



SEALED CUP PAD PRINTER

With shuttle

OPERATION INSTRUCTION



P2-408C
P2-410C
P2-412C

Published by LC Printing Machine

LC industrial company Limited 21-1

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Preface

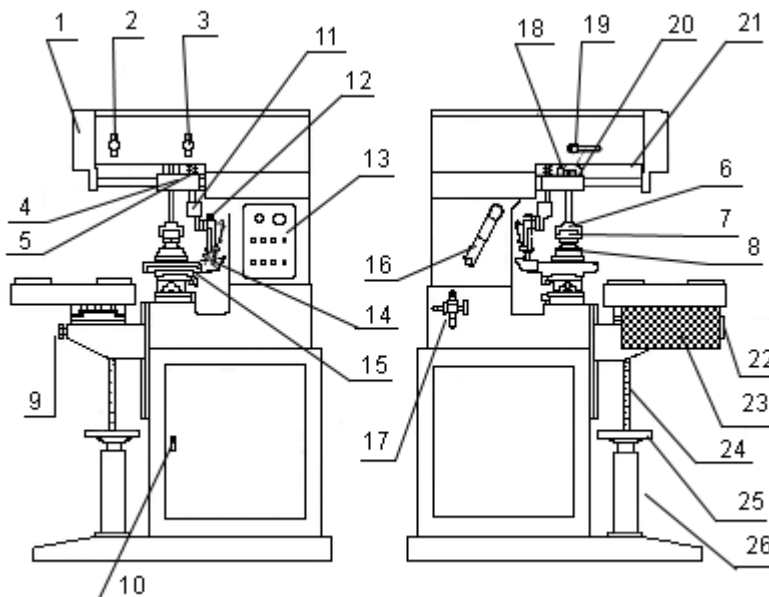
LC Printing Machine Limited published a series of new type pad printing machines, which adopt the full automation control system, and has more stable and reliable operation. The automation program is much more flexible, which simplifies the operation procedure components of the machine are made of coin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

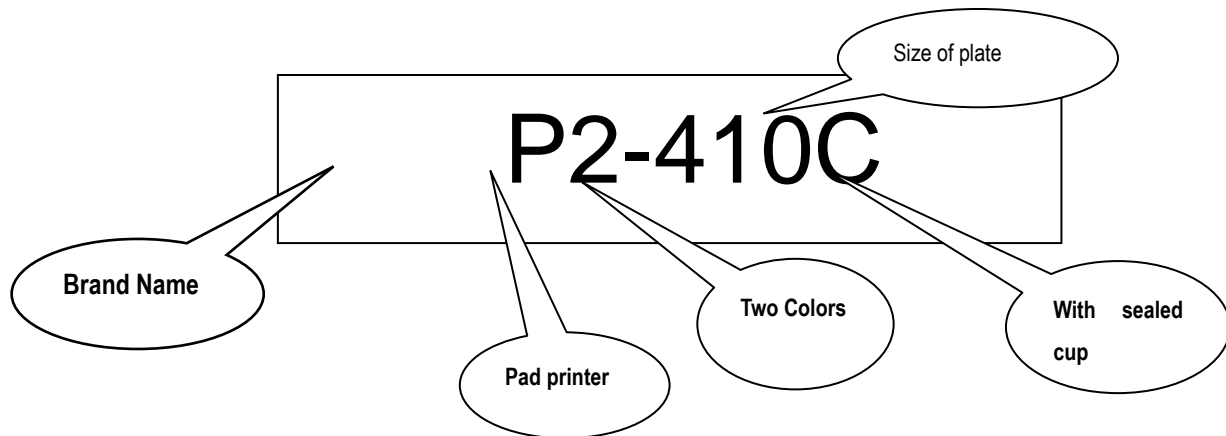
the scraper

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



2. Models and plate size of pad printers

Model	Description	Plate area	Diameter of sealed cup
P2-408C	Pneumatic 2-colour pad printer with shuttle	100*200 mm	90mm
P2-410C	Pneumatic 2-colour pad printer with shuttle	100*250 mm	90mm
P2-412C	Pneumatic 2-colour pad printer with shuttle	100*300 mm	90mm



Remark:

"LC"- Brand; "P" –Pad Printer; 408- Pad plate size: 4 × 8 ". 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 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, 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.

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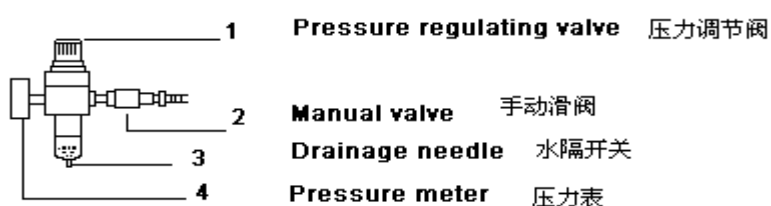
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When the machine is working, the pressure of compressed air inbreathed usually should be adjusted to 5 BAR. of you find the index is on the high side, push the pressure regulating valve upwards, and then revolve it anticlockwise to the

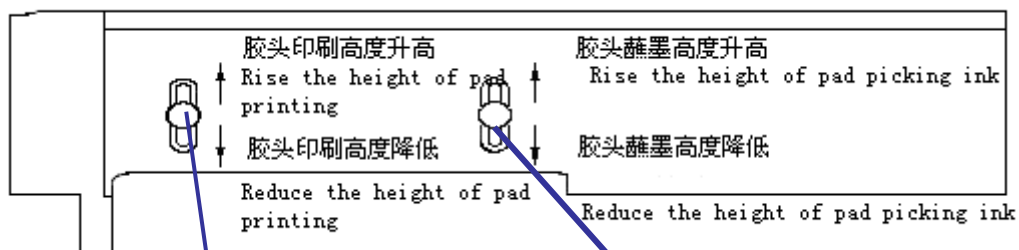


standard pressure, while on the contrary, revolve it reversely, after adjusting press the valve downwards is order to fix it within the confines of standard pressure.

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.



3



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.

