

FPCA-100/200/300 MODEL

# COIL WRAPPING MACHINE

# OPERATION MANUAL

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## Reference Picture:



## **I. Application Note**

This machine can be used to conduct relatively closed packaging for different dimensions of metal coils or coiled unpackaged objects so as to play a role of anti-rust, waterproof, dustproof, anti-damage and anti-aging etc. The packaging material mating with this machine is of compound packaging paper tape or high-quality compound knit packing tape.

## **II. Important Alert**

I. Illegal operation will lead to serious result.

AI. Connect the power supply and air supply of the machine according to the operation manual. Do have the machine grounded.

III. In the event of urgent failure occurrence, do press the “emergency stop” or cut off power supply, and then carry out relevant troubleshooting operations after safety confirmation.

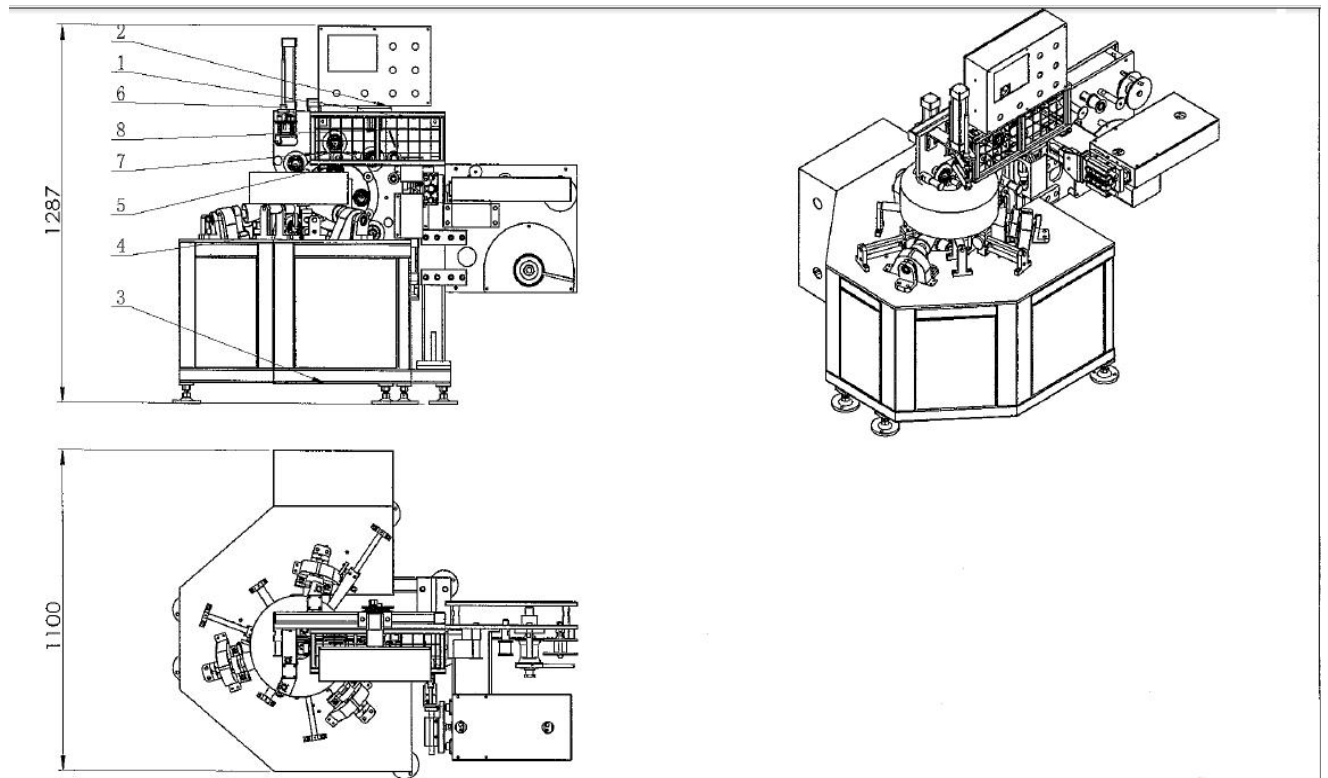
IV. Never modify the control program and relevant parameter settings of this machine without authorization.

V. Never tear off various safety and alert signs marked on the machine.

VI. Never open the electrical box when the machine is working.

- VII. In the case of the lifting and lowering of unpackaged object, do ensure safe, steady and orderly operation, unpackaged object's collision with the machine shall be strictly forbidden.
- VIII. Make sure to lift the package onto the central position of the packing area to avoid the collision of the ring and the package.
- IX. The machine should be in constant monitoring of the operator during the entire operation. Do avoid deflection of the package when operating.

