In-line Top Sheet Dispenser top sheet applicator User Manual



1. GENERAL INFORMATION

1.1 Notes of installation

To make sure safety and correct operation, please check below conditions before install the machine:

Power source capacity must be equal of the machine need.

1) Machine standard power is 1PH 220V (+/-10%).

2) Machine standard power hertz is 50 Hz (+/-2%).

3) Machine is workable under the temperature between $-10{\sim}50\,^\circ\!\mathrm{C}$, humidity: 35 ${\sim}85\%$ RH

4) Make sure the wire is tidy on the ground.

5) There should not have vibration beside the machine during the installment, and make sure the ground is flat.

6) Keep out of direct sunlight, corrosive gases, flammable gas, oil mist, steam and water drop. Keep out of salty environment. Clean the dry particles on the machine regularly.

7) Read and follow the instruction of the installment.

1.2 Safety notes

To have good protection for the operator, please make sure the following conditions:

1) Before operating, please read the user manual carefully.

2) Make the there is no object put on the power cable.

3) Make sure there is no object put on the film carriage.

4) Avoid any damp object or water around electric parts.

5) Do not stand on or across the machine during operation.

6) Machine check and maintenance can only be done after 5 minutes from power cut off.

7) Only certified electrician or trained is allowed to open electric box for maintenance.

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2. MACHINE DRAWINGS

2.1 Machine dimensions



2.2 Machine structures



2.3 Machine Specifications

Control: PLC + touch screen + inverter Load dimensions: L(800 - ∞) * W (800-1200) * H(600-2200)mm Packing speed: 60 sec/pallet Foil feeding speed: 12 – 18M/min Lift speed: 3 – 12M/min Method of cutting: rodless cylinder driven knife to cut Applicable consumables: PE stretch film, thickness 45-55um, ϕ 250, width1600–1800mm, paper core ϕ 76mm Suitable conveyor height: 550 \pm 30mm Air pressure: 0.4-0.6Mpa Power: 3PH 380V AC, 50HZ Power consumption: 2.0KW

3. MACHINE HANDLING & INSTALLATION

Cautions:

- 1) handle with care, to avoid collisions, damages or injuries.
- 2) when trucking the machine, forks of forklift must be at least 2/3 into the forklift sockets.

3) installation site must be even and solid.

3.1 Move the machine

Either forklift or crane could be use to move the machine, as below:

Moved by forklift



Moved by crane



3.2 No. of the structures









3.3 Machine installation

1) Mark correct installation position of the machine against site planning drawing. Move the machine to

position.

- 2) Drill onto the ground by driller ϕ 12mm.
- 3) Bolt the base plate (Quantity: 4 EA) by 8-M10 screws

Installation steps:

a. install Frame Tube (Structure No. 02). As Below:





b. install Frame (Structure No. 03), as below:





c. install Frame (Structure No. 04), as below.

Important note: please make sure RH frame and LH frame are well aligned.



d. install Foil Carriage (Structure No. 05), as below:





d. install Electric Hoist (Structure No. 06), as below:

e. install lift shaft coupling chain, as below:

f. install cable drag chain, as below:

g. plug carriage connections, as below:

h. connect to power supply and air supply

Notice:

Power – 3PH 380V, 50Hz

Air pressure: 0.4 – 0.6Mpa.

4. START UP

Turn on air valve, adjust air pressure to 0.4 – 0.6Mpa. Switch on circuit breaker inside electric box. And turn power switch to ON.

Check if power indicator on. If NOT, please check:

- 1) If power supply ok
- 2) Check air breaker

4.1 Initial testing

Switch the knob to "Manual" on user panel, to choose Manual mode for machine initial testing.

www.henopac.com sales1@henopac.com Press touch screen to enter the system. Manual Press on the screen to select Manual mode. The page displays as below: 🗖 🗉 🐹 Manual Foil reset Carriage up Carriage down Foil carriage brake Foil feesing speed Foil feesing speed oil feeding slow speed Standby signal Pressing cylinder Cut cylinder Pressing roller cylinder Error alarm Line body stop Parameter setting I/O Monitor Automatic Fast Sel

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Check each button the screen to see if the performance is correct. Correct movement direction as label of each part indicates.

