Pallet dispenser

pallet magazine

pallet slip sheet dispenser

pallet top slip sheet dispenser

L3P fully automatic Pallet rotary arm wrapper with top presser

User manual

Dear user：

Thanks for buying our products. Please be sure to read this manual carefully before using, so as to give a full play of its excellent performance. Please follow the security precautions and strictly operate the machine according to the technical parameters. If there is any question, please get contact with us in time, We will offer dedicated service to you.

Please preserve the manual and relevant technical files so that you may read it at anytime when necessary.

Contents

一、PRECAUTIONS FOR USE

1.1，use environment

1. Place：indoor
2. Temperature：—0～50℃
3. Relative humidity：35～85%RH（no condensation）……while using
4. Environment：keep out of direct sunlight, dust, corrosive gas, flammable gas, oil fog, steam and water-drop. Avoid salt heavy environment, no sharply temperature change result in condensation.

Attention：If the goods is black, white, transparent, dark or used in strong light, the photo sensor will be out of work, use something to cover the photo sensor, and use the position packing function of travel switch to pack, or you can also contact the manufacturer.
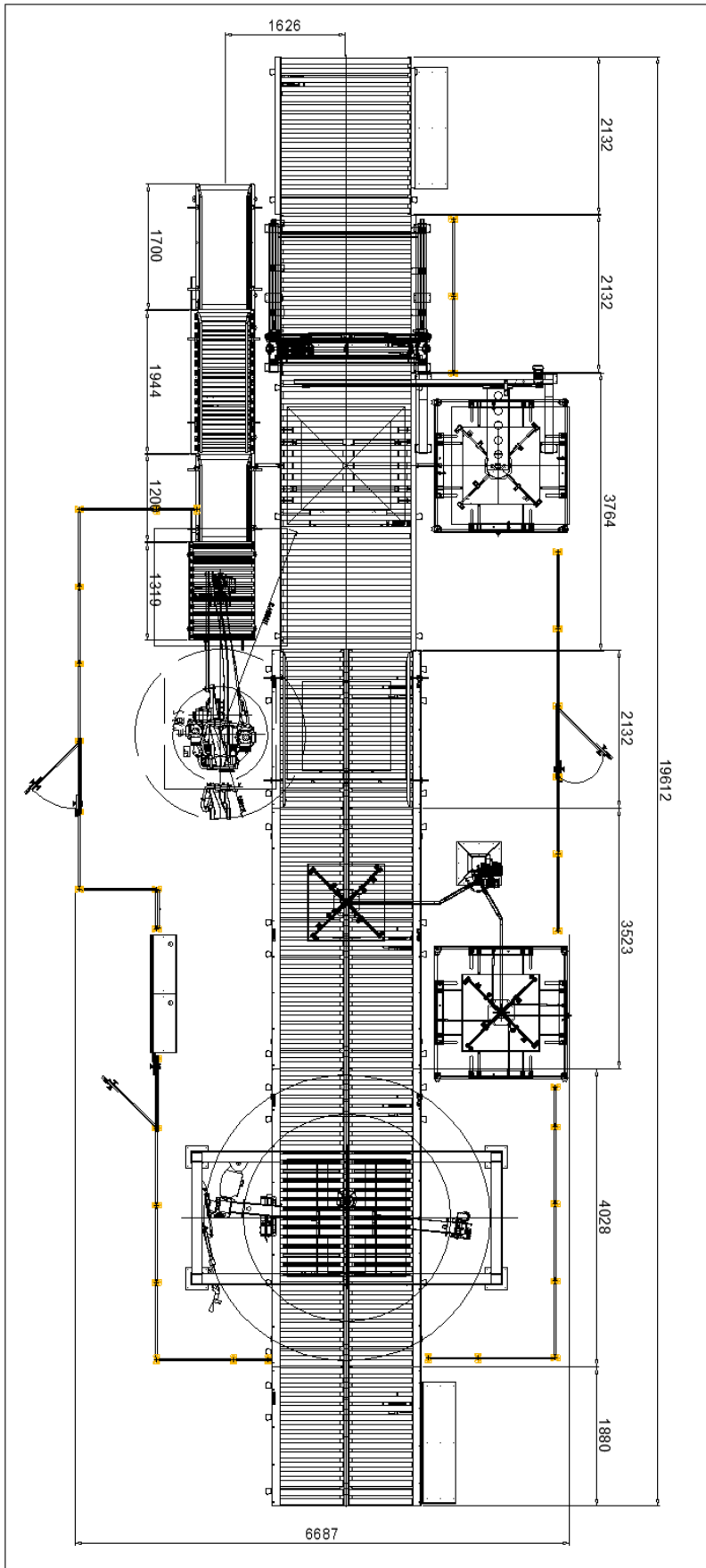
1.2，Security precautions

Please read this manual before installation, operation, maintenance, and check, so as to use it properly for a long time.
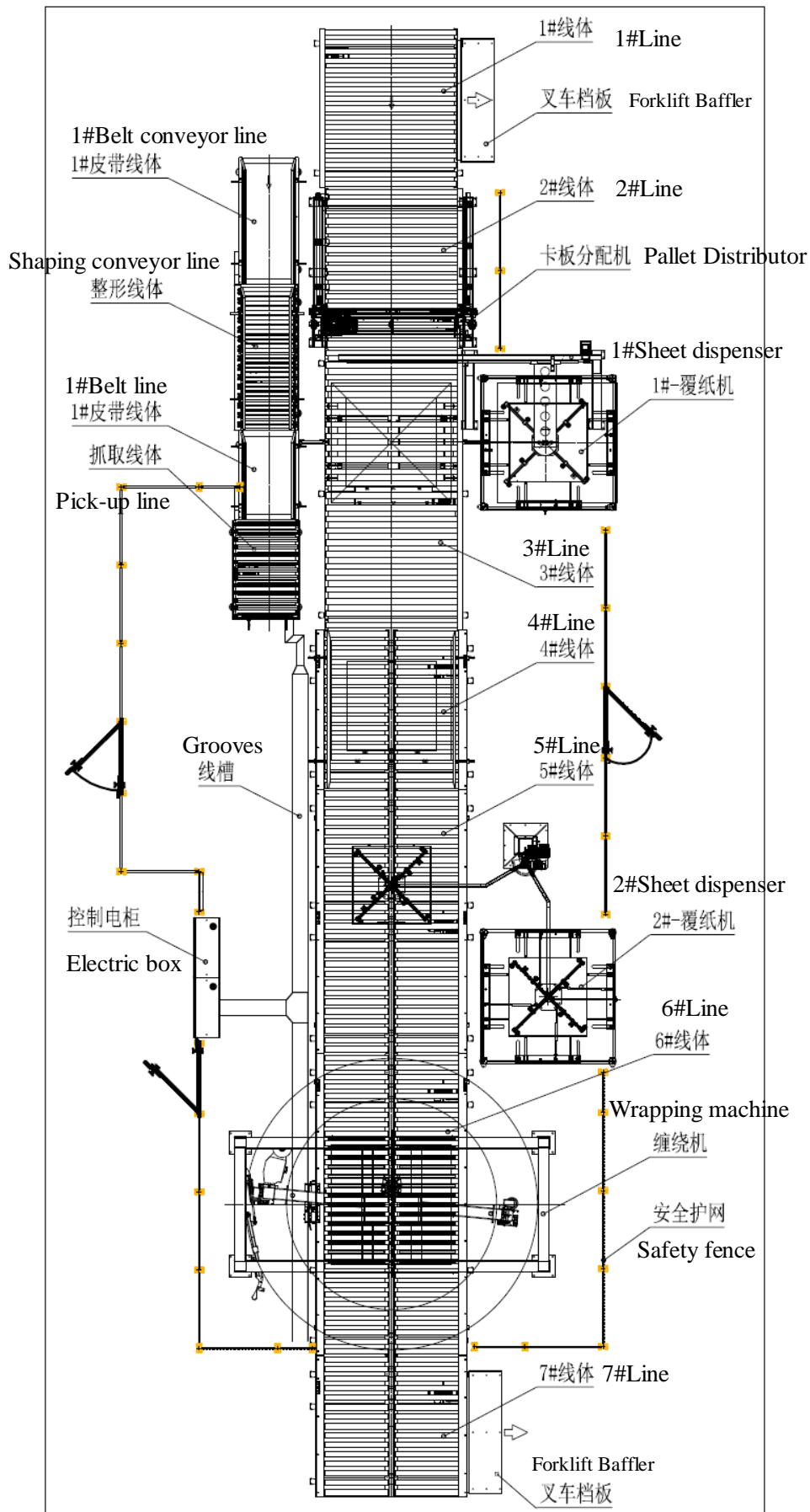1） Please pay attention to the   lifting of machine chassis and column during installation.
2） Since the column is relatively high and heavy, any careless of fix may cause damage to people, so please be very careful during machine transmission and installation,
3） The connection of electrical circuit should be carried out by professional electrician.
4） Make sure that all screws have been fixed before wiring, the outer wiring of the machine should be done firstly, connect the main power cord after accurate measurement.

二、Machine dimension

2.1，Machine dimension

2.2 Parts name of the machine

1#线体　1#Line

叉车档板　Forklift Baffler

1#Belt conveyor line
1#皮带线体

Shaping conveyor line
整形线体

2#线体　2#Line

卡板分配机　Pallet Distributor

1#Sheet dispenser
1#-覆纸机

1#Belt line
1#皮带线体

抓取线体

Pick-up line

3#Line
3#线体

4#Line
4#线体

5#Line
5#线体

Grooves
线槽

2#Sheet dispenser
2#-覆纸机

控制电柜

Electric box

6#Line
6#线体

Wrapping machine
缠绕机

安全护网
Safety fence

7#线体　7#Line

Forklift Baffler
叉车档板

三、Technical parameters

Cantilever type wrapping machine（film feeding & cutting device）
Work system：PLC+touch screen+inverter
Goods size：L1200-1600 * W1200-1600 * H2000mm Max
Goods weight：3500kg Max
Packing efficiency：20-30/hour
Cantilever speed：0-18 circle/min
Film carriage type：pre-stretch film carriage
Auto feeding film, cutting film and wiping film（cylinder）
Height of rotating platform: 640mm
Conveying type: roller conveyor
Conveying speed: 8-15M/min
Dimensions of roller: 3.5*76*1750mm
Roller wheelbase: 126.4mm
Packing material：stretch film：ϕ200mm width 500，inner core ϕ76mm；
Method of cutting film：heater
Method of wiping film：heater
Air source：0.4-0.6Mpa
Power supply：3P 5 wires AC380V /50Hz
Power：40.0kw

四、Machine handling & installation
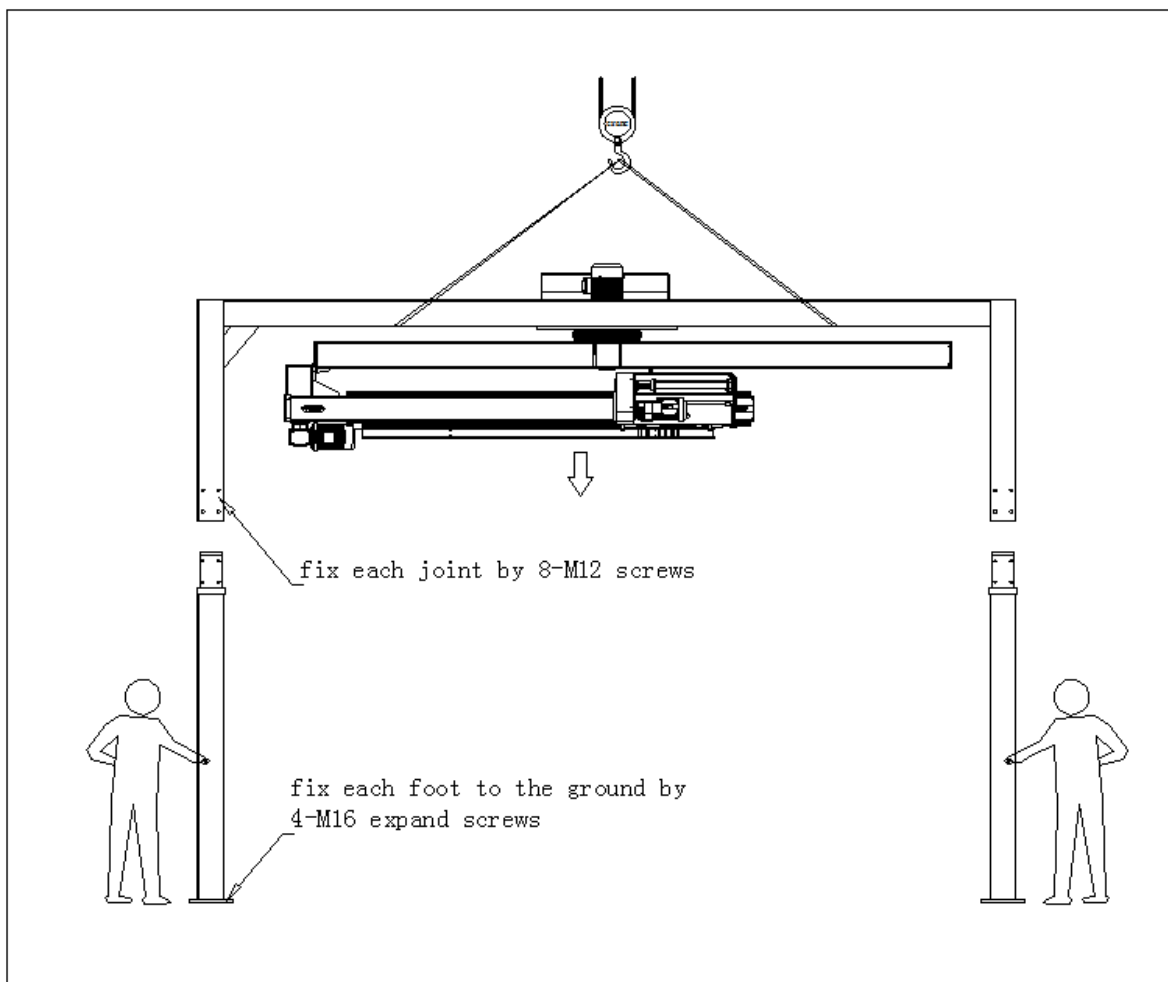
4.1   security precaution of machine handling

1） please pay attention not to get crashed with other object.

