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Bottom Sealing Bag Making Machine By Flying Knife System

Operation Manual

CONTENTS

Chapter 1: Brief Introduction to Bottom Sealing Bag Making Machine by Flying Knife System

1.1 The bottom sealing bag making machine by flying knife system adopts advanced bag making principle, which applies in the area of colored plastic tubular film and nonprinting film. It can make flat bags.

1.2 The machine adopts photocell eye color code tracking system which ensures the accuracy of the place of the printing. Besides, it has the functions of protecting itself from over-burden, over-current and over-voltage.

1.3 The main features: the length decided by computer, high accuracy of location, steady feeding, even tension, automatic temperature control, automatic count alarm, frequency control.

Chapter 2: Main Technical Data

1.4 Speed: 20-60 pcs/min, The maximum line speed is 80m/min.

1.5 Size range of bag making

1.6 Bag width: 200mm-1600mm

1.7 Bag length: 350mm-3000mm

1.8 Position accuracy: ±1mm

1.9 Main motor power: 2.0kw

1.10 Heating power:

1.11 Fly knife power: 0.75kw

1.12 Film pulling power: 7.5kw

1.13 Traction power: 1.1kw

1.14 Unwinding power: 1.1kw

1.15 Power Supply: 380V±10%, 50Hz/60Hz.

1.16 Equipment Installation:

1.17 The machine does not require any firm installation base and set bolt. Any common flat ground is ok. You should install the dismantled accessories of the machine to the original places when the machine is placed well. Then you can connect the power plug to four-wire three-phase power. And then the installation of the machine is finished. We have regulated all the parts before delivery, however, because of the influence of delivery and installation, the buyers must make clear of the whole machine before testing the machine.

Chapter 3: Operation Instruction

3.1 Power on, the voltage is one phase AC220V or 380V (as your order request)

3.2 Following the schematic of film-loading to loading film to front rubber roller , press jog forward“ ←”or jog back” →”. Adjust the film to cutter position and adjust the lifting poker to heating wire position.

3.3 Press concerned buttons on control panel, adjust bag length, photocell tracking and auto counting alarm.

3.4 Set the system parameters of computer controller, Press the “START” bottom on main control panel to start the main motor. Switch on the “SEALING ON/OFF” rotary knob to turn on the sealing wires. Set the suitable current in ammeters. Switch on the “STATIC ON/OFF” for turn on the anti-static electricity. Switch on the “SERVO ON/OFF” rotary knob to start the pulling servo to pull the film. Press “STOP” button on computer control panel to stop machine.

Chapter 4: Adjustment Method

4.1 Adjustment of shade guide photocell

A、When produce printed bags choose “ color” in “color guide”.

B、When photocell tracking ,should have more than two types of ground color and target color with some color difference. Because shade guide photocell sensor ‘s effect is decided by electric eye when it’s ground color and target color have color difference to make ray and gap of different reflectivity. If the color difference is too little between target color and ground color when photocell detects color will have difficult, in this case should add other target colors line “■” which have color difference, it’s named shade guide. This line’s LXW about 2x10mm. Notice: The distance between this “shade guide” and that shade guide which has same color or little color difference picture should have more than 10mm.

4.2 Adjustment of Photocells sensitivity

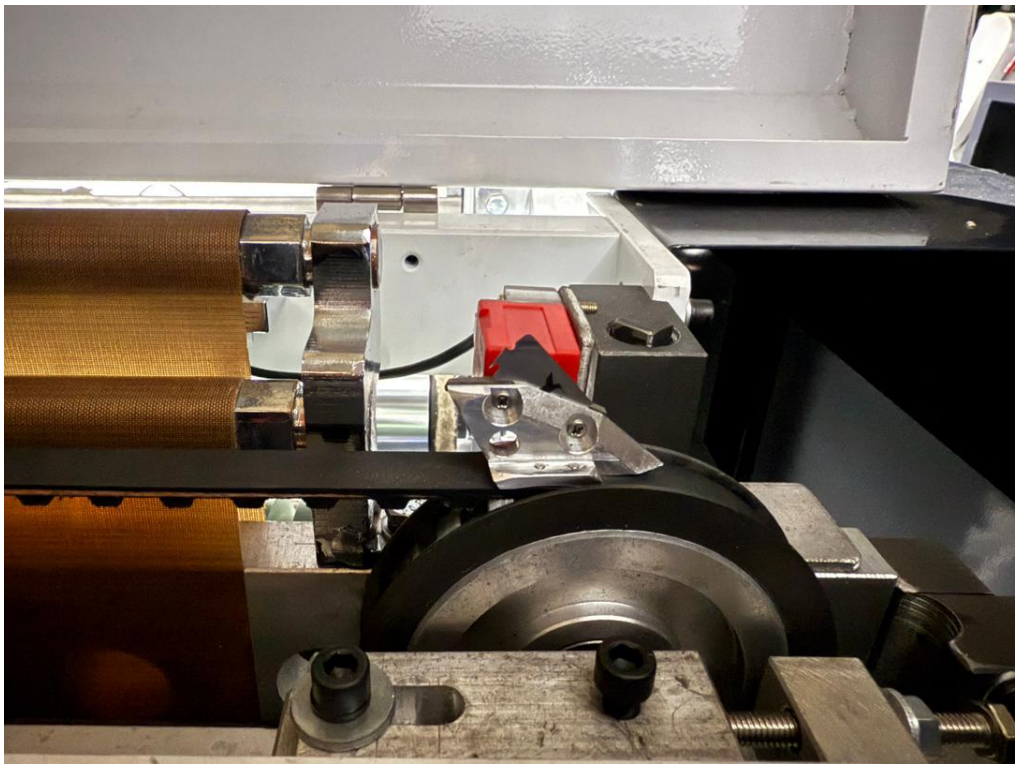
A. Adjust the distance between photocell and raw material about to be 10mm

B. Move the c photocell sensor to the blank area, press the white button “TEACH” on the top of sensor, and wait for the indicator light to flash. Then shift the sensor to the printed area and press the “TEACH” button again; the light will stop flashing.

