



# INDEPENDENT-PRESS SEALED CUP PAD PRINTER OPERATION INSTRUCTION

## P2-410DC P2-614DC



P2-410DC  
P2-614DC

Published by LC Printing Machine

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LC Industrial company Limited 21-1

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## Preface

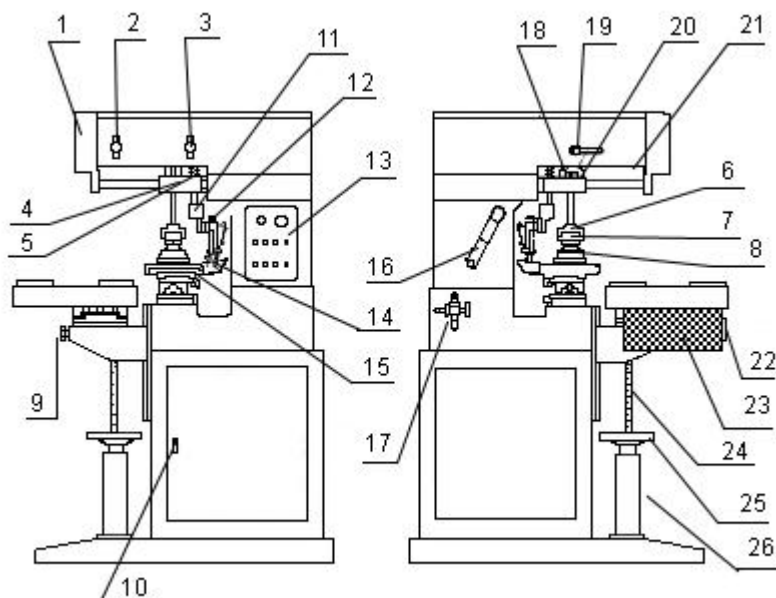
LC Printing Machine Limited published a series of new type pad printing machines, which adopt the full automation control system, and has more stable and reliable operation. The automation program is much more flexible, which simplifies the operation procedure components of the machine are made of coin alloy, which is light and sturdy, and is in compatible with the Europe and Japan made pneumatic organs , also with the famous brand hardened shaft and bushing, to extend the service life of mechanical parts, also, with our exclusive---the super long slide stroke and machine-turning design, you can print large size substrate easily and adjust the machine conveniently.

In order to protect the rights and interests of our customers, every printer has been checked and tested strictly before being dispatched from the factory, and we try our best to provide our customers with the perfect after sales service

Our goal is to provide our customers with first class products and services, which are of the first class technology and quality!

### 1. Name of parts:

#### 1. IC panel



- 1. Printing pressure adjusting knob.
- . Ink dipping pressure adjusting knob.
- . lube nipple port
- . ink scraper resilience spring
- . interval board
- . transverse slide
- . pad fixture
- . worktable front-back direction adjusting knob
- . door to interior structure
- 0. ink scraper frame
- 1. ink scraper pressure adjusting knob
- 2. operation panel
- 3. ink roller
- 4. ink cup
- 5. machine-turning handle

16. moisture filter 18 switch for lifting the scraper

19. Ink scraping stroke adjusting knob 20 touch part 21 switch for lowering the scraper

22 hot-blast temperature adjustment 23 hot-blast apparatus 24 lifting screw

25 lifting hand wheel 26 supporting bushing

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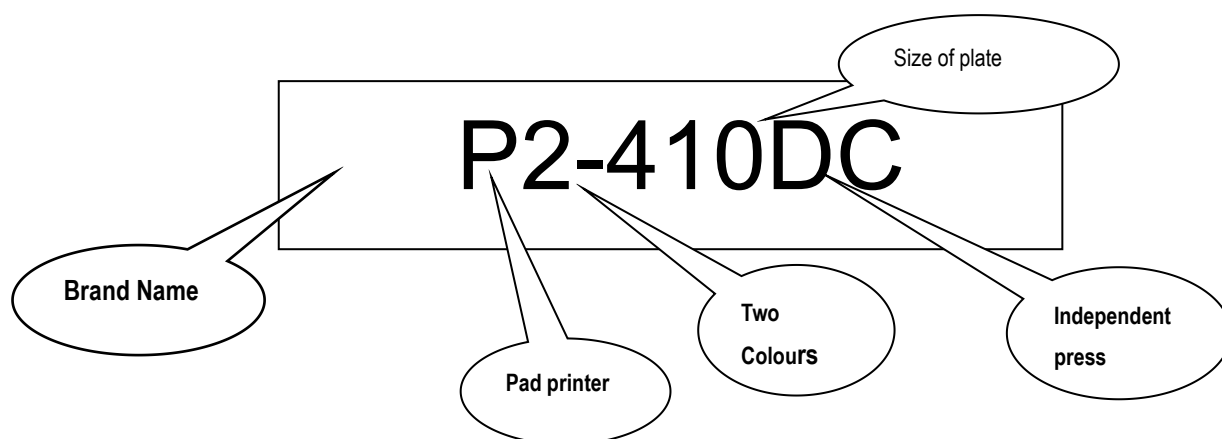
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## 2. Models and plate size of pad printers

Model	Description	Plate area	Diameter of sealed cup
P2-410DC	Pneumatic 2-colour pad printer with shuttle	100*250 mm	90mm
P2-614DC	Pneumatic 2-colour pad printer with shuttle	150*350 mm	140mm



### Remark:

“P” –Pad Printer; 410- Pad plate size: 4×10 “。 C – Sealed cup

## 3. Installation, adjusting and usage

This printing machine is appropriate to be installed in a clean, slow airflow. Ash-free workshop, where the temperature should be kept at about 25°C (the printing ink is easy to volatile if the temperature is too high) to ensure the accuracy, the printer should not be rammed fiercely in the course of transport.

