



# **S**EALED CUP PAD PRINTER

## **OPERATION INSTRUCTION**

### **One color pad printer**

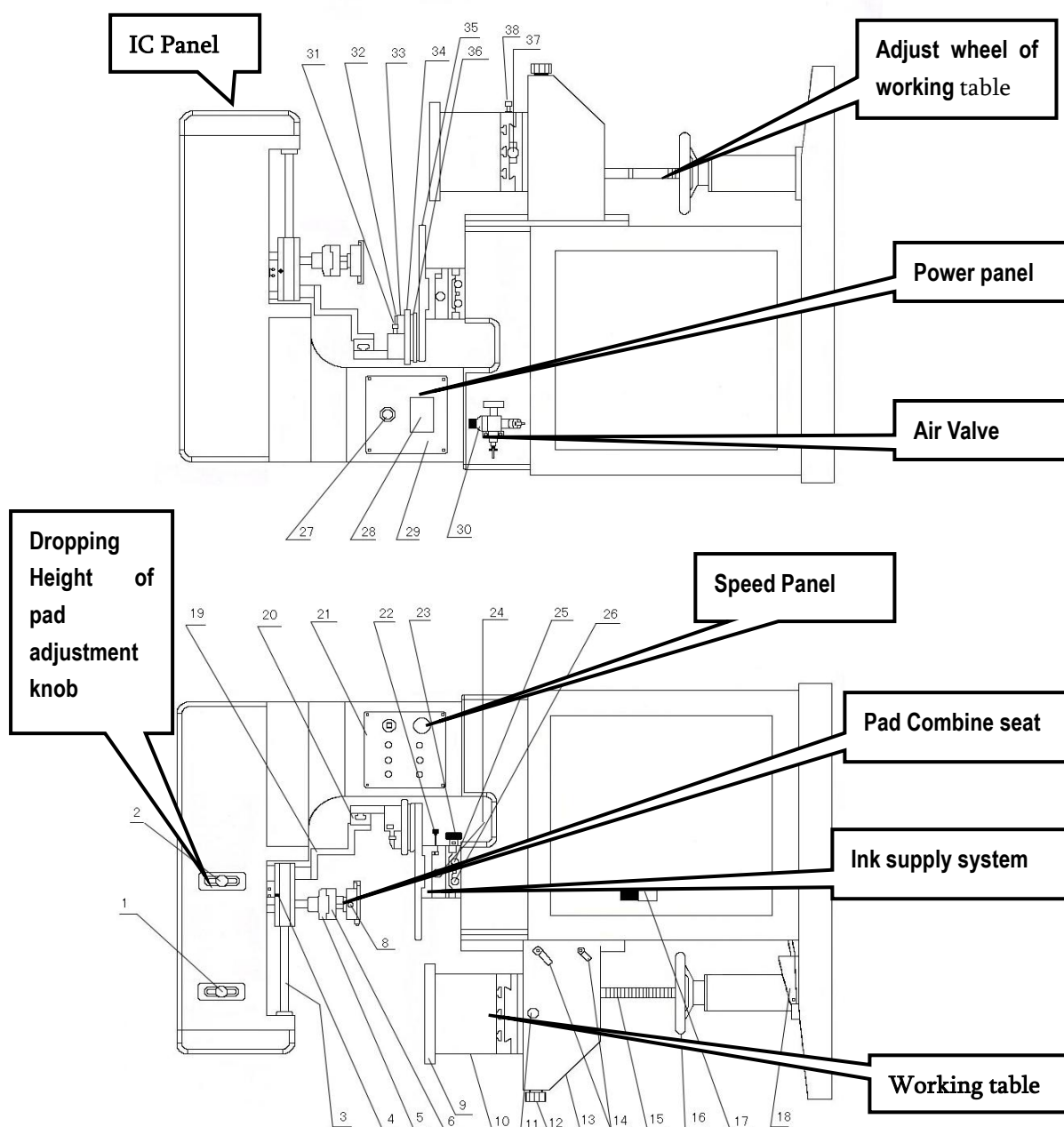
**P1-408CP**  
**P1-410CP**  
**P1-412CP**





## ■ Preface

LC Industrial 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.





## (Machine Structure Drawing)

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!

### ➤ *Name of parts:*

1. Knob for adjusting the vertical stroke length of printing
2. Knob for adjusting the vertical stroke length of dipping ink.
3. Slide shaft.
4. lube nipple port
5. Interval plate
6. Transverse slide      7. Fixture of printing pad      8. Setscrew      9. Shuttle
10. Pedestal of shuttle
11. Setscrew for fixing the shuttle after adjusting its position in front-back direction
12. Inching knob for adjusting the position of worktable in front-back direction
13. Mounting plate for lifting the worktable
14. Spanner wrench for locking the height of the mounting plate
15. Lifting screw      16. Hand wheel for lifting      17. Door to interior structure
18. Footswitch      19. Bracing Frame of ink cup      20. Transverse slide of ink cup
21. Operation panel of pneumatic system
22. Knob for adjusting the angle of plate
23. Knob for adjusting the position of plate in front-back direction
24. Setscrew for fixing the plate after adjusting its position in front-back direction
25. Inching knob for adjusting the position of the first plate on the right in left-right direction
26. Inching knob for adjusting the position of the second plate on the right in left-right direction
27. Fuse      28. Power switch      29. Operation panel of electric circuit      30. Moisture filter
31. Setscrew of the bolt      32. Cover of ink cup      33. Ink container      34. Ring for fixing the ink container
35. Steel ring      36. Pad printing plate      37. Inching knob for adjusting the position of shuttle in left-right direction
38. Setscrew for fixing the shuttle after adjusting its position in left-right direction.

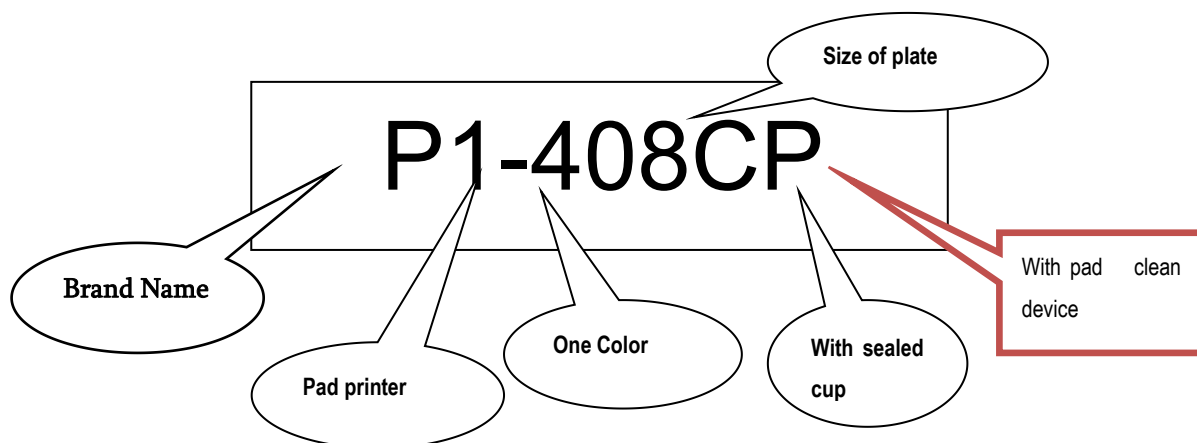
### ➤ *Models and plate size of pad printers*

Model	Diameter of sealed cup	Description	Plate size
P1-408CP	90mm	Pneumatic 1-colour pad printer	100×200 mm
P1-410CP	90mm	Pneumatic 1-colour pad printer	100×250 mm
P1-412CP	90mm	Pneumatic 1-colour pad printer	100×300 mm



Standard plate type installed on sealed cup pad printer is 10mm thickness steel plate, We will make pad printer installing 0.25mm thickness steel plate when you make the demand to our sales representative. Thick steel plate remove ink more clean than thin steel plate but thin steel plate is more easily to install and remove from machine.

Models explain:



## ■ 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 volatilize if the temperature is too high) to ensure the accuracy, the printer should not be rammed fiercely in the course of transport.

### ✧ 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, tighten the screw nut to prevent the screw from coming loose.



### ✧ Power supply.

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

### ✧ Adjusting the pressure meter.

When the machine is working, the pressure of compressed air in-breathed usually should be adjusted to 5 BAR. If 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 in order to fix it.