(Picture 1) SICK photocell sensor

4.3 Adjustment of Fly Cutter

Cutter can use any shape knife like shaving knife or customized small ceramic knife. Trim the knife into suitable size. Release the screws of basement of fly cutter. Put the knife into basement, adjust the knife position into suitable height.

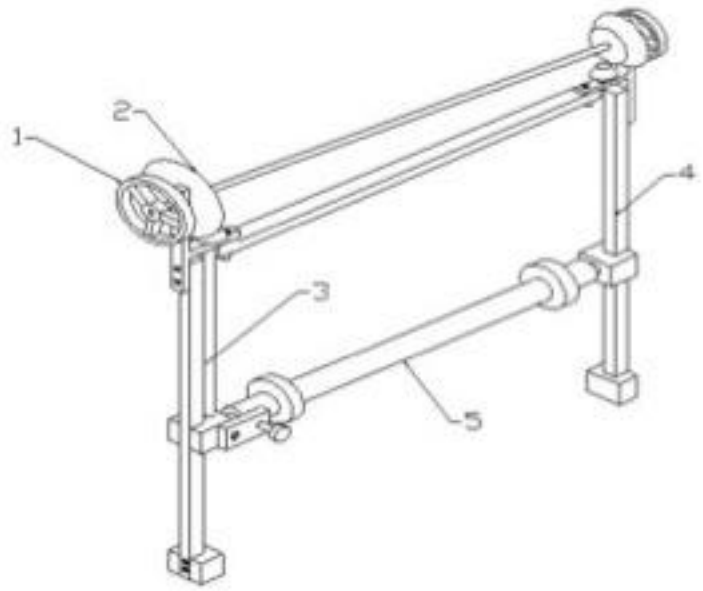


(Picture 2) Fly Cutter

4.4 Regulating the distance of hole punchers

Generally speaking, the distance between welding line and punch position is customized. When turning around the hand wheel (1) of adjusting bracket (as picture shows), the beam roller will rise or decline a little; and then you will get an ideal distance.

When the finished bags reach the requirement, you can tighten the screw of bevel gear (3).



(Picture 3) The schematic diagram for regulating the distance between welding line and trim line

1. Regulating hand wheel 2. Driving gear

3. Adjusting screw rod 4. Guide rod 5. Beam roller

Chapter 5: Key tips and Common fault

5.1. Key tips

A. Be sure to connect the ground wire before starting the machine.

B. Tighten aviation plug of circular connector between each part before power on.

C. Check whether the switch panel is loose.

D. If the voltage is not stable or power failure, please cut off the power supply until the voltage becomes stable and then restart the machine.

E. Please add lubricate oil to the machine regularly, keep good condition, please add oil to the sealing both sides' leaver shafts (pulling bars) every day.

F. When adding the lubricate oil, please keep the oil does not leak to the driven power and keep the driven power be well ventilated.

G. Please do not touch any wire by hand or body, when power on.

H. If there is something wrong with the motion controller, please contact with the factory and do not remove the controller.

Fault	Cause	Elimination
A. The length is not correct, when producing the blank bag.	1. the voltage is not stable or too low	1. check the power or add one stabilizer.
	2. rubber roller' pressure is not enough	2. Adjust the screw to increase the pressure
	3. controller is broken	3. replace it
	4. Feeding motor cannot pull	4. change to the lower threshold and then speed up slowly
	5. rubber roller's diameter is not correct.	5. replace the rubber roller or reprocessing.
	6. set it to "color"	6. set it to "blank"
B. Often stop when producing	1. main motor's speed is too high	1. slow down the speed
C. Main motor cannot work	1.intermediate relays are broken	1. replace the relays
	2.the computer's signal is cut	2. Check the connect cables

Chapter 6: Maintenance

Proper use and maintenance to ensure normal operation and extending the service life of the machine.