### III. Technical Parameter



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**FPCA-100/200/300 Coil Packing Machine**

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Model	FPCA-100	FPCA-200	FPCA-300
Coil OD	300-400	350-600	500-900
Coil ID	130-300	150-400	200-700
Coil width	20-100mm	50-200mm	100-300mm
Coil weight	2-50kg	5-100kg	10-150kg
Roller speed	2-4m/min	2-4m/min	2-4m/min
Rotating speed	40-120 r/min	40-100 r/min	40-90 r/min
Wrapping material	LLDPE/PE/Stretch film/PVC/	LLDPE/PE/Stretch film/PVC/	LLDPE/PE/Stretch film/PVC/
Material width	50-70mm	60-90mm	90-100mm
Material OD	80-100mm	100-120mm	100-120mm
Material ID	50mm	50mm	50mm
Power output	App. 1.5kw	App. 1.8kw	App. 2.1kw
Power voltage	380V/50Hz	380V/50Hz	380V/50Hz
Wrapping speed	15-25sec/pcs	20-28sec/pcs	20-35sec/pcs
Overlapping rate	20%-90%	20%-90%	20%-90%
Air Supply	4-6Bar	4-6Bar	4-6Bar

## **IV. Machine Installation**

1. This machine is composed of host machine, tape wheel, electrical

box, and protective rollers etc.

2. Place the main machine on the ground surface horizontally and then assemble the above-mentioned spare parts at proper position. And then install some small auxiliaries.

3. Prevent against the occurrence of bruise, compression injury, crushing injury, contusion and other accidents during the installation.

As the machine has been transported and moved, all flexible parts shall be inspected carefully.

5. The entire installation shall be completed under the condition that the power supply is cut off.

6. The machine shall be mounted on flat and hard ground, where the ground load should be more than  $3t/m^2$ . External power supply should be in accordance with stated on the machine plate.

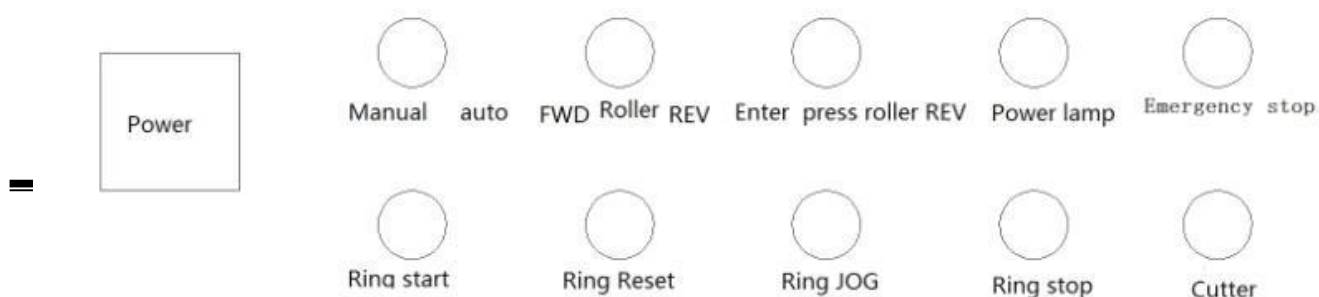
7. Only trained personnel can be allowed to enter the installation site.

8. Next working procedure can be executed only after all the installation operations are completed.


9. The machine shall be mounted in dry and dust free environment.


## V. Machine operation

### I. Introduction to operating panel and switch function:




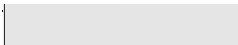
**POWER:** The main switch of machine power supply which is used to connect or shut off the machine power supply.


: The control switch which is used to control circuit. Press this switch to shut down the whole machine in the case of emergency.

**MANUAL/AUTO:** The working mode of this machine is classified into  manual operating mode and automatic operating mode.

“MANUAL” mode is generally used for inspection, adjustment, troubleshooting and specific conditions. In normal operation conditions, “AUTO” mode is adopted.

: It is usually used as startup button in “Auto” mode, can make the ring run in “Manual” mode.

: Can stop the complete machine in “Auto” mode, can make the ring stopped in “Manual” mode

**JOG:**  It is used to have the ring jog operation (can be operated in both

“Auto” and “Manual” mode). Can make the ring run slowly through the object center and confirm if the object is placed in center.

: It is used to cut the packaging tape. (can be operated in both

“Auto” and “Manual” mode.)

**RESET**: this button can make the ring stop in a fixed position, make it convenient for packaging, and it's also the precondition of ring movement.