2）While use forklift to handle the machine, make sure to get the forklift to the 2/3 length of the frame, and do not rise it too high.
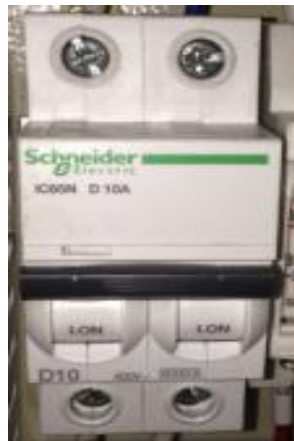
4.2   handling method

Picture 1：

Picture 2：

fix each joint by 8-M12 screws

fix each foot to the ground by
4-M16 expand screws
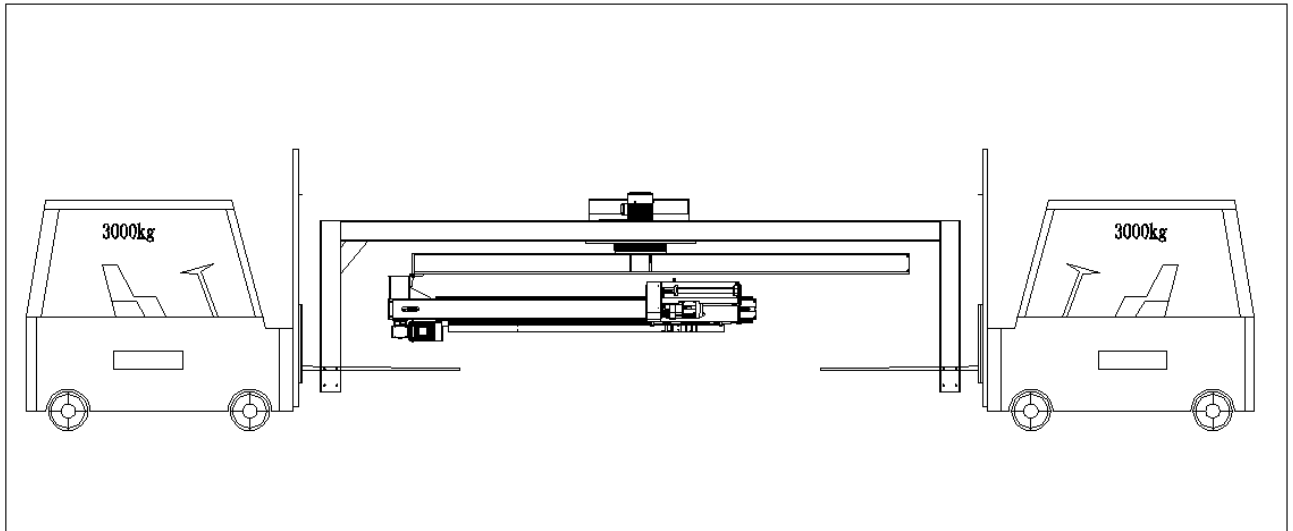
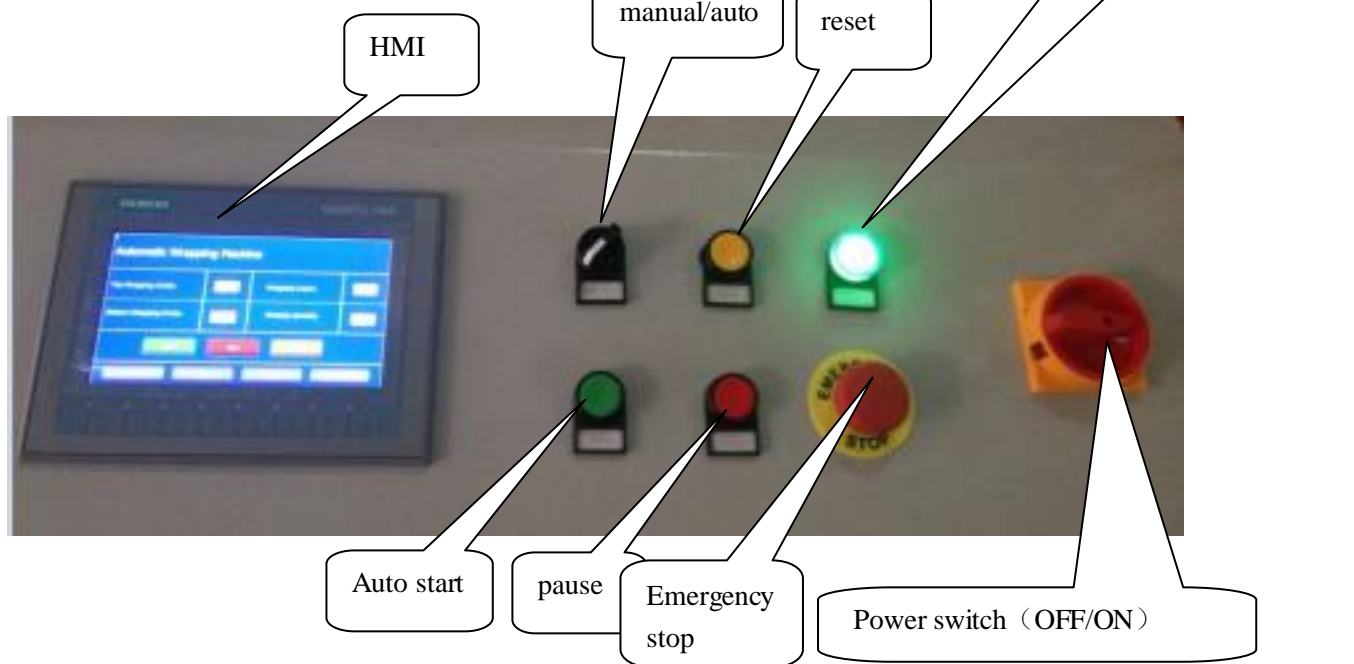# 五. Machine starting up and debugging

1. Air source

open air valve, adjust the air pressure to 0.4-0.7Mpa

2. Power supply

turn on the breaker in the electrical box, and rotate power switch on the control panel.
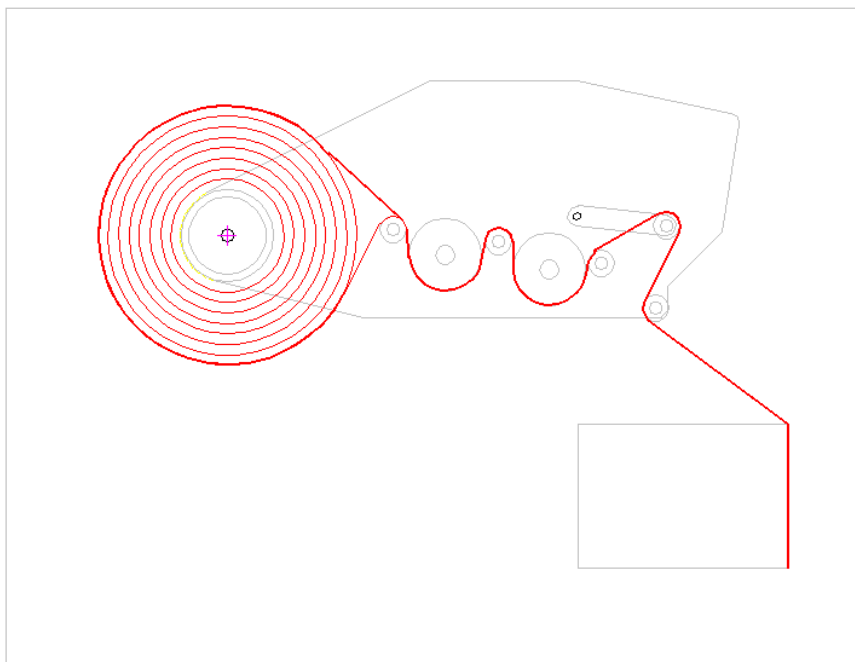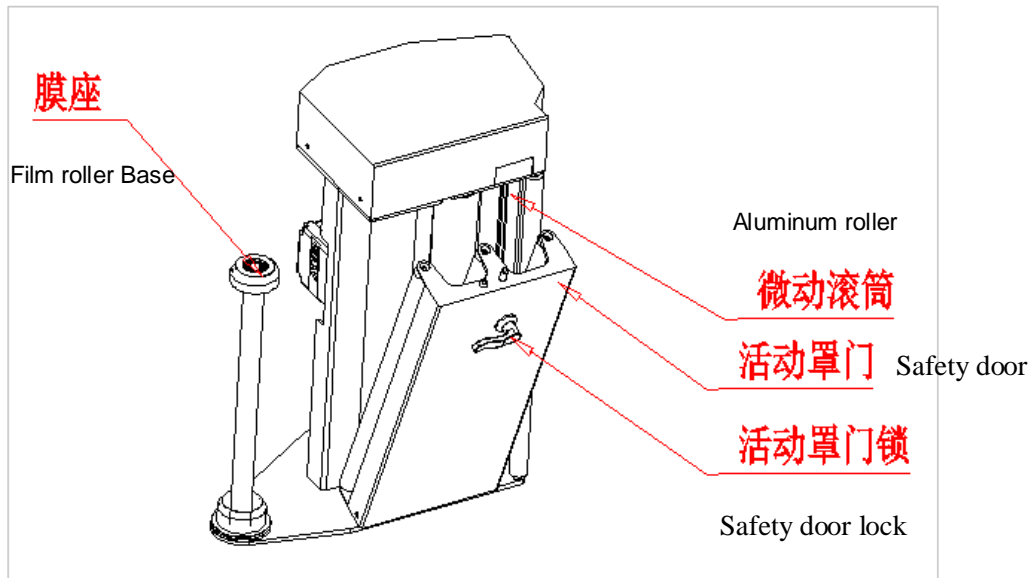
3.Specification of the control panel

HMI

manual/auto

reset

Indicator light of power supply

Auto start

pause

Emergency stop

Power switch（OFF/ON）

4. Feeding film

1） choose stretch film of proper size;

2） Film installation sketch：

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3） Step of film installation：

膜座

Film roller Base

Aluminum roller

微动滚筒

活动罩门 Safety door

活动罩门锁

Safety door lock

1.put the stretch film into **film carriage**, 2. twist the **handle** down to open **film carriage door**, open the **safety door**   3. pull out the film, cross the **micro roller** and **guide roller** according to the sketch. 4.**close safety door lock**；

4） Step of clamping film：

1. press 'clamp' button on the clamp cover；

Clamp open；2. put the film to the top of the clamp and move your hand

3.press 'clamp' again, clamp close；
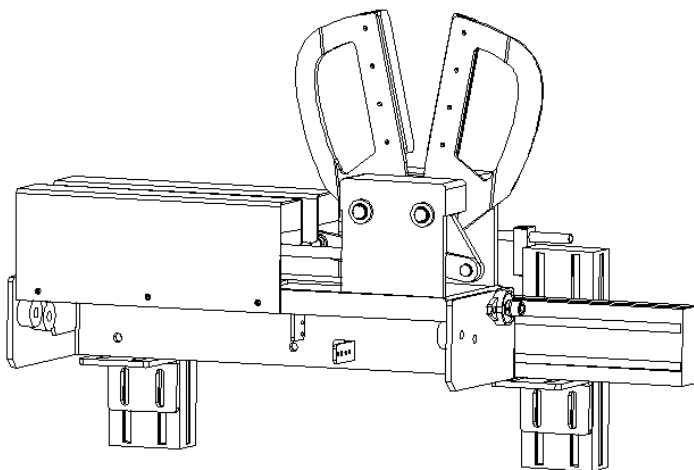
六. Control panel specification

4.1 connect to the power and rotate the Power switch to ON, check if the indicator light is on.
    If not on：   1）、check if there is power supply,
                    2）、check if the air switch is on.
4.2：check if there is closed circuit of emergency stop.
4.3   click HIM to enter parameter page, and set the relevant parameters(refer to chapter 7)
4.4 Press **"Start"** button, check if the machine is working, wrapping goods,
    If not: check if chassis and film carriage on **home** position; click **reset.**

七. HMI specification

7.1. Start up picture：
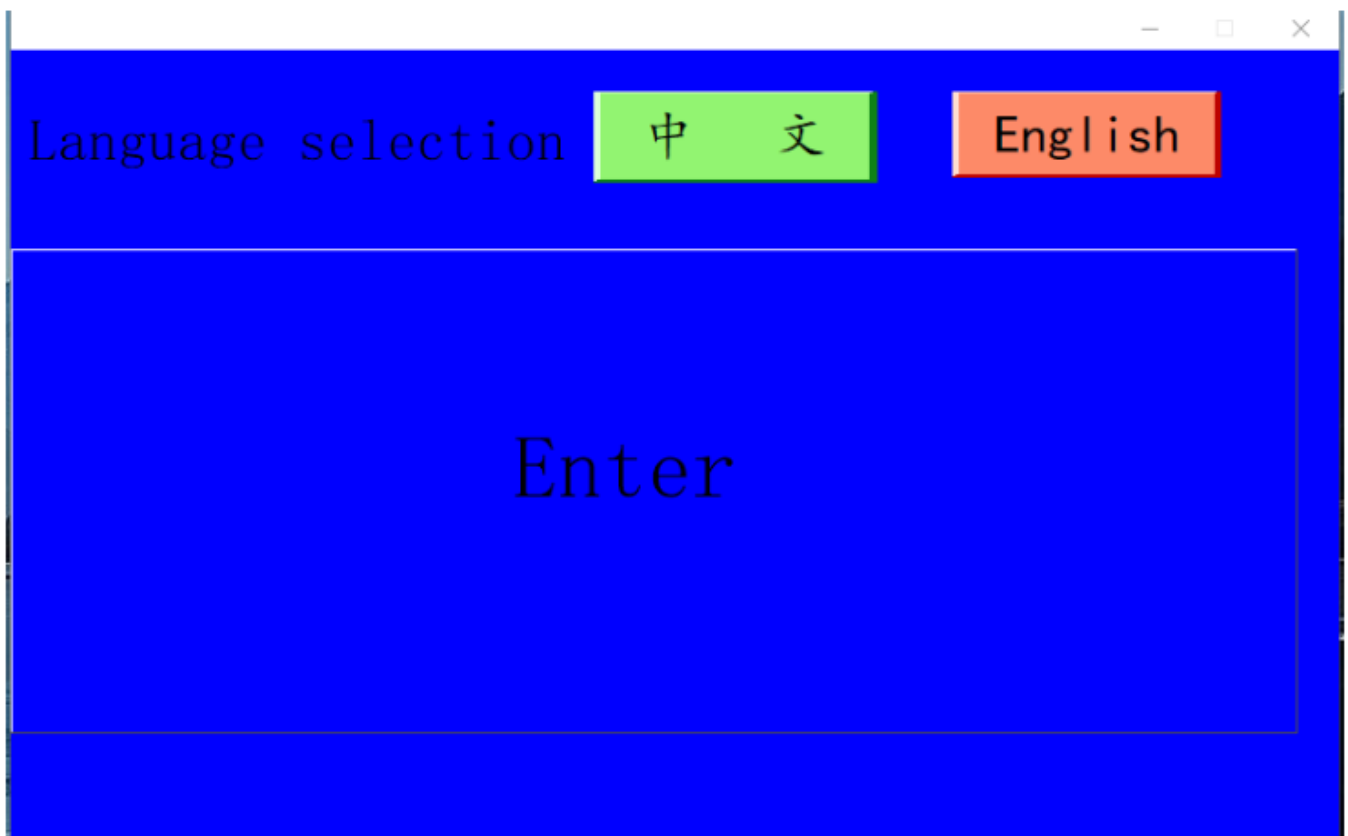
中 文 ：interface showed in Chinese

English ：interface showed in English

Enter ：click the screen to enter the system.