1. To oil moving parts and sliding guide parts of the machine twice each work shift.

2. To oil transmission chain and gear twice a week.

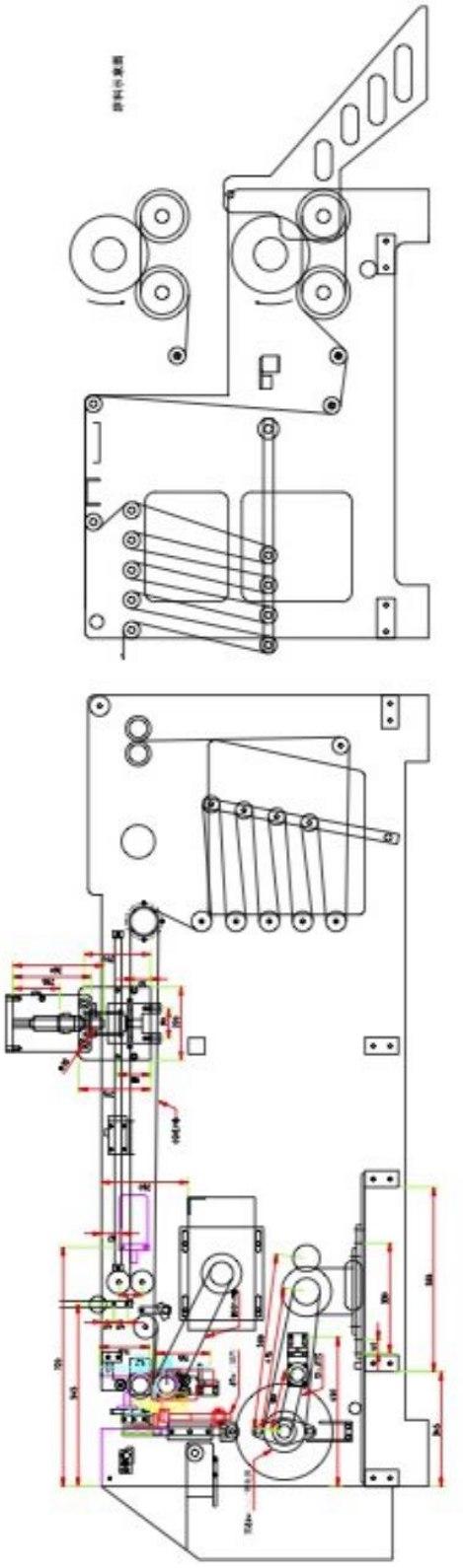
3. To oil rocker arm bush (fulcrum) once each work shift.

4. To oil and drain air source triplet in time, so as to make the pneumatic components work properly

5. The gas tanks should drop water once each work shift.

6. Please power off the machine in time when not using it.

Chapter 7: Film Loading Schematic



Chapter 8: HMI Description

8.1 Starting Page

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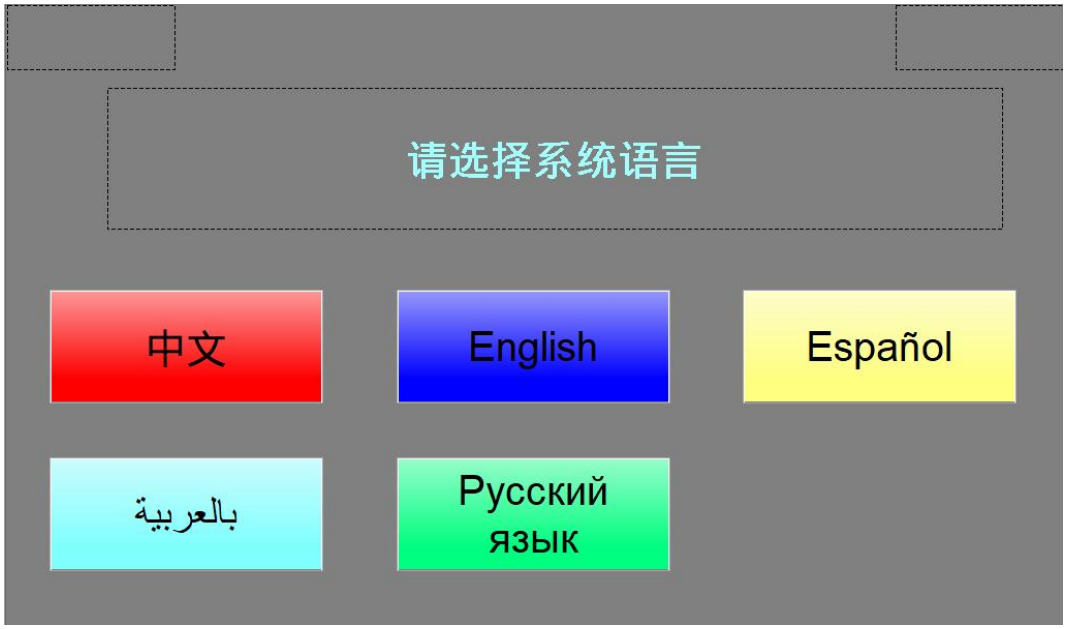
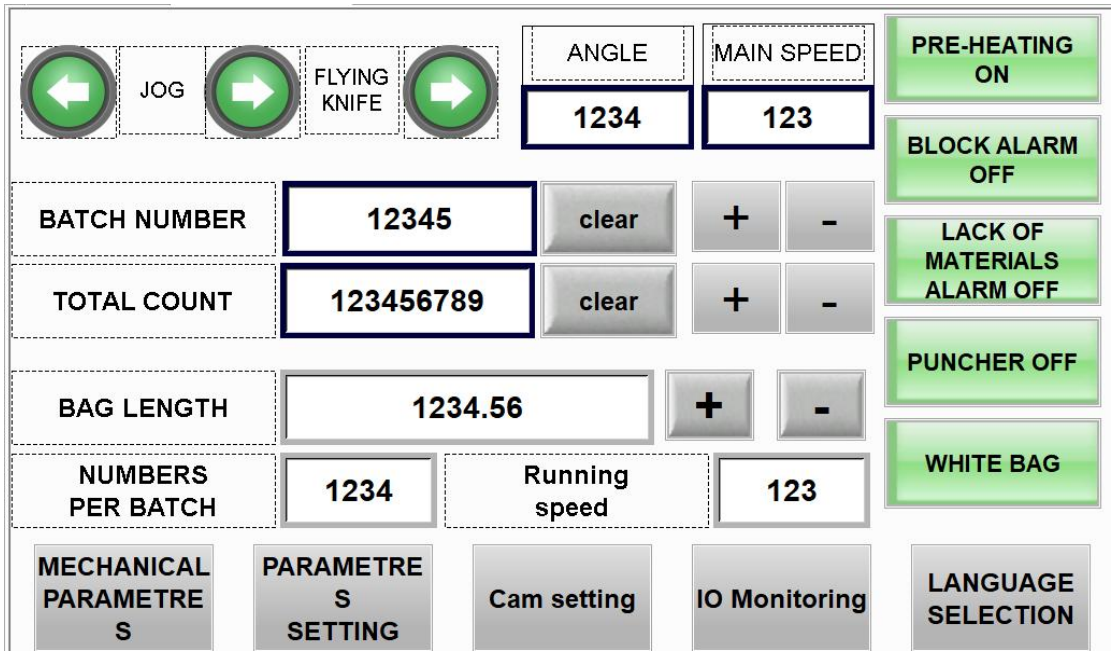