Only when all buttons are checked correct, should the machine be switched to Auto mode. Functions of each button will be clarified in the following text.

4.2 Foil loading

Note: applicable foil type: PE stretch film, non-sticky, thickness 45-55um, ϕ 250, width1600-1800mm, paper core ϕ 76mm

1) Turn on touch screen.

Language s	selection	中文	English	Automatic
Total Output	0	Clear	Online singnal monitor	Manual Auto
Current output	0	Clear	Check start condition	
			Not enough	
			Start	Bypass
1			Pause	Reset
			Foil carriage brake	Alarm clear
Fast Sel	inual	Paramete	er setting I/O	Monitor

Foil carriage brake

Press . Film carriage would lower to foil replacement position. Then press wheels set back from roller, as below:

2) Foil rolls could be loaded onto between the rollers by hand or crane, as below:

<u>By hand:</u>

By in-built crane:

3) Foil loading sketch:

Thread the foil as above sketch. Please caution to rotation direction of foil roll to foil feeding direction. Put the foil through the clearance between roller and pressing wheels. As below:

Foil through the clearance

4) The foil must close to roller, and make even the foil tail. Or foil jam be occur.

Below is a picture of a loaded foil.

5) Switch to Auto model on user panel, screen as below:

Language s	selection	中文	English	Automatic
Total Output	0	Clear	Online singnal monitor	Manual Auto
Current output	0	Clear	Check start condition	
			Not enough	
			Start	Bypass
1			Pause	Reset
			Foil carriage brake	Alarm clear
Fast Sel	nual	Paramete	er setting I/O	Monitor

Press

button to have the carriage raise to upper limit.

5. TOUCH SCREEN INTRODUCTION

5.1 Welcome page

anguage selection : for selection of language between English and

Chinese.

Enter to enter the system. Press

5.2 Auto page

Language selection	on 中文	English	Automatic
Total Output ()	Clear	Online singnal monitor	Manual Auto
Current output ()	Clear	Check start condition	
		Not enough	
		Start	Bypass
		Pause	Reset
		Foil carriage brake	Alarm clear
Manual Fast Sel	Paramet	er setting I/O	Monitor

Total Output	0	Clear	
Current output	0	Clear	to count the output of the machine. Press clear to set
the number to 0			

the number to 0.

Online singnal monitor

: to display the signal exchanges of the machine. As below:

Height detection	Height 🌑	Foil dispensing start	Foil dispensing finish 🗶 Back
Outer safety signal 🜘	Top cover/Bypass	Foil dispensing Permission/st	op 💓
Standby signal 🛛 🥮	Line body stop 🧶	ERROR	•
		Paus	e
		Foil carriage	brake Alarm clear
Fast Sel	lal Para	meter setting	I/O Monitor

Check start condition

: to check start conditions of the machine. When the machine

displays

, it tells the start condition is not enough. Press to check details, as

below:

Start con	dition		Back
Cut cylinder rear position	X5 🔘	Emergency STOP	X14 🔴
Pressing foil rear Position	X21 🔴	Foil carriage VFD error	X24 🔘
Pressing roller cylinder rear Posittion	X30 🔴	Foil feeding VFD error	X25 🔘
Outer safety signal	X15 🔵		

: to switch between Manual mode and Auto mode.

The RED blank displays error information, if any.

Language selecti	ion 中文	English	Automatic
Total Output <mark>()</mark>	Clear	Online singnal monitor	Manual Auto
Current output ()	Clear	Check start condition	
		Not enough	
		Start	Bypass
		Pause	Reset
		Foil carriage brake	Alarm clear
Fast Sel	Paramet	ter setting I/O	Monitor

: When there's an alarm, press this button to release the alarm.

5.3 Manual page

Foil carriage brake

: When this button is pressed, brake system of lift motor is open, and foil carriage may descend at any instance.