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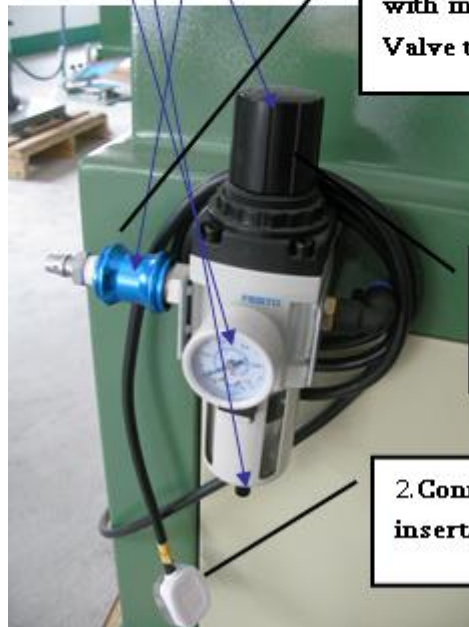
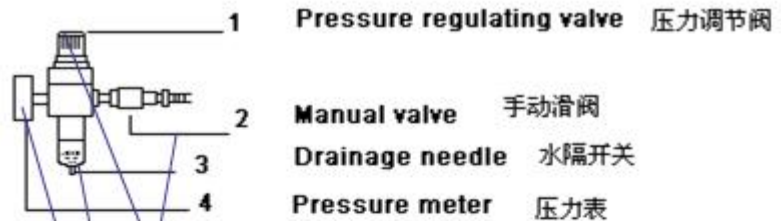


within the confines of standard pressure.

#### ✧ **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.



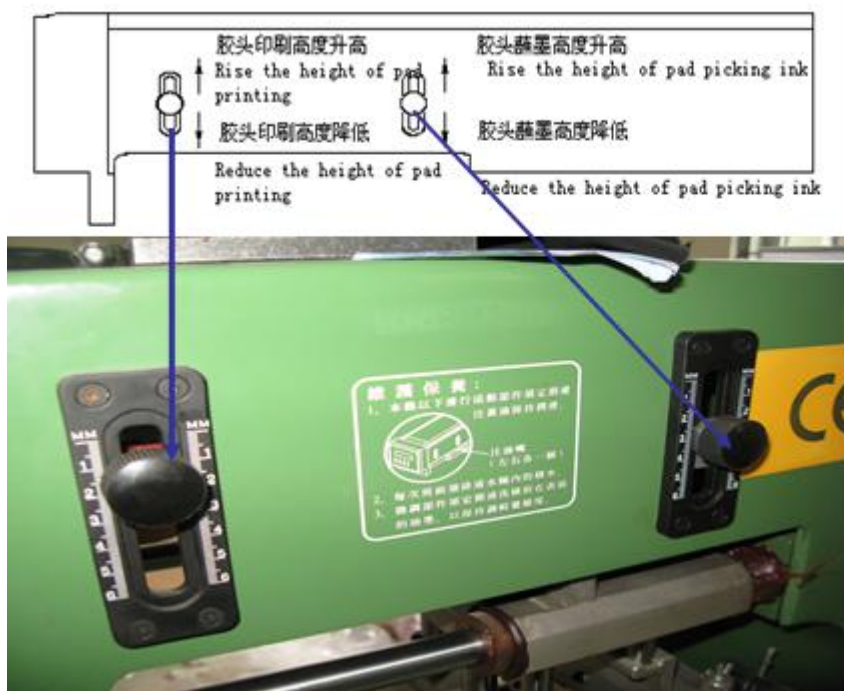
3.Connect with compress air with machine, You must push the Valve to connect compress air.

3.Turn the Knob to adjust the pressure of Compress air at 5-7 bar

2.Connect Power supply with this insert.

#### ✧ **Adjusting the vertical stroke length of pad between pad and plate and fixture**

There are two screws on one side of the pad printer; you can adjust the height of rubber pad for picking ink and printing.



**Making rubber pad to contact with plate:**

1. Adjust the pad seat;
2. Adjust the Knob B.

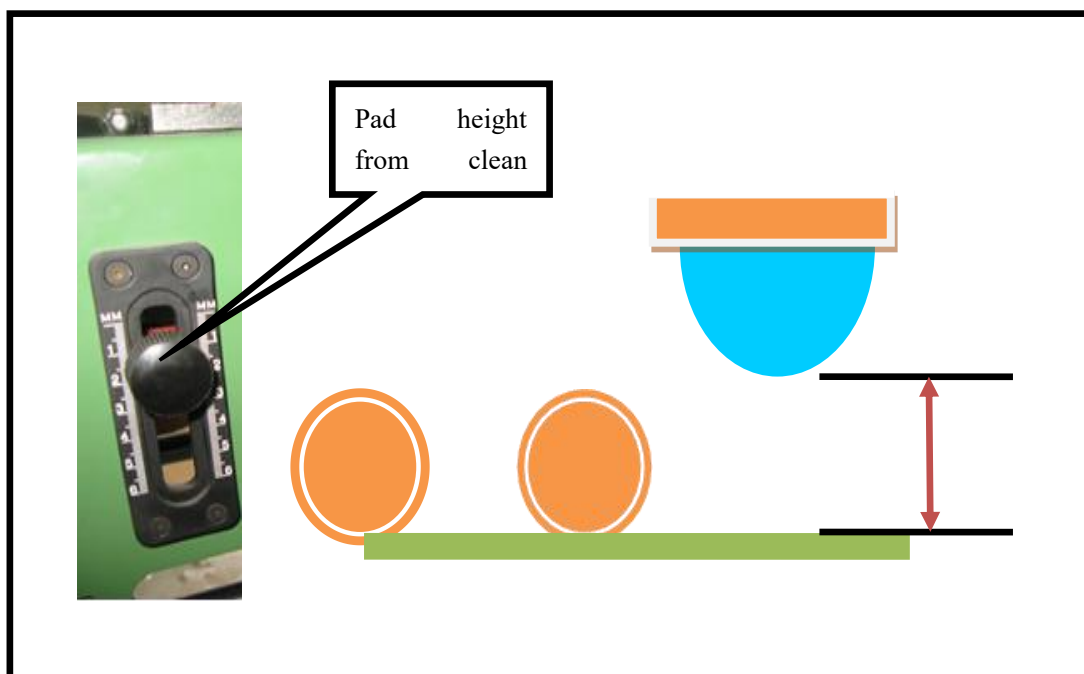
**Making rubber pad to contact with plate:**

1. adjust the pad seat;
2. adjust the Knob A;
3. Adjust the height of working table