8.2 Running Page

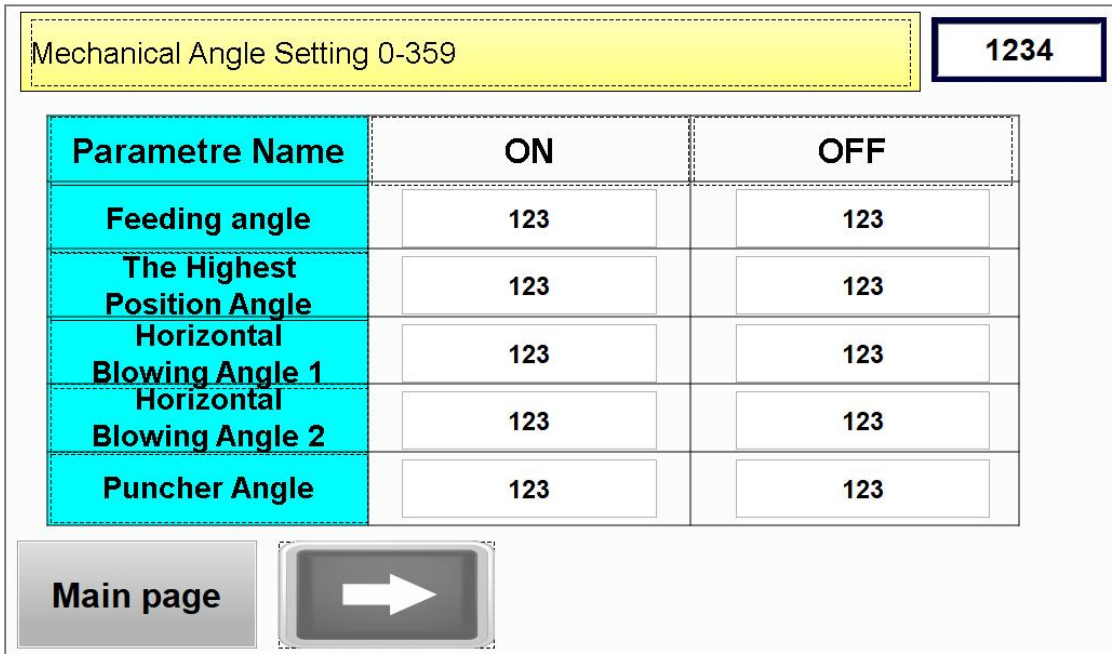
Main function page

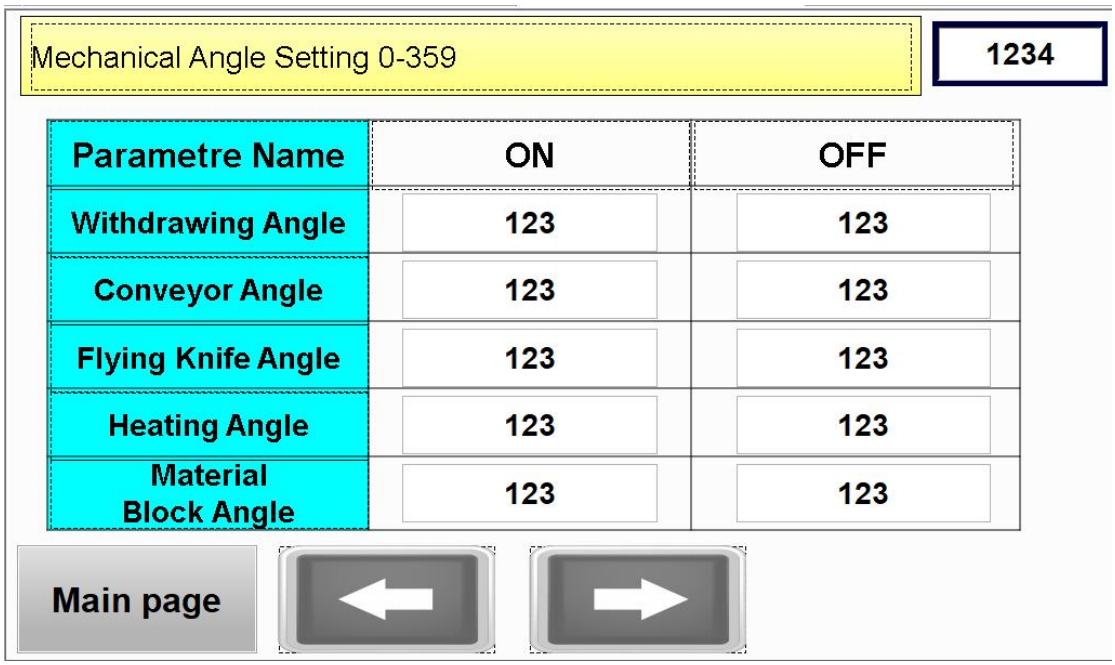


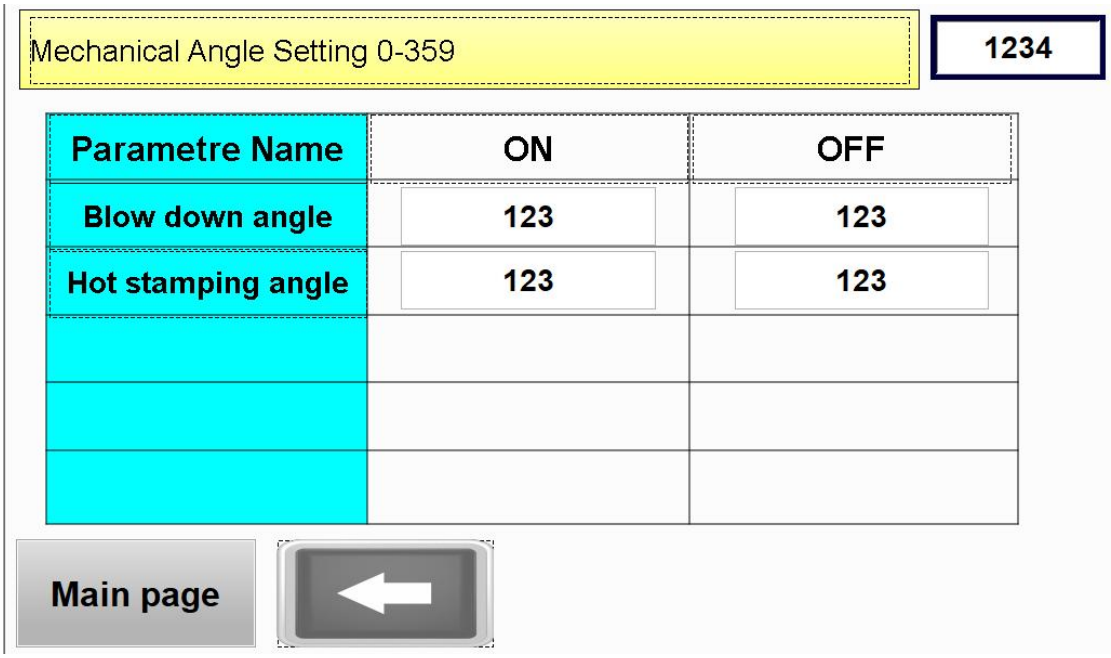
1. Jog: Forward & reverse jog of rubber roller
2. Fly cutter: Jog forward; long press for automatic homing
3. Angle: Current cutter angle
4. Main unit speed: Current operating speed
5. Batch count: Quantity of current batch
6. Total count: Total produced quantity
7. Bag length: Set production bag length
8. Batch setting: Set batch quantity
9. Cutting speed: Set cutter operating speed
10. Preheating: Preheating function switch (Idle cutting several times before feeding after startup)
