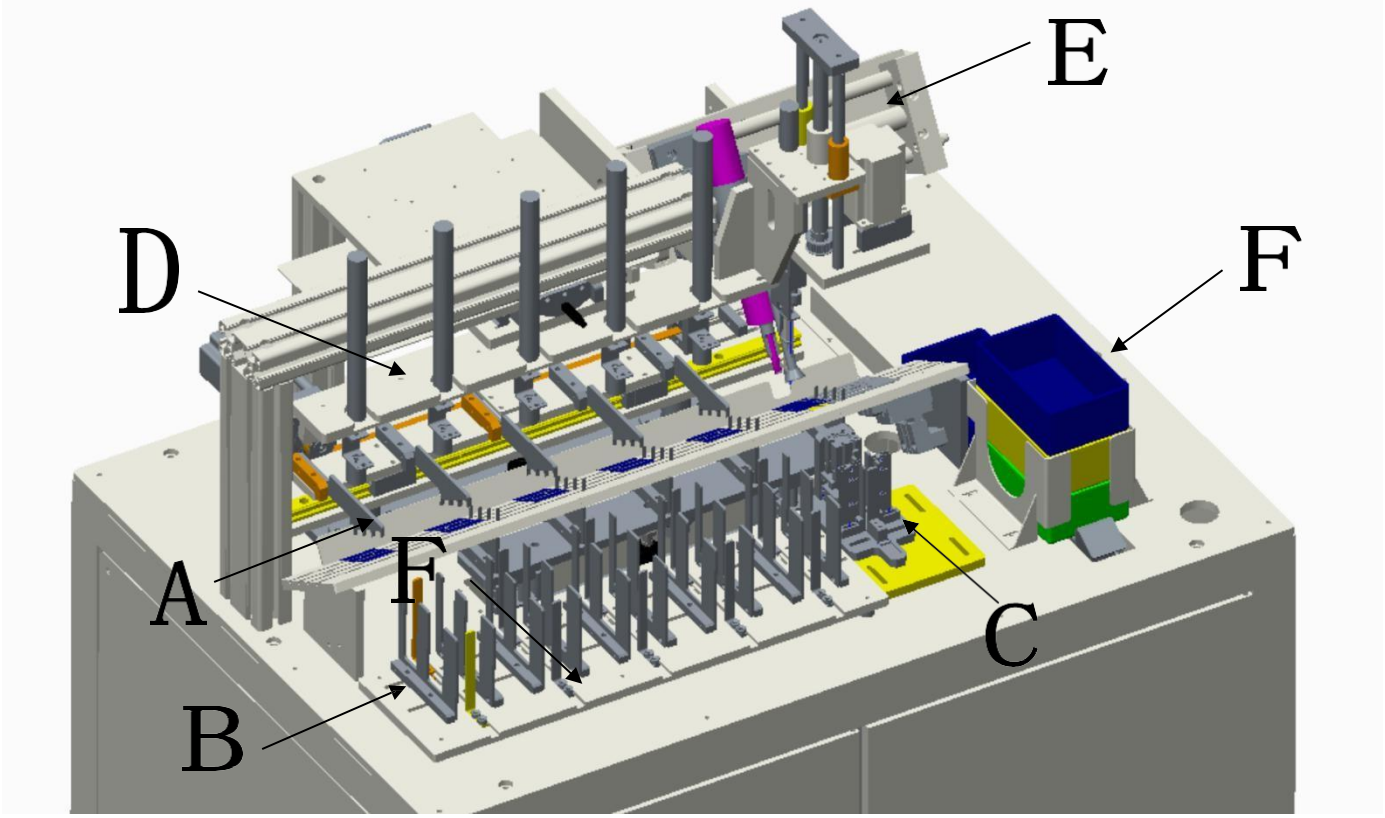
1. Equipment Brief

1.1 Equipment structures



A. Label toggle mechanism

B. Label store position 1-5

C. Label store position 6

D. Label suction mechanism

E. Ultrasonic welding mechanism