✧ Adjust the height of pad contact with clean tape

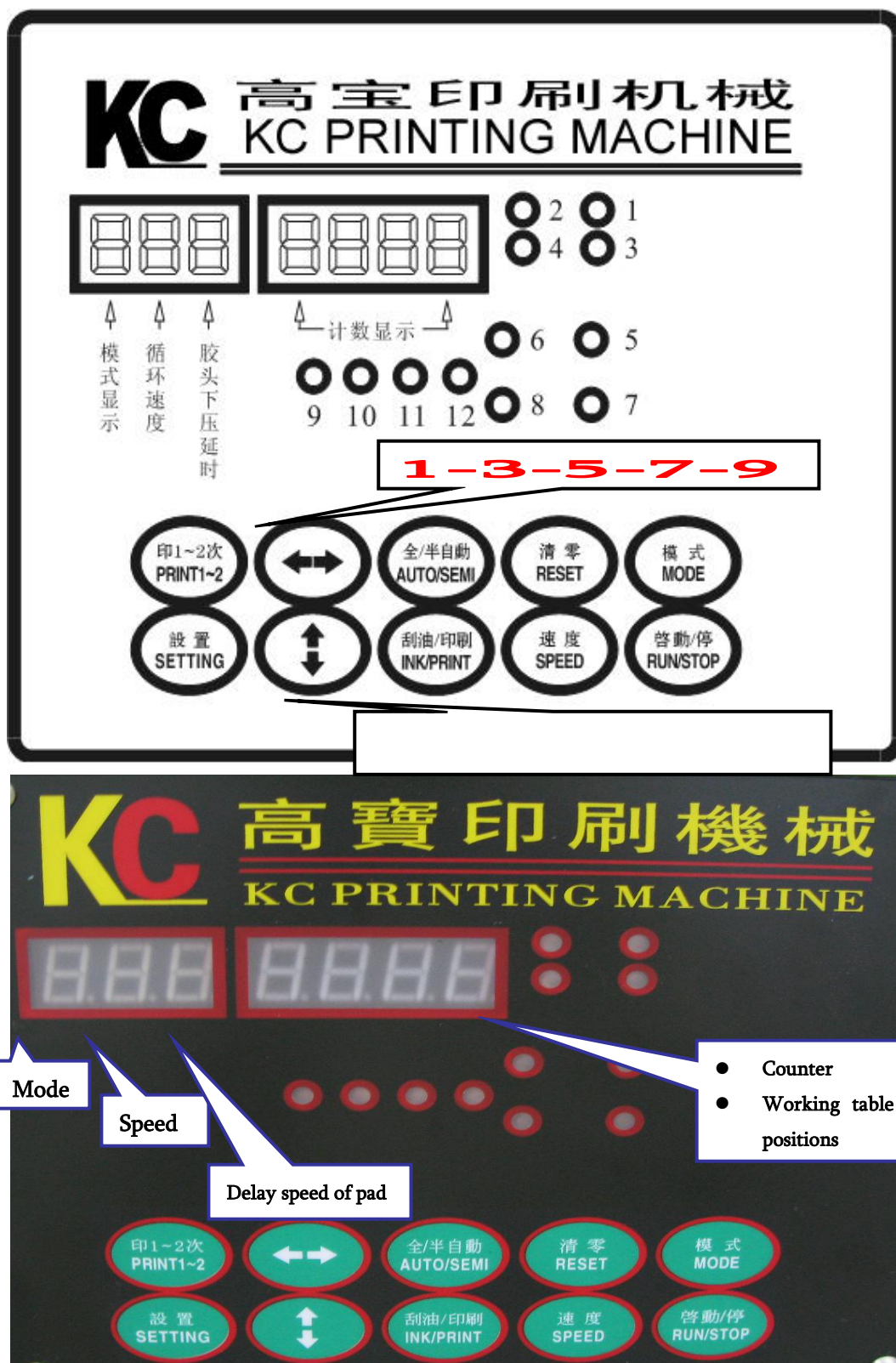
There is one screw on another side of pad printer.

Move the position; you can adjust the pad height contact with clean tape.





## ■ Drawings and instructions of each key part





## ● Drawings and instructions of each key part

*Functions of the keys:*

- a) **PRINT1~2**: when the machine is running, press this key, the machine will enter the mode of “Dipping ink twice and printing once”; if press it again, the machine will enter the mode of “Dipping ink once and printing once”.
- b) **← →**: this key is also called “Table”, when the machine stops running, press this key once, the sliding carriage of pad will slide forwards or backwards once.

c) **AUTO/SEMI**: press this key, the indication light(11)<See Drawing5> will light up, which indicates that the machine has entered the “Semi-automatic running mode” you can operate this machine with footswitch ; when the indication light(11) quenches, which indicates that the machine has entered the “Fully automatic running mode”.

d) **RESET**: Keeping press this key to reset the counter.

e) **MODE**: press this key to switch from mode “1” to mode “4”;presss this key each time, the indication digit will add one. All the indication digits are as following:

- i. 1>--Dipping ink once or twice, printing once.
- ii. 2--Dipping ink once or twice, printing twice.
- iii. 3--Dipping ink once or twice, printing three times .
- iv. 4--No use.

f) **SETTING**: when the machine stops, press this key every time, the Tape device will move to one position, and the indication light(12)lights up, which indicates that the machine has entered the “Setting mode”.

g) **↑↓**: this key is also called “Test”, when the machine stops running, press this key once, the pad run one stroke in vertical direction. This key also has an intellectual function that when the machine stops running, if press this key for 20 seconds and then stop pressing, the pad will begin running downwards and upwards nonstop. You can press the key “RUN/STOP” to quit this mode.

h) **INK/PRINT**: press this key to switch between the “fully automatic printing mode” and “automatic scraping ink mode”; if the indication light(10) lights up, which indicates the “automatic scraping ink mode”, and if the indication light(10) quenches, which indicates the “fully automatic printing mode”.

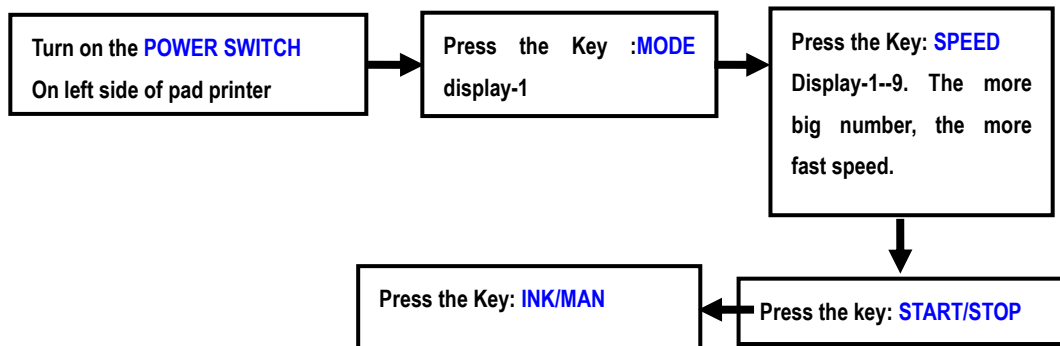
i) **SPEED**: press this key to adjust the printing speed of the machine form level “0” to level “9”, which is from slow to fast.

j) **RUN/STOP**: press this key at any time to start or stop the ongoing operation of the machine.

So we suggest you operate this machine under these mode:

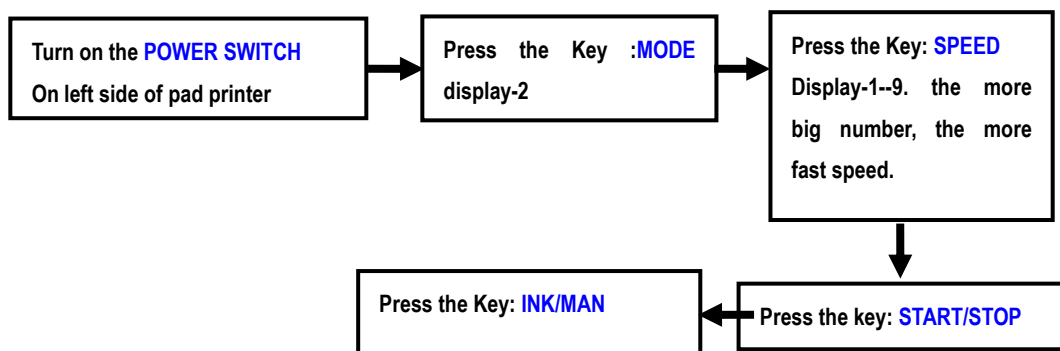
- 1- Print one color .

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



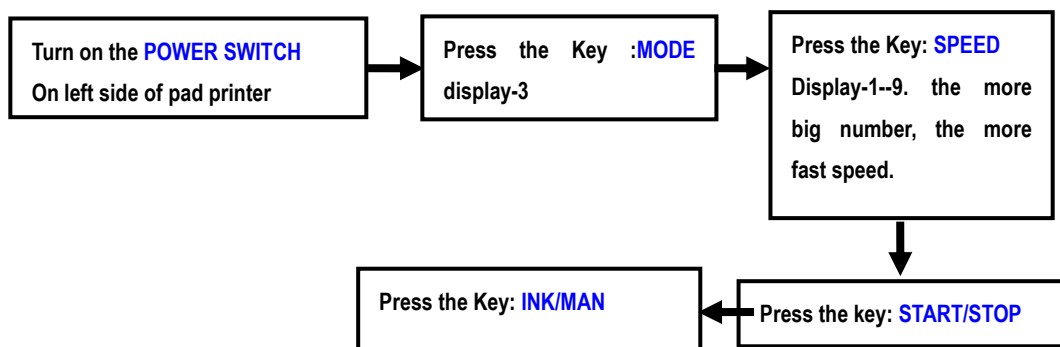
● 2-Print Two times .

Press the "**MODE**" key. The indicator 1 display: **2**". Then press **start/stop** key, Press **MAN/INK** key, the machine will print two times then return back.



● 3- Print three times .