11. Material jam alarm: Material jam alarm switch
12. Material shortage alarm: Material shortage alarm switch
13. Punching: Punching switch
14. Plain bag: Switch for plain/printed bags

8.3 Parameters Setting

1. Mechanical Parameters







Mechanical angles parameters setting according to the production

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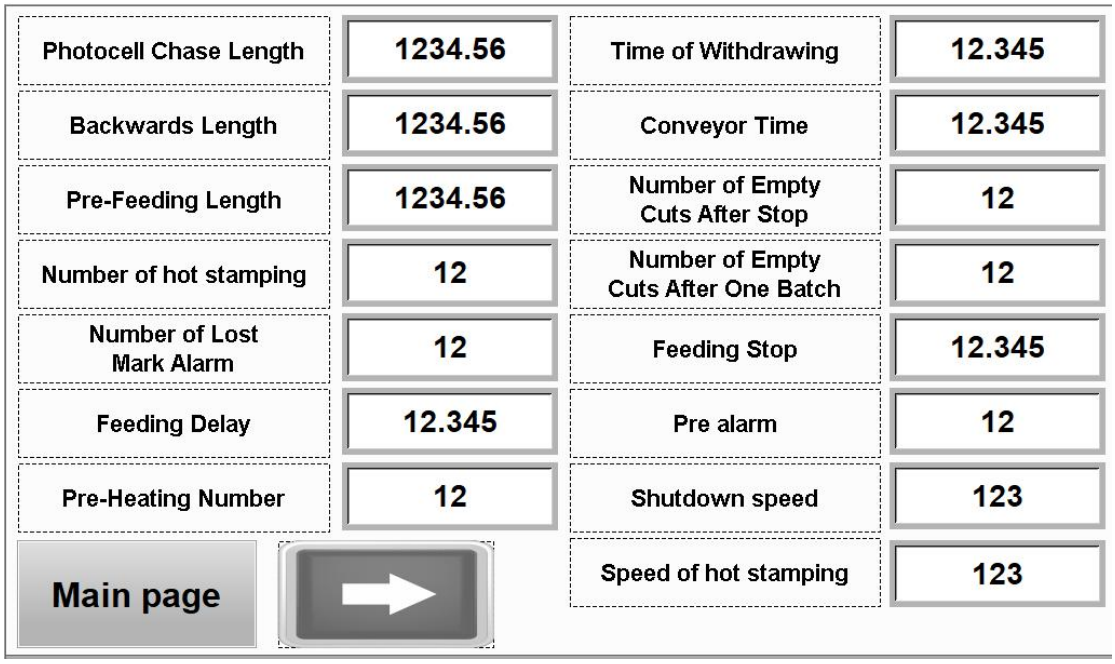
2. Parameters Setting



1. Photocell Chase Length: Set the tracking range of the traction roller.

Example: If bag length is 500 and tracking length is 10, color mark tracking starts at 490.