### 1. Leveling the machine.

There are level adjusting screws distributed over the four foot-pads of machine, when adjusting, put the provided foot-pads on the ground first, which should be aimed at the screws. Turn the screw nut and then revolve the screws one by one in order to level the machine, finally, tighten the screw nut to prevent the screw from coming loose. ■

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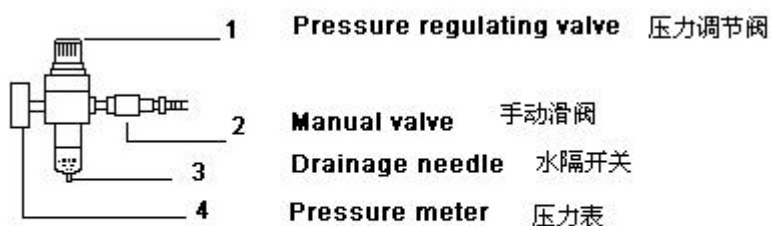


## 2. Power supply.

The machine applies both 220v and 240v electrical source, the consumption of compressed air is 0.43/CYCLE.

## 3. Adjusting the pressure meter.

When the machine is working, the pressure of compressed air in-breathed usually should be adjusted to 5 BAR. of you find the index is on the high side, push the pressure regulating valve upwards, and then revolve it anticlockwise to the

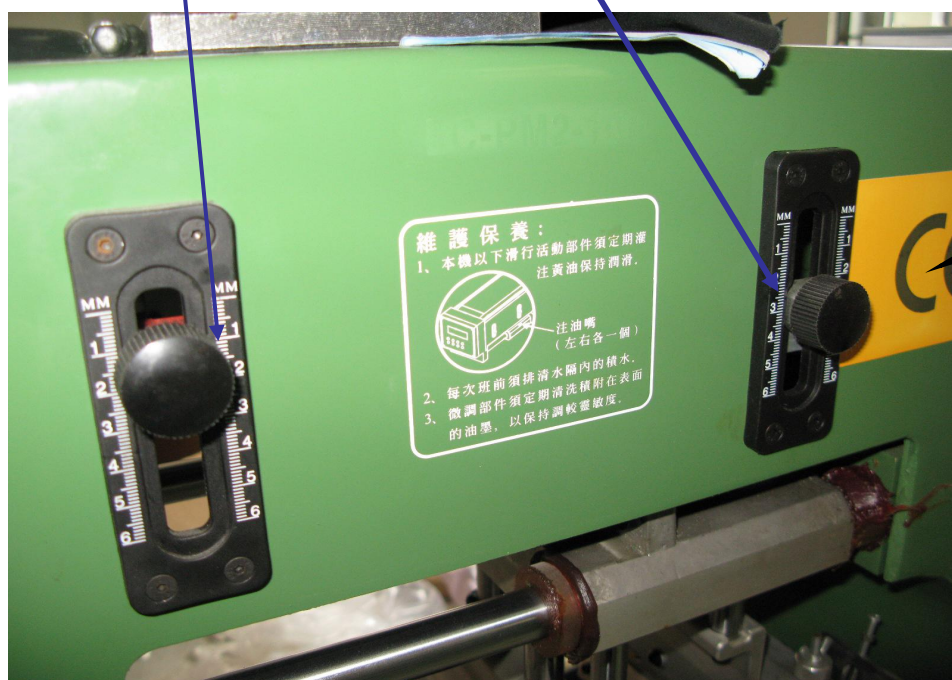
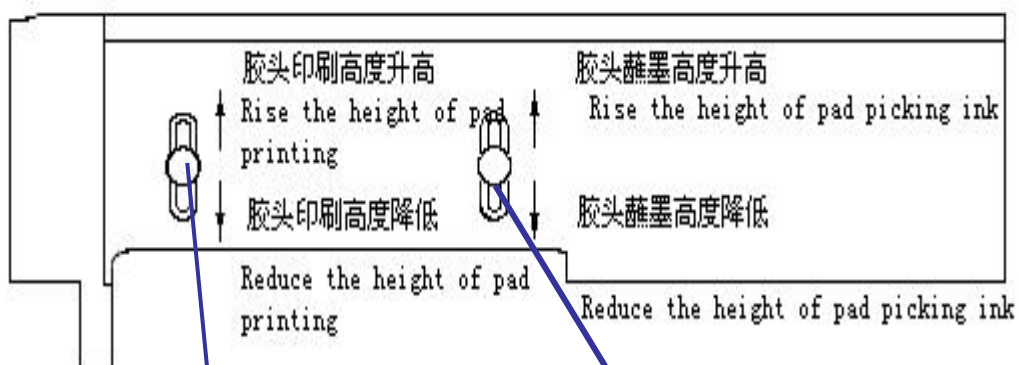


standard pressure, while on the contrary, revolve it reversely, after adjusting press the valve downwards is order to fix it within the confines of standard pressure.

## 4. Testing each mechanical part:

Whether each mechanical part is operating normally is important to the print quality and service life of the machine, so checking and testing all the components of the printer before printing is a matter of importance.

- 1> Connect the machine to the electrical source, and turn on the power switch, see if the counter on the IC panel displays "000000", if it displays other numbers, then the machine can not be started, you should check the electric circuit.
- 2> Press the key "Table" (refer to drawing 5) to see whether the pad moves smoothly in front-back direction, and if there are some odd sounds.
- 3> Press the key "Table" (refer to drawing 5) to see if the pad moves normally in vertical direction, and if the height of pad needs to be adjusted.



4. Press the “setting” (refer to drawing 5) to see if the shuttle or conveyor moves normally, and then enter the automatic printing mode. To see if the slide speed of shuttle or conveyor is consistent with the lifting speed of pad, and if there are any odd sounds.