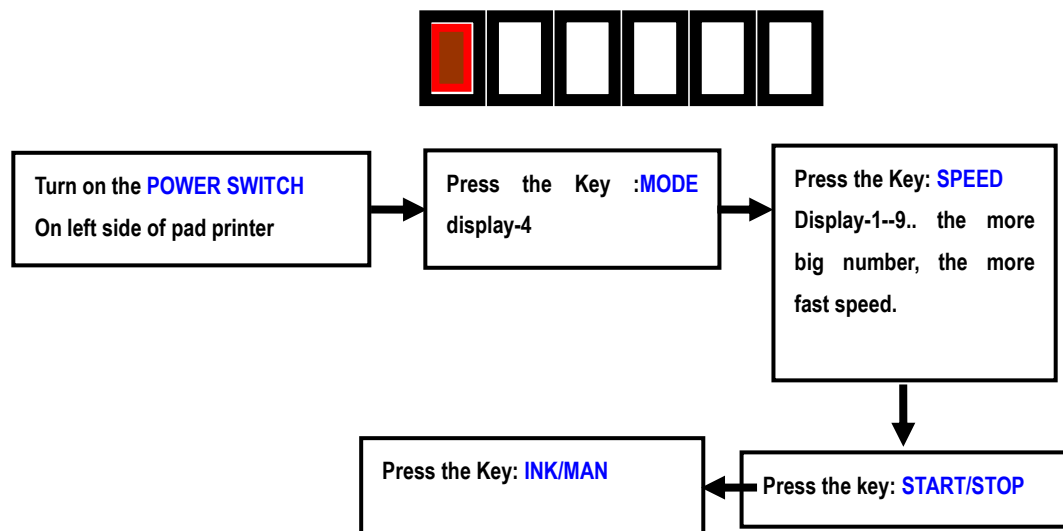
Press the "**MODE**" key. The indicator 1 display: **3**". Then press **start/stop** key, Press **MAN/INK** key, the machine will pick up ink one time and print three times and return back.





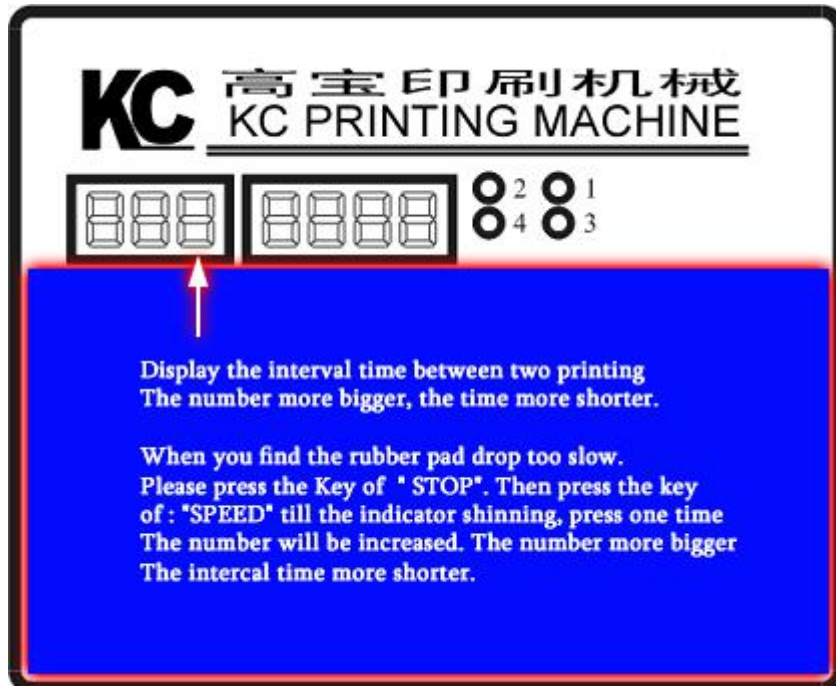
- 4- No use .

Press the "MODE" key. The indicator 1 display: 4". Then press **start/stop** key, Press **MAN/INK** key, the machine will be no use, Please do not enter into this mode, .

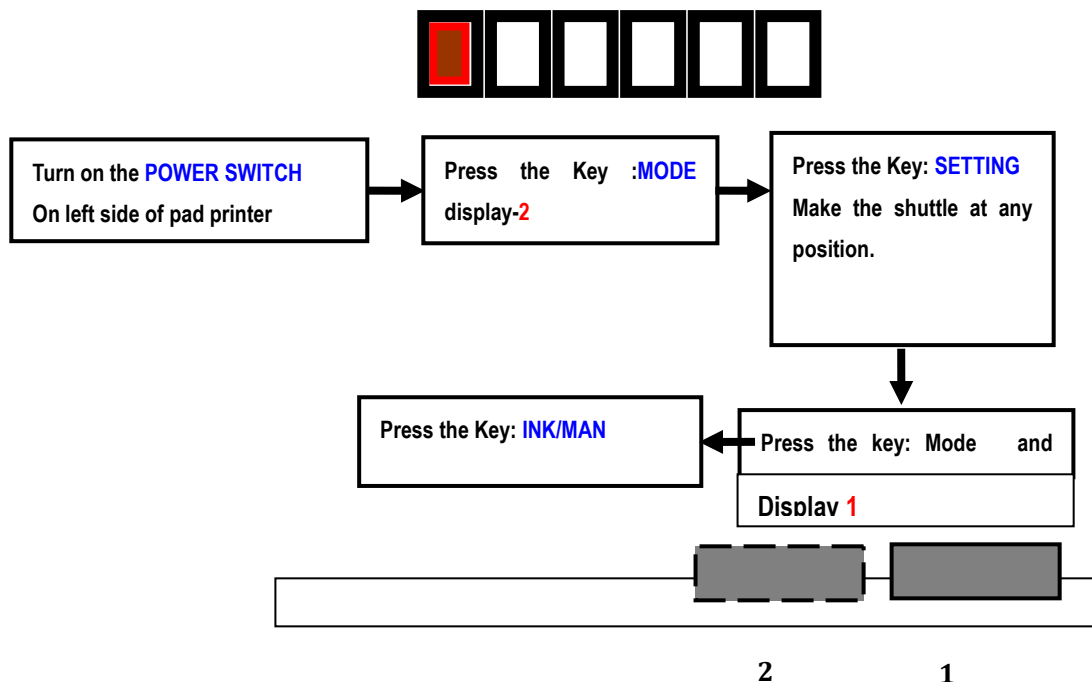


- When you want to change another mode, please first press the key of : **RUN/STOP**.
- When you want to operate this machine with foot switch, please press the key of **RUN/STOP**. Then press the key of **SEMI/AUTO**. There is one footswitch inside of tool box, Please install it onto the pad printer.
- When you want to get more thicker ink film, Please Press the key of **RUN/STOP**, Then Press the key of **PRINT1-2**.  
The rubber pad will pick up ink two times and print one time.
- If you left in seconds, please do not stop the machine, Please press the key of **INK/AUTO**, make the machine enter Ink Mode. This method will avoid ink drying.

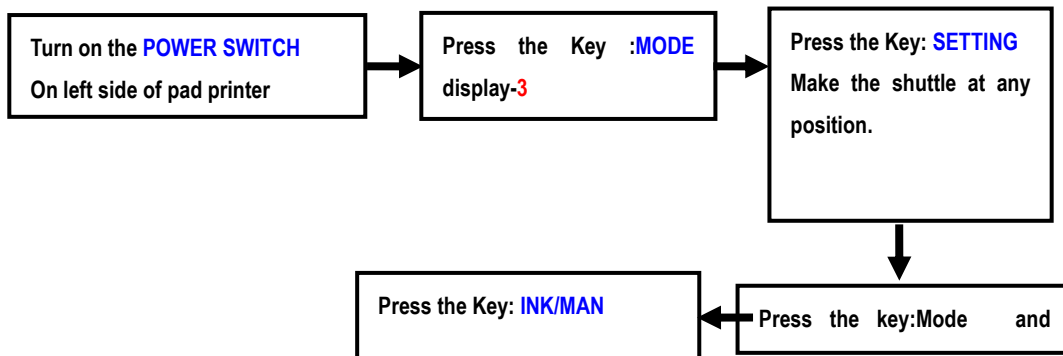
### Importance Prompt (Four colors pad printer)



*If you want to print one colour with this machine and make the shuttle stay at different position.*