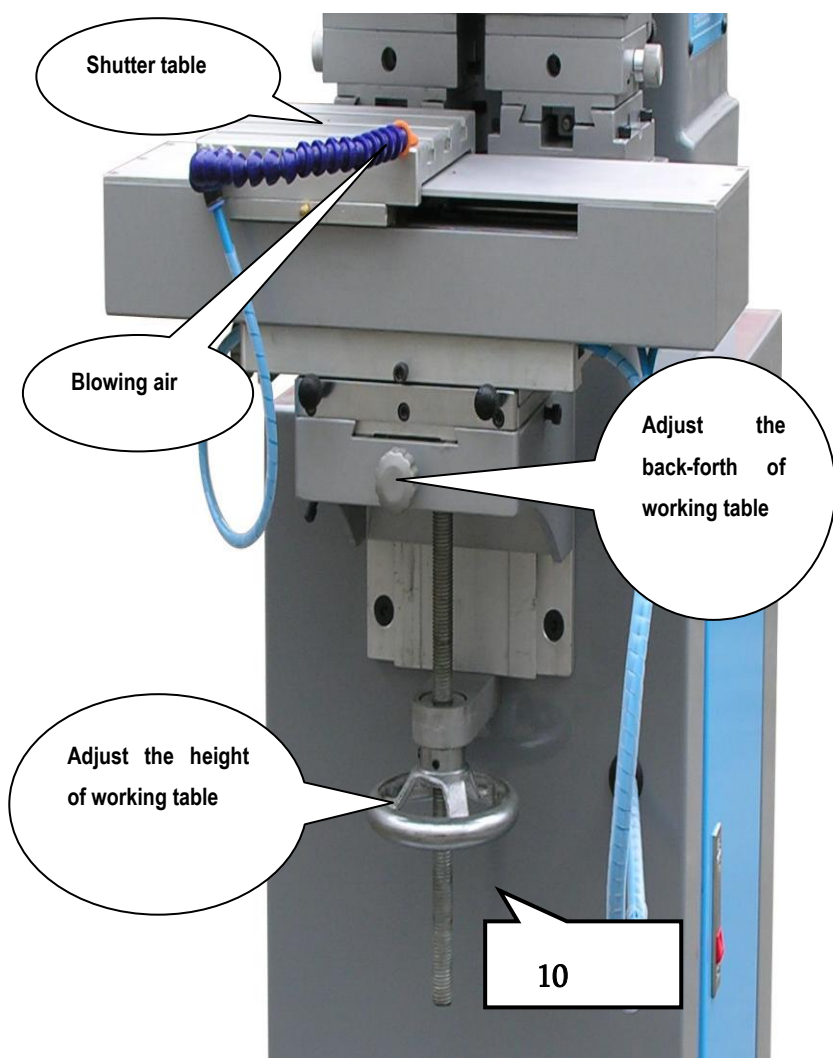
5. **Adjusting the vertical stroke length of pad** (see drawing 3)

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 workpiece till reaching well printing quality.

Both one colour and two colours can be printed with this machine. When printing one colour, the shutter working table stays in one end and keeps stillness. When printing two colours, the shutter working table moves between left end and right end. When printing two colours with this machine, Please open blowing air so that the first colour can become drying soon.

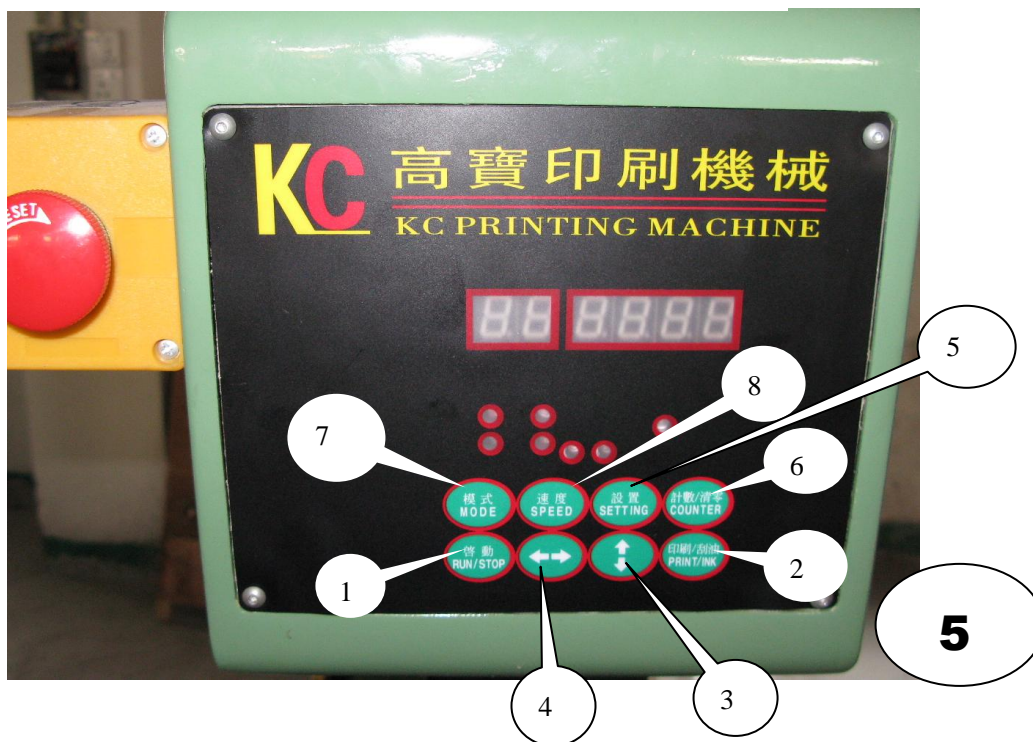
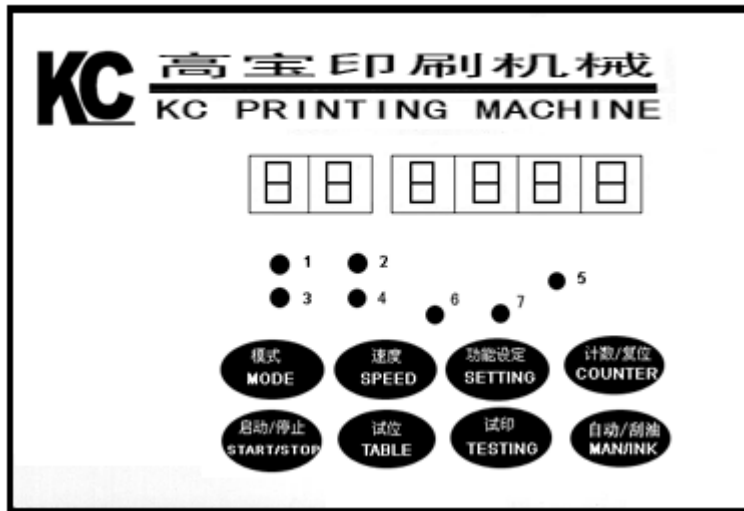
The shutter working table can be adjusted to height, back-forth, landscape orientation, longitudinal.



4. Drawings and instructions of each key part

1. IC panel

Functions of the keys



“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 workpiece, and then press it one more time, the worktable will transport one more workpiece; 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 colour pad printer. When you use two colours pad printer to print one colour, please set as this mode.

