



## SEALED CUP PAD PRINTER

With shuttle

# OPERATION INSTRUCTION



Published by LC Printing Machine

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**LC industrial company Limited 20-1**

Website: [Http://www.lc-pm.com](http://www.lc-pm.com) [Http://www.lcpadprinter.cn](http://www.lcpadprinter.cn)

Online contact Skype: yingsuhuakelven QQ: 726986799

Whatsapp: 0086-13592766499 Email: [sales@lcpadprinter.cn](mailto:sales@lcpadprinter.cn)



## Preface

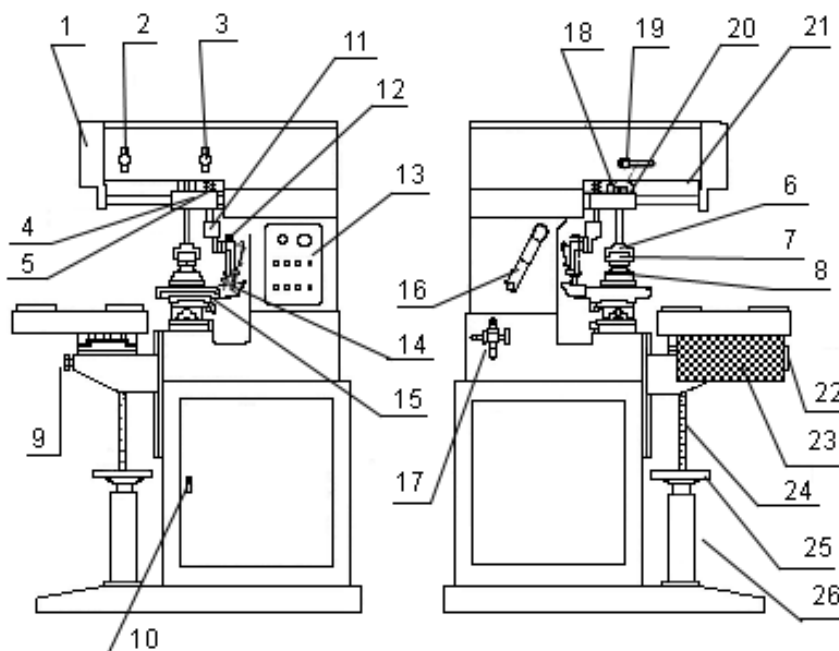
LC Printing Machine Limited published a series of new type pad printing machines, which adopt the full automation control system, and has more stable and reliable operation. The automation program is much more flexible, which simplifies the operation procedure components of the machine are made of coin 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.

2. Ink dipping pressure adjusting knob.

3. lube nipple port

4. ink scraper resilience spring

5. interval board

6. transverse slide

7. pad fixture

8. worktable front-back direction adjusting knob

9. door to interior structure

10. ink scraper frame

11. ink scraper pressure adjusting knob

12. operation panel

13. ink roller

14. ink cup

15. 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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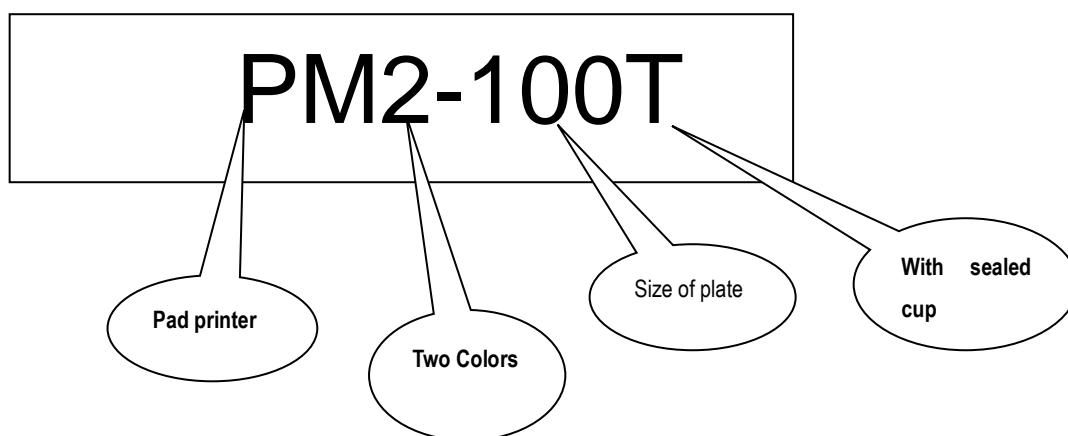
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## **2. Models and plate size of pad printers**

Model	Description	Plate area	Diameter of sealed cup
PM2-100T	Pneumatic 2-colour pad printer with shuttle	100*200 mm	90mm
PM2-150T	Pneumatic 2-colour pad printer with shuttle	100*250 mm	90mm
PM2-200T	Pneumatic 2-colour pad printer with shuttle	100*300 mm	90mm



### **Remark:**

"LC"- Brand; "P" –Pad Printer; 100- Pad plate size: 4×10 ". T – 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℃ (the printing ink is easy to volatilize 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 footpads of machine, when adjusting, put the provided footpads 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,



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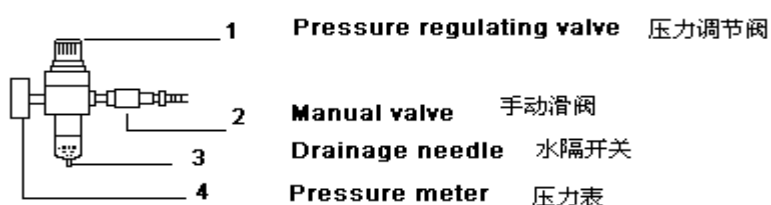
tighten the screw nut to prevent the screw from coming loose.■

## 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 inbreathed 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