Caution: please make sure no person is below the foil carriage when pressing this button. Or injuries may occur.

Foil reset

: press to have foil carriage return to home position.

5.4 Parameter setting page

Foil feeding time

to set time duration for the machine to feed top foil. Longer foil feeding

time means longer foil dispensed.

5.4 I/O Monitor page

	66	I/O Moni	itor	1. an	
Standby	X0 🔘	Pressing roller cylinder front Posittion	X10 🔵	Pressing foil front Position	X20 🔵
Standby	X1 🔘	Start	X11 🔘	Pressing foil rear Position	X21 🔴
Height detection	X2 🔘	Pause	X12 🔴	Pressing roller manual	X22 🔴
Height	X3 🔴	Reset	X13 🔘	Standby	X23 🔘
Cut cylinder front position	X4 🔴	Emergency STOP	X14 🔴	Foil carriage VFD error	X24 🔴
Cut cylinder rear position	X5 🔴	Outer safety signal	X15 🔴	Foil feeding VFD error	X25 🔴
Foil dispensing start Photocell	X6 🔴	Foil dispensing Permission/stop	X16 🔴	Standby	X26 🔴
Foil dispensing finish Photocell	X7 🔘	Standby	X17 🔘	Standby	X27 🔵
Manual	Αι	Itomatic	Parameter	setting Ne	ext page

Press "NEXT" and "PREVIOUS" to turn the pages.

	15 Q	6	I/O Mo	onitor 2	2 44	
Pro	essing roller cylinder ar Posittion	X30				
	Standby	X31				
Т	op cover/Bypass	X32				
	Standby	X33				
	Enter	X34				
	Carriage upper L/S	X35				
	Carriage lower L/S 1	X36				
	Carriage lower L/S 2	X37				
					1	
Fas	Manual at Sel	Αι	Itomatic	Parameter	setting	Next page

		I/O Monito	or3		
Foil carriage up high speed	Y0 🔴	Cutter heatup	Y10 🔵	Standby signal	Y20 🔵
Foil carriage down low speed	Y1 🔵	Pressing roller cylinder	Y11 🔵	Line body stop	Y21 🔴
Foil feeding high speed	Y2 🔵	Pressing cylinder	Y12 🔘	Error alarm	Y22 🔘
Foil feeding low speed	Y3 🔵	Cutter cylinder	Y13 🔘	Foil carriage brake	Y23 🔘
Foil carriage down high speed	Y4 🔴	Red light	Y14 🔴	Foil feeding brake	Y24 🔴
Foil carriage down low speed	Y5 🔵	Yellow light	Y15 🔵		
Standby	Y6 🔴	Green light	Y16 🔵		
Standby	Y7 🔵	Buzzer	Y17 🔵		
Manual	Au	tomatic	Parameter se	etting Previo	ous page

These pages displays PLC input and output point status.

5.5 Line signal

i.	Lancuace sel		Eal depending start	Automatic
1	Height detection	Height		Foil dispensing finish Back
	Outer safety signal 🜘	Top cover/Bypass	Foil dispensing Permission/s	top
	Standby signal 🛛 🥐	Line body stop	ERROR	•
1			Paus	e
			Foil carriage	e brake Alarm clear
	Fast Sel	ial Para	meter setting	I/O Monitor

Height detection 🔣

: This photocell is installed on one side of conveyor. When the photocell senses the product, foil carriage starts to descend – till "Height X3 senses the product.

Height

: This photocell is installed on the lower side of foil carriage. The purpose is for detection of product height. When "Height X3" detects the product, foil carriage stops descending.

Foil dispensing start

: This photocell is installed on the conveyor. When it senses the product, foil carriages starts to feed the foil.

Foil dispensing finish

: This photocell is installed on the conveyor. Foil feeding started from "X6" stops when the product passes "Foil dispensing finish X7".

Outer safety signal 🥼

: This terminal is for connection of machine to outer safety guarding

fencing. When safety door of fencing opens, machine stops.

working mode choices.