F. Finish product collection mechanism

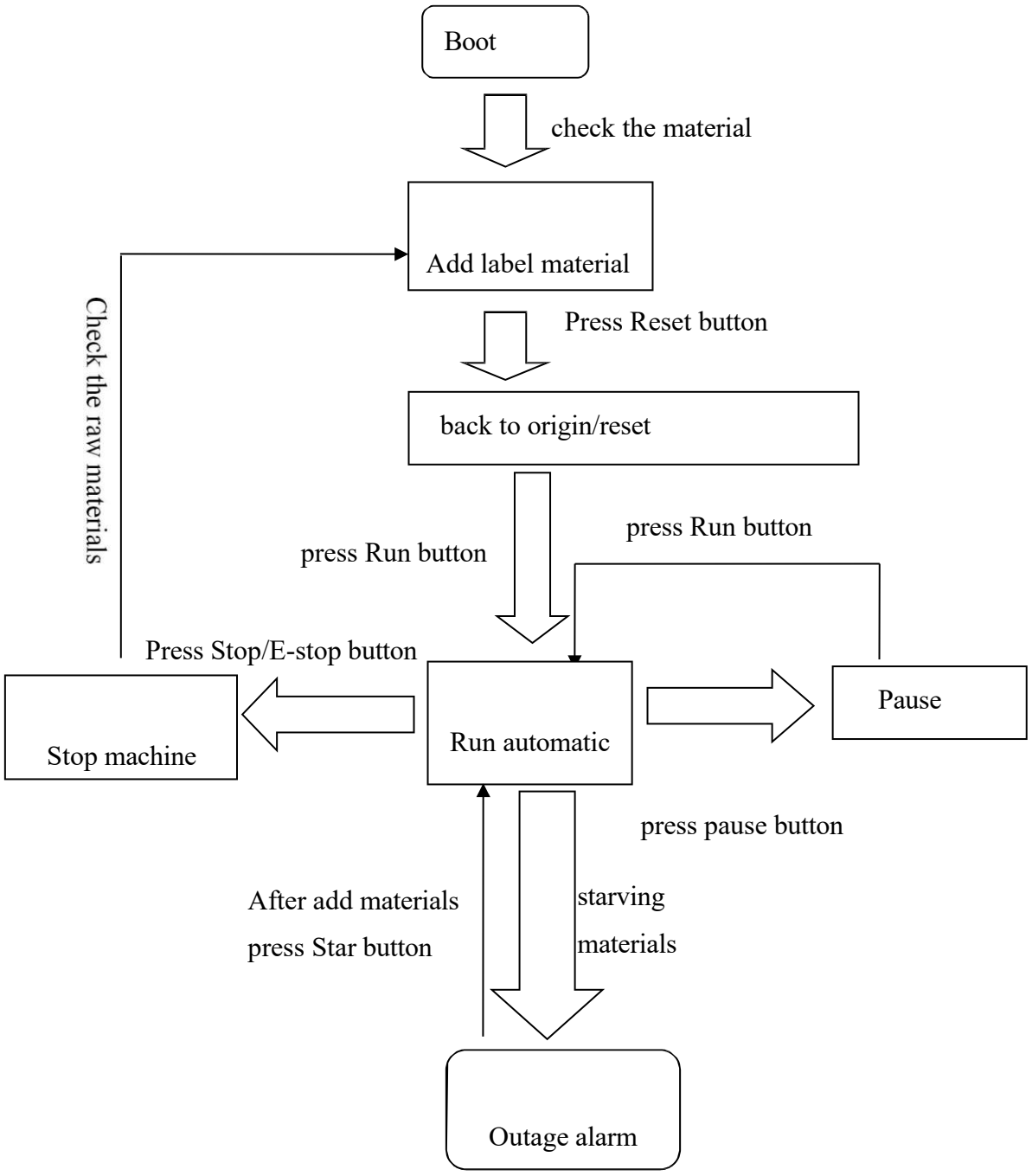
1.2 Equipment running conditions

1) Power supply : AC220V 50/60HZ 5A

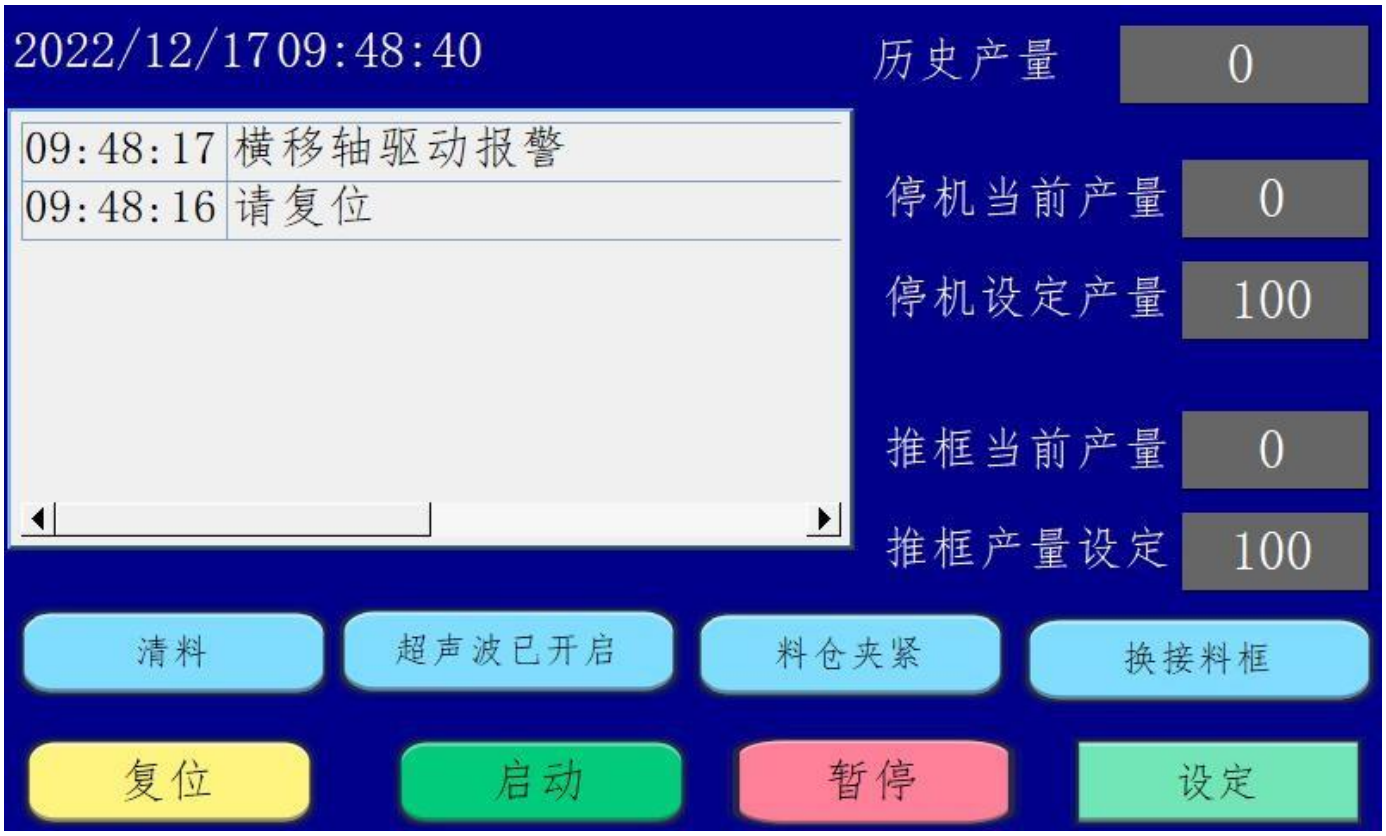
2) Compressed air:0.5MPA≤N≤ 0.7MPA, air flow ≥70L/min

2. Operating instruction

2.1 Flow chart of automatically mode



2.2 Main operation interface



The following content is presented as: No. Name: Analysis of Function The following content is presented as: No. Name: Analysis of Function.