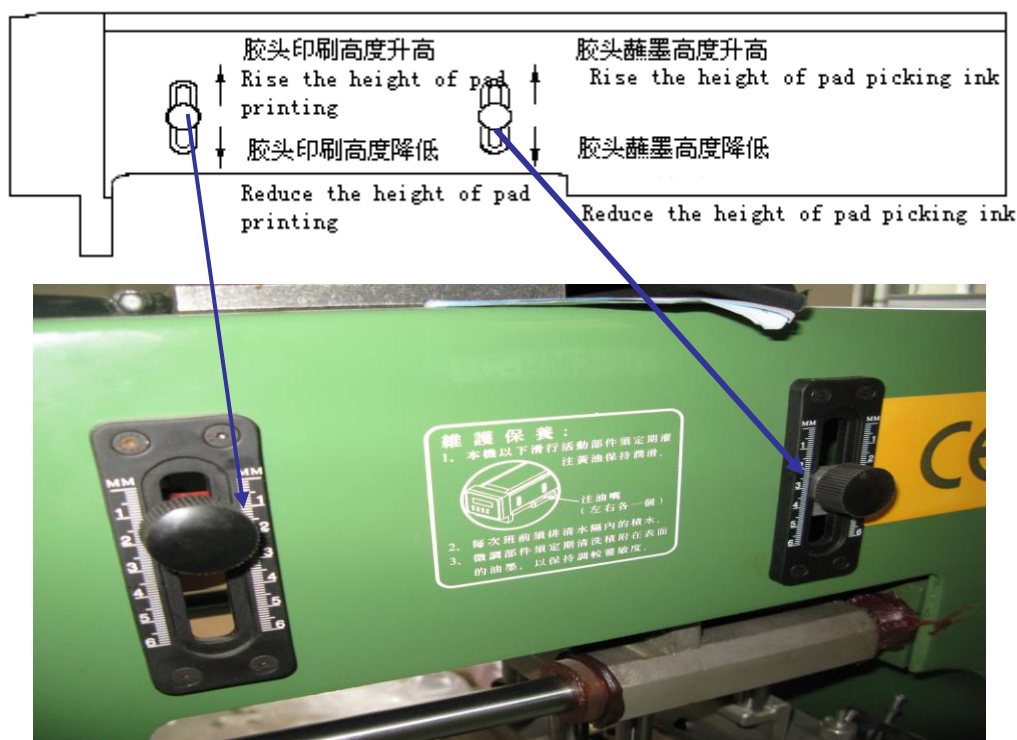


revolve it anticlockwise to the standard pressure, while on the contrary, revolve it reversely, after adjusting press the valve downwards is order to fix it within the confines of standard pressure.

## 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 seed 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**



## 7) best position Adjustment of the 2-colour pad printer with shuttle (see drawing 10)

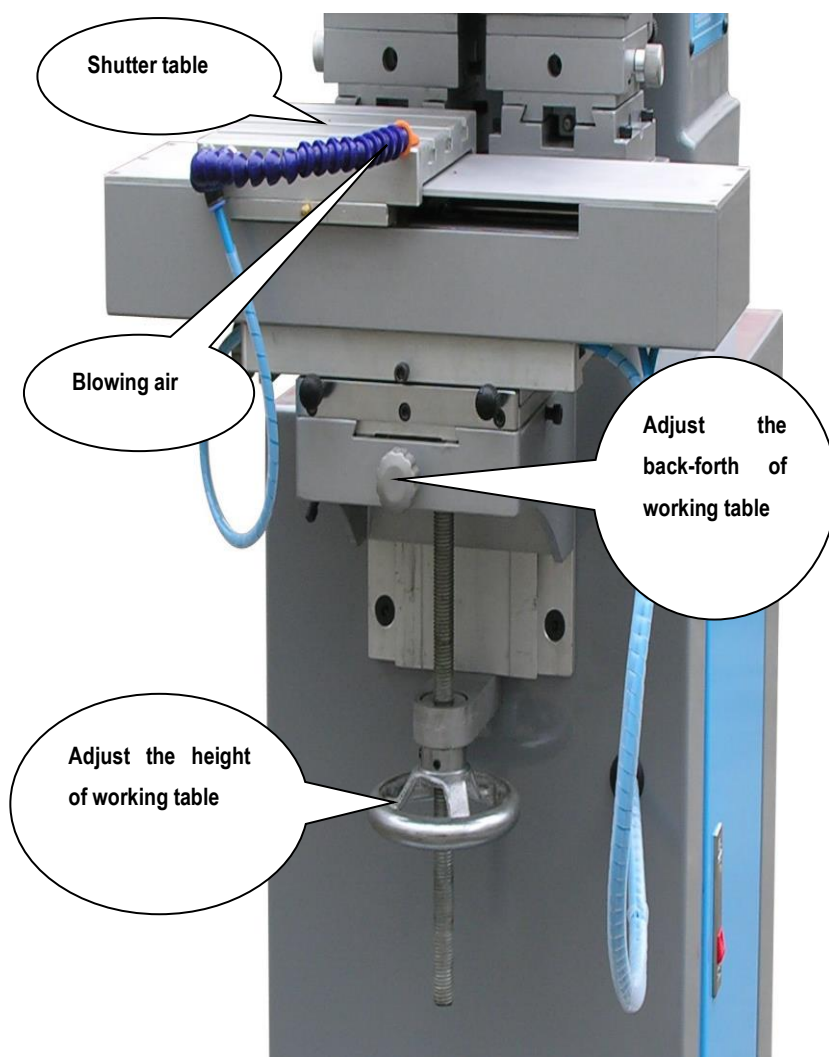
Fix the holding fixture of the work piece to the "T" line of the worktable with the slide fixture(2)the position change method is the same with the 1-colour pad printer.

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 workpiece 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.



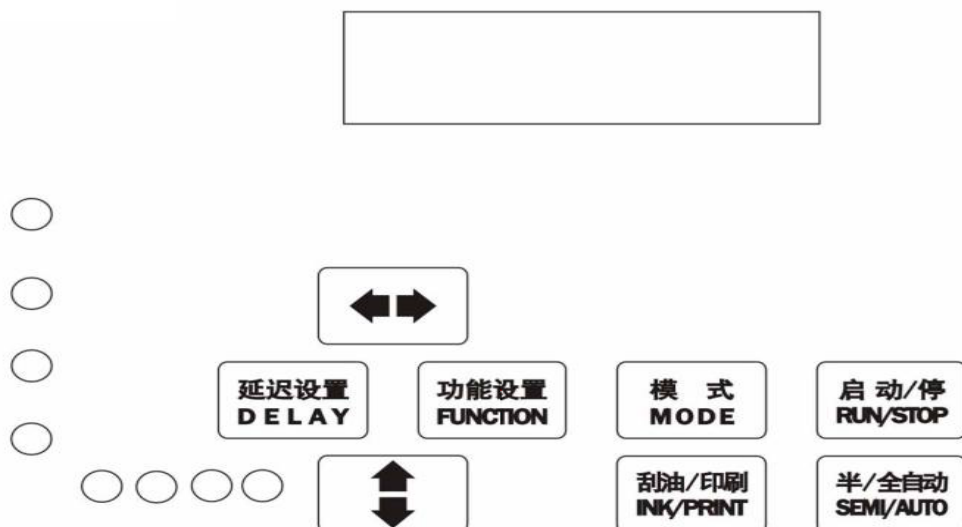
#### **4. Drawings and instructions of each key part**

##### **1. IC panel**

##### ***Functions of the keys***



# PAD PRINTER



## Instructions of the keys

1, DISPLAY SCREEN; After the machine electricity display shows the following content;  
M0 T1 T2 0-0 P1

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## AUTO STOP 0000

"M0" is the mode of "T1 T2 0-0" is speed, "P1" is the number of oil absorption, "AUTO" is fully automatic mode, is to STOP state "STOP", "0000" is the number of printing.