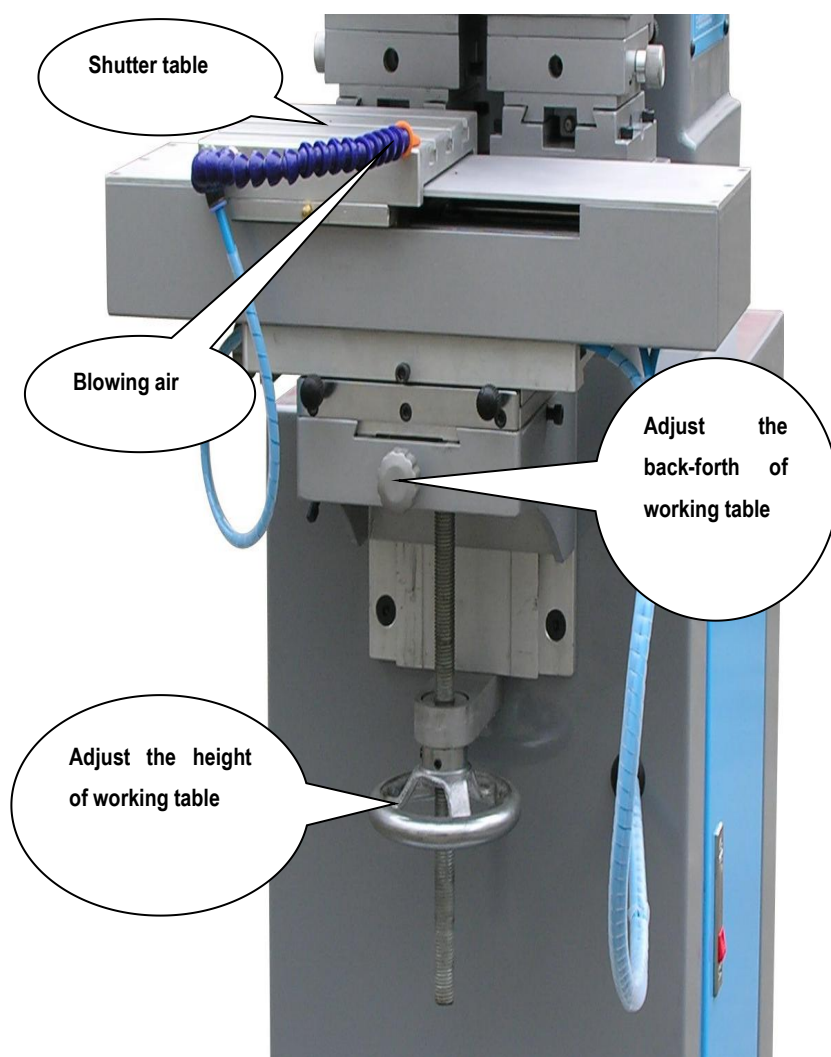
5. **Adjusting the vertical stroke length of pad** (see drawing 3)

6. **Fixing the work piece to the best position**

**Adjustment of the 2-colour pad printer with shuttle (see drawing 10)**

Fix the holding fixture of the work-piece to the “T” line of the worktable with the slide fixture(2) the position change method is the same with the 1-colour pad printer.

After checking all the processes above and there is nothing wrong, then you can begin printing.



After installing fixture and work piece on the working table, Please test the rubber pad to press with work-piece till reaching well printing quality.

Both one color and two colors can be printer with this machine. When printing one color, the shutter working table stay in one end and keep stillness. When printing two colors, the shutter working table move between left end and right end. When printing two colors with this machine, Please open blowing air so that the first color in become drying soon.

The shutter working table can be adjusted to height , back-forth, landscape orientation, longitudinal.

## ***5. Drawings and instructions of each key part***

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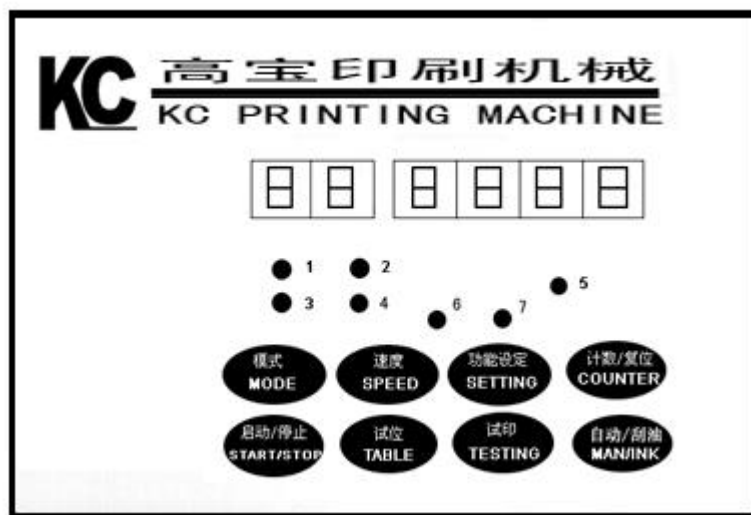
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## 1. IC panel

### Functions of the keys



**“Start/Stop”:** Press this key at any time to start or stop the ongoing operation.

**“Auto/Ink”:** Switching between the fully automatic printing mode and automatic ink-scraping mode. Press it once, the fully automatic ink-scraping mode (Indication light “5” lights up) changes to the automatic ink-scraping mode (Indication light “5” quenches), or vice versa, and needn’t to stop the machine. With the indication light “5” lights up, this indicates the fully automatic printing mode. With indication light “5” quenches, which indicates the automatic ink-scraping mode. This key also has an intellectual function that while the machine has stopped, press this key until the indicator of “Speed” gets dim, then stop pressing, and the pad will begin running downwards and upwards nonstop. You can press the key “Start/Stop” to quit



this mode, and the indicator will return to its former brightness.

**“Test”**: In the state of stop, press it every time, the pad will run one stroke in vertical direction.

**“Table”**: In the state of stop, press it every time, the pad will run forward and backward once.

**“Setting”**: In the state of stop, press it every time, the last digit of the counter will display a half “0”, then the machine enters the “Setting” mode, meanwhile, the shuttle or conveyor transports one work-piece, and then press it one more time, the worktable will transport one more work-piece; you can manipulate other keys to continue the setting. While the printing position and printing quality is satisfactory after setting, then press this key for more than 2 seconds and stop pressing it till the counter reset, then the worktable will return to its original position. After the machine entering the “Setting” mode, the counter stops counting and keeps its former number unchanged, and after quitting the “Setting” mode, the machine will begin running according to the mode and speed that have been set in advance.

**“Counter”**: No matter in which mode, press this key once, the brightness of the counter will reduce by 50%, which means pausing the counting, and press it again, the brightness will restore, which means begin counting. In the state of stop, press this key for about 2~3 seconds till the counter reset.