"1": dipping ink once, printing once, and the conveyor transports one workpiece.

Two colours 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 workpieces.

Two colours 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 colours pad printer manily 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 colours pad printing process. The rubber pad first printing one colour, the shuttle working table move to left postion and printing the second colour, 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 colours 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 workpieces.

Two colours 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 workpieces.

Two colours 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 colours.



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

Two colours 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 colours 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.

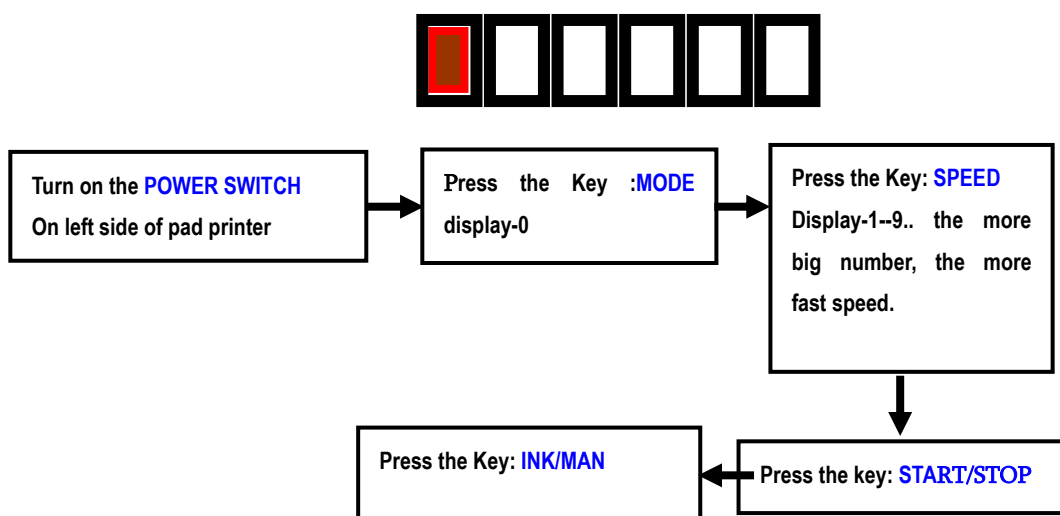
Two colours pad printer with shuttle have no this mode. When you into the mode, machine will not work, Please exit from mode .

"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:

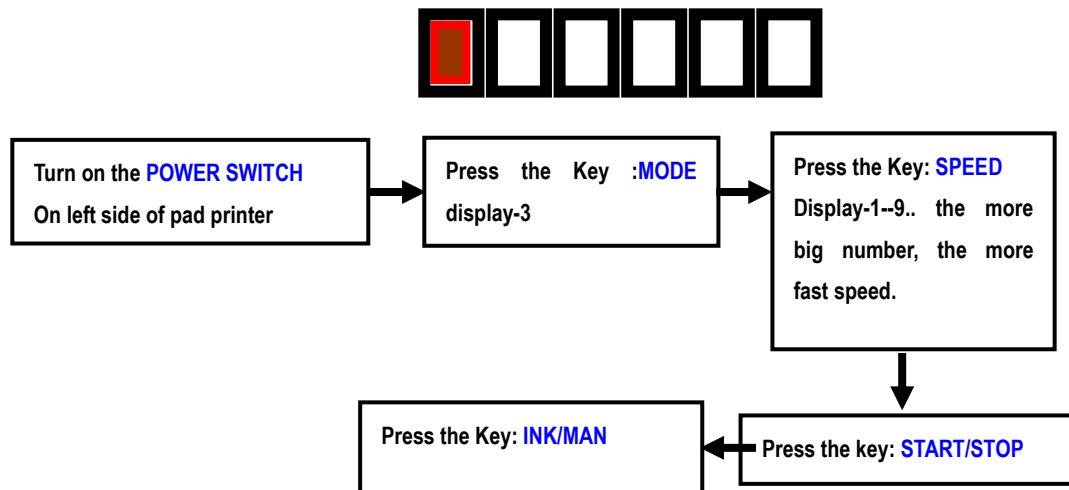
a) Print one colour with two colours pad printer with shuttle.

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



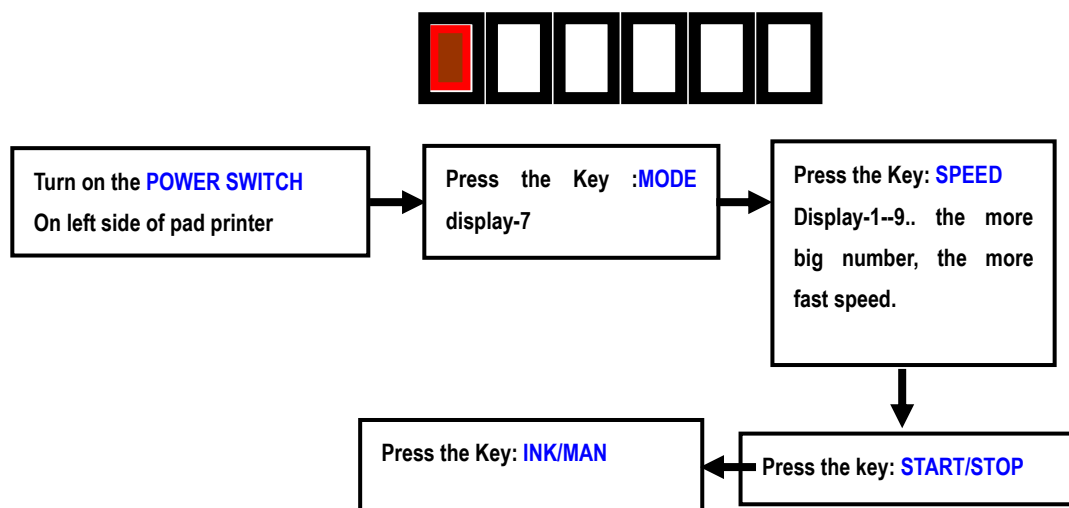
b) Pick up ink one time and Print two colours with two colours pad printer with shuttle.

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



c) Pick up ink two times and Print two colours with two colours 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 colour and working table keep movement from left to right.



Important caution:

When print two colours, 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.