2, MODE : each light press 1 time, mode 1, switching, code is as follows:

M0 > -- an oil absorption, seal, no workbench (monochrome machine mode)

M1 > -- an oil absorption, printed twice, workbench through work (two-color machine mode)

M2 > -- an oil absorption, printing, workbench through work (single color mixing mill mode)

T1 - and T2 T3-0 0 0 (speed mode) > - show/change the machine speed.

T1 is print head for printing time, 0-9 (9 is the fastest), can be set to "delay Settings";

T2 is cycle working hours, 0-9 (9 is the fastest), the machine stops according to the "delay Settings" Settings, run time Settings to "set function";

Residence time after T3 is workbench mobile, 0-99 (0 for fastest), the machine stops by the wiper/printing, semi/full automatic key set.

Note: in this mode is set to end, to be prepared in accordance with the "mode" button to return to the required working mode, restart the machine.

COUNTER the SV (counting alarm Settings mode) > -- the setting values of 0-9999 time, number of printing the setting values to achieve, to stop work and buzzer, long press "semi/full automatic, numerical value to zero, to complete a batch printing.

3, "BEFORE/AFTER": stop mode, press, sliding head forward or backward run again. According to this setting when machine is running the cycle time of T2.

4, "UP/DOWN": in the condition of downtime, press, glue next run once on the head. The machine stop time into a state according to the rubber head straight up and down (with steel plate washing).

5, "DELAY" : when the machine stop set "T1 T2 time", long press the shift between the T1 T2, T3, the run-time can be set up "T1" time.

6, "FUNCTION" n: the machine stops, the press, shuttle worktable shift; Run-time, press, glue head oil absorption times P1 in 1/2 transformation.

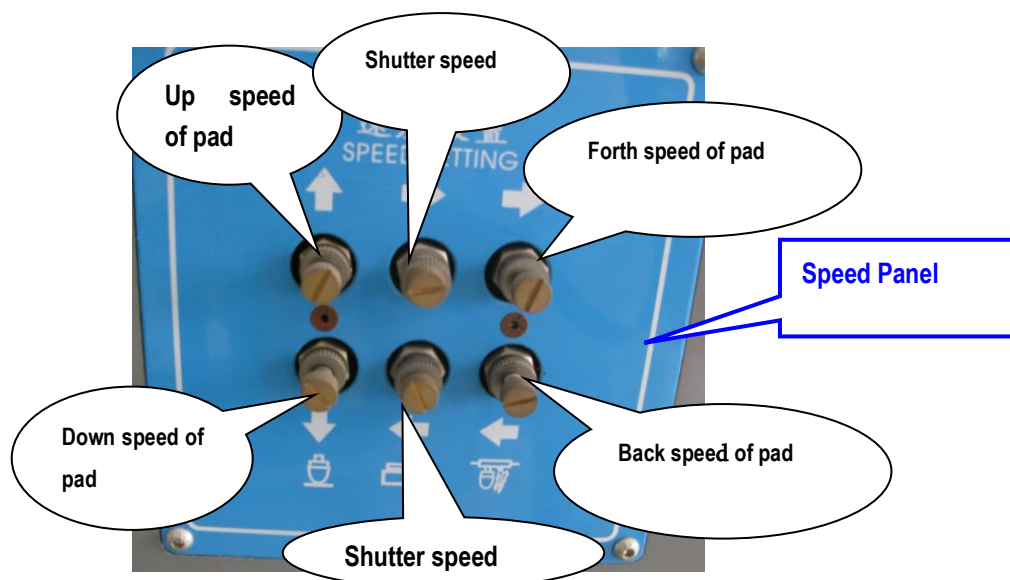
7, "RUN/STOP" : click this button at any time, start or stop the machine running.

8."PRINT/INK": Automatic wiper switch function, each time you press the, can from the state of fully automatic printing directly to automatic wiper status, or from automatic wiper status into fully automatic printing, need not stop. Stop condition can increase "T3" time.

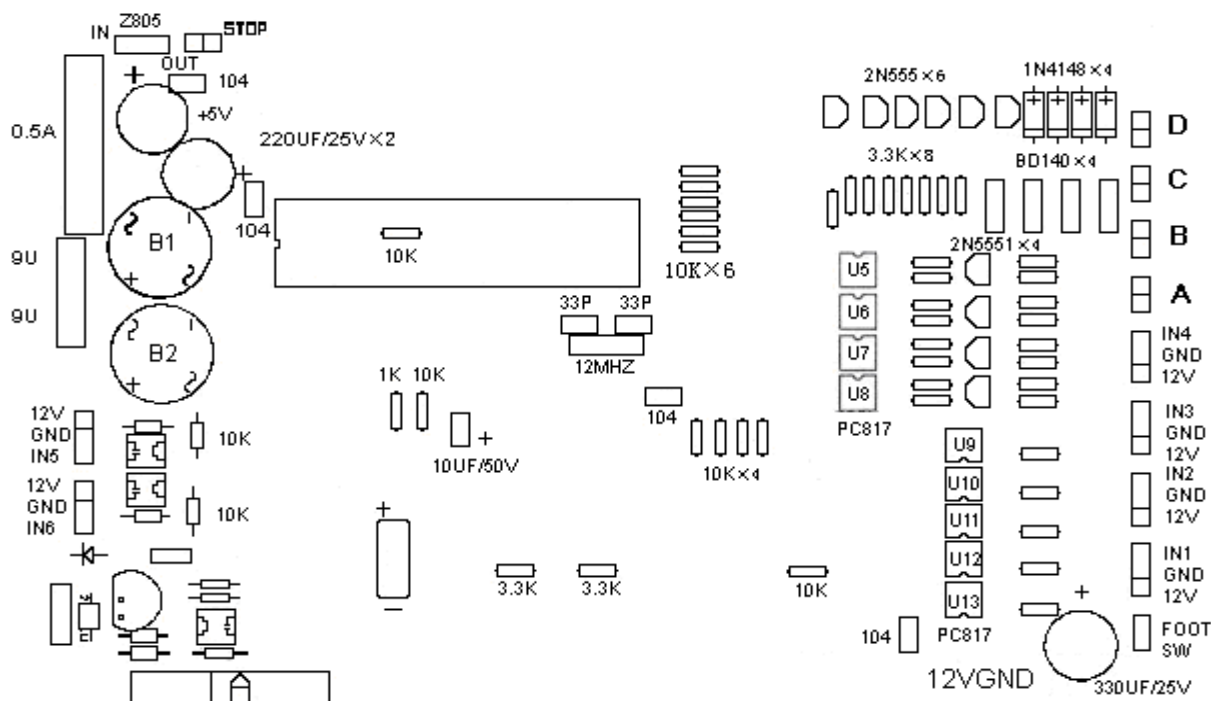
9."SEMI/AUTO": Semi-automatic (run 1 week)/automatic (continuous) mode change the key. Stop condition, can reduce the "T3" time, number of long press this button to print out.