1. **“Mode”**: **“Mode”**: Switching from “0”~“9”~dull “1”~ dull “2”, press this key every time, the indication digit will add one, the indication digits are as following:

“0”: dipping ink once, printing once. This mode is used for one color pad printer. When you use two colors pad printer to print one color, please set as this mode.

“1”: dipping ink once, printing once, and the conveyor transports one work-piece.

Two colors pad printer with shuttle have no this mode. When you into the mode, machine will not work, Please exit from mode .

“2”: dipping ink once, printing once, and the conveyor transports two work-pieces.

Two colors pad printer with shuttle have no this mode. When you into the mode, machine will not work, Please exit from mode .

“3”: dipping ink once, printing twice, and the worktable of 2-colour pad printer shuttles.

Two colors pad printer mainly used under the mode. If you contact with LC brand pad printer, please enter directly the mode. Under this mode, the machine will begin normal two colors pad printing process. The rubber pad first printing one color, the shuttle working table move to left position and printing the second color, then shuttle working table return to right side.

“4”: dipping ink once, printing 4 times, and the worktable of 4-colour pad printer shuttles.

Two colors pad printer with shuttle have no this mode. When you into the mode, machine will not work, Please exit from mode .

“5”: dipping ink twice, printing once, and the conveyor transports 1 work-pieces.

Two colors pad printer with shuttle have no this mode. When you into the mode, machine will not work, Please exit from mode .

“6”: dipping ink twice, printing once, and the conveyor transports 2 work-pieces.

Two colors pad printer with shuttle have no this mode. When you into the mode, machine will not work, Please exit from mode .

“7”: dipping ink twice, printing twice, and the worktable of 2-colour pad printer shuttles.

Perhaps you think the ink film is not enough thick, Please enter this mode, under this mode, the rubber pad will be pick up ink from plate two times and print two colors.





“8”: dipping ink twice, printing 4 times, and the worktable of 4-colour pad printer shuttles.

Two colors pad printer with shuttle have no this mode. When you into the mode, machine will not work, Please exit from mode .

“9”: dipping ink once, printing once, the pad just stop there after printing.

Two colors pad printer with shuttle have no this mode. When you into the mode, machine will not work, Please exit from mode .

Dull “1”: dipping ink once, printing 3 times, and the worktable of 3-colour pad printer shuttles.

Dull “2”: dipping ink twice, printing 3 times, and the worktable of 3-colour pad printer shuttles.

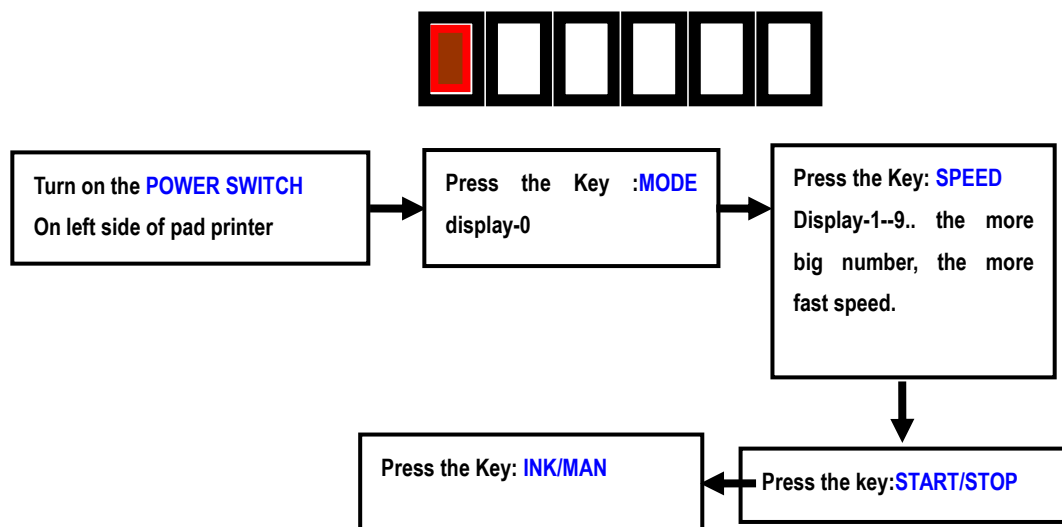
Two colors pad printer with shuttle have no this mode. When you into the mode, machine will not work, Please exit from mode .

“Speed”: from level 0~9, from slow to fast. (In the state of shuttling, press this key till the indication digit gets dim, and then stop pressing. While, press the key “Setting” at the same time, you can set the “internal delay level” from 0~9, which is about 6~0 seconds, in order to make the shuttle keep pace with the pad.)

So please notice below process:

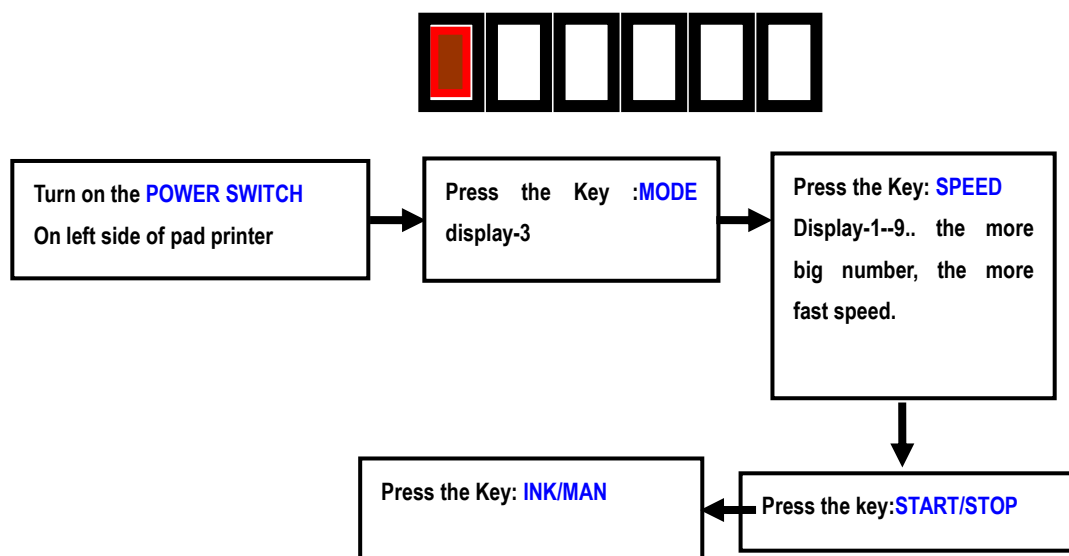
Print one color with two colors pad printer with shuttle.