1. Setting: this page is used to set the running parameter of machine.

2. Start: start the machine

3. Pause: suspend the machine

4. Reset: reset the machine, back to origin.

5. Shutdown current output:The current output of the machine is used for comparison with the set output of the shutdown.

6. Shutdown set output:The machine will stop running when the set output is the same as the current output.

7. Bin clamping: manual control the take or loose of the Bin 6.

8. Replace the finish product collection frame manually.

9. Historical production rate: The accumulated output of the machine can be cleared by output zeroing.

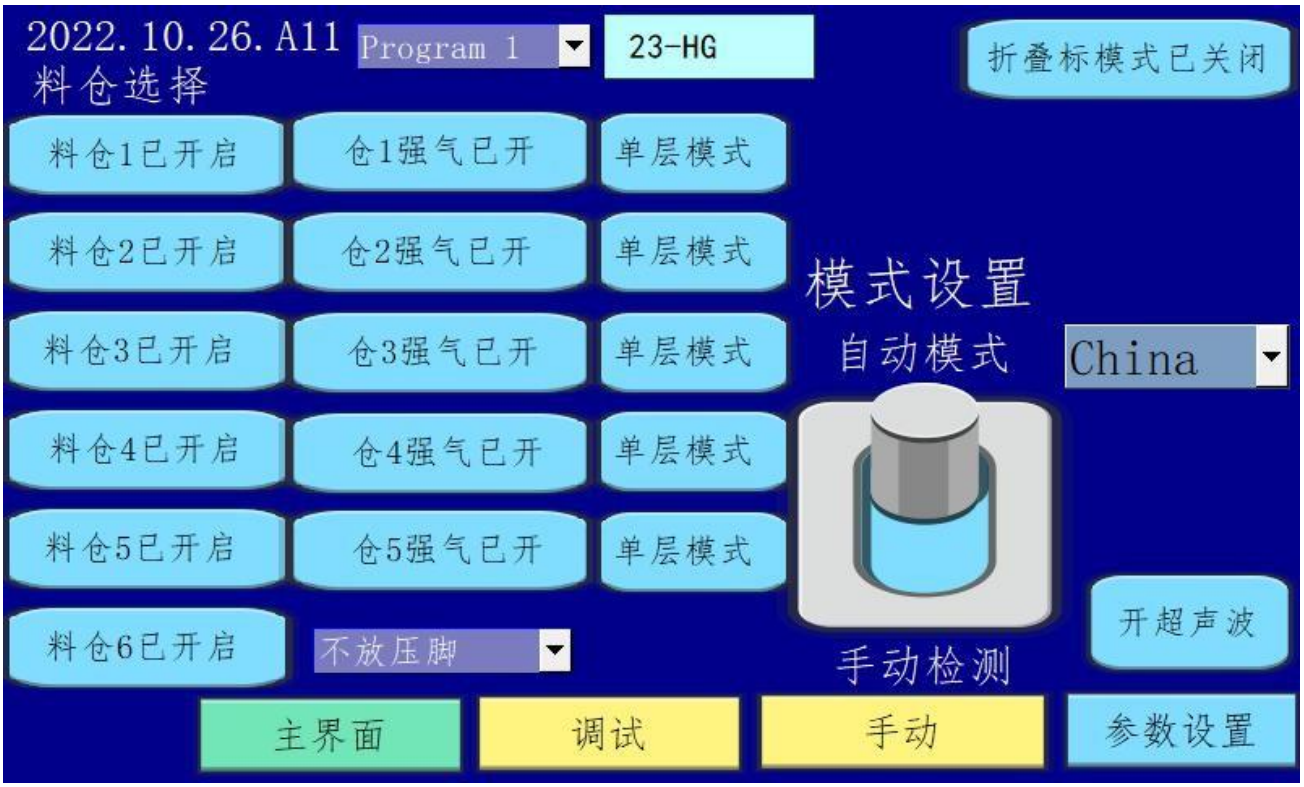
10. Current output of push frame: Current output value of the material replacement frame.

11. Push frame to set output: The value of the material changing frame. When the current output of the push frame is the same as the set output of the push frame, the frame replacement action will be performed.

Modes selection

2.31:Modes selection interface as below picture shows,you can switch to the automatic /manual operation mode ,position choice,suction choice,program choice and if start to single-action adjustment.

When set the parameter,please select administrator option and enter password:198



The following content is presented in the format: No. Name: Analysis of function.

Manual control the take or loose of the Bin 6.

1. Silo 1 is open: It means that warehouse 1 is open. Press it to indicate that warehouse 1 is closed after the status changes. The same principle applies to other positions.
2. Strong gas open in position 1: indicates that the auxiliary solenoid valve has been opened in position 1. Click, after the status changes, it indicates the shutdown. The same principle applies to other positions.
3. Single layer mode: Select the single layer mode button behind the corresponding position. In single layer mode, the small cylinder on the sucker will have shaking action, while in double layer mode, the small cylinder on the sucker will have no shaking action.
4. The folding table mode is closed: when the used label is a folding label and its length is too long, it is necessary to open the folding label mode, otherwise the label is easy to be crooked.

Debugging interface

The debugging interface is prepared to simplify adjustment, press the corresponding button then the machine will do the corresponding action. this operation mode need to reset the machine first, it can be operation after open the Manual mode.

In order to avoid machine collisions, buttons that cannot be operated will turn gray when there is mechanical interference.

Pls pay attention to the following position parameters:

material pushing motor control shaft

Waiting position: the initial waiting position of the toggle shaft.
Material striker raising position:stop position of the toggle shaft where can be avoid the striker plate.