***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 (the 4-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

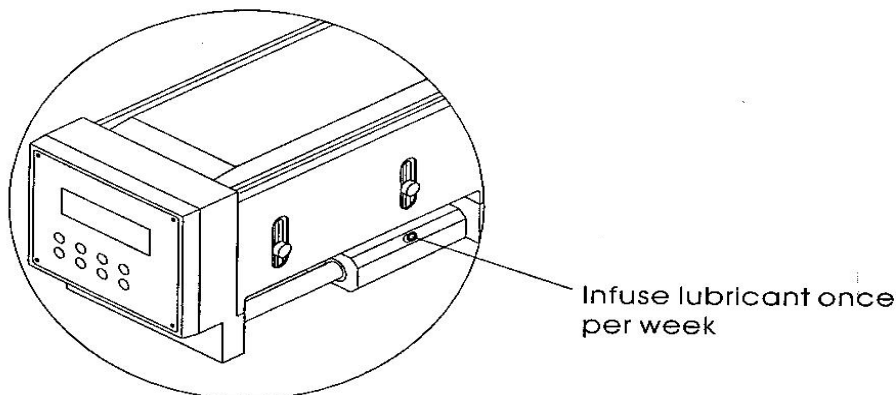
**12v**

**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 contaminative 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

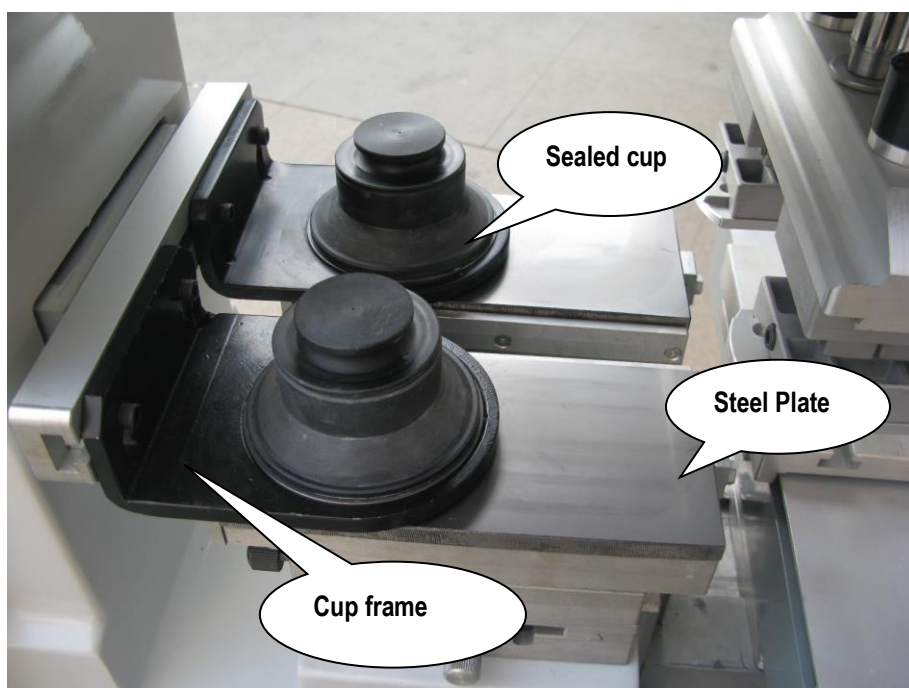
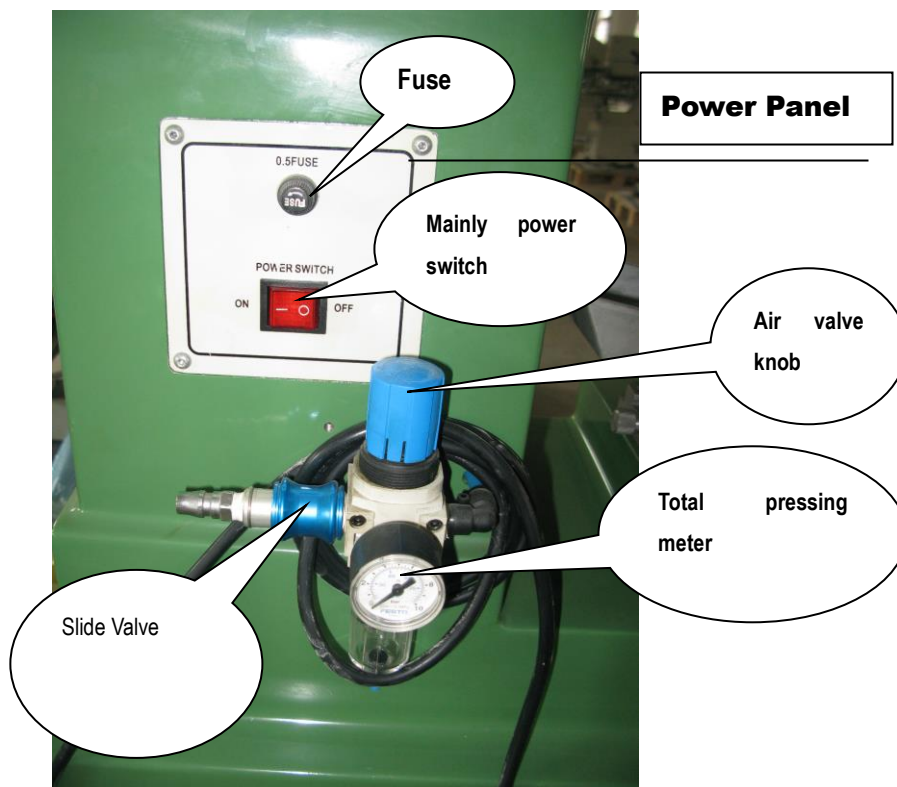
### 1) Power connect.