**POWER**: Indicate of power connection.

**(FWD/REV)**: Used to put the roller run under clockwise or anticlockwise in “MANUAL” mode.

**Press** ) pneumatic Press roller moved.

**Press (back)** pneumatic Press roller elevated.

## II. Introduction to Main Content of HMI

1.The HMI will display the below language page with auto or manual:

A.After touching HMI,it will popup below page.





Remarks: Weed out: It's used to return to zero.

Working mode: The current working mode

Parameter :Be according to below content

Twist mode:Be according to below content

B.Touch “Parameter” in AUTO main page:



(1).Inner diameter of object: Input in actual size, with its unit as “mm” .

(2) Outer diameter of object: Input in actual size, with its unit as “mm” .

(3) Width of object: Input in actual size, with its unit as “mm” .

(4)Orientation parameter: -99~99. “PLC” can automatically calculate the length of required packaging tape, but the calculated value is a little different from the actual required one due to the dimension of unpackaged object and the extension of packaging tape and etc. And thus it is a variable value.

(5)Ring orientation time: : 1-20. Based on the automatic calculation of “PLC” , ring running time can be appropriately prolonged to ensure the

packaging tapes stored on the tape storage wheel are used up

(6) Roller orientation time: : 1-20. Based on the automatic calculation of “PLC” , roller running time can be appropriately prolonged to adjust the stopping position of the ends of packaging tape.

(7) Belt length: set at factory.

(8) Cutting time: 0.1-3 It means the time of cutting operation from the beginning to the end.

C.Touch the “Return” button to return to the automatic main twist mode page:



Remarks:

(1) Ring speed: set for 40~50HZ. roller speed;set for 30~50HZ.

They are not only referred to as the running speed of ring and roller respectively, but are also in connection with the overlapping of packaging tape. If the ring speed is high and roller speed is low, the packaging tape features a large overlapping range; on the contrary, the overlapping range is small.

(2) Overlap: overlapping of packaging tape

Noted: “ Ring speed ” and "overlap ” will be seted , it can automatic generation "Roller speed",so Roller speed only display value.

(3) Wrapping times:

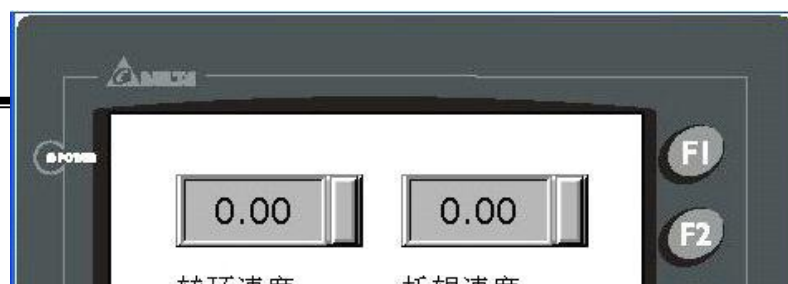
- Once wrapping: the packaging is completed at one time.
- Twice wrapping: the packaging is completed at twice. When the diameter and width of the unpackaged object is large, the tape storage on the ring cannot store enough packaging tapes at one time, so the “Twice Wrapping” mode shall be selected to package the object at twice.

Touch the “Return” button to return to the automatic back page

2. With Manual page:



Touch "Twist mode", it will automatic display below page:



Ring speed: set for 40~50HZ.

roller speed:set for 30~50HZ.