The stop bit of label toggle:final stop position of the toggle shaft.
Motor control shaft of the Bin 6.

Waiting position: the waiting position of the Bin 6.
Discharge position:the discharge position of the Bin 6.

2.4 HMI alarm history

The Alarm history interface can display all alarms, firstly to check what alarm code show in the screen, and to check whether it is a hardware failure or a human-caused? After troubleshooting, press the Reset button and then press the Run button to rerun the machine.

	Alarm content	Troubleshooting
NO.1	The XE or X1B is not in the position	To check if the upper sensor of material press cylinder and ultrasonic down press light are on?
NO.2	X1F（the middle safety place of move axis）is not in the position	heck if the Photoelectric switch of the lateral movement axis which in the middle position light is on?
NO.3	X1 or X3 is not in the position	To check if the X1 or X3 of the left positions light is on?
NO.4	X2 or X7 is not in the position	Check if The X2 or X7 of the left positions light is on?
NO.5	X1 or X7 is not in the position	Check if the X1 or X7 of left Bins light is on?
NO.6	XB or X9 is not in the position	Check if the light XB or X9 of the right Bins light is on?
NO.7	XB or XC is not in the position	Check if the XB or XC of the right positions light is on?
NO.8	XC or X9 is not in the position	Check if the XC or X9 of the right bins light are on?

NO.9	The left bins are lack of materials	Add materials to the left Bins or to check if the materials are neat？
NO.10	The right positions are lack of materials	Add materials to the right side of the Bins or check whether the materials are neat？
NO.11	Emergency stop has been pressed	Emergency stop has been triggered， to check if the light of PLC X19 is on ?
NO.12	The upper sensor of the ultrasonic is not in the position	Check if the upper sensor XE of the ultrasonic lights on?
NO.13	The lower sensor of the ultrasonic is not in the position	Check if the lower sensor XF of the ultrasonic cylinder can trigger the light? (it can be light just for a moment)
NO.14	back to zero is not executed	press the reset button back to zero
NO.15	Triggered the Safety light curtain,press the start button to continue running machine	The Safety light curtain is triggered when runs automatically， press the start button to continue running.
NO.16	the left drive alarm	power off and restart the machine
NO.17	The right drive alarm	power off and restart the machine
NO.18	drive alarm of the lateral movement axis	power off and restart the machine
NO.19	Safety grating alarm	The safety light screen is triggered. Please remove the obstacle or adjust the Angle of the safety light screen.

NO.20	X5 is not in the position	Check the clearance and position of the origin on the right.
NO.21	XF of X1D is not in the position	Check if the lower sensor of the ultrasonic cylinder or the pressure hopper cylinder lights on?(light up in a moment)
NO.22	Origin of left bin is not in the position	Check the clearance and position of the origin on the left.
NO.23	Origin of left bin is not in the position	Check the clearance and position of the origin on the right.
NO.24	X1B is not in the position	Check if the upper sensor of press hopper cylinder is light on?
NO.25	XE is not in the position	Check if the upper sensor of the ultrasonic cylinder is light on?
NO.26	X4 is not in the position	Check the clearance and position of the origin on the left.
NO.27	stroke release has been opened	The over-limit unrelieved switch is opened
NO.28	The plus limit of the left Bins	Reset or restart the machine
NO.29	The minus limit of the left Bins	Reset or restart the machine
NO.30	The plus limit of the right Bins	Reset or restart the machine
NO.31	the right bin negative limit	Reset or restart the machine
NO.32	lateral movement left limit	Reset or restart the machine

NO.33	lateral movement right limit	Reset or restart the machine
NO.34	The left rotary cylinder is not in position	Check left rotary cylinder sensing
NO.35	The left rotary cylinder is not in position	Check right rotary cylinder sensing
NO.36	Empty running open	Indicates the current status is empty running

2.5 Manual control

When use the manual control for adjust and test, need to switch to manual mode to single operation the either cylinder, pls note, when the machine may causing mechanical interference the corresponding buttons that cannot be operated and turn gray.

2.6 Setting page

Setting page is used to set the running parameter of the machine

1.Vacuum breaking time in Warehouse 1-5: the time for the suction cup to rise after the suction cup is closed in warehouse 1-5.

2.Vacuum breaking time in warehouse 6: the delay time for the suction cup to rise after the suction cup is closed in warehouse 6.