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 magnetic 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 enquire. 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 percen: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 quality stabilization.

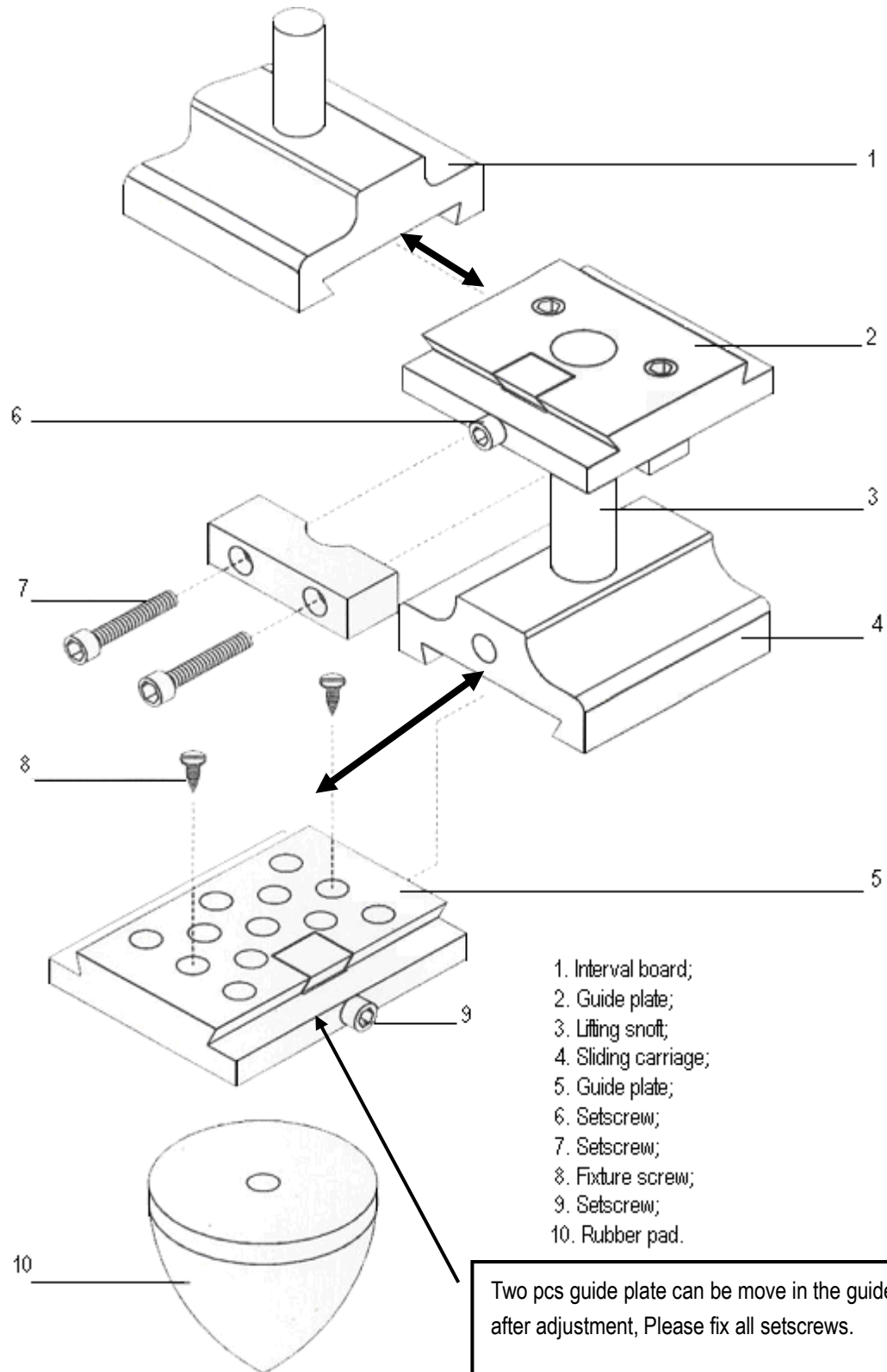
After installing sealed cup and steel plate, first move sealed cup , the commonly state is you can move freely

### **5) Installing rubber pad**

It is important to choose one suitable rubber pad. The rough principles 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

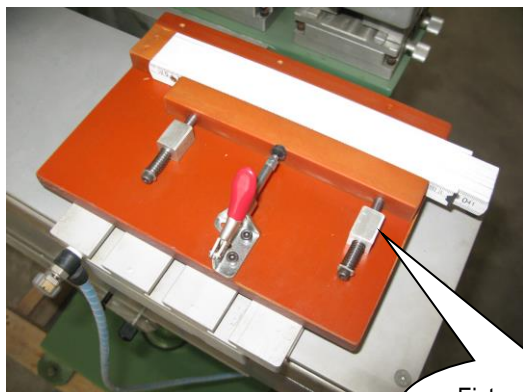






## 6) Installing fixture

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



Fixture for ruler



Fixture for disk

Some customers adhere fixture onto the working table, we do not suggest do so, there are some setscrews 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.

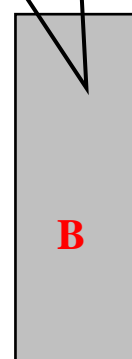
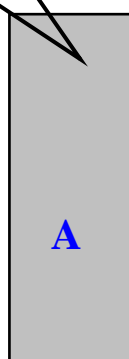
Two colors sealed cup pad printer with shuttle have a shuttle working table , You need installing fixture with object to be printed on working table. Please follow the below process to adjust the position of object.