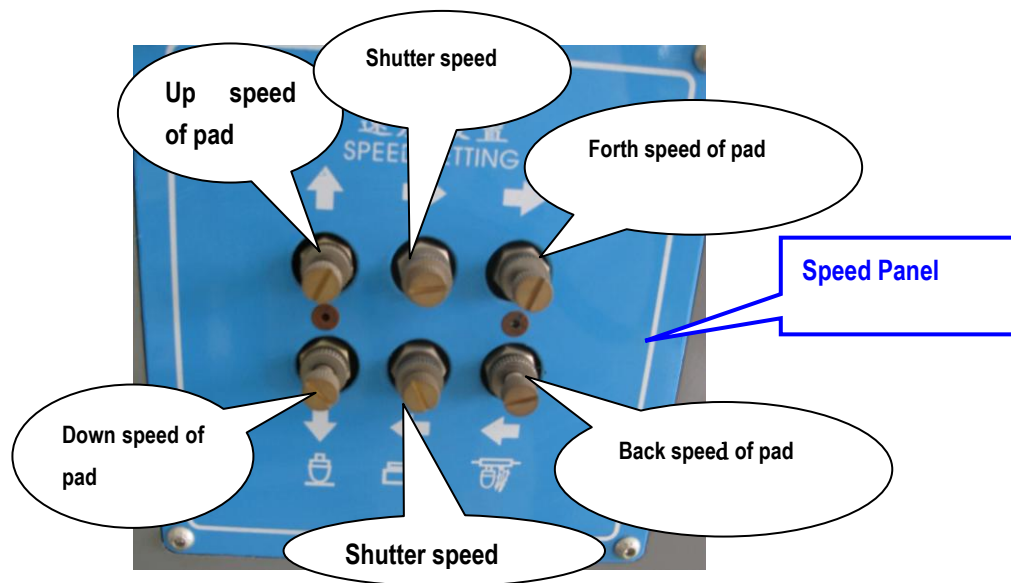
There are one Speed Panel one the side of pad printer. Six screws installed on this panel. Please see the drawing of Speed panel. These screws only used to adjust the speed of simple speed of rubber pad move to up and down, move from plate to working table and shuttle working table from left to right.

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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

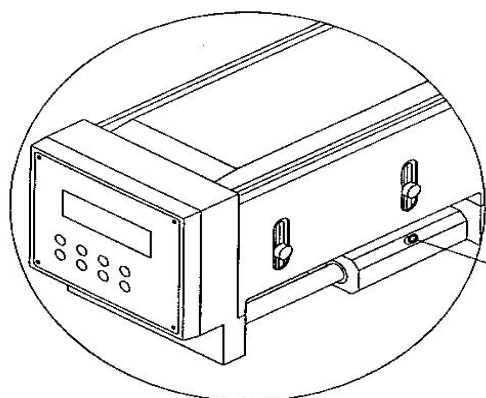
12v

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 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.



Infuse lubricant once per week



7. Operation Process

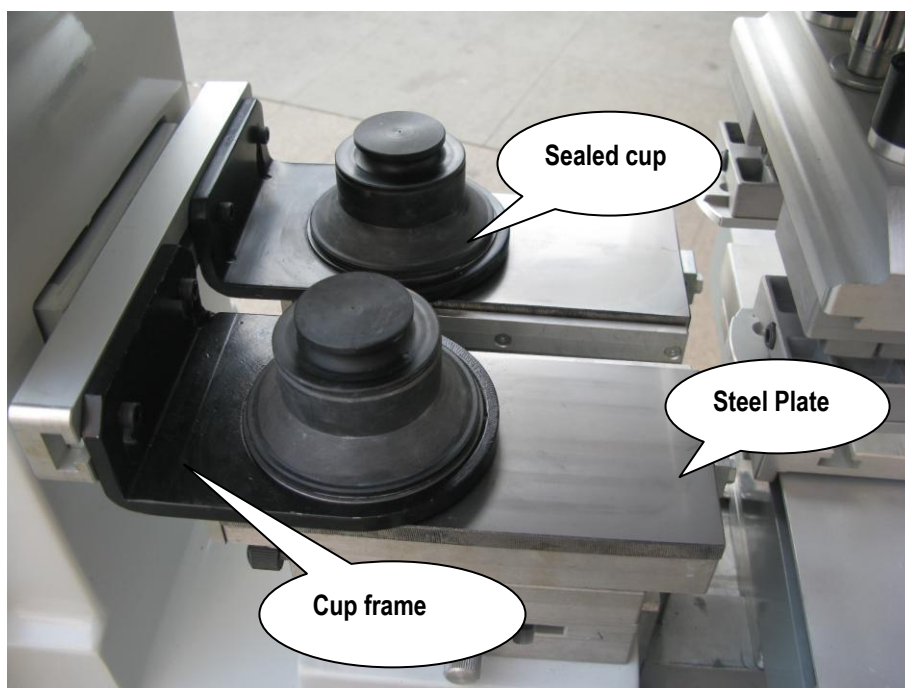
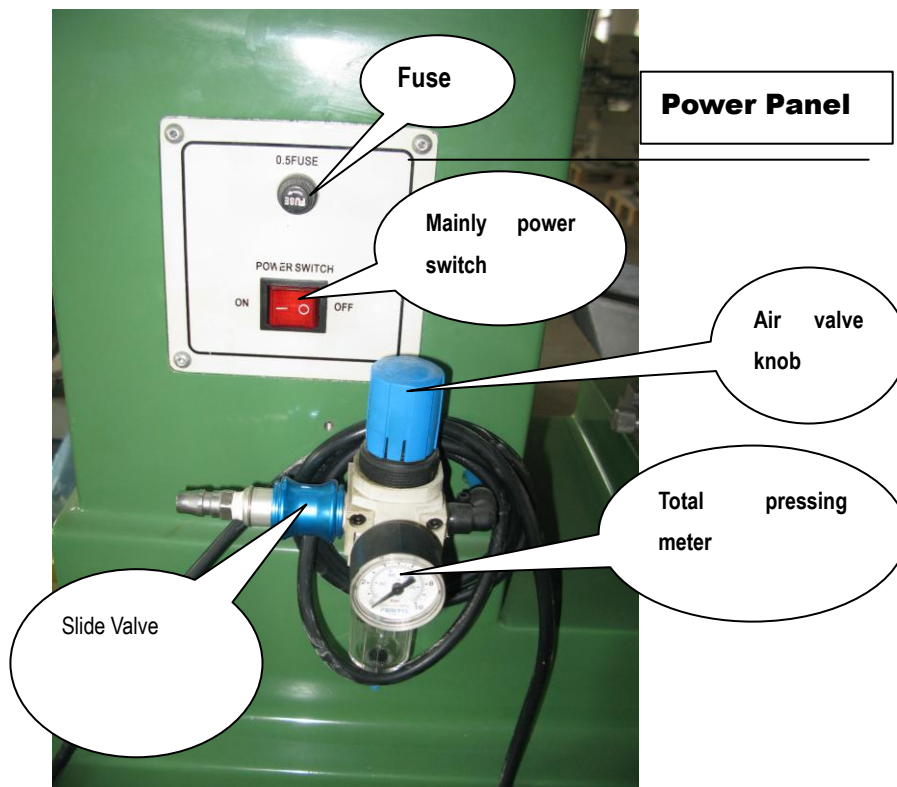
1) Power connect.