Top cover: mode of working that product is covered on the top by the foil when product passes the machine.

Bypass: model of working that product is NOT covered, only conveying.

K16

Only when this signal is received that the top sheet dispenser

would start foil feeding. And foil feeding stops when this signal is missed.

Standby signal

This signal from top sheet dispenser to line control to indicate the

machine is ready for coming in of next load.

Line body stop (2)

: Conveyor must stop during foil cutting. Top sheet dispenser send this signal to line control to request conveyor stop.

ERROR 🧕

error occurs. When line control receives this signal, please work accordingly and clears the error.

6. OPERATIONS

1) Following the instructions on Chapter 5 to test each movements of the machine in Manu mode.

<u>Caution</u>: During first installation, please trial the machine in Manu mode. Make sure all the movements are correct. And then Auto mode could be tested.

2) Switch to Auto mode.

- 3) Press "Start" button. Machine is standby for product. Tower green light ON.
- 4) Working processes:

f. foil cutting. When cutting finish, top sheet dispenser cuts "Line body stop Y21" signal to allow conveyor working.

g. foil carriage travels up to upper limit and stops. Cycle finish, and sends a

Standby signal 💦 🌔

signal to line control. Ready for next product.

h. length of foil hanging down could be pre-set on Parameter Setting page. It's relevant to

Longer foil feeding time, longer foil will hanging down onto

the product.

signal is missed during packing process, machine

stops till the signal is received again.

If necessary, press "Pause" button to pause the machine.

5) Bypass

is switched to "Bypass", the machine does NOT work when the

product is transported through it. Only conveyor works.

7. TROUBLE SHOOTING

Phenomenon	Possible Cause	Action Required
Foil does not move	a. chain loose	a. adjust the chain or re-arrange the
up/down	b. VFD alarm	chain.
	c. motor issue or connection fail	b. check VFD alarm message against
	d. upper/lower limit switch damage	VFD manual and do accordingly.
	e. E-stop pressed down	c. check motor connection
	f. foil too heavy	d. replace damaged limit switch
		e. release E-stop
		f. foil no more than 60kg per roll.
Foil carriage does	a. E-stop pressed down	a. release E-stop
not feed	b. VFD alarm	b. check VFD alarm message against
	c. motor issue or connection fail	VFD manual and do accordingly.
	d. pressing wheel low pressure	c. check motor connection
	e. pressing wheel solenoid valve	d. check air source, it must be
	loose	0.4-0.6mpa

	f. cut cylinder not at home position g. pressing cylinder not at home position	 e. check solenoid valve position f. check cut cylinder position and throttle valve. g. check pressing cylinder position and throttle valve.
Pressing wheel can	a. E-stop pressed down	a. release E-stop
not open	b. no air source	b. check air source
	c. solenoid valve not working	c. check cable arrangement, or press
	d. throttle valve close	solenoid to see if it works
	e. joint bearing loose	d. open throttle valve and adjust
		e. fix the joint
Cutter does not	a. E-stop pressed down	a. release E-stop
work	b. no air source	b. check air source
	c. solenoid valve not working	c. check cable arrangement, or press
	d. throttle valve close	solenoid to see if it works
	e. blade dumb or damage	d. open throttle valve and adjust
	f. rodless cylinder travel not smooth	e. replace cutting blade
	g. other objects get into cutting track	f. check if rodless cylinder bend or
		broken
		g. clear the objects, making cutting
		track clean.

8. MACHINE MAINTENANCE

Safety caution: machine cleaning and maintenance can ONLY be carried out when power off.

1) In the interval of 6 months, lubricate the machine on joints, chains and sprockets. Check the tension of chains.

2) In the interval of 6 months, lubricate linear guide and up/down chain.

3) In the interval of 6 months, check the screws, bolts. And Fix the loose ones.

4) Regular check PE earthing of the machine.

5) Regular clean the machine in view of working environment. Make sure to clean the sensors, photocells, solenoid valves, etc.

8. ELECTRICAL DIAGRAM