3.Suction times: the allowable times of warehouse suction. If it exceeds this value, the machine will stop and alarm.

4.Timeout alarm: If the cylinder has not completed the corresponding action beyond this time, it is considered that the cylinder has a fault.

5.Welding time: Set time of ultrasonic welding washing mark.

6.Number of shaking in Warehouse 1-5: Number of shaking in warehouse 1-5 when taking bid.

7.Unloading time of warehouse 1: the time between the unloading time of warehouse 1 and the closing of the suction cup.

8.Unloading time of warehouse 2: the time between the unloading time of warehouse 2 and the closing time of the suction cup.

9.Unloading time of warehouse 3: the time between the unloading time of warehouse 3 and the closing of the suction cup.

10.Discharging time down in warehouse 4: the time from falling to closing the suction cup when discharging in warehouse 4.

11.Unloading time of warehouse 5: the time between the unloading time of warehouse 5 and the closing of the suction cup.

12.Unloading time of warehouse 5: the time between the unloading time of warehouse 5 and the closing of the suction cup.

13.Time for Position 1 to shake the mark: the time for position 1 to fall when it shakes the mark.

14.Time for position 2 to shake the mark: The time for position 2 to rise when the mark is shaken.

15.Time for Position 2 to shake the mark: the time for position 2 to fall when it shakes the mark.

16. Time for position 3 to shake the mark: Time for position 3 to rise when the mark is shaken.

17. Time for position 3 to shake the mark: the time for position 3 to fall when it shakes the mark.

18. Time for position 4 to shake the mark: time for position 4 to rise when the mark is shaken.

19. Time for position 4 to shake the mark: the time for position 4 to fall when it shakes the mark.

20. Time for position 5 to shake the mark: time for position 5 to rise when the mark is shaken.

21. Time for position 5 to shake the mark: the time for position 5 to fall when the mark is shaken.

The stop bit of label toggle:final stop position of the toggle shaft.

1. Delay detection time of Warehouse 1: When the sensor detects the object in Warehouse 1, the time when the cylinder stops falling after delay.

2. Delay detection time of Warehouse 2: When the sensor detects the object in warehouse 2, the time when the cylinder stops falling after delay.

3. Delay detection time of Warehouse 3: When the sensor detects the object in warehouse 3, the time when the cylinder stops falling after delay.

4. Delay detection time of Warehouse 4: When the sensor detects the object in warehouse 4, the time when the cylinder stops falling after delay.

5. Delay detection time of Warehouse 5: When the sensor detects the object in warehouse 5, the time when the cylinder stops falling after delay.

6. Cover cylinder expansion time: set the action time of the cover cylinder.

7. Cover cylinder up and down time: set the action time of the cover cylinder up and down.

8. Feeding motor speed: the running speed of the feeding motor when washing mark is being washed.

9. Return speed of the feeder motor: the speed of the feeder motor returning to the origin after the feeder is finished.

10. Pick shaft acceleration: start and stop acceleration of the pick shaft.

11. Motor acceleration in warehouse 6: start-stop acceleration of upper and lower motors in warehouse 6.

12. Slow down speed of the motor in warehouse 6: the running speed of the motor in warehouse 6 when it is about to drop to the bottom.

13. Slow speed of motor rising in warehouse 6: the running speed of warehouse 6 during label shaking when taking material.

14. Motor down deceleration position of warehouse 6: The running speed of warehouse 6 when it drops to the top of the warehouse.

15. Number of shaking in Position 6: Number of shaking in position 6.

16. Time for position 6 to shake the mark: Time for position 6 to shake the mark.

17. Time for position 6 to shake the mark down: Time for position 6 to shake the mark down.

18. Bid suction time for Warehouse 6: The time of label suction for warehouse 6 when bidding.

19. Slow time for warehouse 6: The time for warehouse 6 to move up slowly after it draws the label.

20. Motor floor in Warehouse 6: The lowest position allowed to move down in warehouse 6.

21.Warehouse 1-5 Shaking mark frequency: the shaking mark operation frequency of the small cylinder of warehouse 1-5 shaking mark.

2. Maintenance

1. Clean the dust on the slider regularly.
2. Please spray WD40 Rust-removal where is rusty,grease the slide regularly.
3. Check the tightness of the screw rod regularly.
4. Detect sensitivity of the sensor regularly.
5. Clean the dust of the electrical box exhaust fan regularly.