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.

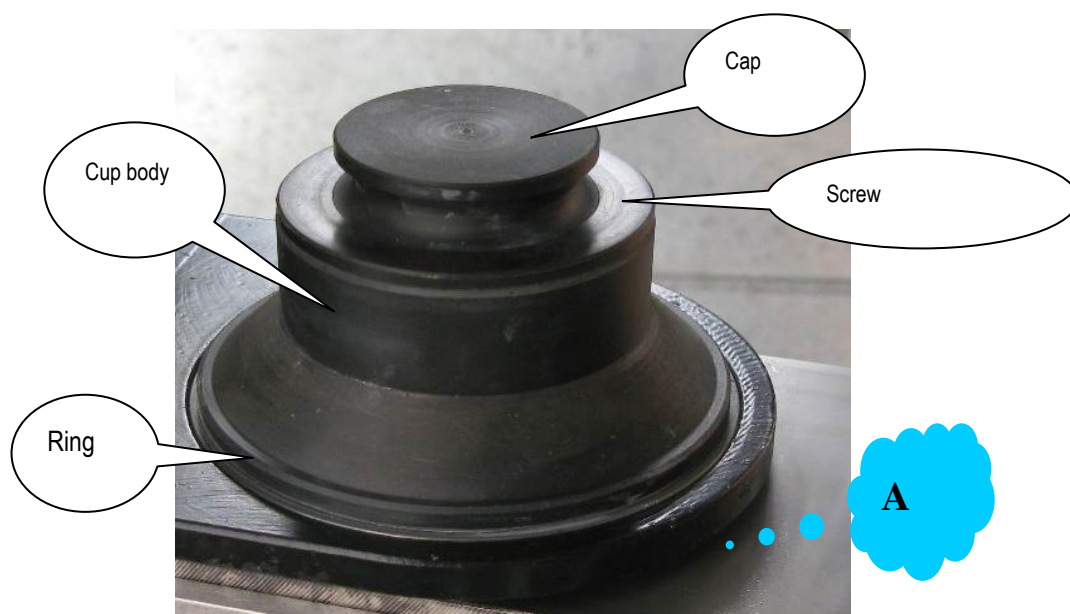
There is magnetic axis inside sealed cup, so it will be absorbed on the steel plate when they contact each other. Please be careful that make sealed cup to close steel plate. LC brand sealed cup pad printer install steel ring, some customers like using ceramic ring. Please make a demand to our sale representative, 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 enquiry. 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.

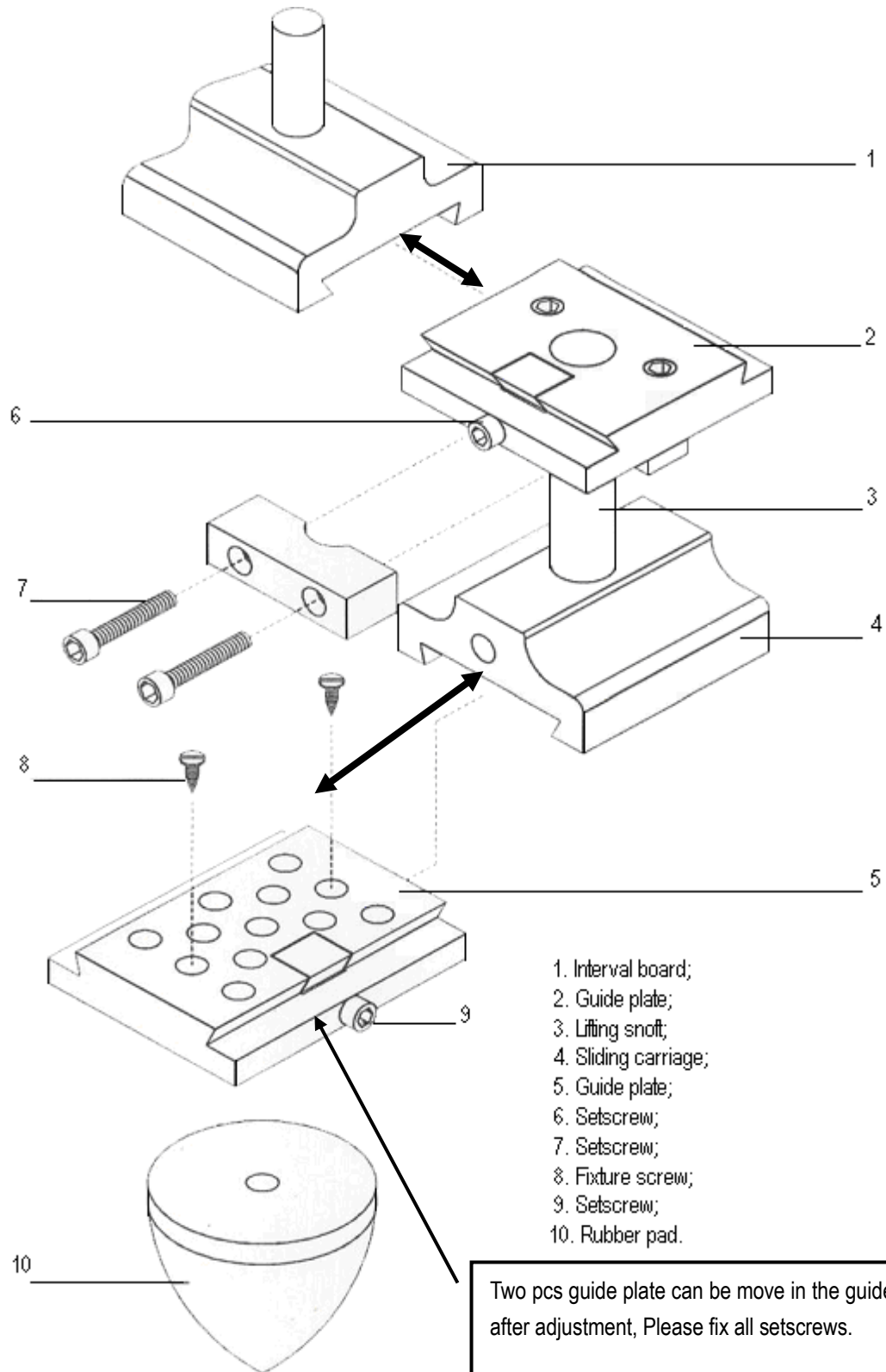
After installing sealed cup and steel plate, first move sealed cup , the commonly state is you can move freely

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.