Press the “**MODE**” key. The indicator 1 display: 0”. Then press **start/stop** key, Press **MAN/INK** key, the machine will print one color and working table keep stillness.



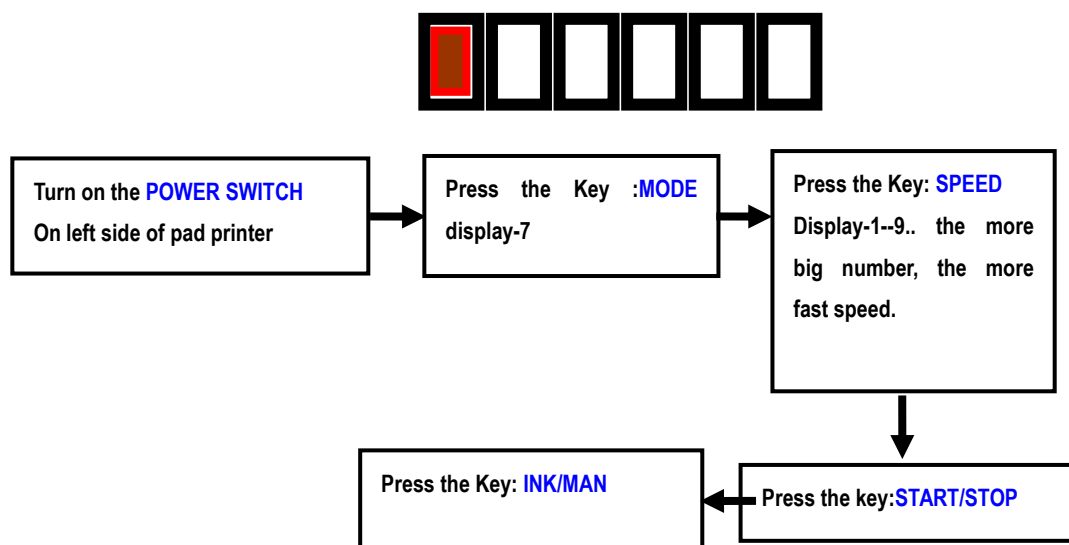
a) Pick up ink one time and Print two colors with two colors pad printer with shuttle.

Press the “**MODE**” key. The indicator 1 display: 3”. Then press **start/stop** key, Press **MAN/INK** key, the machine will print one color and working table keep move from left to right.



b) Pick up ink two times and Print two colors with two colors pad printer with shuttle.

Press the "**MODE**" key. The indicator 1 display: 7". Then press **start/stop** key, Press **MAN/INK** key, the machine will print one color and working table keep movement from left to right.



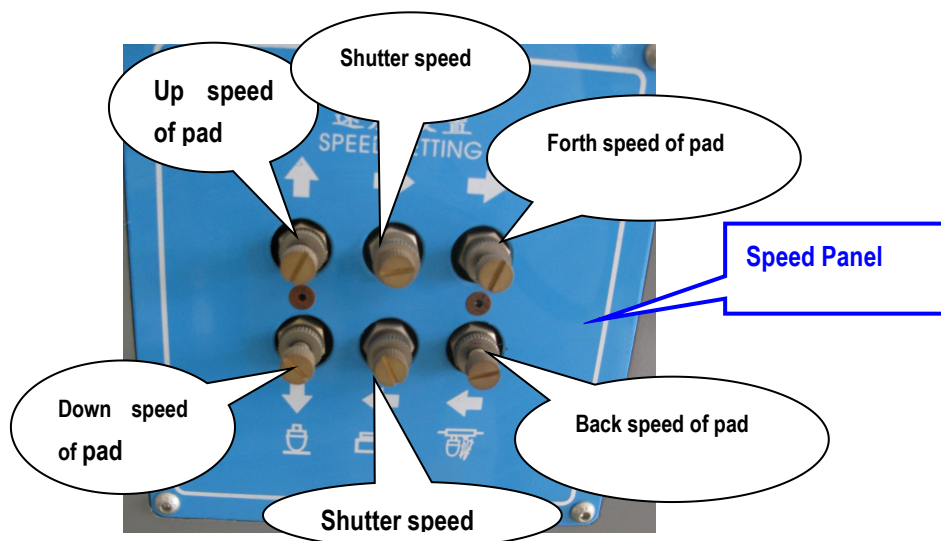
Important caution:

When print two colors, Maybe you find the rubber pad drop speed too slow when working table move to right side from left side. Please Press Stop/start Key. Then press the key : Speed, till the indicator of the second LED display become dark, the press the key of SETTING as more big number, The speed will be quicken.