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

The second color plate

The first color plate



Shuttle working table

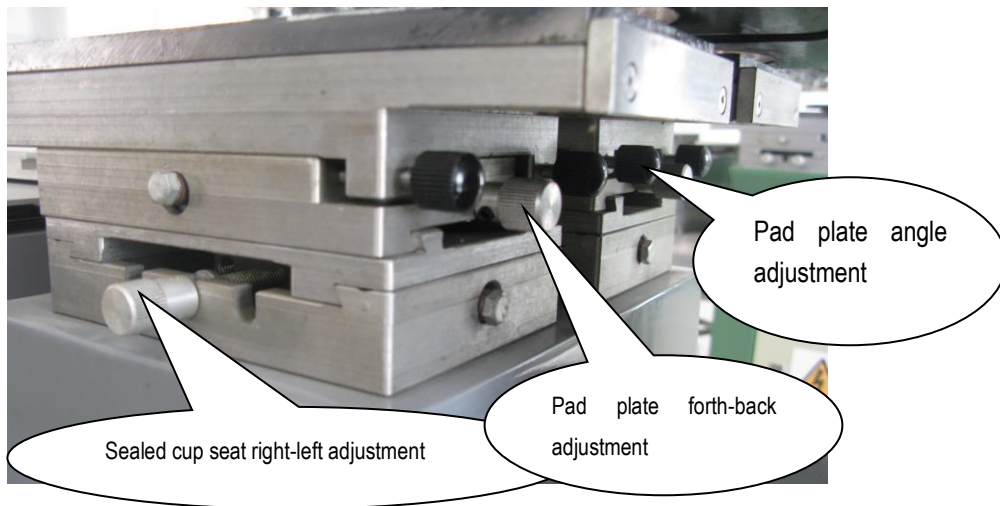


Object printed

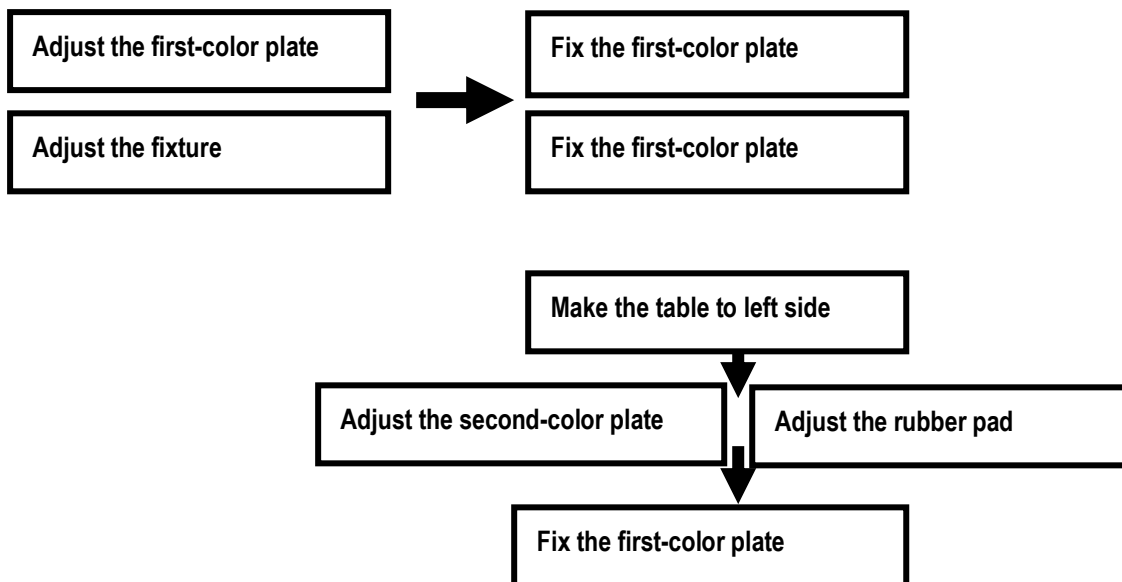




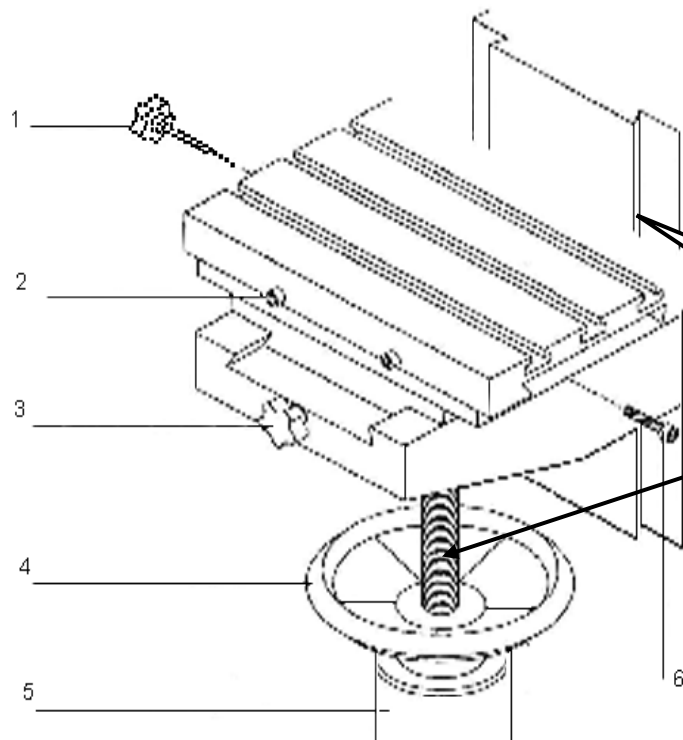
- **2# adjust the second color:**
- Install the second color plate and sealed cup



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



Please adding some lubricating oil for regular date

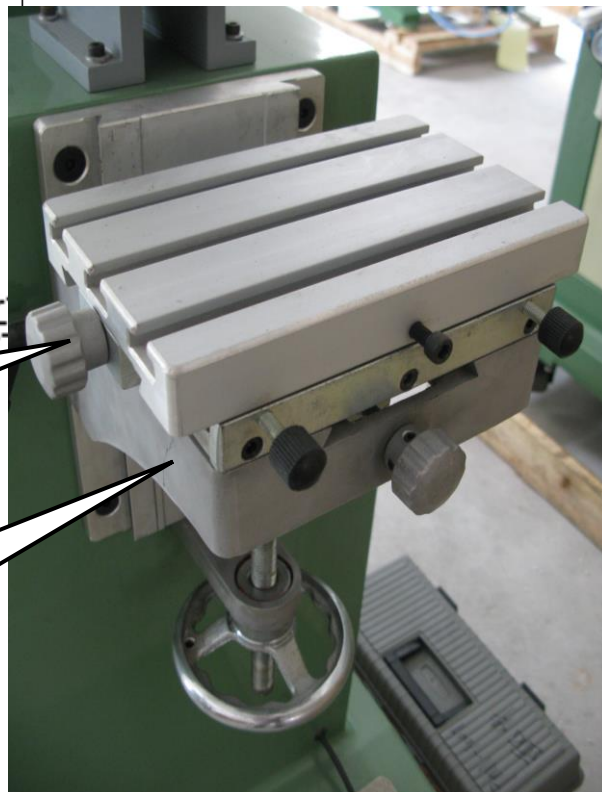
worktable of pad printers with conveyer		
no	name of parts	functions
1	Adjusting screw	adjust position of worktable
2	Setscrew	Fixes the worktable position
3	adjusting screw	adjusts front-back direction
4	handwheel	adjusts the height of workpiece
5	supporting bushing	supports the worktable
6	setscrew	fixes position of worktable

**Working table can be adjusted :**

Up-down position direction;  
Back-front position direction;  
Left-right position direction;  
Angle direction.