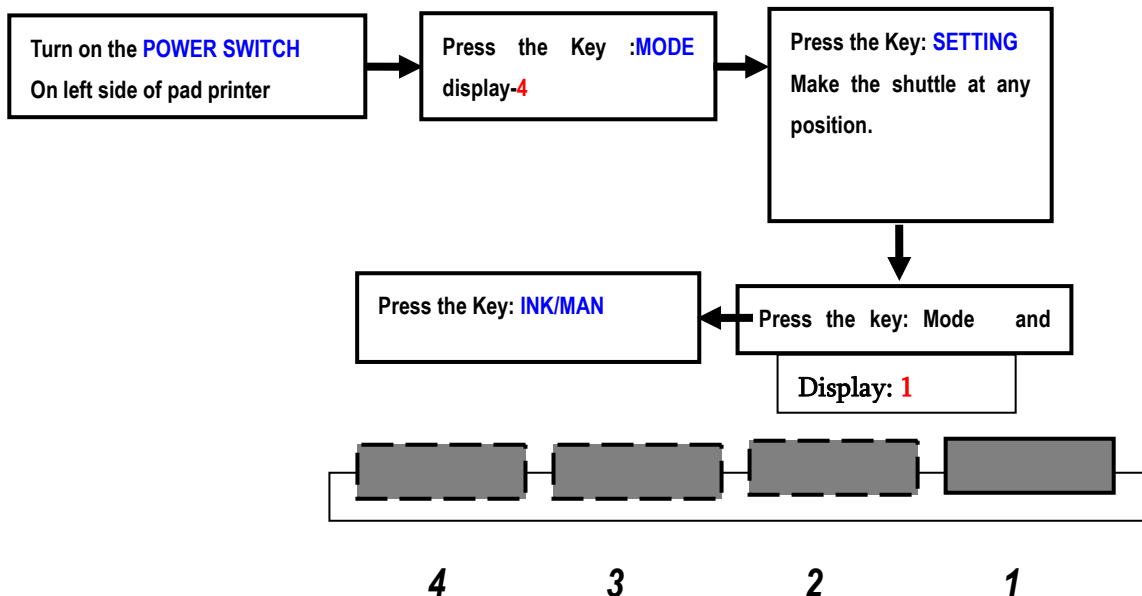


*After setting, the machine will print one colour and shuttle stay at the Position 1 or 2.*



3                      2                      1

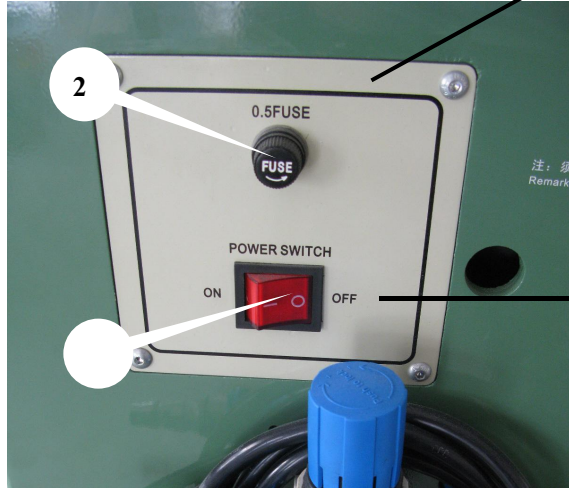
After setting, the machine will print one colour and shuttle stay at the Position 1 or 2 or 3.



After setting, the machine will print one colour and shuttle stay at the Position 1 or 2 or 3 or 4.



## ● Power supply panel



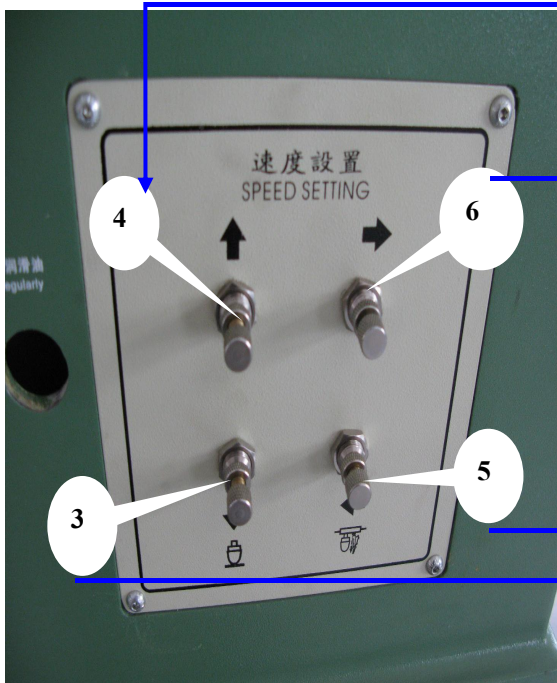
### 1. Power switch

When you connect power line with machine, Please press the switch to open the power. Then the indicator on the IC panel will be turn on

### 2. Fuse

When you find the indicator is not light after turn on the power switch, Please check the fuse, please confirm the fuse is good before you check other parts.

## ● Speed Panel



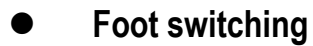
4. Adjust the speed of rubber pad from Down to up

6. Adjust the speed of rubber pad from working table to plate

5. Adjust the speed of rubber pad from plate to working table

3. Adjust the speed of rubber pad from up to down

These adjustment screws installed on the cylinder, so they adjust only the rubber pad moving speed, the machine speed must be adjusted through the speed setting on IC panel.



### Foot Switching:

### ■ *Circuit Diagram*





## Instructions:

- D---connects to solenoid valve of the pad press on tape;
- C---connects to solenoid valve for sealed cup drive ;
- B---connects to solenoid valve for lifting the rubber pad
- A---connects to solenoid valve sliding the sliding carriage of rubber pad

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 backwards 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 backwards stroke.  
12V

Foot switch-Connect with foot switch .

## ***We will replace electric circuit base on following situations***

- There is no problem when the power to confirm the premise, LCD cannot display;
- Movement disorders machine functions cannot be adjusted;
- Mechanical components flexible and comfortable, but you cannot operate the machine through the control panel.

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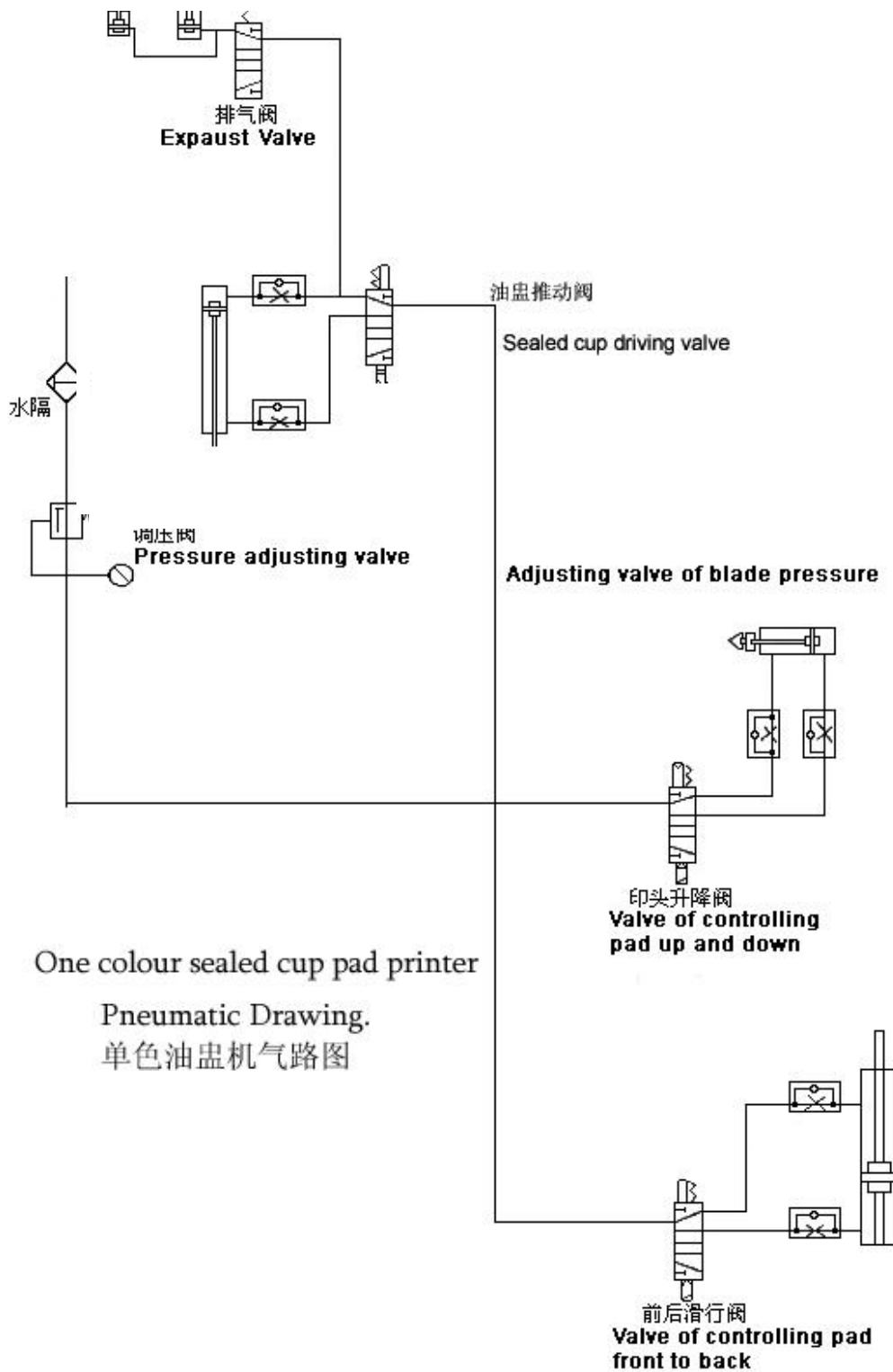
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## 6. Pneumatic drawing