Backwards Length: Set the reverse travel distance of traction roller when batch completed or machine stops.

Pre-Feeding Length: Set the first feeding distance after the traction roller reverses.

2. Number of hot stampings: Set feeding interval by cutting times of the cutter.

3. Number of Lost Mark Alarm: Set the number of consecutive missing marks to trigger alarm and shutdown.

4. Feeding Delay: Set the delay time for material unwinding start.

5. Pre-heating Number: Set idle cutting times before feeding upon machine startup.

6. Speed of hot stamping: Set cutter speed within embossing angle; disabled when set to 0.

7. Time of Withdrawing: Set the duration of needle retract signal after batch completion.

8. Conveyor Time: Set conveyor operating time after batch completion.

9. Number of Empty Cuts After Stop: Set idle cutting times after pressing stop button.

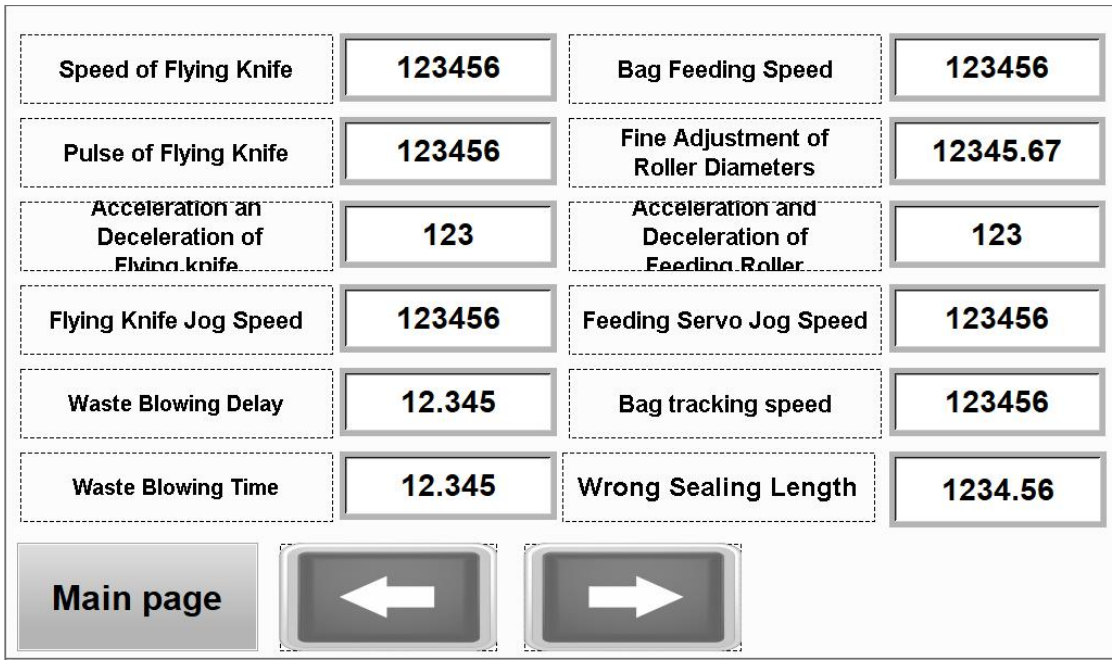
10. Number of Empty Cuts After One Batch: Set idle cutting times after batch completion.

11. Feeding Stop: Set delay time for material unwinding stop.

12. Pre alarm: Set quantity threshold for pre-alarm before batch

completion.

13. Shutdown Speed: Set cutter operating speed during machine stopping.



1. Speed of Flying Knife: Set operating frequency of the fly cutter.

2. Pulse of Fly Knife: Set travel stroke of the fly cutter. A smaller value allows low-speed homing.

3. Acceleration and Deceleration of Fly Knife: Set acceleration and deceleration time for the fly cutter.

4. Flying Cutter Jog Speed: Set frequency for jogging and homing of the fly cutter.

5. Waste Blowing Delay: Set delay time for punching air blowing.

6. Waste Blowing Time: Set working time for punching air blowing.

7. Bag Feeding Speed: Set frequency of traction roller during reversing

and pre-feeding.

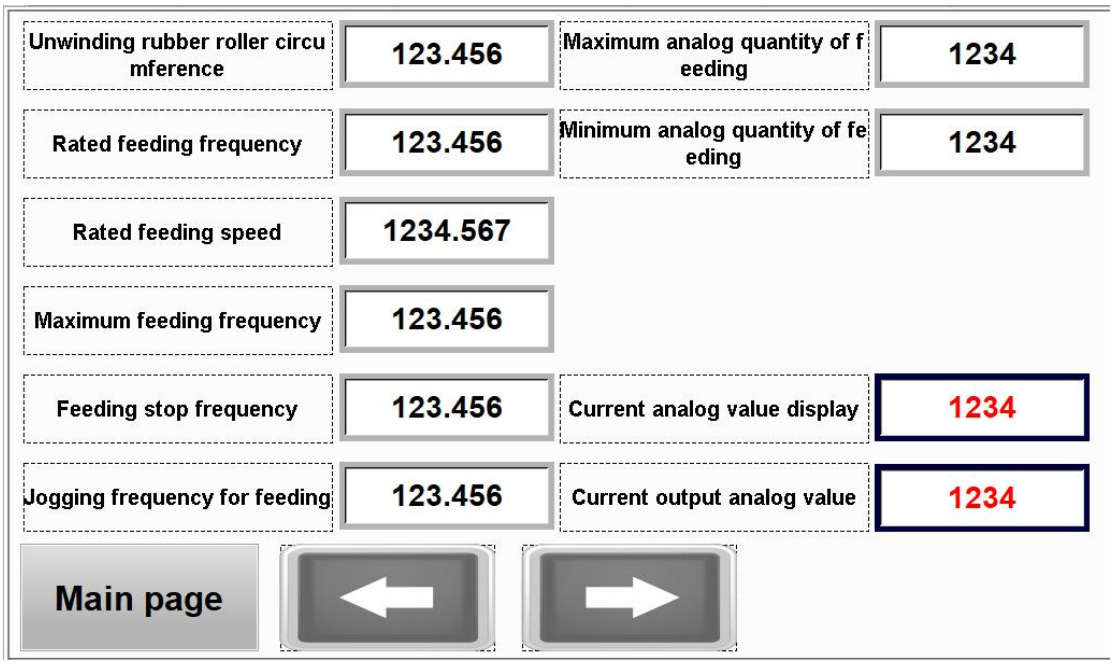
8. Fine Adjustment of Roller Diameter: Set ratio between calculated and actual feeding length of rubber roller.