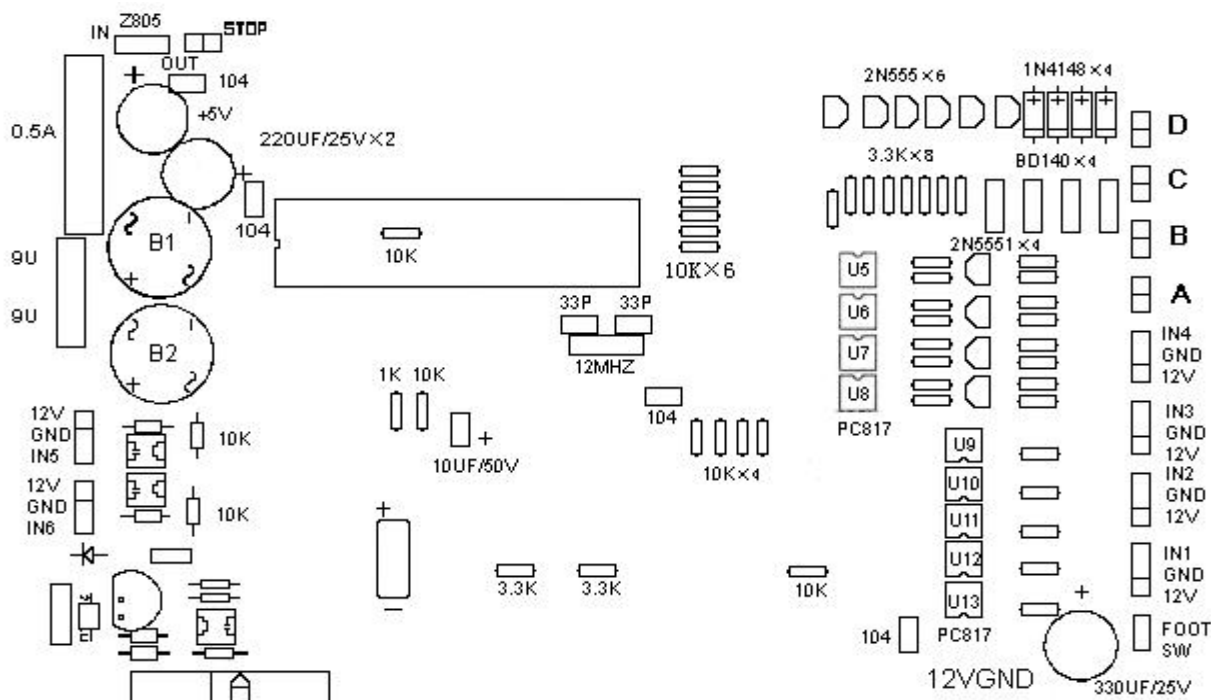
When you shut off power, the mode will be removed, this machine have no memory function.



There are one Speed Panel one the side of pad printer. Six screws installed on this panel. Please see the drawing of Speed panel. These screws only used to adjust the speed of simple speed of rubber pad move to up and down, move from plate to working table and shuttle working table from left to right.



## 5. Circuit diagram





## Instructions:

D----connects to solenoid valve of the last two cylinders for sliding the shuttle. (The4 color pad printer with shuttle)

C----connects to solenoid valve for sliding the conveyor (pad printer with conveyor)/connects to solenoid valve of the first two cylinders for sliding the shuttle (the4-colour pad printer with shuttle)/connects to solenoid valve for sliding the shuttle (the 2-colour pad printer with shuttle)

B----connects to solenoid valve for lifting the pad

A----connects to solenoid valve sliding the sliding carriage.

### IN4

**GND** -----Connects to the proximity sensor for controlling the down stroke length of the pad in its forwards stroke.

**12V**

### IN3

**GND** -----Connects to the proximity sensor for controlling the down stroke length of the pad in its forwards stroke.

**12V**

### IN2

**GND** -----Connects to the proximity sensor for controlling the up stroke length of the pad in its forwards stroke.

**12V**

### IN1

**GND** -----Connects to the proximity sensor for controlling the up stroke length of the pad in its forwards stroke.

**12V**

**FOOTSW**-----connects to the foot switch.

12v

GND

IN5-----Connects to the proximity sensor of the conveyor cylinder

12v

GND

IN6

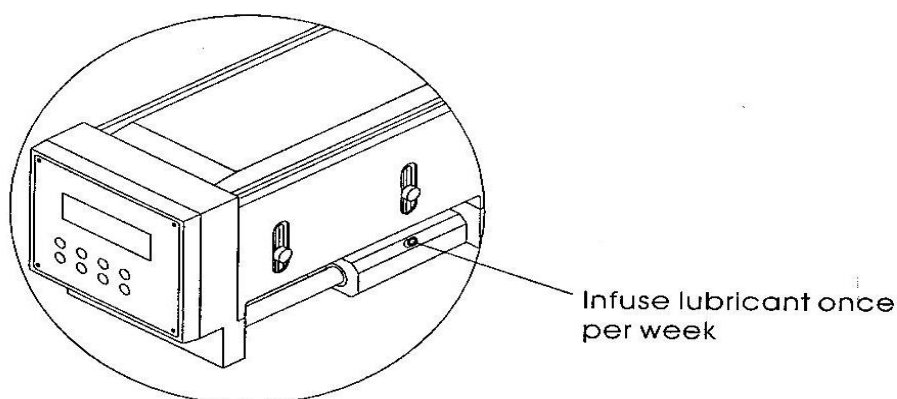
## 6. Maintenance

1> keep the cleanness of the surface of machine.

2> wipe the slide parts and infuse lubricant to them weekly.

3> drain the contaminant water accumulated in the filter frequently in order to prevent the water from flowing into the inner pneumatic system.

5>.after the printing work, remember to wash the pad, plate and ink roller.



## 7. Operation Process

### 1) Power connect.

First connect power with machine. Please confirm locating Voltage;