**Make pad to touch the products:**

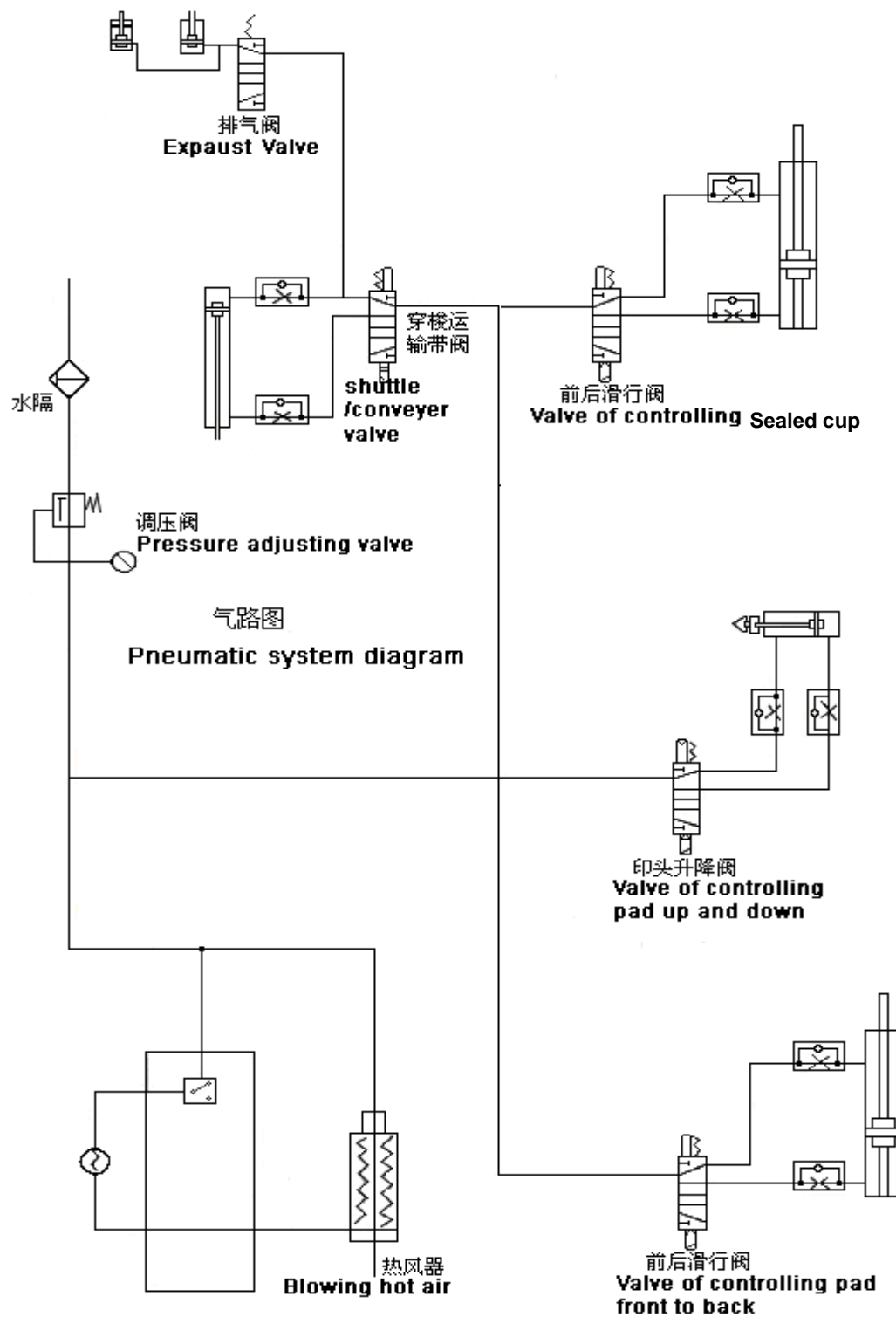
Large-distance: working table up-down;  
Middle-distance: the pad stroke of up-down;  
Small-distance: pad seat.