9. Acceleration and Deceleration of Feeding Roller: Set acceleration and deceleration time for traction roller reversing and pre-feeding.

10. Feeding Servo Jog Speed: Set jog frequency of the traction roller.

11. Mark Tracking Speed: Set frequency of traction roller during mark tracking.

12. Wrong Seal Length: Set alternate bag length to prevent adhesion caused by uncooled seals.



1. Unwinding Rubber Roller Circumference: Set the circumference of the unwinding roller, multiply by the motor reduction ratio.

2. Rated Frequency: Set the rated frequency of the inverter.

3. Rated Feeding Speed: Set the rated speed of the motor.

4. Max Feeding Frequency: Set the upper limit frequency of the inverter.

5. Feeding Stop Frequency: Set the inverter frequency for machine stop.

6. Jogging frequency for feeding: Set the inverter frequency for roller jogging.

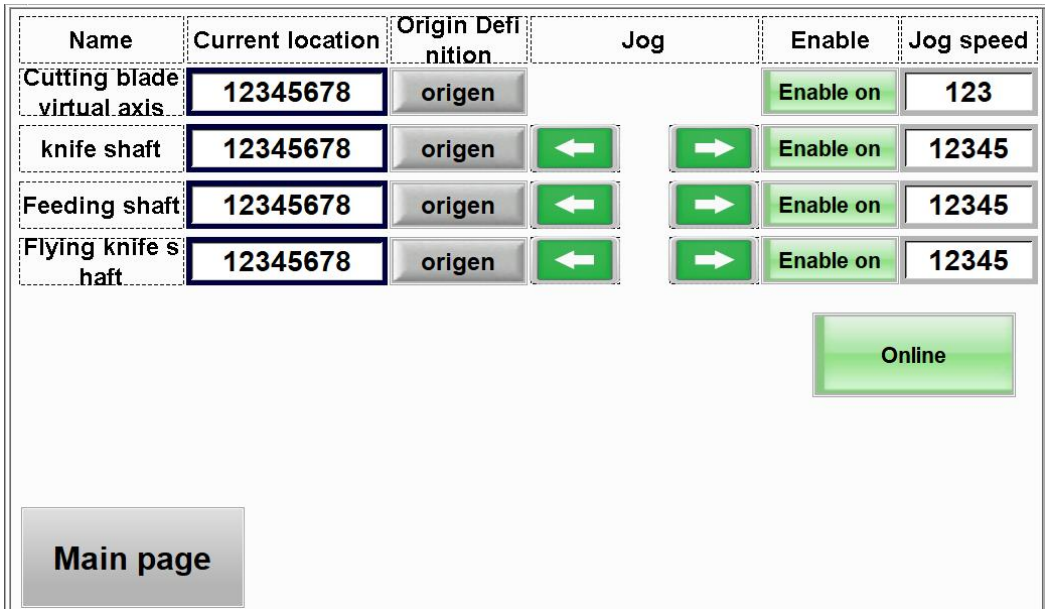
7. Max Unwinding Analog quantity of feeding: Analog value corresponding to the optimal position of the swing arm.