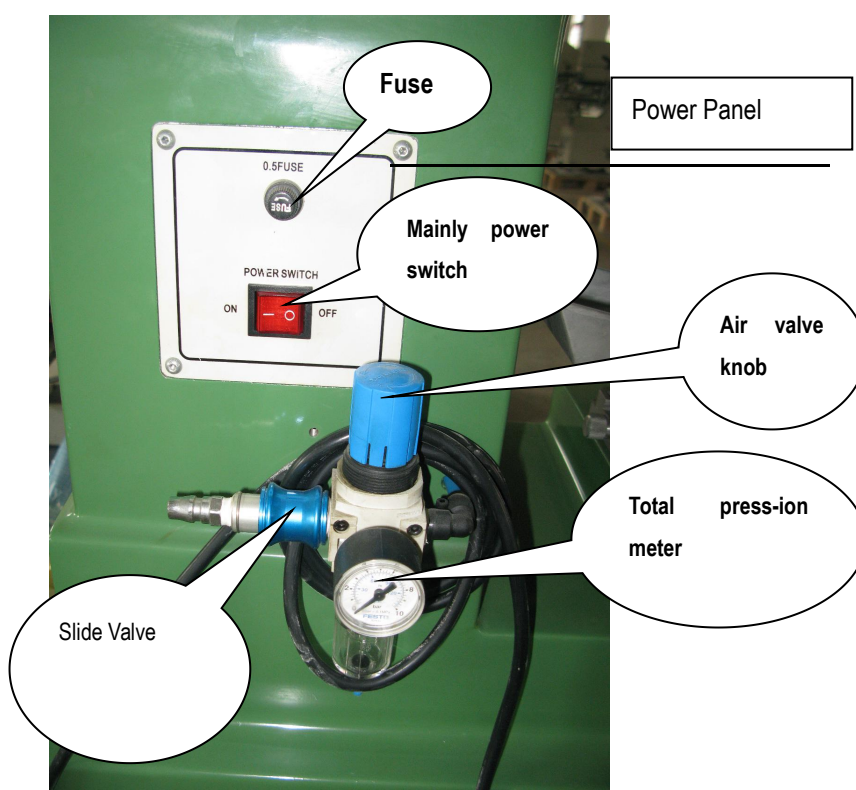
### 2) Air connecting:

Most of LC brand pad printer need compressor to provide air source, Please order one set compress air in your plant. Please keep your and anything from pad combine parts because it maybe move after connecting with compress air.

### 3) Installed plate and sealed cup:

Standard steel plate must be used with sealed cup pad printer. Steel plate and sealed cup

is alone package to avoid hitting in the transport and put into tool box. After you receiving the machine, Please install steel plate and sealed cup onto pad printer.





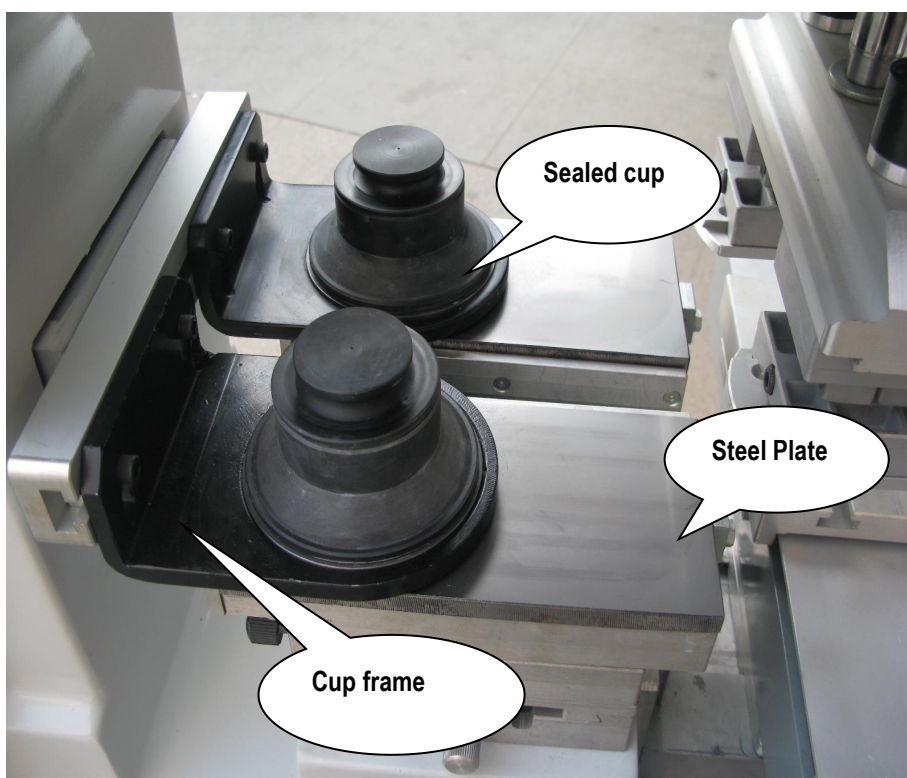


Some customer ask LC company to take a printing test. Sealed cup with ink maybe installed on the machine, Please adding thinner for 10 minutes then start the machine.

There is magnesia axis inside sealed cup, so it will be absorbed on the steel plate when they contact each other. Please be careful that make sealed cup to close steel plate. LC brand sealed cup pad printer install steel ring, some customers like using ceramic ring. Please make a demand to our sale Representative, we will change it for you. Please notice thick steel plate can use both ceramic ring and steel ring, but resin Polymer plate must use ceramic ring. According to our experience, The ink rest remains keep more little on steel plate than thin steel plate.

Please install sealed cup and steel plate according to the below step:

- First take out steel plate by left hand, take the sealed cup by right hand, slowly move sealed cup to close the side of steel plate, then push the sealed cup to the center of one end;
- Loose the fixation screw, and take off cup fixing nip;
- Put steel plate with sealed cup onto plate



- support seat and fix the setscrew on the front end;
- Cover the cup nip onto sealed cup and move sealed cup with nip lightly to cup driving axis, fix the setscrew;
- Steel plate used by sealed cup and open ink-tray pad printer, but size is more length, The plate-making process is same.

Some sealed cup pad printer maybe have a different structure.

#### 4) Adding ink and thinner

Different base need different type ink and thinner, Please take a test before printing, Our sales Representative will give you some advice when you make a equine. Marabu ink is very famous brand in the world, Please order from your locating



market. the price is more expensive, In china, LC printing machine will provide ALPHA, LOGO ink made in china to you. the price is more cheaper.

After you choose one type ink and thinner, Please mixing ink and thinner according to a percent:5:1 and adding into sealed cup( first open the cover of sealed cup) with ink adjustment blade .

Please see the photo of sealed cup ,the cap can be open to add ink and thinner. When printing, ink and thinner move onto the surface of steel plate with sealed cup together. The solvent closed inside and do not volatilize to the air and avoid breath by operator. It will not hurt their health. The Viscosity of ink will not change to ensure printing qualify stabilization.