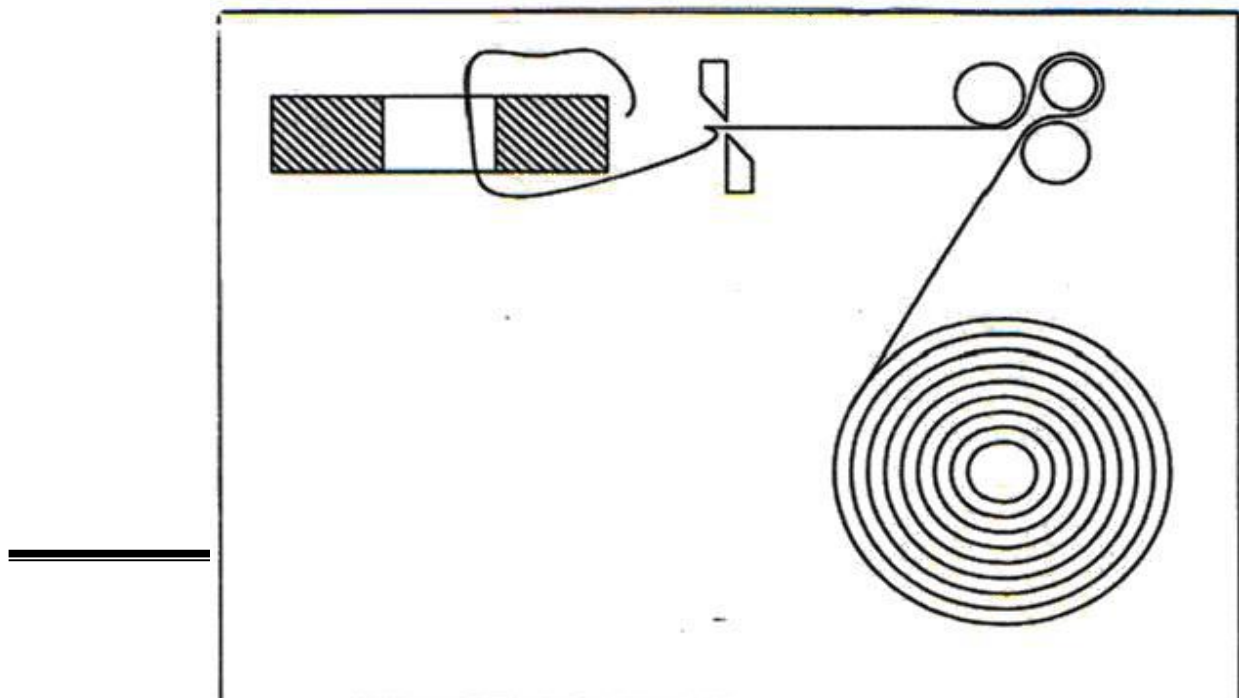
Ring speed and roller speed connect with overlapping of packaging tape.  
Touch the “Return” button to return to the automatic back page.

### **III. OPERATIONS:**

- ( 1 ) Rotate the “POWER” switch clockwise to connect to the power supply of the machine.
- ( 2 ) Rotate the “EMERGENCY STOP” switch clockwise. At this time, the indicator lamp on the top of electrical box is on.
- ( 3 ) Turn the “MANUAL/AUTO” switch on the operating panel to “AUTO” position, and then the machine will work in automatic mode. Operate HMI, select and set the options one by one and make confirmation.
- ( 4 ) Use manual stable move the object to host machine.and preliminary pick  
up the middle of object.

- ( 5 ) Roller switch change "Rise",Operate the “RING JOG” switch to have the ring run slowly through the center of the packing object and reconfirm if the package is in the center place. If not, or the ring can't run through the center position, readjust the package or ring position.
- ( 6)The extension and narrowing of down protective rollers can be so controlled that the unpackaged object can be smoothly passed over in the case of machine operation, neither too loose, nor too tight.
- (7) Operation"press roller (enter)" can be pressed object.
- (8) Take packing material cross and fix object like as (GW200-P-007) .
- ( 9 ) Press the “RING START” button, and the machine runs. Press “RING STOP” to stop the operation after the packing process completed.use adhesive tape to fix tail of object.
- ( 10.) Operation"press roller (back)" can lift the above press roller.
- (11).After packing,it can use manual stable move the object.

Drawing (GW200-P-007) :



## VI. Troubleshooting

Problem	Possible cause & solution
I. The complete machine doesn't work.	1. Check external power supply and air supply.
II. The ring doesn't rotate or rotates abnormally.	1. Check the wear of friction wheel. If it is seriously worn, new friction wheel shall be replaced. 2. Adjust the friction wheel. 3. Check whether any packaging tape is clipped into the friction pulley track.
III. Packaging tape is too loose or tight.	1. Adjust the force of tension belt.

IV. The ring and roller don't work.	<ol style="list-style-type: none"> <li>1. Check power supply.</li> <li>2. Check whether the parameter values of "ring speed" and "roller speed" in the wrapping mode setting page are properly set.</li> </ol>
V. The machine shuts down suddenly, alarm lamp flashes and HMI pops up relevant information.	<ol style="list-style-type: none"> <li>1. Check corresponding motor and connecting wire according to the prompt of HMI.</li> </ol>
VI. Packaging tape is multi-folded.	<ol style="list-style-type: none"> <li>1. Check whether the feeding route of packaging tape is on one straight line.</li> <li>2. Check whether the tape storing wheel on the ring is damaged.</li> <li>3. High-quality packaging tape shall be replaced.</li> <li>4. As too many tapes are stored on the tape storing wheel, "twice wrapping" shall be needed.</li> </ol>
VII. The overlapping degree of packaging tape cannot be adjusted.	<ol style="list-style-type: none"> <li>1. Check whether the parameter values of "ring speed" and "roller speed" are in consistent with the value displayed on the frequency converter in electrical box. If inconsistent, please check the communication line between the HMI and frequency converter.</li> </ol>