## 7. Operation Process

### 1) **Power connect.**

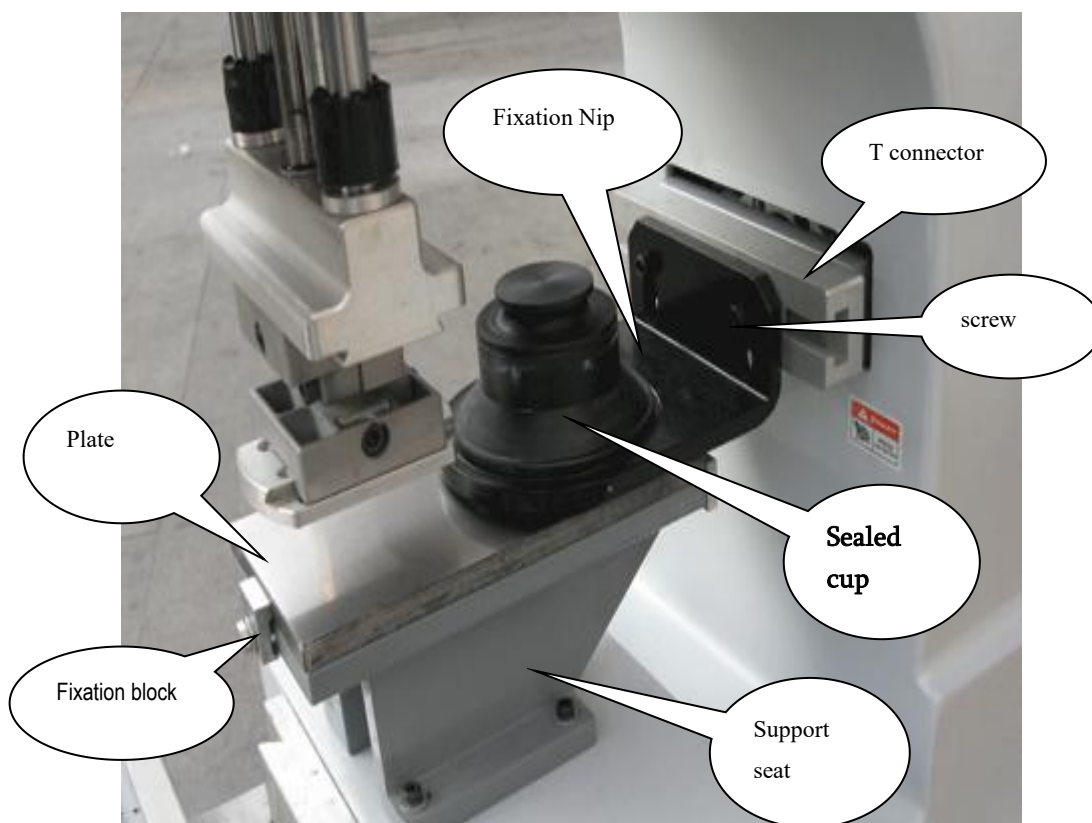
First connect power with machine. Please confirm locating Voltage;

### 2) **Air connecting:**

Most of KC brand pad printer need compressor to provide air source, Please order one set compress air in your plant. Please keep your hand 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.



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. KC 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:

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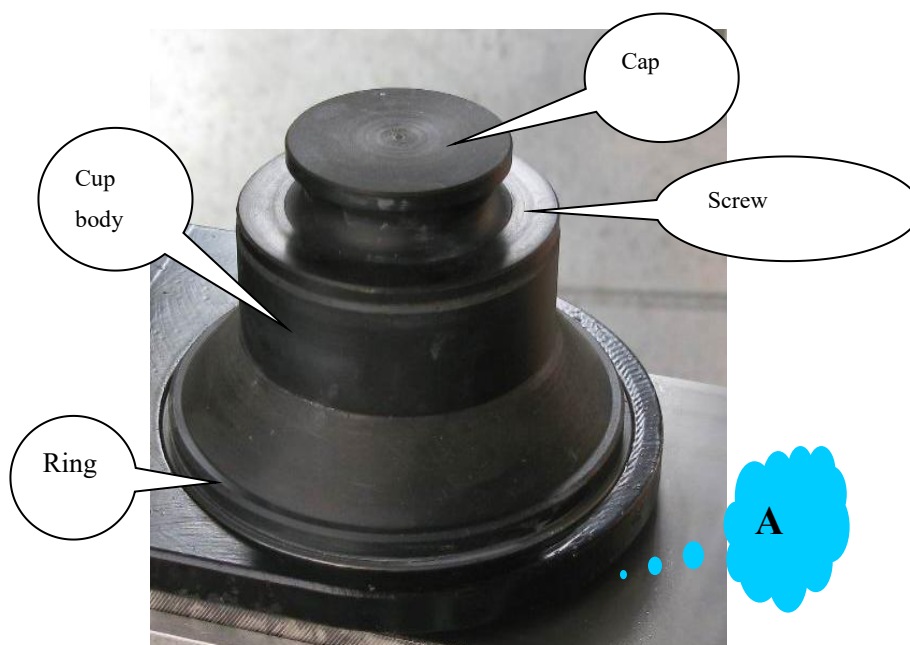
- First take out steel plate by left hand, take the sealed cup by right hand, slowly move sealed cup to close the side of steel plate, then push the sealed cup to the center of one end;
- Loose the fixation screw, and take off cup fixing nip;
- Put steel plate with sealed cup onto plate support seat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