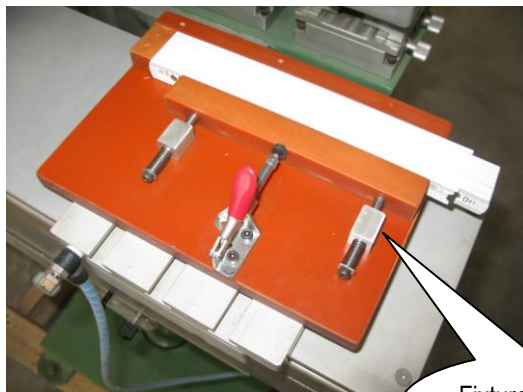
- Please loose up the screw of 9 and remove the guide plate.
- Please take a screwdriver to install rubber pad to guide plate. There are some screws in the tool box
- Install guide plate with rubber pad onto the seat
- Adjust the position so that it can cover the design on plate
- Fix the screw of 9.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

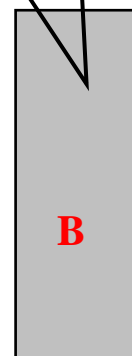
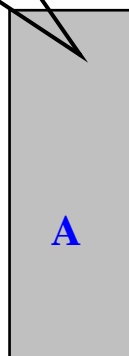
Two colors sealed cup pad printer with shuttle have a shuttle working table , You need installing fixture with object to be printed on working table. Please follow the below process to adjust the position of object.

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



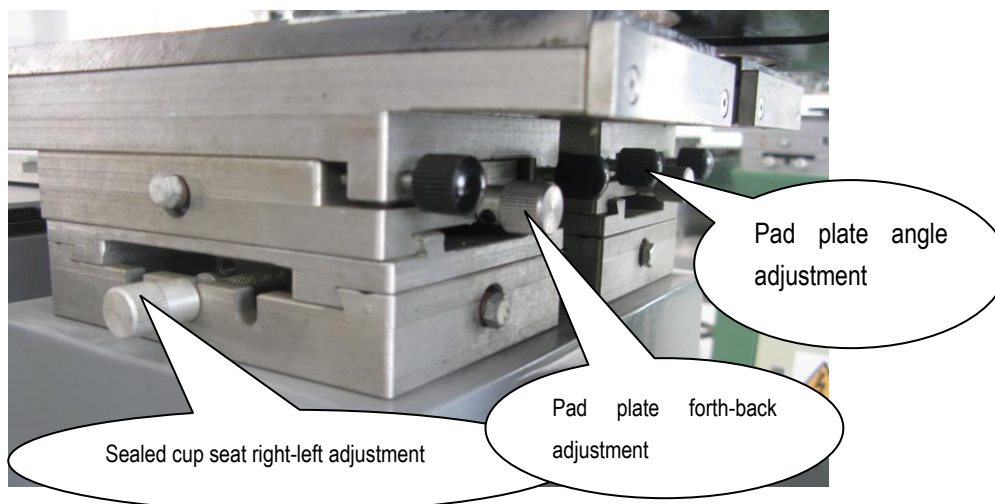
Shuttle working table



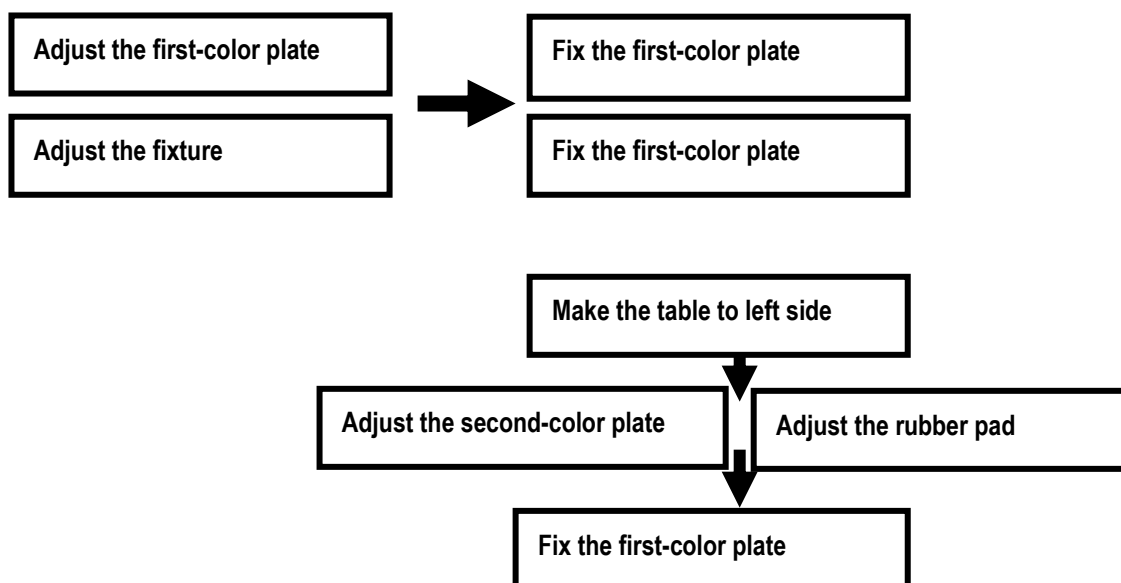
Object printed

2# adjust the second color:

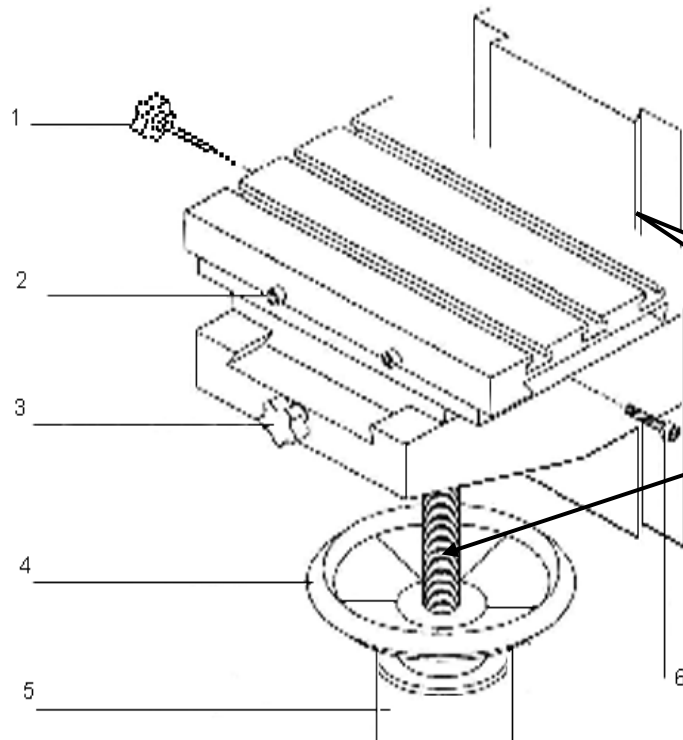
- Install the second color plate and sealed cup