7.2. Menu（running page）：

Fault prompt bar
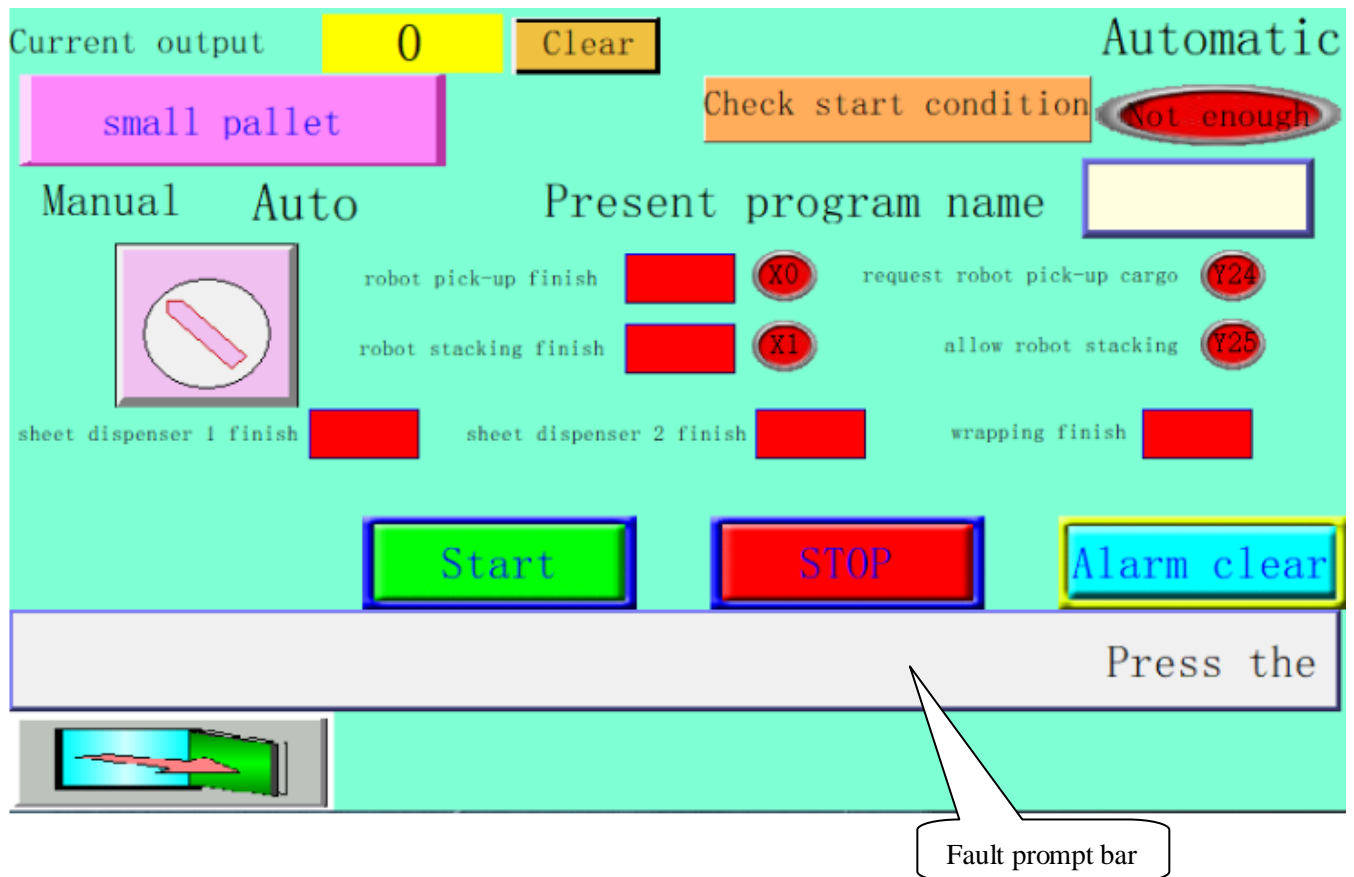
Current output ：show the current output, 1 package means press 'start' button 1 time.

Clear ：press 'clear' for 0.3 seconds to clear the data.

Automatic ：show the current page

small pallet ： choose the dimensions of pallet, small pallet 1200*1200MM, large pallet 1600*1600MM, choose different program , this is very important.

Check start condition **Not enough** : this parameter shows when the machine is at standby status(not automatic running), click the button to look for details

Check start condition						Back
Rotay arm home	🔴	sheet dispenser #1 home position	🔴	rotary arm inverter fault	Normal	
Carriage safety	🔴	suck paper CYL home position	🔴	film carriage inverter fault	Normal	
Fencing door 1	🔴	sheet dispenser #2 home position	🔴	pre-strech inverter fault	Normal	
Swing arm rear position	🔴	sheet dispenser #2 upper	🔴	presser inverter fault	Normal	
wipe film rear position	🔴	stopper #3 home position	🔴	pallet dispenser inverter fault	Normal	
presser upper limited	🔴	stopper #4 home position	🔴	sheet dispenser#1 inverter fault	Normal	
centered CYL home position	🔴	Fencing door 2	🔴	sheet dispenser#2-A inverter fault	Normal	
stopper #1 CYL home position	🔴	Fencing door 3	🔴	sheet dispenser#2-B inverter fault	Normal	
stopper #2 CYL home position	🔴	hydraulic lifting table lower	🔴	conveyor inverter fault	Normal	
				Emergency stop	ERROR	

Manual   Auto

Manual**/auto**：switch between manual and auto mode.

Present program name ：show the present program name （can set parameters of every group）

 : the signal of the finishing of robot pick-up, when robot finishes

pick-up, the system will allow next goods to enter pick-up position, press `manually, you can`

`receive short circuit connection signal, when signal received,` `will turn green.`

 : the signal of the finishing of robot stacking, when robot finishes

stacking, the system will convey the whole pallet to next position, the next pallet will be conveyed, press

`manually, you can receive short circuit connection signal, when signal received,`

`will turn green.`

 : command robot to pick up goods, when there are goods on the "pick-up

position", the system will command robot to pick up goods (until `signal received,` `will`

disconnect), when signal received, `will turn` **`green.`**

 : allow robot stacking, when pallet enter stacking position, the system will send

signal to robot, then robot will start stacking (until `signal received,` will disconnect), when

signal received, will turn **green**.

 : when there are goods on   3#Line(sheet dispenser #1), before start, please

make sure the sheet dispenser was fully covered, if the sheet placed well,   press manually, then it will turn green; After auto start, sheet dispenser does not perform sheet-dispensing action. If there is no sheet, the robot will complete sheet-dispensing action automatically after auto start, it is no need to do it manually.

 : when there are goods on   5#Line(sheet dispenser #2), before start, please

make sure the sheet dispenser was fully covered, if the sheet placed well,   press manually, then it will turn green; After auto start, sheet dispenser does not perform sheet-dispensing action. If there is no sheet, the robot will complete sheet-dispensing action automatically after auto start, it is no need to do it manually.

 : when there are goods on   6#Line(wrapping position), before start, please make sure

the wrapping machine was fully wrapped, if the wrapping was completed,   press manually, then it will turn green; After auto start, wrapping machine does not perform wrapping action. If there is no wrapping, the robot will complete sheet-dispensing action automatically after auto start, it is no need to do it manually.
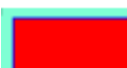
 ：click this button, machine enters into automatic working mode, the green light on.

 ：click this button, the machine will stop working, if you want to start again, back to home position first, then click "start" button.

Alarm clear ： when there is alarm, click this button to clear the alarm.

: enter next page;

7.3. Page setting :
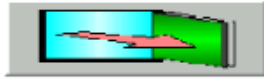
At the lower left of menu, click   enter the following function choosing and parameter setting page :

Manu conveyor run	Program choose	I01
pallet dispenser manual	Motor speed setting	I02
sheet dispenser#1 manual	Wrapping parameter setting	I03
Pallet location manual	parameter -1	I04
sheet dispenser#2 manual	Alarm records	I05
Manu- Wrapping	Back	I06

Click different function button, will enter different page, details are as following:

7.4. Conveyor line manual page

Click **Manu conveyor run** button, enter the following page:
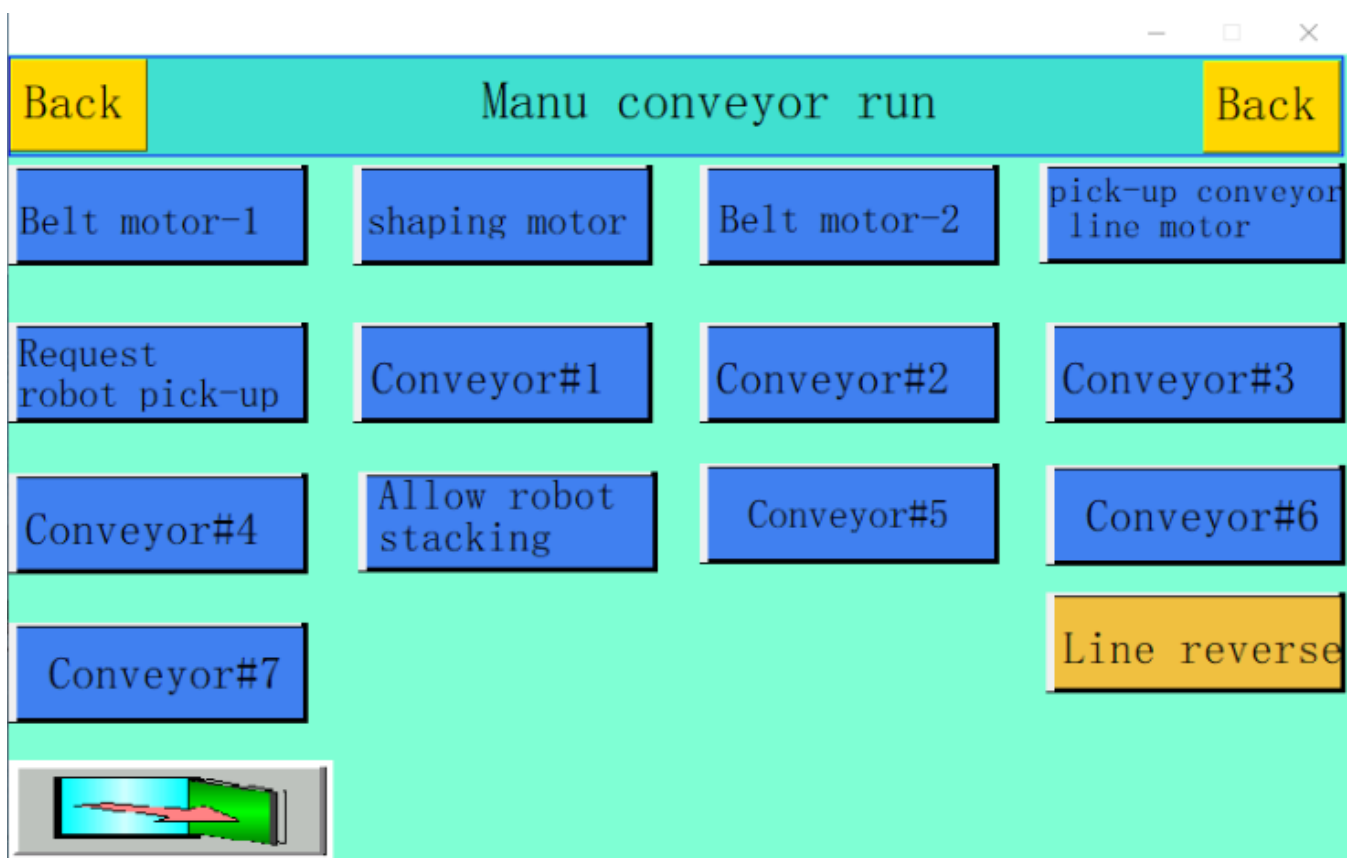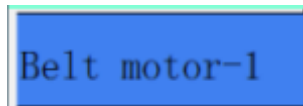
Back: click this button back to menu.

Belt motor-1: click this button， 1#belt line works(conveying forward), click again, it will stop.

shaping motor: click this button， shaping line works(conveying forward), click again, it will stop.
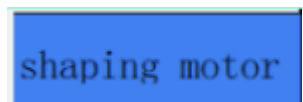
Belt motor-2: click this button， 2#belt line works(conveying forward), click again, it will stop.
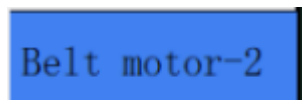
pick-up conveyor line motor: click this button， pick-up conveyor line works(conveying forward), click again, it will stop.
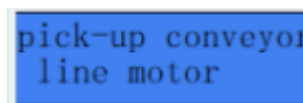
Request robot pick-up: click this button， manually sending signal to robot to pick up goods, only use in adjusting, it is rarely used.

Conveyor#1 : click this button，1# roller conveyor line(upper pallet position) works(conveying forward), click again, it will stop.

Conveyor#2 : click this button，2# roller conveyor line(pallet position) works(conveying forward), click again, it will stop.

Conveyor#3 : click this button，3# roller conveyor line(bottom sheet dispenser position) works(conveying forward), click again, it will stop.

Conveyor#4 : click this button，4# roller conveyor line(stacking centered position) works(conveying forward), click again, it will stop.

Allow robot stacking : click this button， manually sending allow signal to robot to stacking, only use in adjusting, it is rarely used.

Conveyor#5 : click this button，5# roller conveyor line(sheet dispenser top position) works(conveying forward), click again, it will stop.

Conveyor#6 : click this button，6# roller conveyor line(wrapping machine position) works(conveying forward), click again, it will stop.

Conveyor#7 : click this button，6# roller conveyor line(goods unloading position) works(conveying forward), click again, it will stop.

Line reverse : click this button，all roller conveyor line (single bag conveyor line not included) running reversely, conveying backward; click again, it will stop.

: enter next page;

7.5.Pallet dispenser manual page:

Click pallet dispenser manual button, enter the following page:

Conveyor#1 : click this button，1# roller conveyor line(upper pallet position) works(conveying forward), click again, it will stop.

Conveyor#2 : click this button，2# roller conveyor line(pallet position) works(conveying forward), click again, it will stop.