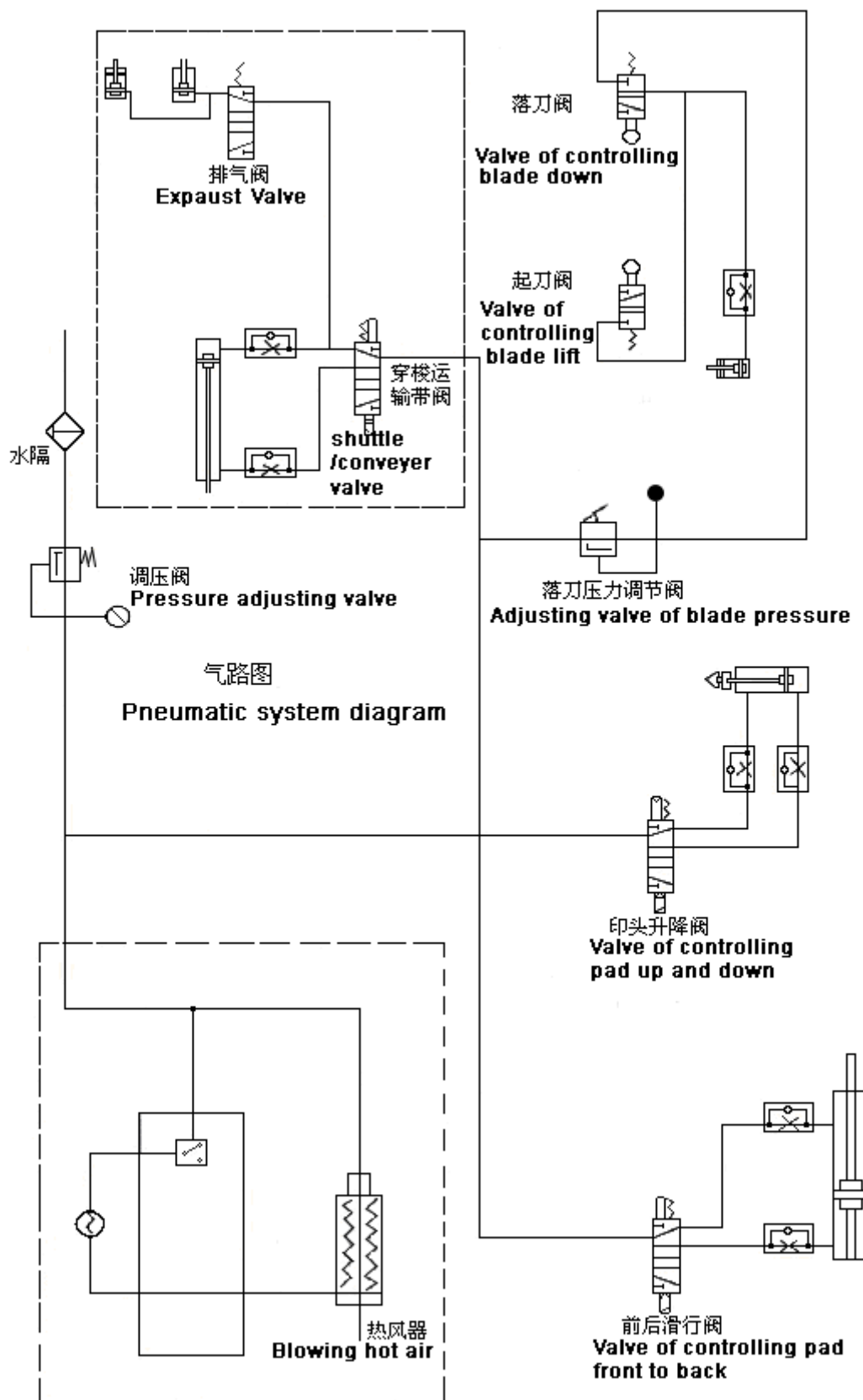


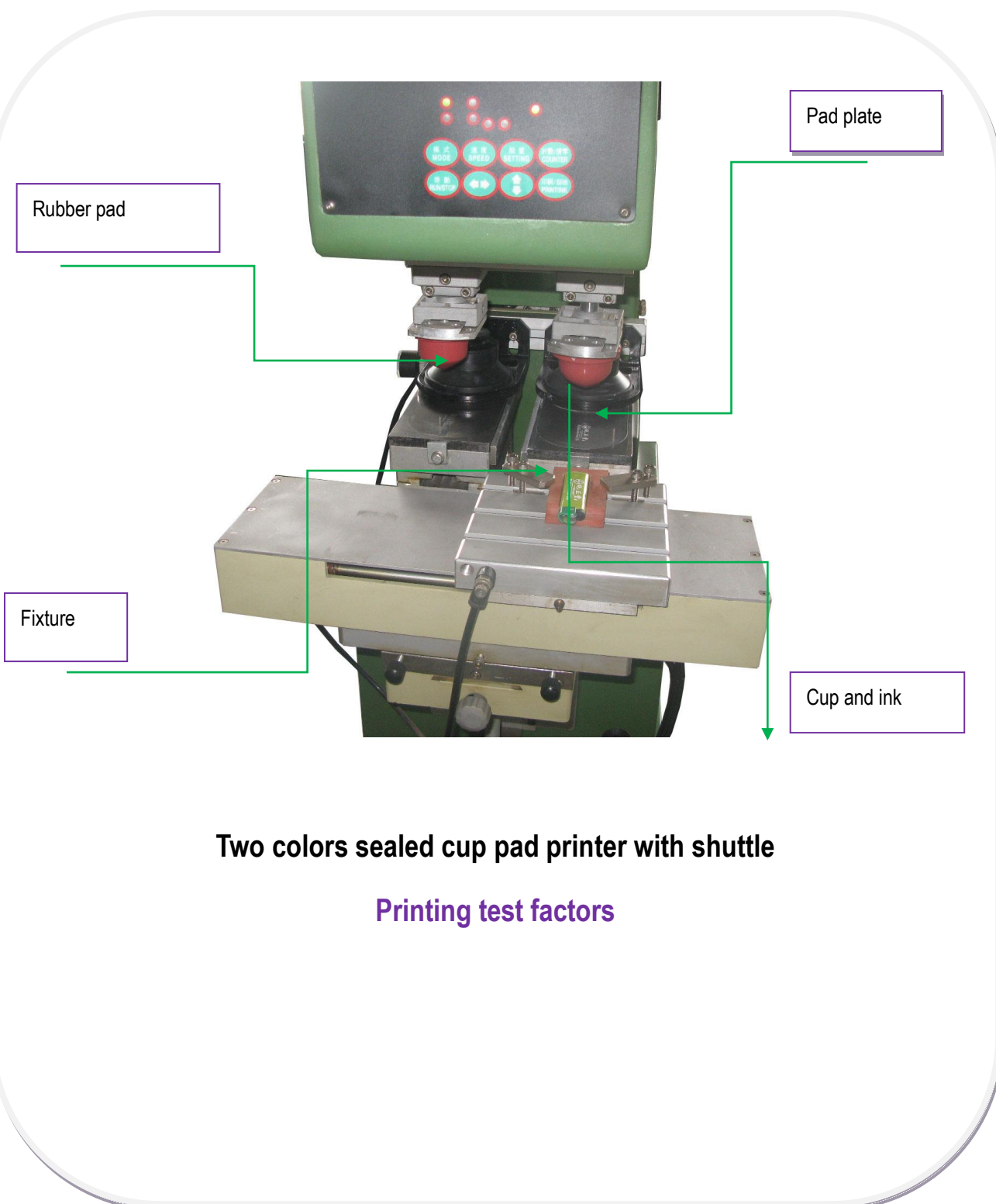
- Unless stop the machine, Please keep the machine running in the mode –f pad only move from front to back to avoid ink become drying.



## 8. Pneumatic controlling design







**Two colors sealed cup pad printer with shuttle**

**Printing test factors**

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