-
- 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

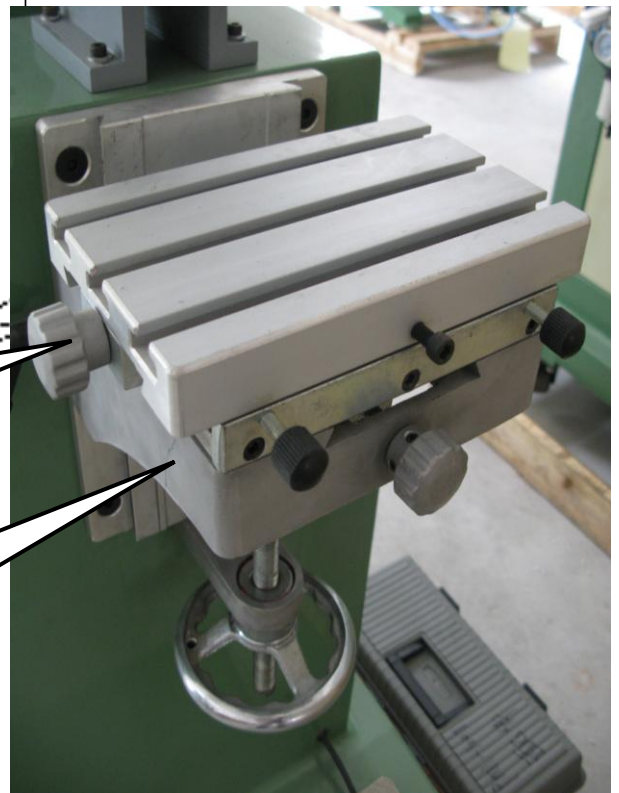
worktable of pad printers with conveyer		
no	name of parts	functions
1	Adjusting screw	adjust position of worktable
2	Setscrew	Fixes the worktable position
3	adjusting screw	adjusts front-back direction
4	handwheel	adjusts the height of workpiece
5	supporting bushing	supports the worktable
6	setscrew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

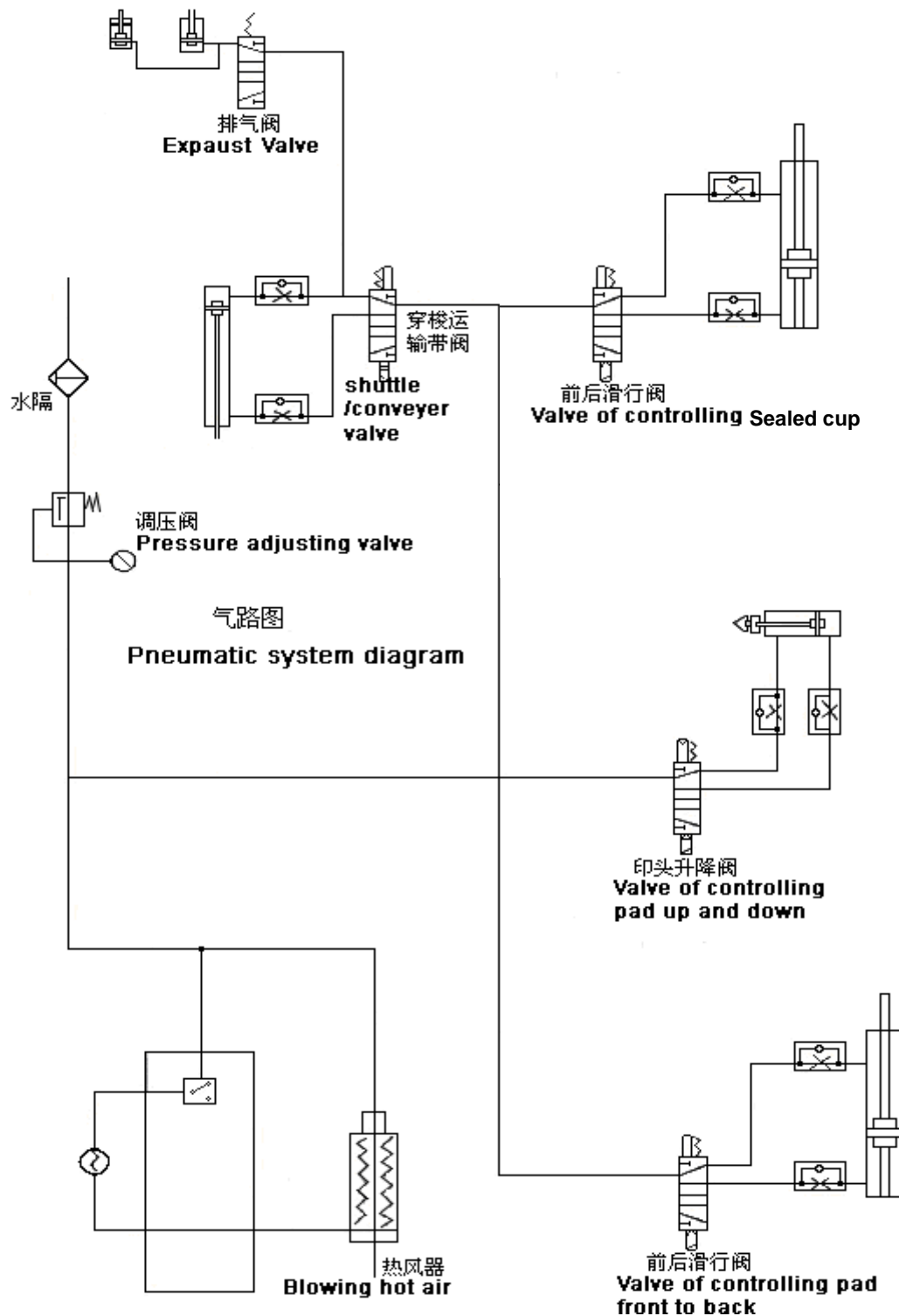
Large-distance: working table up-down;
Middle-distance: the pad stroke of up-down;
Small-distance: pad seat.