After installing sealed cup and steel plate, first move sealed cup , the commonly state is you can move freely



## 5) Installing

### rubber pad

It is important to choose one suitable rubber pad. The rough principle the outline of printing design is similar with

the cross section of rubber pad. The size of cross section can cover total design. First taking out the guide plate from pad seat, fix the screw through the hole with screwdriver , then installing it back to the pad seat. The guide plate can be adjusted along the front-back and left-right direction so that the rubber pad can cover all design.

MuLti-colour pad printer need more rubber pads. Please keep per rubber pad have a same shape, hardness.

- Please loose up the screw of 9 and remove the guide plate.
- Please take a screwdriver to install rubber pad to guide plate. There are some screws in the tool box
- Install guide plate with rubber pad onto the seat
- Adjust the position so that it can cover the design on plate
- Fix the screw of 9.
- Please see the drawing below



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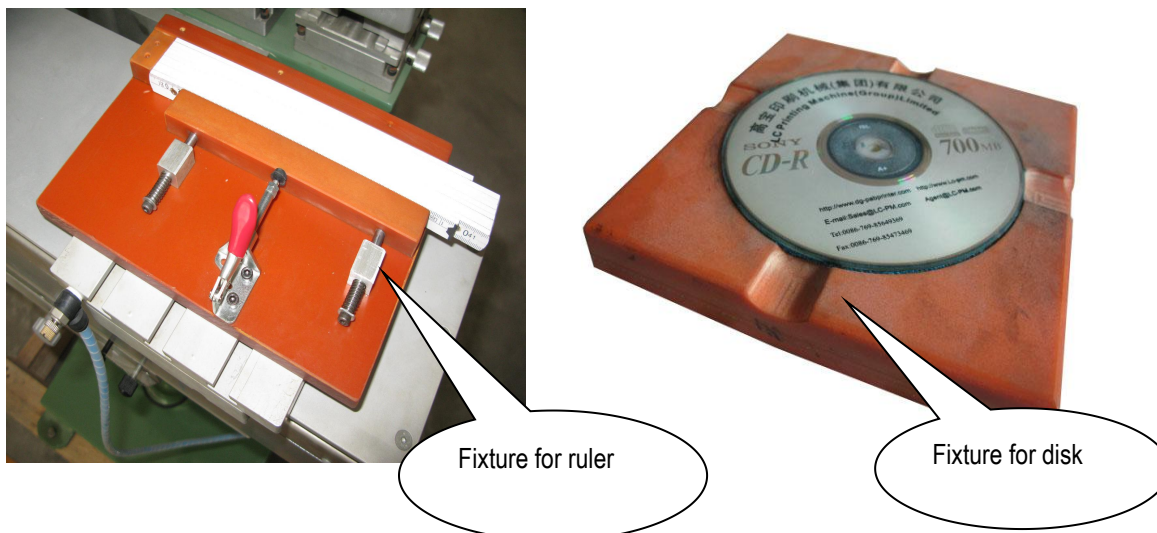
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## 6) Installing fixture

It is very important to make fixture according to your objects to be printed. It have two functions: one is fasten the position, the other is overprinting the process of multi-color pad printer. Some simply fixture made by resin putty, Precision fixture must be made by Lathe and milling machine



Some customers adhere fixture onto the working table, we do not suggest do so, there are some sets screws with machine, Please fix the fixture with these screws. Before you fix the fixture, first test the printing position, fix it.

Precision position printed need to adjust the working table:

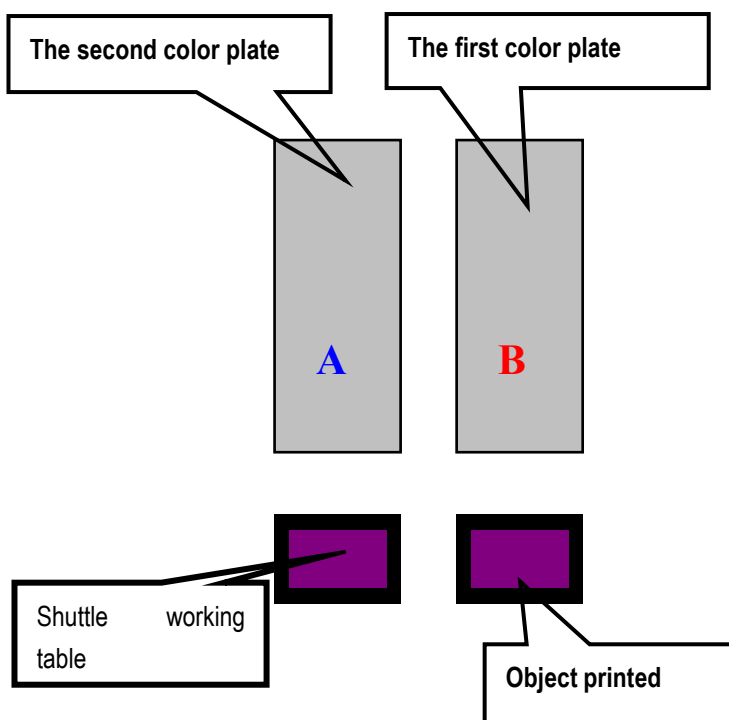
Up-down, left-right, front-back, angle adjustment to the working table will guarantee the position onto the objects.

Two colors sealed cup pad printer with shuttle have a shuttle working table. You need installing fixture with object to be printed on working table. Please follow the below process to adjust the position of object.

### 1# First adjust the first color:

- Please arrange the printing Sequence.
- Please install the first plate and sealed cup on pad printer,
- Install fixture on working table and put product on the fixture.
- According to the customer

requirement or samples provided by customer, print B to correct position on product. Fix the fixture after





adjusting.

- **2# adjust the second color:**
- Install the second color plate and sealed cup
- Adjust the position of pad plate to make the second color print on correct position, Do not adjust the fixture; fix the screw of plate after adjusting.
- When adjust the first color, base on first plate; when adjust the second color, base on fixture and product.

In order to avoid waste too much products, before printing ,please cover PP tape on product, if you find the design on PP

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tape is completely and clear, removing the PP tape, begin to printing.

- Unless stop the machine, Please keep the machine running in the mode –f pad only move from front to back to avoid ink become drying.

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## 8. Pneumatic controlling design