Lifting part(fork arm included)
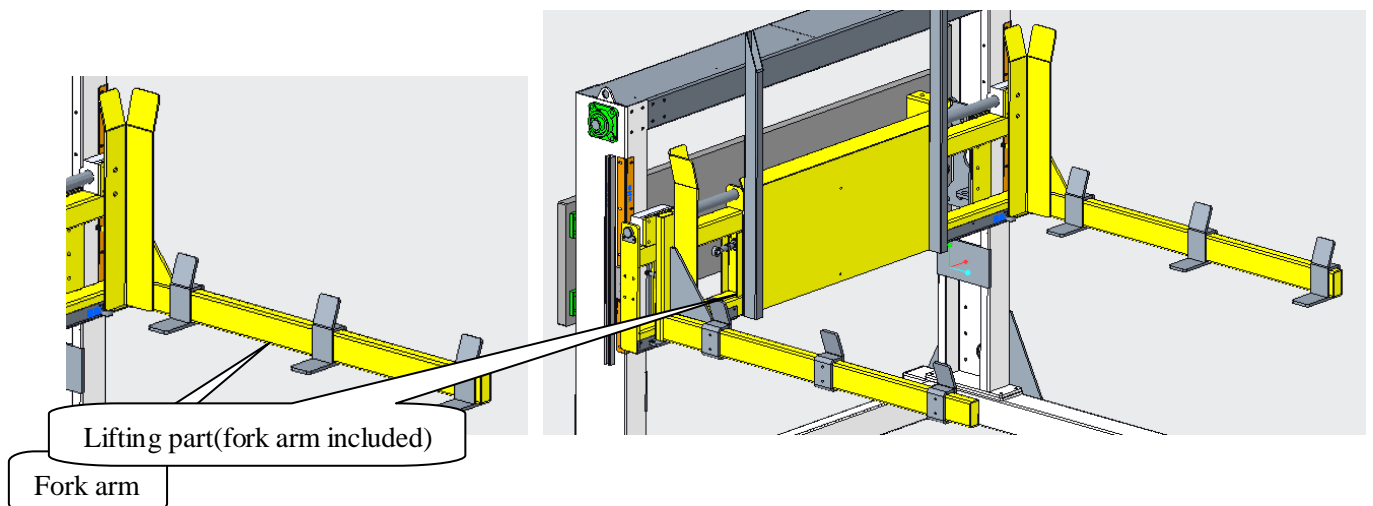
Fork arm

 : click this button, the fork arm of the both sides of pallet dispenser stretch forward; if the fork arm is on the home position, there will be no respond when clicking.

 : click this button, the fork arms of the both sides of pallet dispenser stretch back; if the fork arm is in place position, there will be no respond when clicking.

 : click this button, the lifting part(including fork arm) of pallet dispenser up or down to central position; if the fork arm is on the central position, there will be no respond when clicking.

 : click this button, the lifting part(including fork arm) of pallet dispenser up to upper limit position; if the fork arm is on the upper limit position, there will be no respond when clicking.

 : click this button, the lifting part(including fork arm) of pallet dispenser down to lower limit position; if the fork arm is on the lower limit position, there will be no respond when clicking; **Attention: when fork arm is on home position, photocell of 2#conveyor line   sense pallet, lifting part won't go lift down, you need to convey the pallet away, until the photocell of2#conveyor line can't sense it.**

 : enter next page:

7.6.1#sheet dispenser manual page:

Click button, enter the following page:

Conveyor#2 : click this button，2# roller conveyor line(pallet position) works(conveying forward), click again, it will stop.

Conveyor#3 : click this button，3# roller conveyor line(bottom sheet dispenser position) works(conveying forward), click again, it will stop.

stopper CYL-1 : stopper CYL-1, that is 1200*1200 stopper of pallet; click this button, stopper up, click again, stopper down.
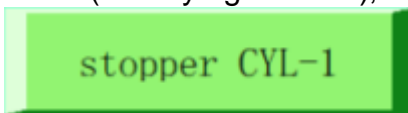
stopper CYL-2 : stopper CYL-2, that is 1600*1600 stopper of pallet; click this button, stopper up, click again, stopper down.

centered CYL : click this button，stoppers on both sides forward, click again, stoppers backward.
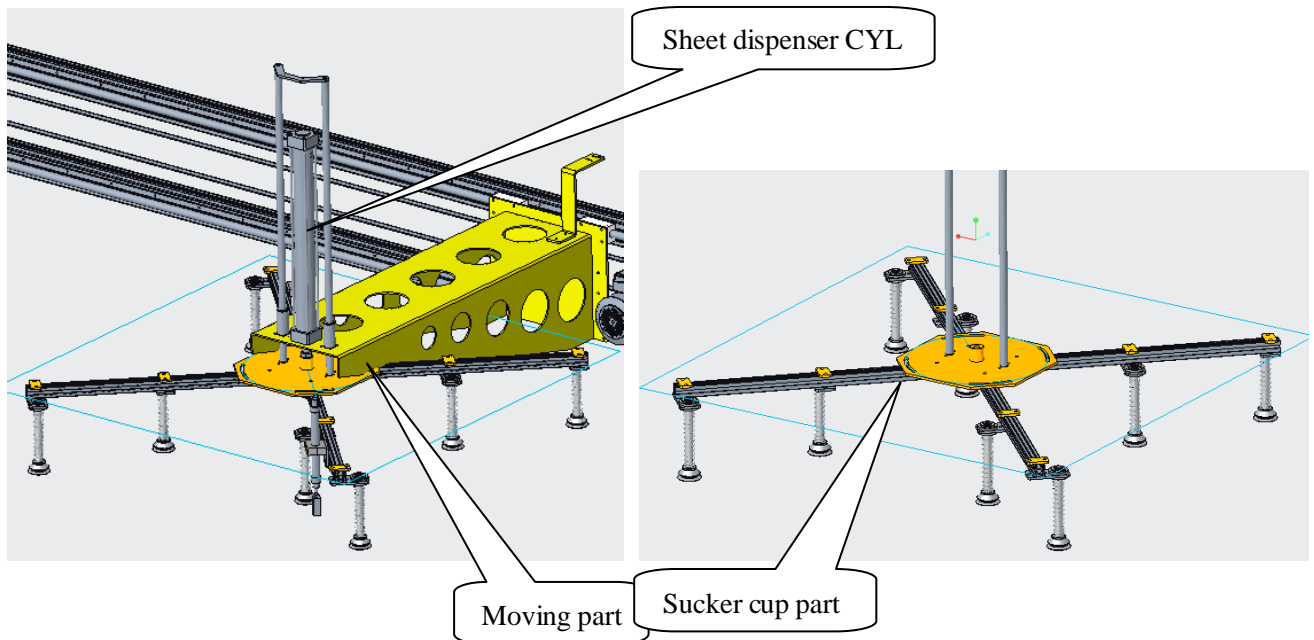
Sheet dispenser CYL

Moving part   Sucker cup part

sheet dispenser home : click this button，all parts of sheet dispenser back to home position, for example, moving part, sucker, this button used usually when manually resetting the whole machine.

sheet dispenser advance : click this button, the moving part of sheet dispenser (including sucker cup) works forward, click again, it will stop; if the moving part is on the switch at the front, there will be no respond when clicking.

sheet dispenser retreat : click this button, the moving part of sheet dispenser (including sucker cup) works backward, click again, it will stop; if the moving part is on the switch at home position, there will be no respond when clicking.

sheet dispenser CYL up : click this button, the sucker cup of sheet dispenser stretches out, sucker cup works down , click again, it will stop; if the sucker cup is on the lower position, there will be no respond when clicking.

sheet dispenser CYL down : click this button, the sucker cup of sheet dispenser   stretches out, sucker cup works upward , click again, it will stop; if the sucker cup is on the upper position, there will be no respond when clicking.

 : click this button, electromagnetic valve of sucker cup open, sucker cup inhales, please make sure that vacuum pump already turns on; click again, electromagnetic valve of sucker cup close, stop inhaling.

 :   click this button, electromagnetic valve of shake CYL open, CYL push rod stretch out, then retract, repeatedly 3 times, some machine type can't perform this function, this function only works when the surface of materials is smooth and sticky.

 : enter the next page:

7.7. Pallet location manual page:

Click button, enter the following page:

 : click this button，3# roller conveyor line(bottom sheet dispenser position) works(conveying forward), click again, it will stop.

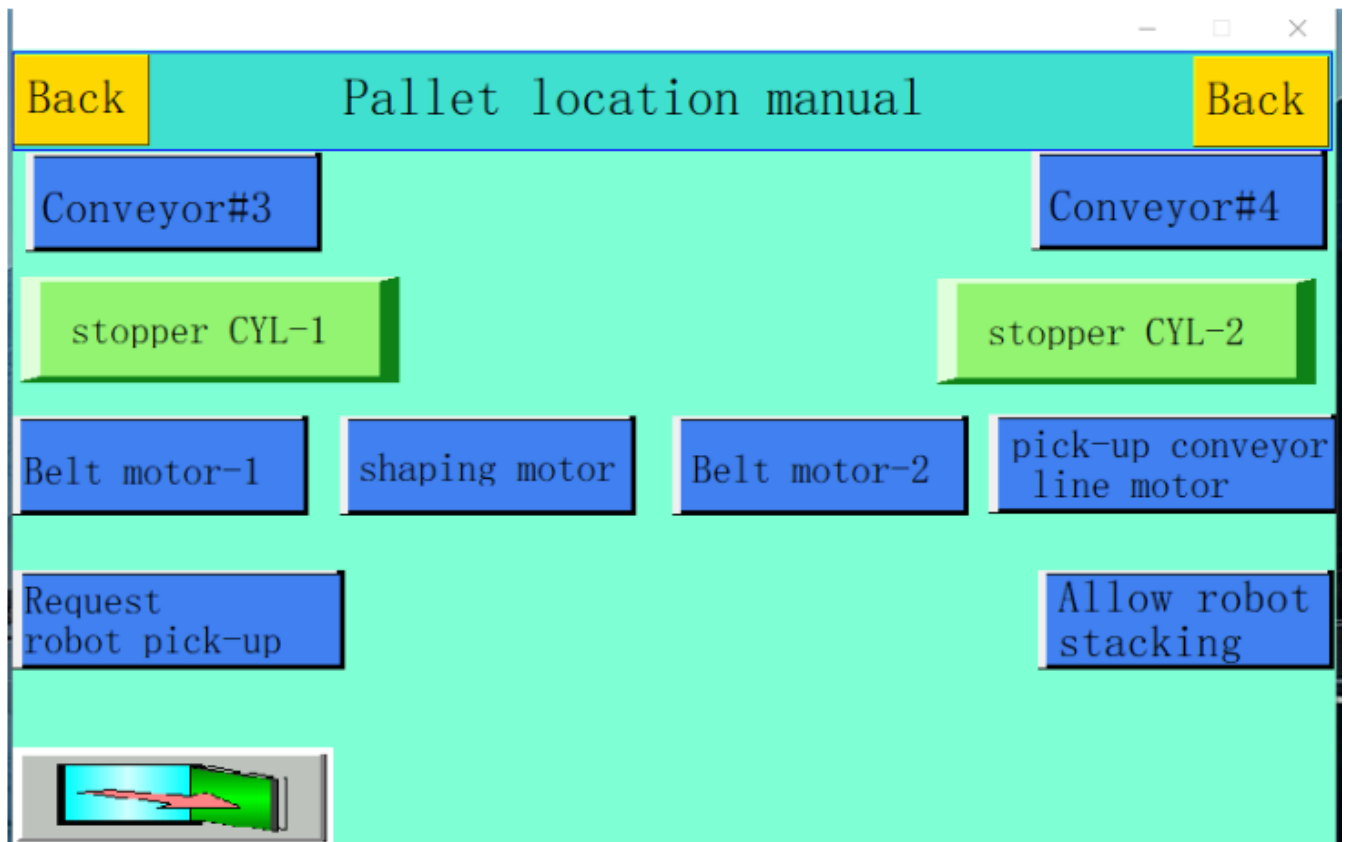**Conveyor#4** : click this button，4# roller conveyor line(pallet centered position) works(conveying forward), click again, it will stop.

stopper CYL-1 : stopper CYL-1, that is $1200*1200$ stopper of pallet; click this button, stopper up, click again, stopper down.

stopper CYL-2 : stopper CYL-2, that is $1600*1600$ stopper of pallet; click this button, stopper up, click again, stopper down.

Belt motor-1 : click this button， 1#belt line works(conveying forward), click again, it will stop.

shaping motor : click this button， shaping line works(conveying forward), click again, it will stop.

Belt motor-2 : click this button， 2#belt line works(conveying forward), click again, it will stop.

pick-up conveyor line motor : click this button， pick-up conveyor line works(conveying forward), click again, it will stop.

Request robot pick-up : click this button，manually sending signal to robot to pick up goods, only use in adjusting, it is rarely used.

Allow robot stacking : click this button，manually sending allow signal to robot to stacking, only use in adjusting, it is rarely used.
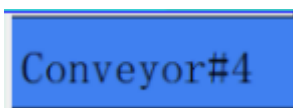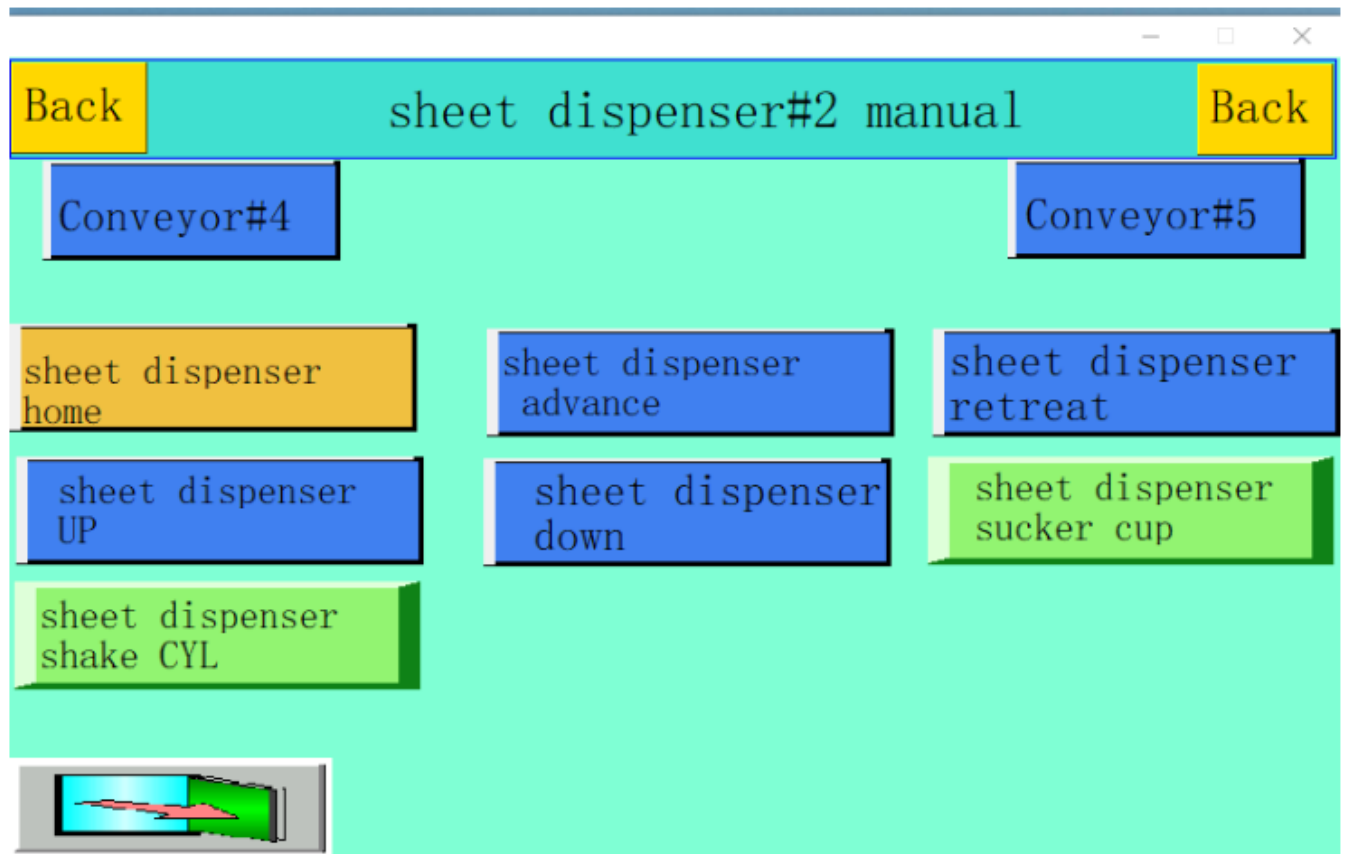
: enter next page:

7.8. 2#sheet dispenser manual page:

Click **sheet dispenser#2 manual** button, enter the following page:

Conveyor#4 : click this button，4# roller conveyor line(pallet centered position) works(conveying forward), click again, it will stop.