8. Min Unwinding Analog quantity of feeding: Analog value corresponding to the lowest position of the swing arm.

9. Current Analog Value Display: Show the real-time position of the swing arm.

10. Current Output Analog Value: Display the real-time output analog value.

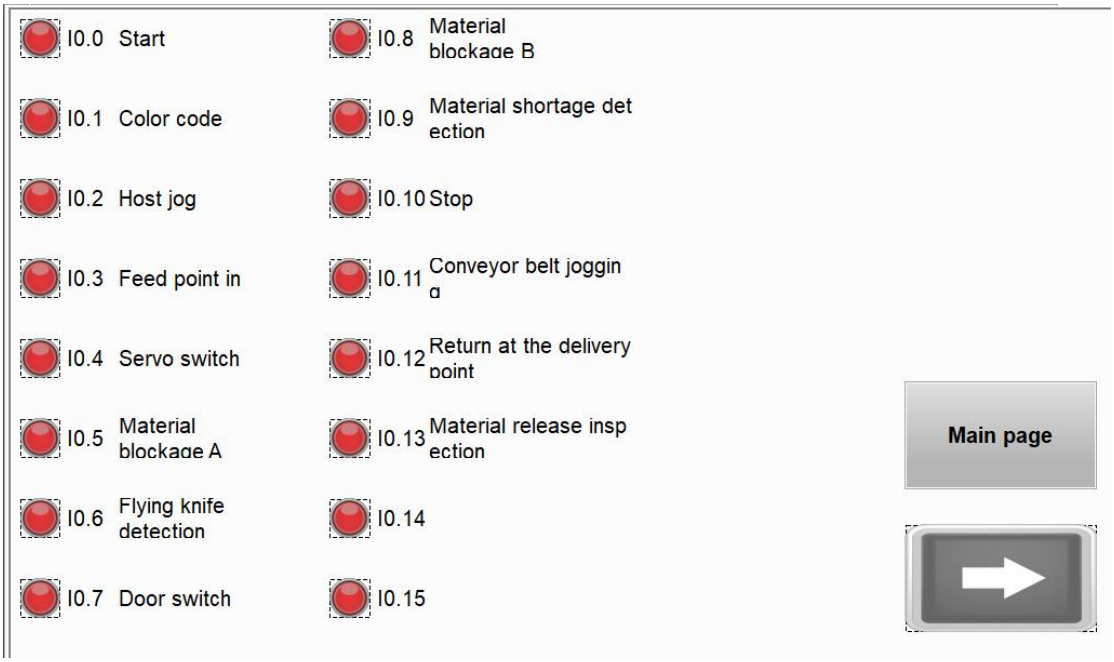
Cam Setting



1. Cutting blade virtual axis: Define the initial home position of the corresponding axis. Press and hold to set as home.

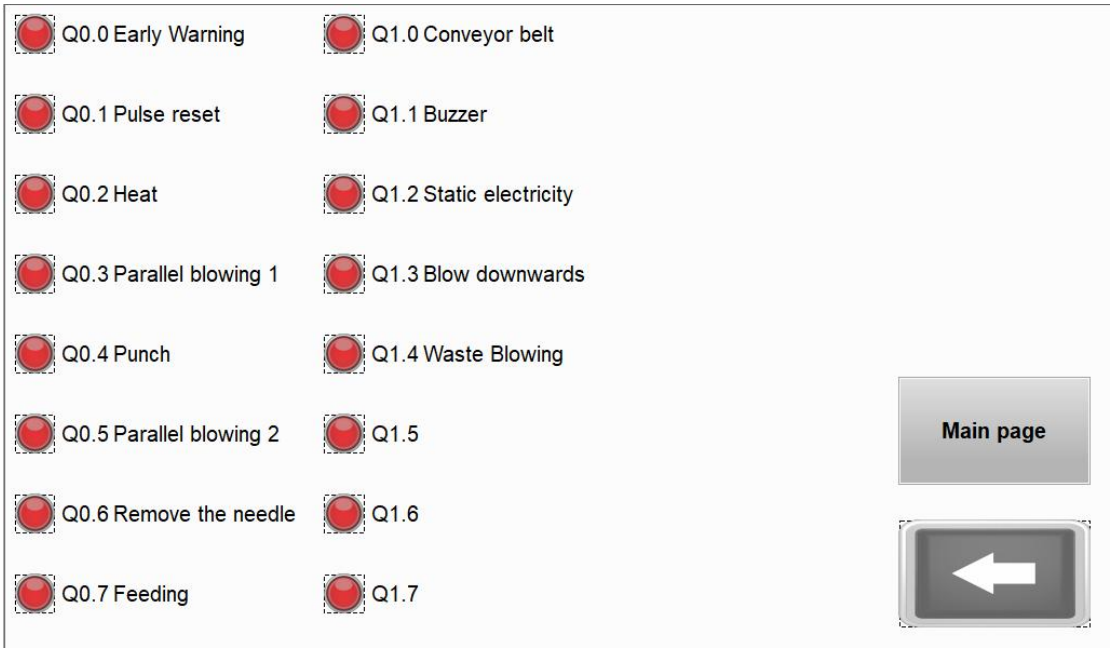
2. Jog Speed: Set the frequency for jogging of the corresponding axis.

8.4 1 Input Monitor



Output

Monitor



8.5 Alarms

1. Emergency Stop: Emergency stop button activated. Reset the button to resume.

2. Cutter Shaft Alarm: Servo alarm for cutter shaft. Press Stop to reset.

3. Virtual Spindle Alarm: Servo alarm for virtual spindle. Press Stop to reset.

4. Missing Mark Alarm: No color mark signal detected after the traction roller completes the set travel. Press Stop to reset.

5. Material Shortage Alarm: Material shortage signal triggered. Clear the on-site signal first, then press Stop to reset.

6. Material Jam A Alarm: Material Jam A signal triggered. Clear the on-site signal first, then press Stop to reset.

7. Material Jam B Alarm: Material Jam B signal triggered. Clear the on-site signal first, then press Stop to reset.

8. Safety Door Open: Safety door is not closed. Shut the door first, then press Stop to reset.

9. Fly Cutter Shaft Alarm: Servo alarm for fly cutter shaft. Press Stop to reset.

10. Feeding Shaft Alarm: Servo alarm for feeding shaft. Press Stop to reset.

Chapter 9: Service Term

1. Our company will follow the contract strictly, performance of the contract. All the machines must leave factory after testing qualified, customer inspection. Machine warranty: one year.

2. We supply perfect sales service (eight program), be responsible for the buyer, and sending the engineer to train. Our company also can engage engineer on behalf of customer. Our engineer will teach the buyer's workers to learn the technical until the worker learns it. and the buyer should pay for all cost of that.

3. We supply all spare parts for customer for long time， and we only take the cost, without profit.

4. In order to help customer save cost, and make facilitate, our company can help Customer do the transportation service. And contact the track.

5. If customer meet the difficulties when using the machine, he can ask my company directly, and ask engineer to do the train and technical transfer. We are pleasure to do the service for customers.