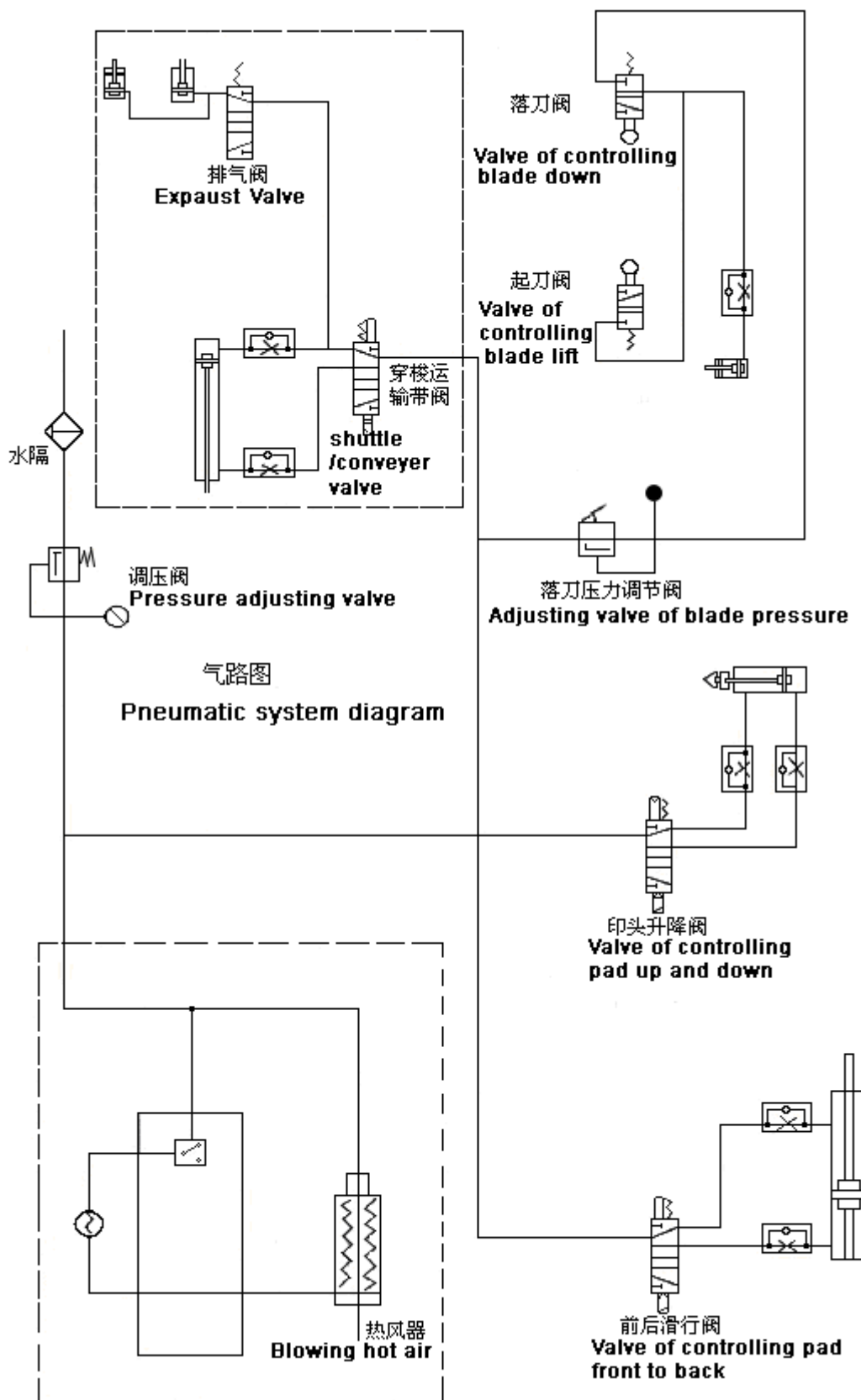


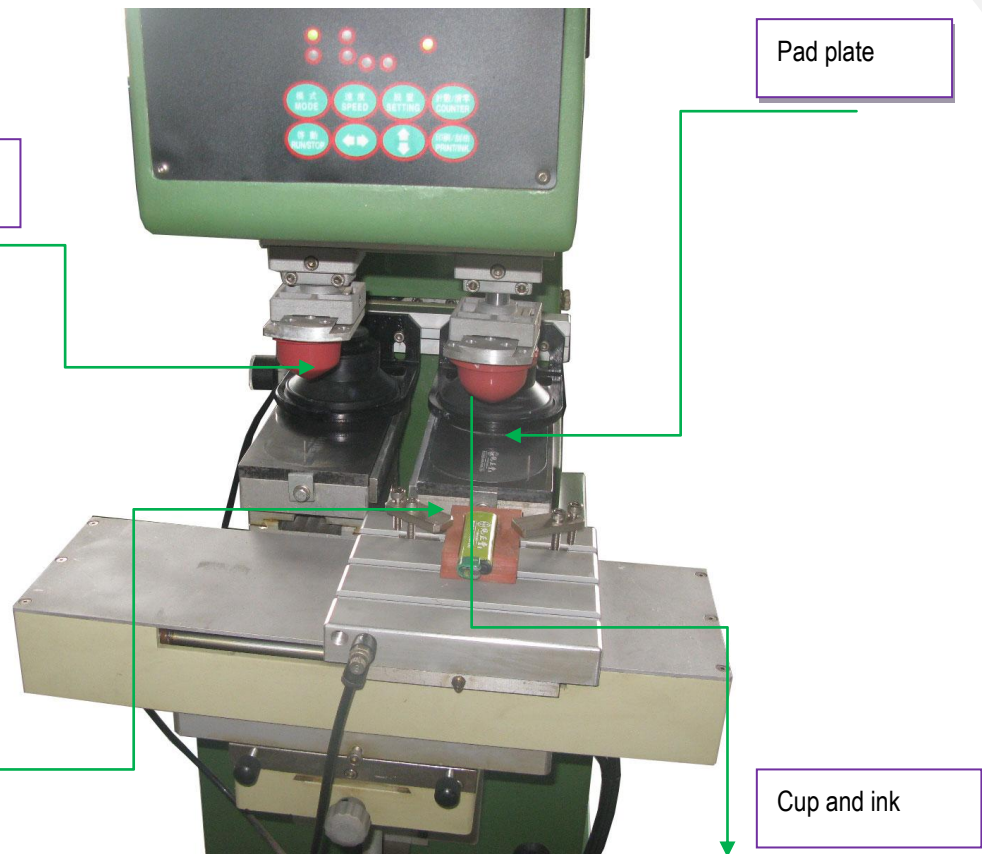
- Unless stop the machine, Please keep the machine running in the mode –f pad only move from front to back to avoid ink become drying.



8. Pneumatic controlling design







Two colors sealed cup pad printer with shuttle

Printing test factors