Conveyor#5 ： click this button，5# roller conveyor line(pallet top position) works(conveying forward), click again, it will stop.

sheet dispenser home ： click this button, all parts of sheet dispenser back to home position, for example, moving parts , sucker cup, this button used usually when manually resetting the whole machine.

sheet dispenser advance : click this button, the moving part of sheet dispenser (including sucker cup) works forward, click again, it will stop; if the moving part is on the switch at the front, there will be no respond when clicking.

sheet dispenser retreat : click this button, the moving part of sheet dispenser (including

sucker cup) works backward, click again, it will stop; if the moving part is on the switch at home position, there will be no respond when clicking.

sheet dispenser UP : click this button, the sucker cup of sheet dispenser   stretches out, sucker cup works down , click again, it will stop; if the sucker cup is on the lower position, there will be no respond when clicking.

sheet dispenser down : click this button, the sucker cup of sheet dispenser   stretches out, sucker cup works upward , click again, it will stop; if the sucker cup is on the upper position, there will be no respond when clicking.

sheet dispenser sucker cup : click this button, electromagnetic valve of sucker cup open, sucker cup inhales, please make sure that vacuum pump already turns on; click again, electromagnetic valve of sucker cup close, stop inhaling.

sheet dispenser shake CYL :   click this button, electromagnetic valve of shake CYL open, CYL push rod stretch out, then retract, repeatedly 3 times, some machine type can't perform this function, this function only works when the surface of materials is smooth and sticky.

: enter the next page:

7.8.Manu-wrapping page:

Manu- Wrapping

Click   button, enter the following page:
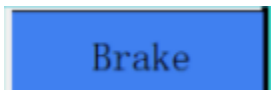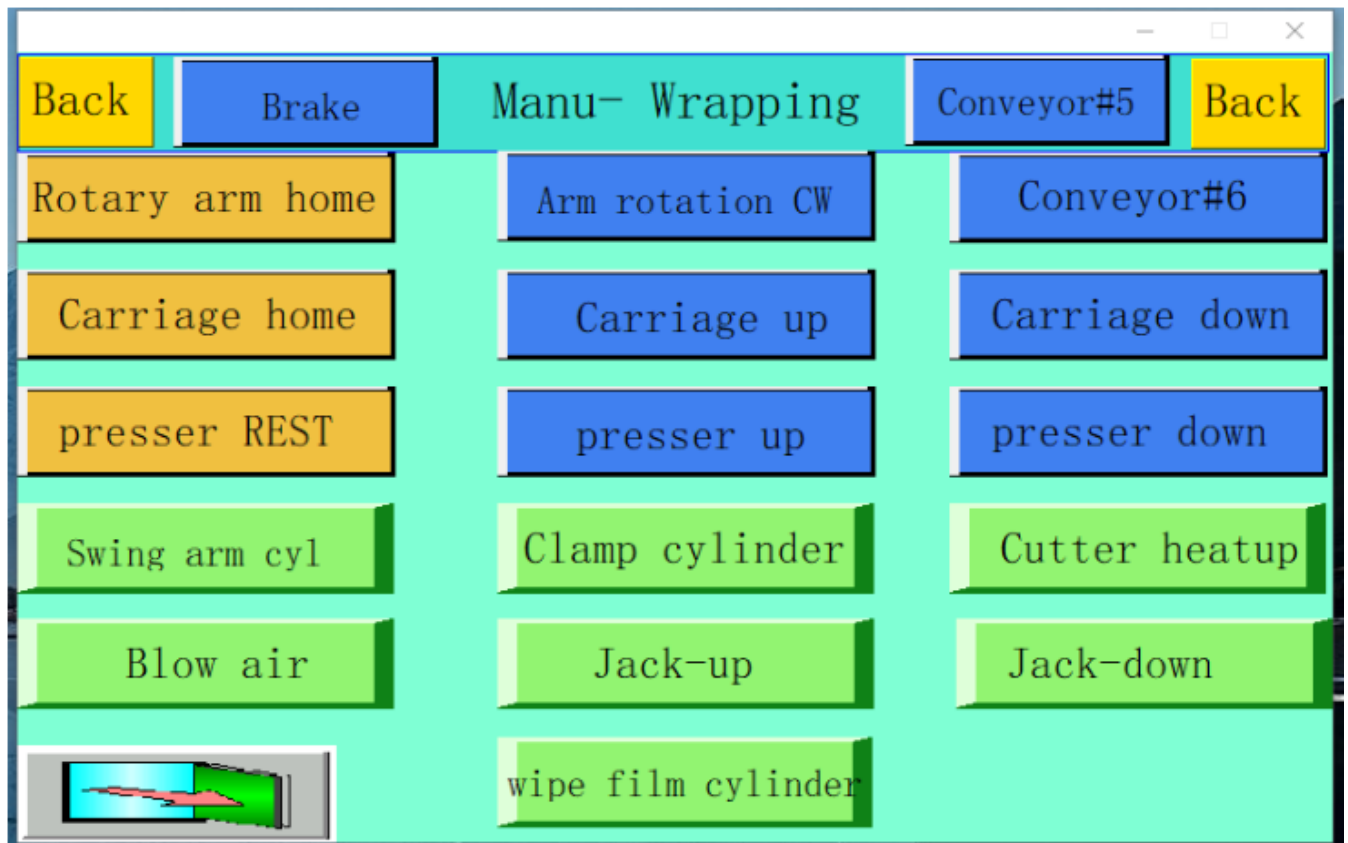
Brake :   click this button, rotary arm motor brake turn on , click again, motor brake turn down, this button only use when debugging and maintaining, the rotating platform can be rotated manually.
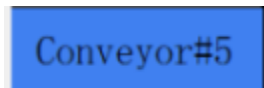
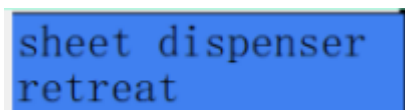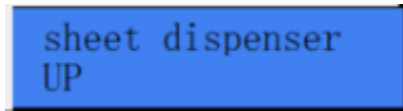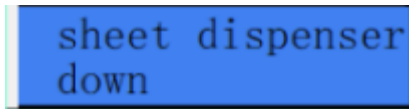**Conveyor#5** : click this button ，5# roller conveyor line(pallet top position) works(conveying forward), click again, it will stop.
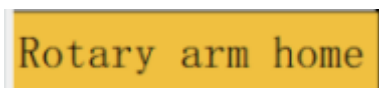
Rotary arm home :   click this button, rotary arm turn to home position, click again, it stops, if the rotary arm is on home position, there will be no respond when clicking.

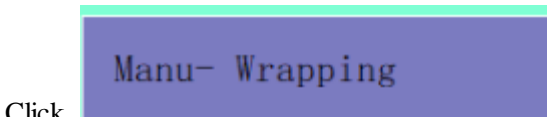**Carriage home** :   click this button, film carriage down to home position,   if the film carriage is on home position, there will be no respond when clicking.
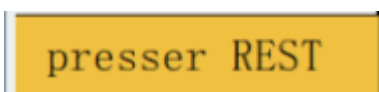
presser REST : click this button, presser up to upper limit position,   if the presser is on upper limit position, there will be no respond when clicking.

Arm rotation CW : click this button, rotary arm rotates clockwise, click again, it will stops.

Carriage up : click this button, film carriage up , click again, it will stops.

Carriage down : click this button, film carriage down , click again, it will stops.

Conveyor#6 : click this button，6# roller conveyor line(wrapping position) works(conveying forward), click again, it will stop.

presser up : click this button，presser up , click again, it will stop.

presser down : click this button，presser down , click again, it will stop.

Swing arm cyl : click this button，swing arm CYL stretch out , click again, it will retract back, (if it doesn't retract back, please let the wipe film CYL retract back first).

Blow air : click this button，blow air electromagnetic valve blow air , click again, it will stop.

Clamp cylinder : click this button，clamp cylinder open , click again, it will close.

Cutter heatup : click this button， heating wires heat up, Do not click it continuously, or else it will blow.

Jack-up : click this button，hydraulic lifting up , click again, it will stop.

Jack-down : click this button，hydraulic lifting down , click again, it will stop.
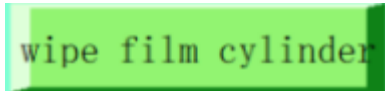
wipe film cylinder : click this button，wipe film CYL stretch out , click again, it will retract back,;

: enter the next page:

7.9.Program choose page:

Click **Program choose** button, enter the following page:

Back	Program choose	Back

Present program name [   ]

Program 1 name [   ]   Choose

Program 2 name [   ]   Choose

Program 3 name [   ]   Choose

Motor speed setting

Program 4 name [   ]   Choose

Wrapping parameter setting

Program 5 name [   ]   Choose

Present program name [   ] : show the present program name

（can set parameters of every group）

Program 1 name		Choose
Program 2 name		Choose
Program 3 name		Choose
Program 4 name		Choose
Program 5 name		Choose

: here you can set 5 groups of parameters, press 'choose' button for anyone you need.

: enter the next page:

7.9.1Moto speed setting page:

Click ☐ Motor speed setting button, enter the following page:

Back	Motor speed setting			Back

Present program name ☐

	Up	Down	Manual
Film carriage	0.0 HZ	0.0 HZ	0.0 HZ
Rotary arm	0.0 HZ	0.0 HZ	0.0 HZ
Pre-stretch	0 % Rotary arm Hz	0 % Rotary arm Hz	0.0 HZ
presser	0.0 HZ	0.0 HZ	0.0 HZ

Program choose		Wrapping parameter setting

Present program name [   ] : show the present program name

（can set parameters of every group）

	Up	Down
Film carriage	0.0 HZ	0.0 HZ

: setting the frequency of film carriage up and down, the bigger the value, the faster speed, the bigger gap between film when wrapping,; on the contrary, the smaller the number, the more overlap between films when wrapping.

Rotary arm	0.0 HZ	0.0 HZ

: setting the frequency of rotary arm, the bigger the value, the faster speed.

Pre-stretch	0 % Rotary arm Hz	0 % Rotary arm Hz

: setting the frequency of film conveying motor, the bigger the value, the faster speed, the looser when wrapping; on the contrary, the smaller the number, the lower the speed, the tighter when wrapping; [0 % Rotary arm Hz] is the percentage of pre-stretch rotary arm setting, for example, when the rotary frequency is 50Hz, `pre-stretch is 50%, then the frequency of pre-stretch conveying film motor is 50*50%=25Hz;`

presser	0.0 HZ	0.0 HZ

: setting the frequency of presser motor, the bigger the value, the faster speed, the tighter the presser, on the contrary, the smaller the number, the lower the speed, the looser the presser;
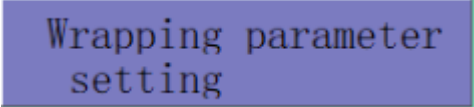
Manual
0.0 HZ
0.0 HZ
0.0 HZ
0.0 HZ

: set the frequency of motor during manual operation; the more bigger the value, the more faster the speed.
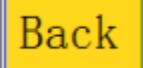
 : enter the next page:
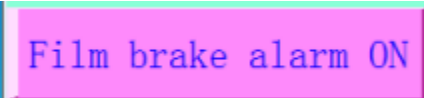
7.9.2Wrapping parameter setting page:
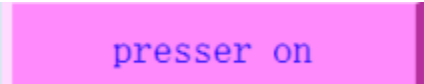
Click [Wrapping parameter setting] button, enter the following page:

Back : click this button back to menu.

Present program name [A] : show the present program name.

Film brake alarm ON : choose alarm function when film breaks during wrapping.

presser on : choose the presser on or off; if the goods don't need presser function,turn off the presser to improve wrapping efficiency.

wrapping mode : you can choose wrapping mode or conveying mode, when choosing conveying mode, goods were conveyed through wrapping machine, there will be no action of wrapping machine.

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`Layers  0` ：set the wrap layers, from the bottom to the top is 1 layer, up and down is 2 layers.

`Top cycles  0` ：set the top cycles for the top of goods.

`Bottom cycles  0` ：set the cycles for the bottom of goods.

`rotary arm positioning delay  0` (1-10) ：set the rotary arm back to home position, then set the time delay , then stop and brake,   the delay time can set between 1-10 seconds.

`Downward clamp open delay  0.0` ：film carriage down to the position for the first time, clamp opens and blows. Tip: blowing position is related to the speed of film carriage up-down.

`presser  time  0.0` ：time of presser to press the goods, after this action, turntable starts rotating, factory setting is 5 seconds. This function is only for the machine with presser.

Tip：presser time is related to the goods height and cylinder speed.

`Initial up time  0.0` ：set the time of film carriage up before wrapping.

`Over wrap delay  0.0` ：the rising time of film carriage when photoelectric sensor detects the goods top. Change this parameter to change the film wrap height of goods top.