#### 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, KC 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 .

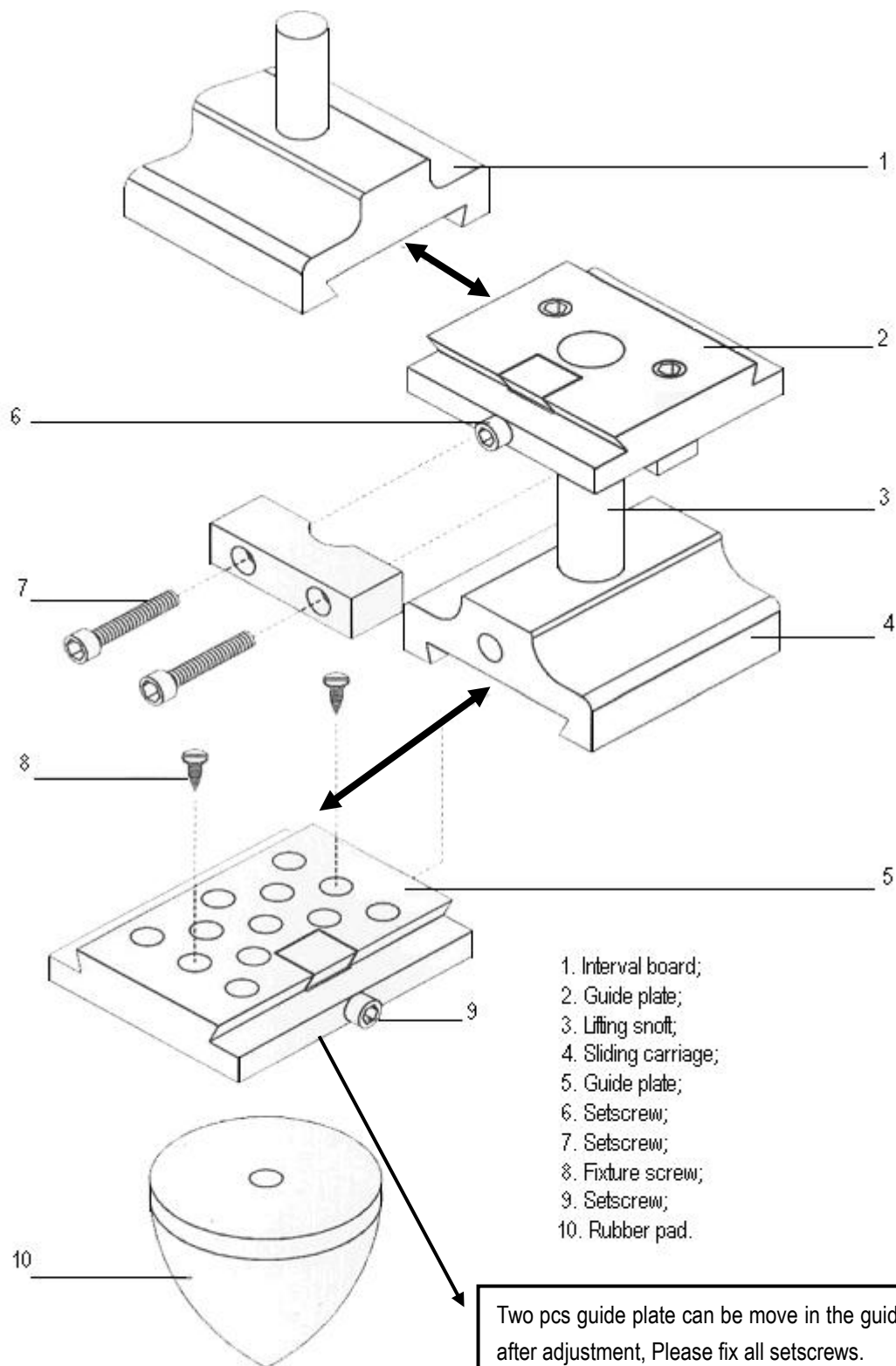
Please see the photo of sealed cup ,the cap can be open to add ink and thinner. When printing, ink and thinner move onto the surface of steel plate with sealed cup together. The solvent closed inside and do not volatilize to the air and avoid breath by operator. It will not hurt their health. The Viscosity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

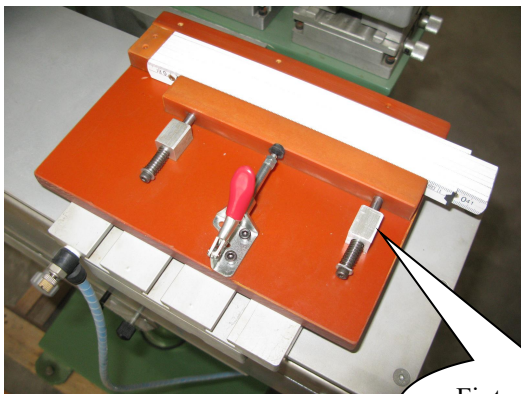
It is important to choose one suitable rubber pad. The rough principle is the outline of printing design is similar with the cross section of rubber pad. The size of cross section can cover total design. First taking out the guide plate from pad seat, fix the screw through the hole with screwdriver , 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.





## 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 overprint in 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



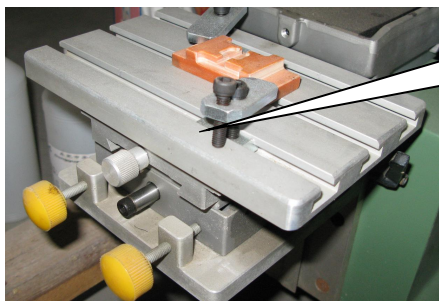
Fixture for disk

Some customers adhere fixture onto the working table, we do not suggest do so, threesome 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

### The adjustment method:

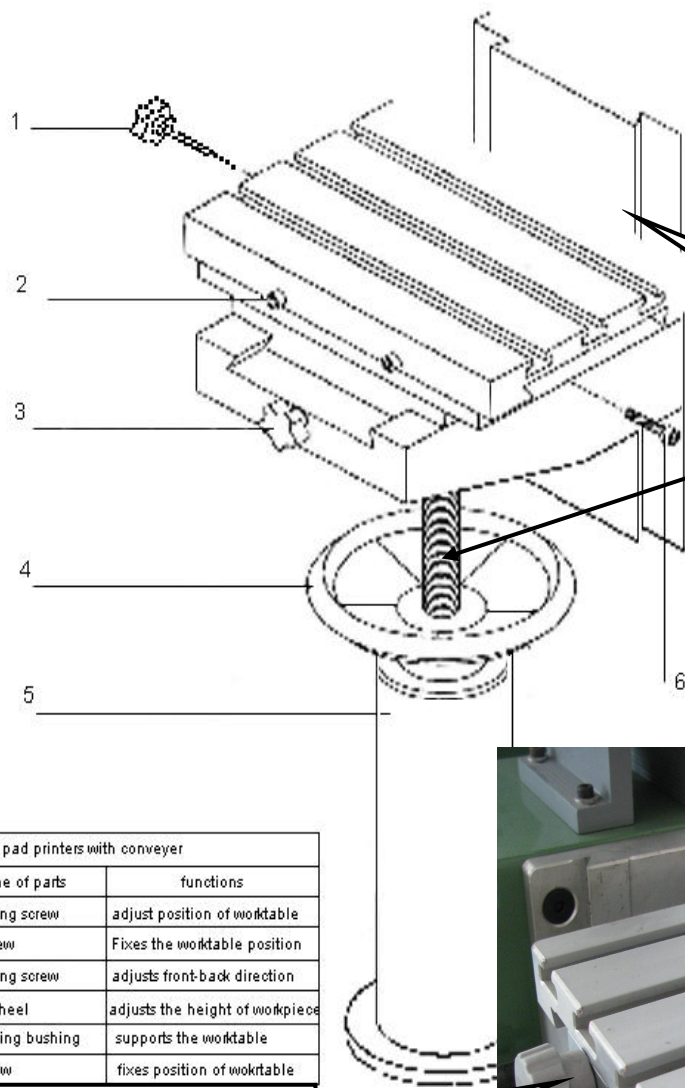


Fixture on working table

- 1: loose the setscrew; all movement parts must be loose through loose the setscrew;
- 2: adjustment: Put one object on the fixture, and press the button" testing printing: and check the printing position. Then adjust the working table;
- 3: after adjustment, please remember fix these screw, or the printing position maybe change in the printing works.

### Some advice on test printing;

- When testing, Please paste PP Tape onto object and check the position and quality, after confirm ok, please remove PP tape to print.
- When printing, if you find printing quality is not good, Please take cloth with dipping in alcohol to clean;
- Please clean the rubber pad when you find the color shallow.



Please adding some lubricating oil for regular date

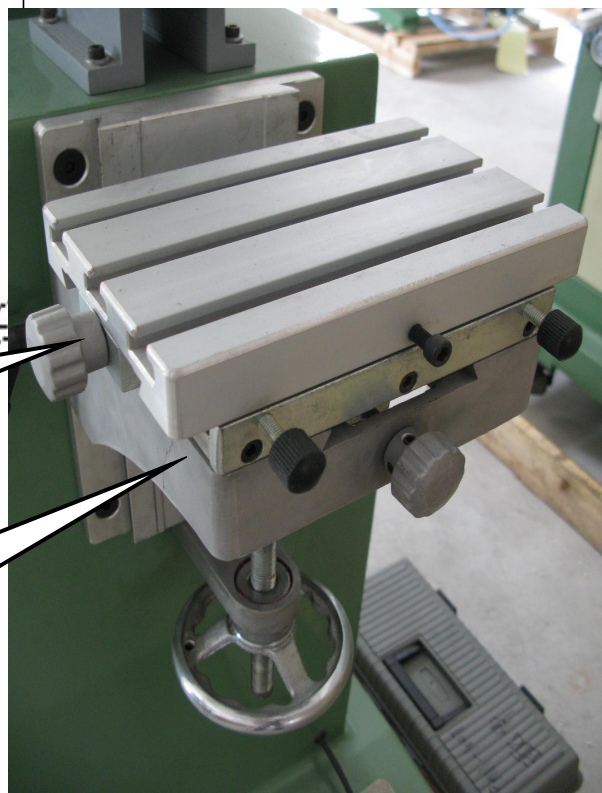
worktable of pad printers with conveyer		
no	name of parts	functions
1	Adjusting screw	adjust position of worktable
2	Setscrew	Fixes the worktable position
3	adjusting screw	adjusts front-back direction
4	handwheel	adjusts the height of workpiece
5	supporting bushing	supports the worktable
6	setscrew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