`Heatup time  0.0` ：set the heat-up time when cutting film.

`Blow air time  0.0` ：when clamp opens, the film is blew up. Set the time of blowing air.

`Program choice` ：click this button back to menu.
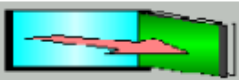
`Motor speed setting` : click this button back to wrapping motor setting page;

7.10 `parameter -1`   click and enter the parameter-1   page:

Back   parameter -1   (Units: second)   Back

Present program name

pallet dispenser hook delay	0. 0
centered CYL delay	0. 0
sheet dispenser #1 sucker cup in place delayed	0. 0
sheet dipsner #1 vacuum delay	0. 0
sheet dispenser #2 sucker cup in place delayed	0. 0
sheet dipsner #2 vacuum delay	0. 0

sheet dispenser#1ON

sheet dispenser #1 paper fall detect on

sheet dispenser#2 ON

sheet dispenser #2 paper fall detect on

Present program name A : show the present program name.

pallet dispenser hook delay 0. 0 : Set the time when the fork arm of the pallet dispenser is clamped, start the clock when the fork arm leave CYL home magnetic switch , and when time is up, the next action will be performed ; the time is related to the speed of the cylinder stretch

centered CYL delay 0. 0 : set when pallet reaches the middle line , the time when central cylinder is clamped ; start the clock when the stopper on both sides leave CYL home magnetic switch , when time is up , the stoppers on both sides will open, the time is related to the speed of the cylinder stretch

sheet dispenser #1 sucker cup in place delayed 0. 0 : set when paper sucker mechanism of 1# sheet dispenser down to suck paper and reach paper, delay the time then stop going down, this can help sucker and paper contact closer.

sheet dipsner #1 vacuum delay 0. 0 : set the time vacuum sucker of 1#sheet dispenser sucks in air,   when time is up, it will perform next action (not stop absorbing air), the time is related to the pressure of vacuum pump, when actually in use, it should be set according to the on-the-spot usage.

sheet dispenser #2 sucker cup in place delayed 0.0 :   set when paper sucker mechanism of 2# sheet dispenser

down to suck paper and reach paper, delay the time then stop going down, this can help sucker and paper contact closer.

sheet dipsner #2 vacuum delay 0.0 :   set the time vacuum sucker of 2#sheet dispenser sucks in

air,   when time is up, it will perform next action (not stop absorbing air), the time is related to the pressure of vacuum pump, when actually in use, it should be set according to the on-the-spot usage.

sheet dispenser#1ON : choose 1#sheet dispenser on/off, when choose off, sheet dispenser won't work,

goods go through directly

sheet dispenser #1 paper fall detect on :   choose whether 1# sheet dispenser detect paper falling,   this button setting

when debugging,   you must choose **on in actual use.**

sheet dispenser#2 ON : choose 2#sheet dispenser on/off, when choose off, sheet dispenser won't work,

goods go through directly

sheet dispenser #2 paper fall detect on : choose 2#sheet dispenser on/off, when choose off, sheet dispenser won't work,

goods go through directly

: enter the next page:

Alarm records

7.11 click   enter the Alarm records   page, as following:
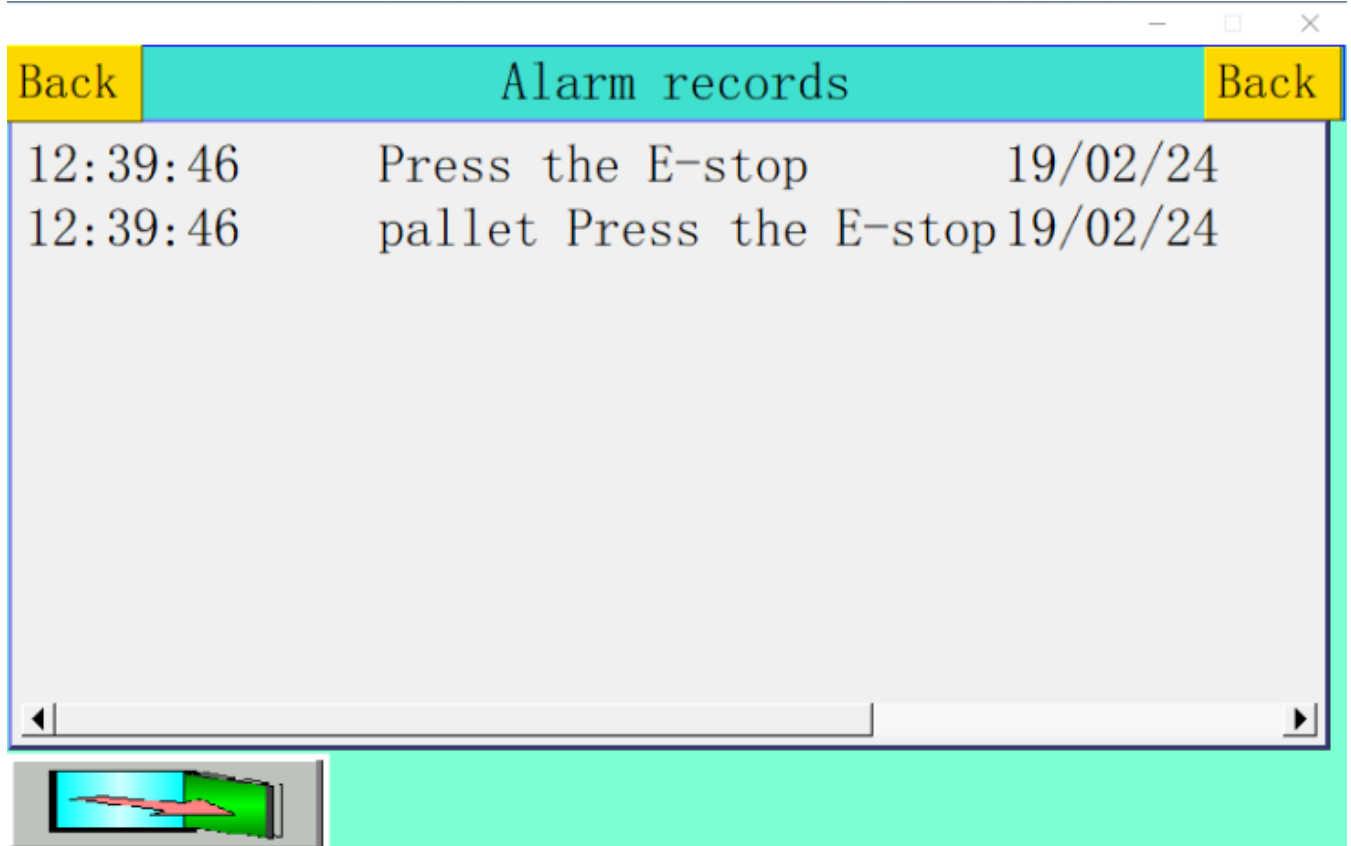
show the alarm content and time of alarm occurred. When there is no alarm occurred, it is blank.

 : enter the next page:

 ：click 'BACK' button back to menu.

7.12 Operating interface language choosing ；as following:

 ：interface showed in Chinese

 ：interface showed in English

Back ：click 'BACK' button back to menu.

7. 13 **I/O Monitor page, as following:**

The following show the operating conditions of each PLC input

I01

Back		I01	NEXT		Back
robot link #1	X0	manual or auto	X10	swing arm CYL home position	X20
robot link #2	X1	start	X11	swing arm CYL in place	X21
robot link #3	X2	pause button	X12	clamp CYL home position	X22
rotary home position	X3	reset	X13	clamp CYL in place	X23
film carriage safety door	X4	E-stop	X14	wipe film CYL home position	X24
film carriage detect height photocell	X5	safety fence door #1	X15	wipe film CYL in place	X25
film carriage micro switch	X6	wrapping in place photocell #1	X16	film carriage upper limit	X26
Conveyor#1 Entrance photoelectric	X7	wrapping in place photocell #2	X17	film carriage lower limit	X27

I02

Back	PREV	IO2	NEXT	Back

film carriage lower limit	X30	pallet dispenser upper	X40	conveyor line #3 in place photocell #1	X50
film carriage inferior limit	X31	pallet dispenser neutral position	X41	conveyor line #3 in place photocell #2	X51
presser upper limit	X32	pallet dispenser lower	X42	centered CYL home position	X52
presser in place	X33	pallet dispenser lower limit	X43	stopper #1 CYL home position	X53
replace film button	X34	hook left CYL home position	X44	stopper #1 CYL in place	X54
wrapping entrance overlenght photocell	X35	hook right CYL home position	X45	stopper #2 CYL home position	X55
wrapping exit overlenght photocell	X36	conveyor line #1 in place photocell	X46	stopper #2 CYL in place	X56
Conveyor#7 Export photoelectric	X37	conveyor line #2 in place photocell	X47	pallet stop	X57

IO3

Back	PREV	IO3	NEXT	Back

sheet dispenser #1 home position	X60	sheet dispenser #2 home position	X70	conveyor line #4 in place photocell #1	X100
sheet dispenser #1 stack	X61	sheet dispenser #2 stack	X71	conveyor line #4 in place photocell #2	X101
sheet dispenser suck paper CYL upper	X62	sheet dispenser #2 upper	X72	stopper #3 CYL home position	X102
spare #4	X63	sheet dispenser #2 lower	X73	stopper #3 CYL in place	X103
sheet dispenser #1 sucker cup in place	X64	sheet dispenser #2 sucker cup in place	X74	stopper #4 CYL home position	X104
paper stack #1 warning detection	X65	paper stack #2 warning detection	X75	stopper #4 CYL in place	X105
paper stack #1 lack paper detection	X66	paper stack #2 lack paper detection	X76	conveyor line #5 photocell #1	X106
pallet warning	X67	cargo height detection	X77	conveyor line #5 photocell #2	X107

I04

Back	PREV	I04	NEXT	Back

conveyor line #7 photocell	X110	belt conveyor line #1 in place	X120	rotary arm inverter alarm	X130
safety fence door #2	X111	shaping conveyor line in place	X121	film carriage lifting inverter alarm	X131
safety fence door #3	X112	belt conveyor line #2 in place	X122	presser lifting inverter alarm	X132
hydraulic lifting upper	X113	pick-up conveyor line in place	X123	pre-sttretch inverter alarm	X133
hydraulic lifting inferior	X114	oepn safety door #1	X124	pallet dispenser inverter alarm	X134
spare #5	X115	oepn safety door #2	X125	sheet dispenser #1 moving inverter alarm	X135
spare #6	X116	oepn safety door #3	X126	sheet dispenser #2 lifting inverter alarm	X136
conveyor line fault	X117	belt conveyor line entrance photocell	X127	sheet dispenser #2 rotary inverter alarm	X137

I05

Back	PREV	I05	NEXT	Back

pick-up finish X140		
sheet dispenser #2 lifting home position X141		
sheet dispenser #2 drop paper detection X142		
sheet dispenser #1 drop paper detection X143		
spare #7 X144		
spare #8 X145		
spare #9 X146		
spare #10 X147		

I06

Back	PREV	I06	NEXT	Back

rotary arm high speed running	Y0	wrapping machine main power	Y10	green	Y20
rotary arm lower speed running	Y1	cutting film heating	Y11	yellow	Y21
presser motor up	Y2	rotary arm brake	Y12	red	Y22
presser motor down	Y3	spare #11	Y13	buzzer	Y23
pre-stretch motor running	Y4	swing arm CYL	Y14	robot link A	Y24
pre-stretch motor second speed	Y5	clamp CYL	Y15	robot link B	Y25
film carriage up	Y6	wire film CYL	Y16	robot link C	Y26
film carriage down	Y7	blowing CYL	Y17	robot link D	Y27

Back	PREV	I07	NEXT	Back

pallet dispenser up	Y30	pallet dispenser hook forward	Y40	conveyor line #3 centered CYL	Y50
pallet dispenser down	Y31	pallet dispenser hook back	Y41	conveyor line #3 stopper CYL #1	Y51
sheet dispenser #1 forward	Y32	sheet dispenser #1 suck paper CYL UP	Y42	conveyor line #3 stopper CYL #2	Y52
sheet dispenser #1 back	Y33	sheet dispenser #1 sucker cup	Y43	conveyor line #4 stopper CYL #1	Y53
sheet dispenser #2 up	Y34	sheet dispenser #1 shake CYL	Y44	conveyor line #4 stopper CYL #2	Y54
sheet dispenser #2 down	Y35	sheet dispenser #2 sucker cup	Y45	hydraulic lifting up	Y55
sheet dispenser #2 forward	Y36	sheet dispenser #2 shake CYL	Y46	hydraulic lifting down	Y56
sheet dispenser #2 back	Y37	pallet dispenser lifting brake	Y47	sheet dispenser #2 lifting brake	Y57

Back	PREV	I08	NEXT	Back

conveyor line #1 motor	Y60	belt conveyor line #1 motor	Y70	spare #12	Y100
conveyor line #2 motor	Y61	shaping conveyor line motor	Y71	spare #13	Y101
conveyor line #3 motor	Y62	belt conveyor line #2 motor	Y72	spare #14	Y102
conveyor line #4 motor	Y63	pick-up conveyor line motor	Y73	spare #15	Y103
conveyor line #5 motor	Y64	safety fence door #1 open	Y74	spare #16	Y104
conveyor line #6 motor	Y65	safety fence door #2 open	Y75	spare #17	Y105
conveyor line #7 motor	Y66	safety fence door #3 open	Y76	spare #20	Y106
total pallet conveyor line reversal	Y67	sheet dispenser #1 suck paper CYL down	Y77	spare #21	Y107

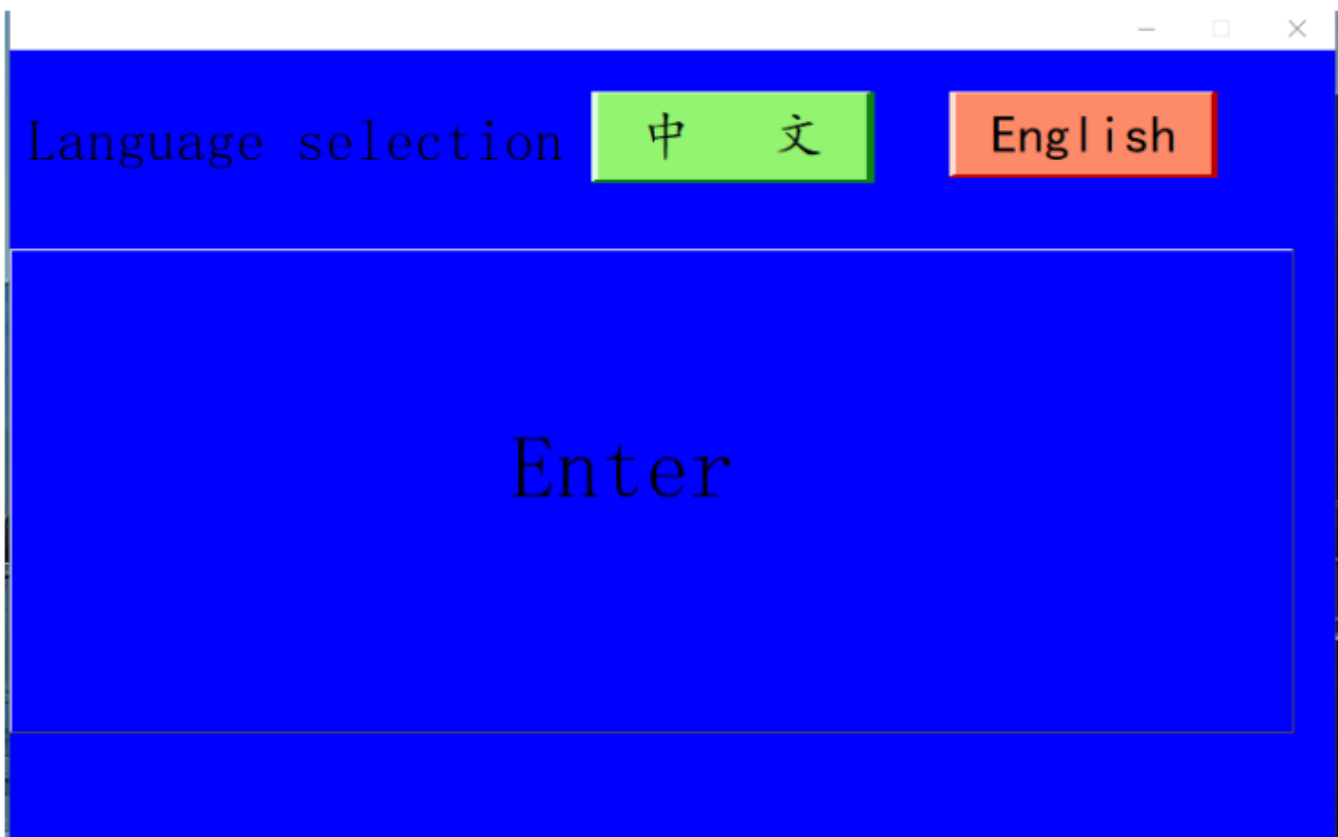| Back	PREV	I09		Back
spare #22	Y110			
spare #23	Y111			
spare #24	Y112			
spare #25	Y113			
spare #26	Y114			
spare #27	Y115			
spare #28	Y116			
spare #29	Y117			

八、Operation

8.1 Manual running

1） Connect to the power：turn the power switch to right, machine get power on, and the

indicator light on.

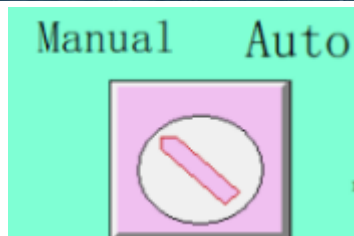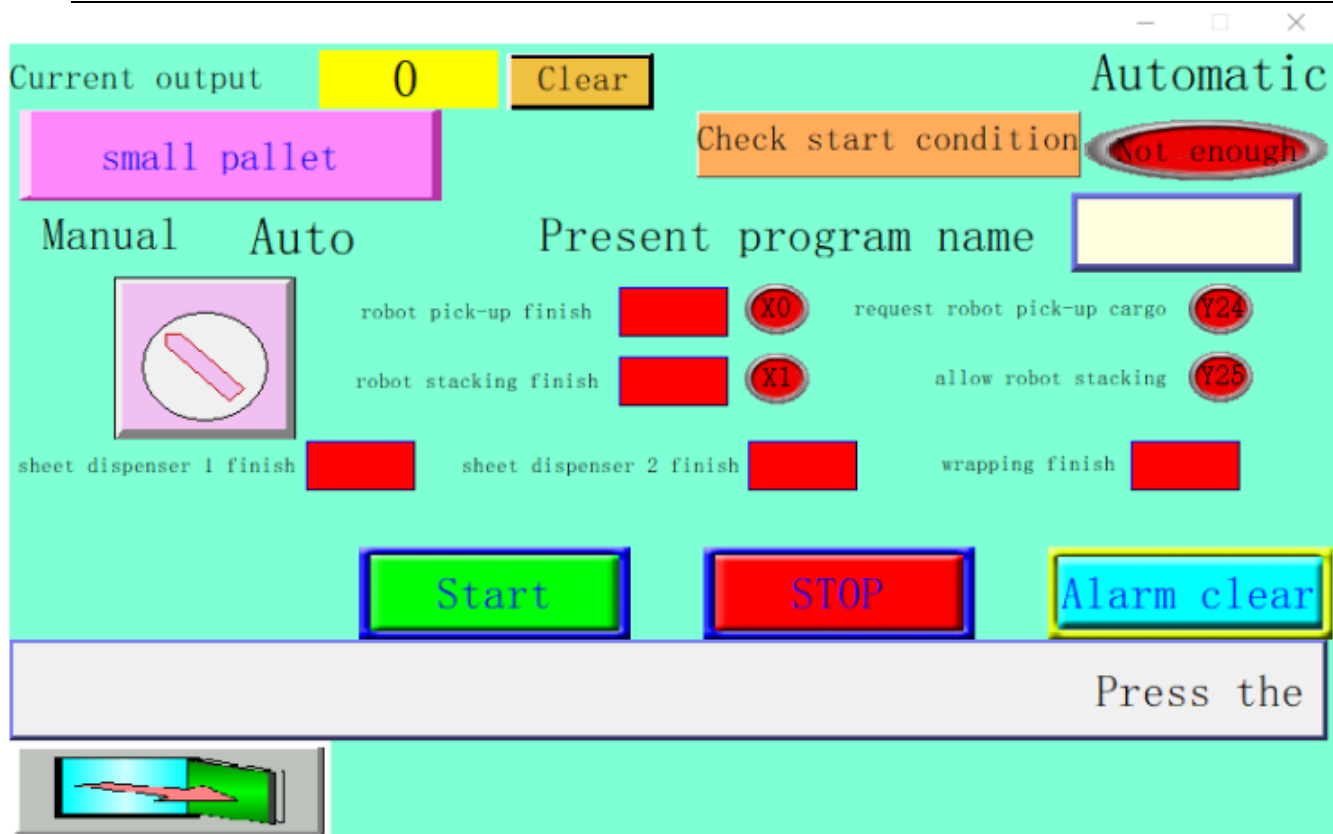（if not power on, open the electrical box to check whether the breaker is shut）
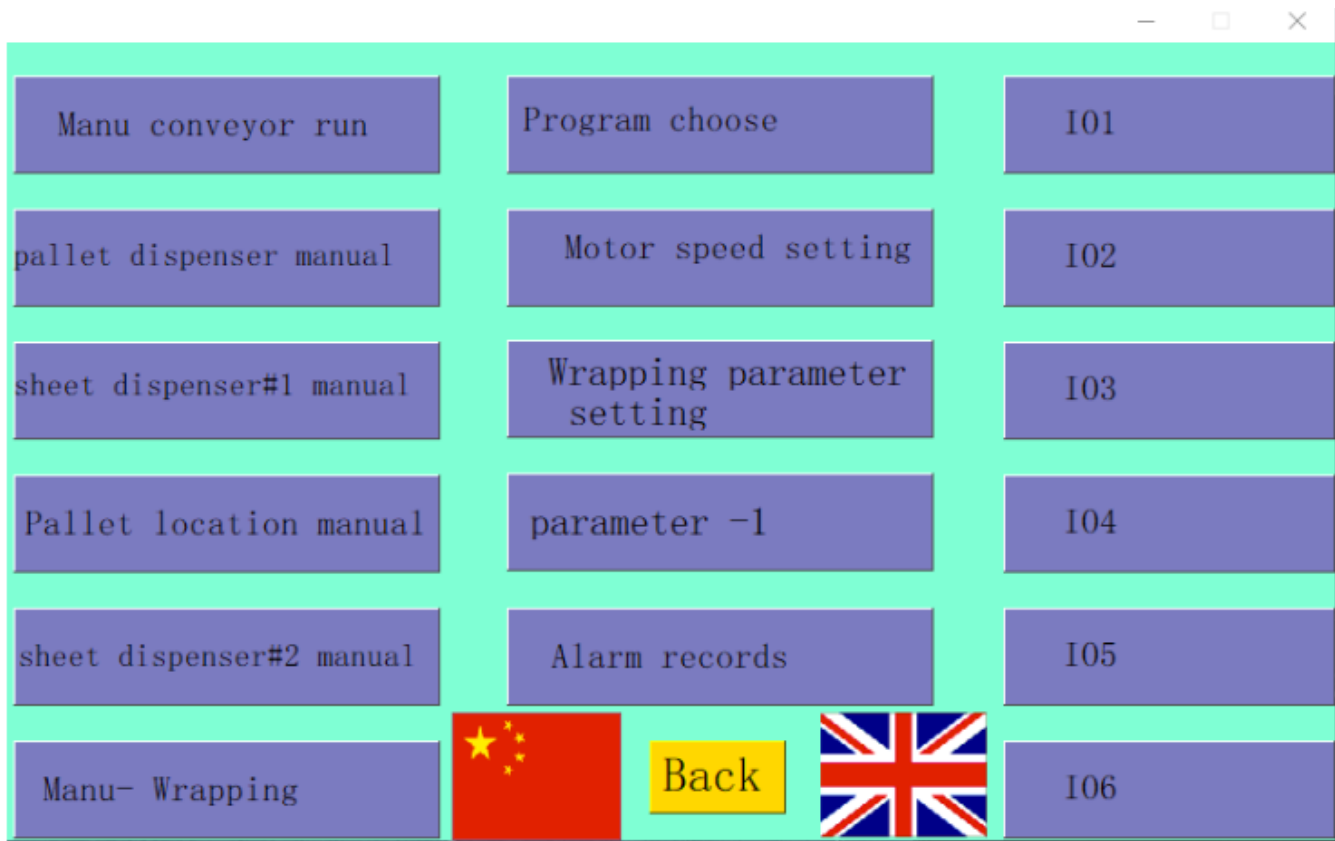
2） click the screen；

Click Enter:

3） Enter menu as following:

Current output   0   Clear   Automatic

small pallet   Check start condition   Not enough

Manual   Auto   Present program name

robot pick-up finish   X0   request robot pick-up cargo   Y24

robot stacking finish   X1   allow robot stacking   Y25

sheet dispenser 1 finish   sheet dispenser 2 finish   wrapping finish

Start   STOP   Alarm clear

Press the

Choosing Manual**/auto: when it shows**   , it is manual mode;

4）Click   to enter function menu page, as following :

Manu conveyor run	Program choose	I01
pallet dispenser manual	Motor speed setting	I02
sheet dispenser#1 manual	Wrapping parameter setting	I03
Pallet location manual	parameter -1	I04
sheet dispenser#2 manual	Alarm records	I05
Manu- Wrapping	Back	I06

Enter corresponding function according to introduction,; please see details on the specifications

| |
|---|
| Manu conveyor run |
| pallet dispenser manual |
| sheet dispenser#1 manual |
| Pallet location manual |
| sheet dispenser#2 manual |
| Manu- Wrapping |
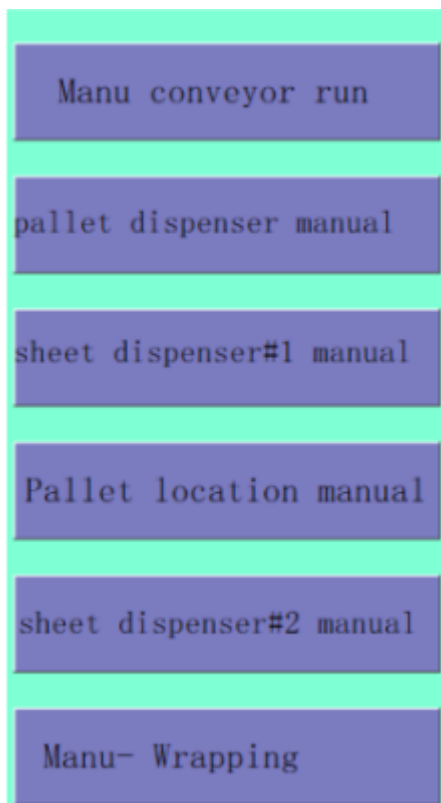
7.2 Automatic running

1）Connect to the power：turn the power switch to right, machine get power on, and the indicator light on.

（if not power on, open the electrical box to check whether the breaker is shut）

2. Click **Enter** on power-on screen, enter menu as following:
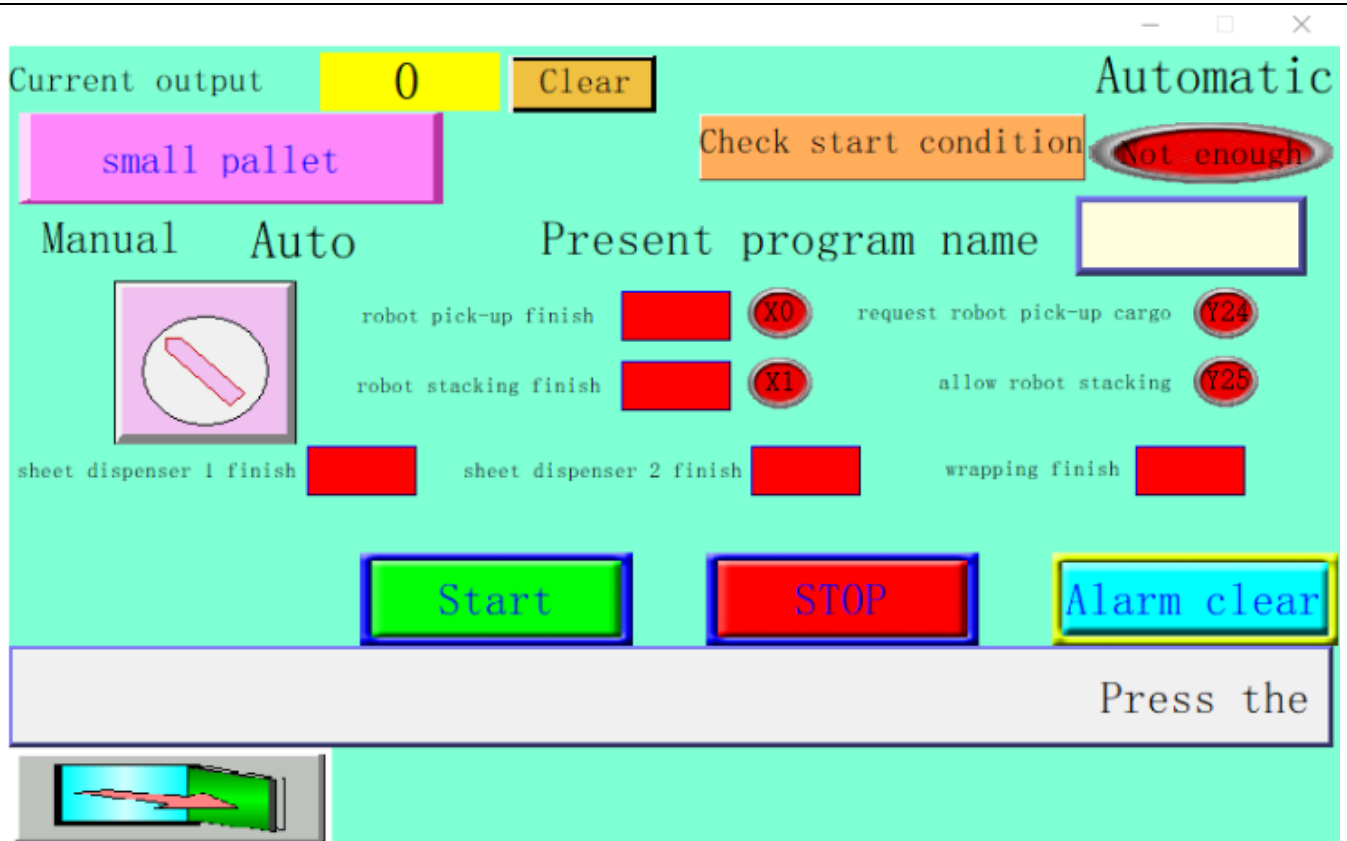
3. Click   , switch to manual mode,

4. When it can not automatic running, [Check start condition Not enough] will always show on , if it meets the conditions of automatic running, it won't show .