**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.

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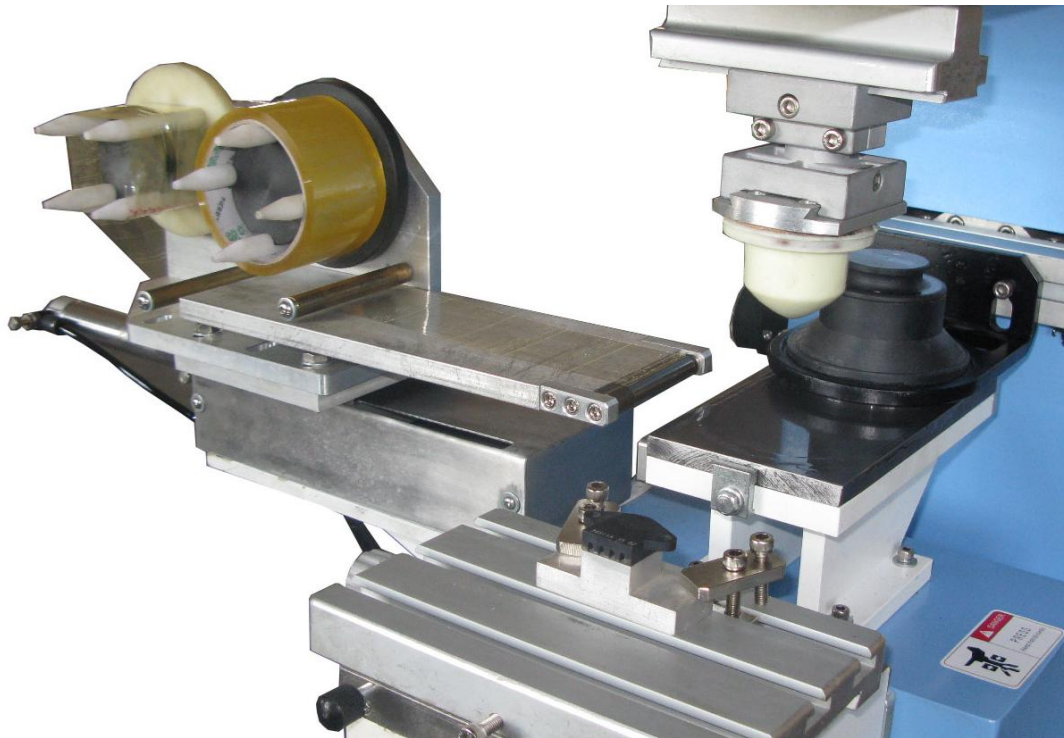
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#### 7) Installing tape

Installing clean tape will improve printing quality

Please check the below drawing for installing clean tape



### **8. Maintain**

- Keep the cleanness of the surface of machine.
- Wipe the slide parts and infuse lubricant to them weekly.
- Drain the contaminant water accumulated in the filter frequently in order to prevent the water from flowing into the inner pneumatic system.
- After the printing work, remember to wash the plate and sealed cup.

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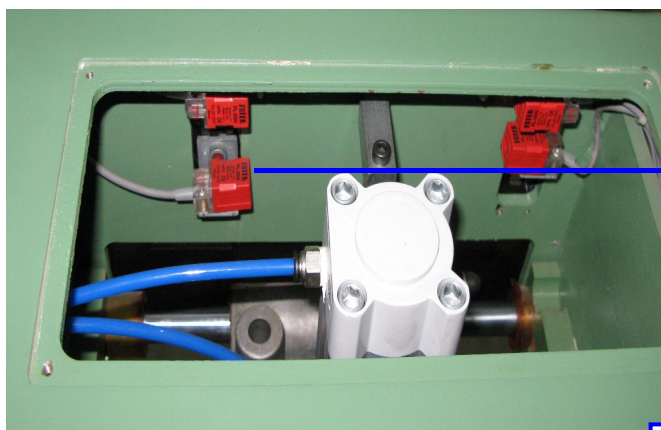
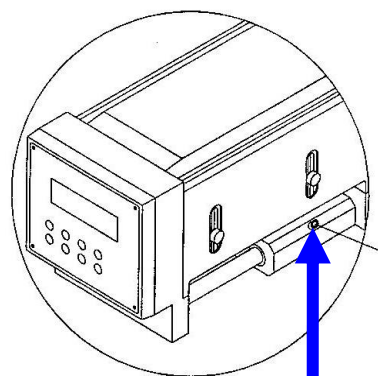
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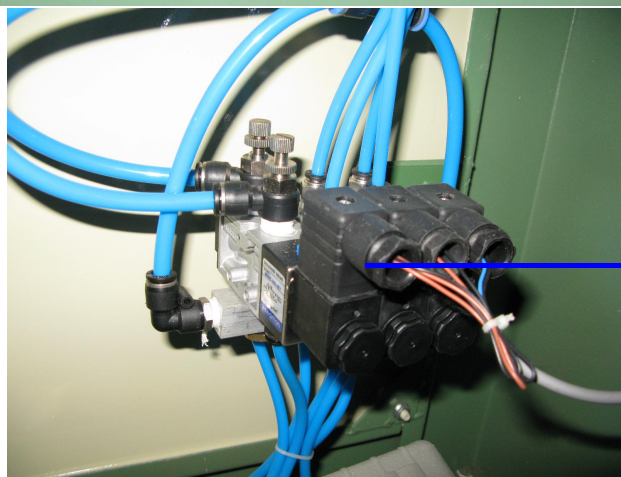
2. Please adding some lubricating oil for regular date



1. Please adding some lubricating oil after removing the Plastics plate



Four magnetic switch control the rubber pad movement, Please keep them clean,

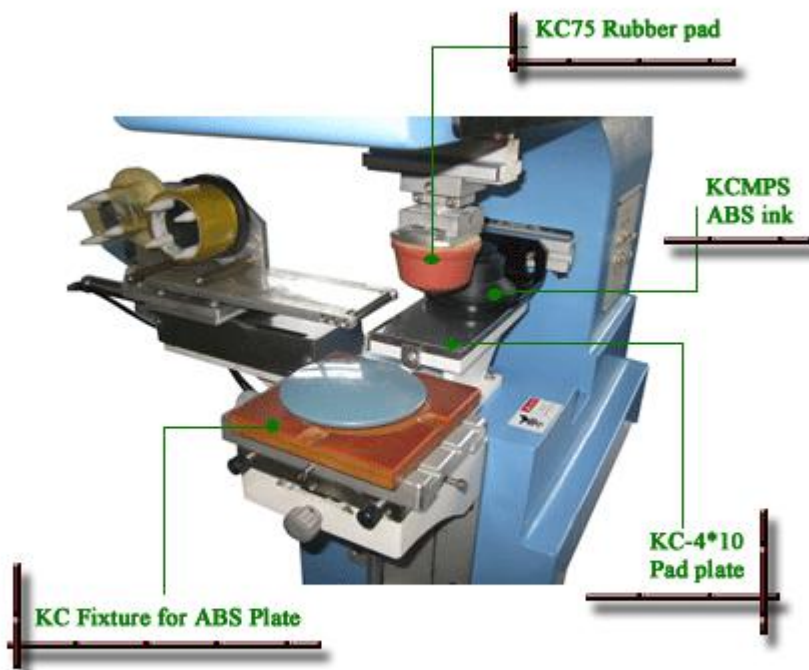


Clean-drying compress air will extend the usage life of Magnetic valve. Compress air, drying machine and air store tin ordered together suggested.

Three magnetic valve control all cylinders: Please keep them clean, Please keep the plastics tube to connect well.



## 9. Printing Factors



Any printing task include below factors:

- Pad plate- base on printing documents, you need make etched plate and onto pad printer, Please read<how to make pad plate > to know process of plate-making;
- Printing ink- base on materials to be printed, different type ink to be choice. Pour some ink into sealed cup and have a test before printing;
- Rubber pad- Rubber pad made by silicon rubber, commonly only 10-20 types rubber pad can print most of substrates;
- Fixture- If you want to get precision printing, Fixture made with lathe machine. Some fixture made by butty.