5. When it can not automatic running, click [Check start condition Not enough] to enter start condition page, as following :

Check start condition				Back
Rotay arm home	🔴	sheet dispenser #1 home position	🔴	rotary arm inverter fault (Normal)
Carriage safety	🔴	suck paper CYL home position	🔴	film carriage inverter fault (Normal)
Fencing door 1	🔴	sheet dispenser #2 home position	🔴	pre-strech inverter fault (Normal)
Swing arm rear position	🔴	sheet dispenser #2 upper	🔴	presser inverter fault (Normal)
wipe film rear position	🔴	stopper #3 home position	🔴	pallet dispenser inverter fault (Normal)
presser upper limited	🔴	stopper #4 home position	🔴	sheet dispenser#1 inverter fault (Normal)
centered CYL home position	🔴	Fencing door 2	🔴	sheet dispenser#2-A inverter fault (Normal)
stopper #1 CYL home position	🔴	Fencing door 3	🔴	sheet dispenser#2-B inverter fault (Normal)
stopper #2 CYL home position	🔴	hydraulic lifting table lower	🔴	conveyor inverter fault (Normal)
				Emergency stop (ERROR)

Remove faults according to the page, or press the button on the control panel, if some part of the machine can't back to home position, or can't meet the conditions of automatic running, you need to check the corresponding parts, or contact professional person timely.

7.3. No sheet dispensing, no film wrapping, conveying directly.

7.3.1 No sheet dispensing setting

Current output | 0 | Clear   Automatic

small pallet   Check start condition   Not enough

Manual   Auto   Present program name

robot pick-up finish   [ ]   (X0)   request robot pick-up cargo   (Y24)

robot stacking finish   [ ]   (X1)   allow robot stacking   (Y25)

sheet dispenser 1 finish   [ ]   sheet dispenser 2 finish   [ ]   wrapping finish   [ ]

Start   STOP   Alarm clear

Press the

Click [icon] to enter function menu page, as following :

Manu conveyor run	Program choose	I01
pallet dispenser manual	Motor speed setting	I02
sheet dispenser#1 manual	Wrapping parameter setting	I03
Pallet location manual	parameter -1	I04
sheet dispenser#2 manual	Alarm records	I05
Manu- Wrapping	Back	I06

Click **parameter -1** click and enter the parameter-1   page:

Back   parameter -1   (Units: second)   Back

Present program name

pallet dispenser hook delay	0.0
centered CYL delay	0.0
sheet dispenser #1 sucker cup in place delayed	0.0
sheet dipsner #1 vacuum delay	0.0
sheet dispenser #2 sucker cup in place delayed	0.0
sheet dipsner #2 vacuum delay	0.0

sheet dispenser#10N

sheet dispenser #1 paper fall detect on

sheet dispenser#2 ON

sheet dispenser #2 paper fall detect on

Click **sheet dispenser#10N** , turn off the sheet dispensing function of 1# sheet dispenser

Click **sheet dispenser#2 ON** , turn off the sheet dispensing function of 1# sheet dispenser

7.3.2 No film wrapping setting :

Current output   0   Clear   Automatic

small pallet   Check start condition   Not enough

Manual   Auto   Present program name
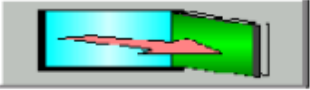
robot pick-up finish   X0   request robot pick-up cargo   Y24

robot stacking finish   X1   allow robot stacking   Y25

sheet dispenser 1 finish   sheet dispenser 2 finish   wrapping finish

Start   STOP   Alarm clear

Press the

Click   to enter parameter page, as following :

Manu conveyor run	Program choose	I01
pallet dispenser manual	Motor speed setting	I02
sheet dispenser#1 manual	Wrapping parameter setting	I03
Pallet location manual	parameter -1	I04
sheet dispenser#2 manual	Alarm records	I05
Manu- Wrapping	Back	I06
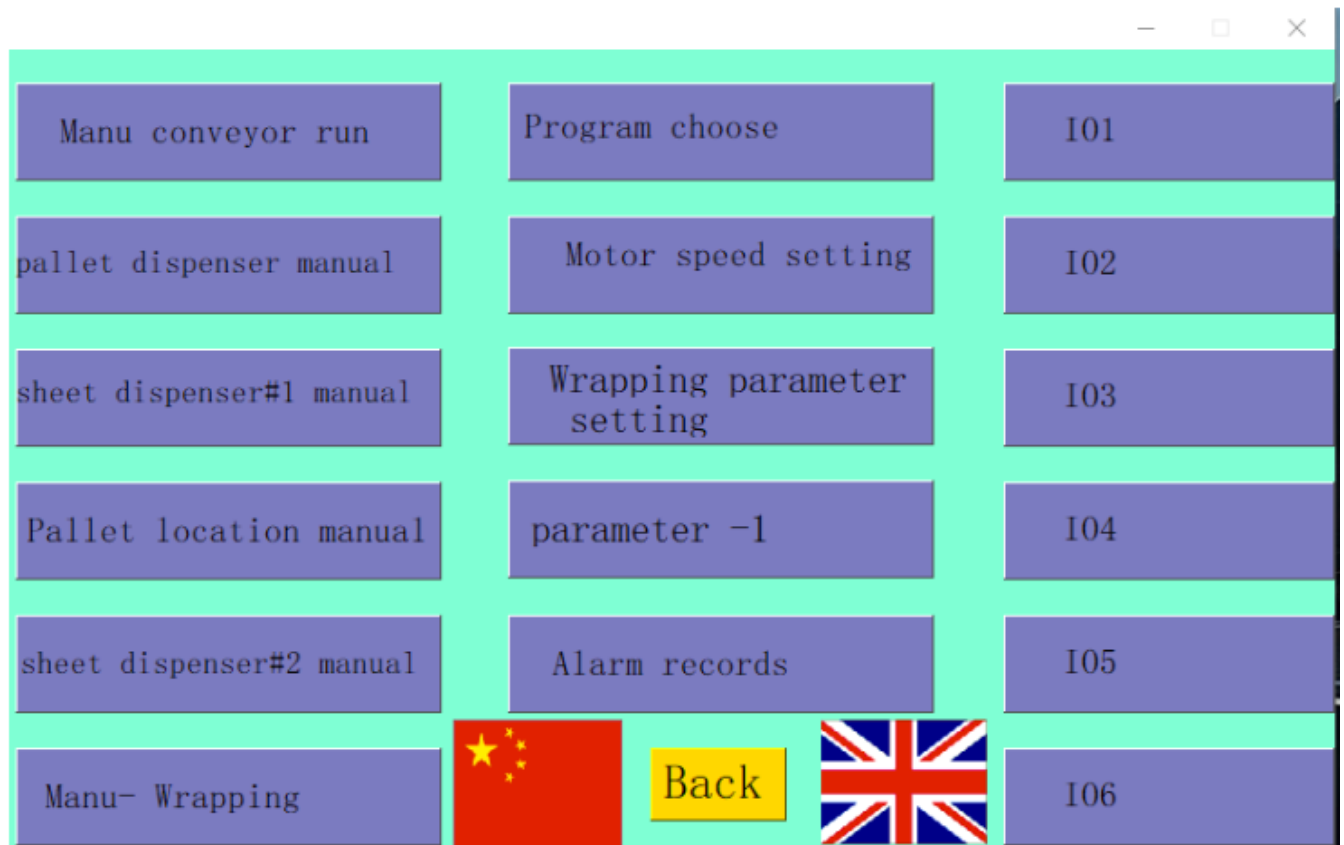
Click [Wrapping parameter setting] enter setting page, as following:

Click [wrapping mode] can turn wrapping mode into conveying mode;

Click [presser on] can turn on or turn off pressing function of wrapping machine, when the top doesn't dispense sheet, you can turn off pressing function, the wrapping speed will be faster;

Click [Film brake alarm ON], can turn on or turn off film brake alarm, it is recommended to turn on film brake alarm , when there is no film or film brake, it will alarm and stop;   turn off the film brake alarm , only used when debugging wrapping machine with no film on ;

九、Simple trouble shooting

Fault phenomenon	Possible causes	Measures
Swing arm doesn't		① move the goods before photocell switch, make sure goods not on the way of rotary

rotate		arm
	① photocell switch induces goods. ② inverter alarm ③ motor wire not connected ④ 'emergency stop' pressed down ⑤ door of film carriage not closed ⑥Film cutter not on home position ⑦safety fence door not close	② check the alarm reason according to the specification of the inverter, check the three phase line that connected to the resistance, if it lacks phase ③ check if the wire of motor is well connected. ④ pull up 'emergency stop' button. ⑤ close the door of film carriage
Film carriage doesn't rise	① door of film carriage not closed ② inverter alarm ③ motor lacking phase ④upper limit switch or low limit switch or lower limit switch broken ⑤ 'emergency stop' pressed down ⑥ machine is in the process of wrapping ⑦guide rail of lifting is out of shape	① close the door of film carriage ②check the alarm reason according to the specification of the inverter ③check if the wire of motor is well connected ④ change the broken limit switch ⑤ pull up 'emergency stop' button ⑥ photoelectric sensor can not detect goods
Clamp doesn't open	① no air source ②magnetic valve is not energized.	① check air source:0.4-0.6Mpa ② check the circuit of valve or press the valve by hand to check if there is any

	③ throttle closed entirely	response.
	④ 'emergency stop' pressed down	③ open the throttle and re-adjust it.
	⑤ get stuck or loose	④ pull up 'emergency stop' button
		⑤ open the cover of cylinder, re-install the connecting rod and bolt
Film carriage doesn't feed film	①door of film carriage not closed	① close the door of film carriage
	② inverter alarm	②check the alarm reason according to the specification of the inverter
	③ motor wire not connected	③check if the wire of motor is well connected
	④ 'emergency stop' pressed down	④ pull up 'emergency stop' button
	⑤safety proximity switch loose	⑤ close the door of film carriage, check the distance with proximity switch, it should be 2-4mm.
	⑥ micro switch not touched	⑥ swing micro roller, check if IO.5 on PLC is on
	⑦ chain falls off	⑦ open the cover of film carriage, re-install the chain.
Conveyor roller makes abnormal noise	1. roller is bent	1. change a new roller of the same specification
	2. Chain is too long	2. Tighten the chain or change a new one
	3. Chain shell is out of shape	3. Reshape the chain shell or change a new on
Presser does not up or down	1. pressing function not open	1. choose pressing function on the touch screen
	2. Lifting motor not connected to electrical source	2. Measure current and voltage of motor
	3. lifting inverter	3. Check lifting interter parameter and setting
		4. Check the straightness of guide rail and

	breakdown 4. Lifting guide rail out of shape 5. Presser in place and the proximity switch already on 6. Up/down travel switch is already on	whether there is abrasion on the surface 5. Check the presser spring and the distance of proximity switch 6. Check travel switch connection
Clamp is not tight	1. air pressure not enough 2. Gear stuck 3. Clamp screw loose 4. Block gine of clamp ageing or loose	1. check air source:0.4-0.6Mpa 2. Disconnect it and reinstall 3. Tighten the screw 4. Change a new block gine
Pallet related problem	1. lifting part can not work up 2. lifting part can not work down 3. .inverter breakdown 4. Motor problem 5. Fork arm can not move left or right 6. Lifting part shake excessively 7. Drive chain loose	1. upper travel switch is connecting 2. lower travel switch is connecting 3. Check interver parameter and setting 4. Measure current and voltage of motor 5. Check the air pressure of air source, air goes in or out of throttle, check if the pulley rotate smoothly 6. check if the pulley rotate smoothly, whether the between guide rail is too large 7. Adjust chain tightness, if it is too long, remove unnecessary chain units
Sheet dispense related problem	1.lifting part can not work up 2.lifting part can not work down 3.inverter breakdown	1.upper travel switch is connecting 2.lower travel switch is connecting 3.Check interver parameter and setting 4.Measure current and voltage of motor 5.check if the vacuum pump is open, the

	4.Motor problem 5.not sucking paper, not vacuum 6.Lifting part shake excessively 7.sheet dispenser stack malposition	pressure is enough, whether the vacuum electromagnetic is on regular work 6.check whether guide rail and straight bearing block is clear, whether there is abrasion on bearing 7.adjust proximity switch or travel switch according to deviated direction
hydraulic lifting related problem	1. not up or down 2. Motor is running, but can not go up 3. Oil leak	1. check the wiring, whether the upper or lower limit is connected 2. Check whether the hydraulic oil is not enough 3. Check whether the fluid cylinder and pipeline, change new sealing element

十、Machine maintenance

1）adjust the transmission chain of the parts in half year, and add lube, as the following picture shows：

Attention：All the maintenance works should be done at power-off status.

1） adjust the transmission chain of the parts in half year, and add lube, as the picture shows：

2） Add lube to the guideway of the elevator mechanism every two months.

3） Check if the screws is loose due to the shake while using, if loose, please tighten the screw.

4） Check if the machine is well-grounded.

5） Strictly control the dust to ensure the normal work of machine system.   Regularly clean the

dust and rubbish which attached on the machine, especially on magnetic valve, proximity switch.

十一、Circuit diagram

See in the CAD