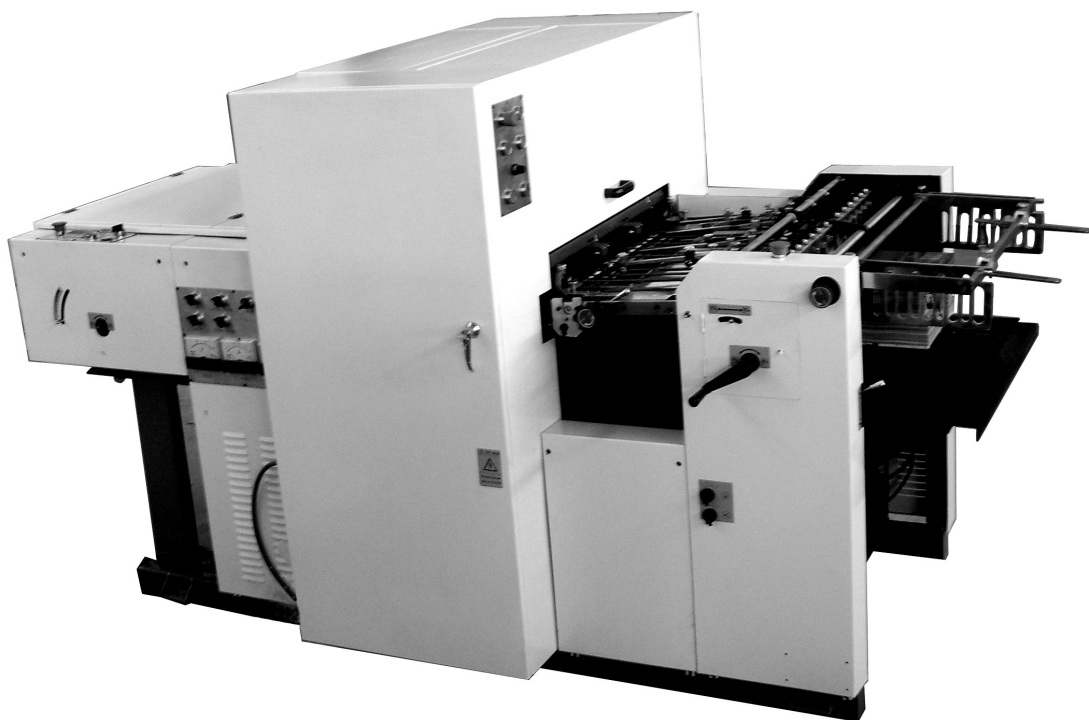

UV-620S Spot UV Coating Machine

User's Manual



The Whole View of the Machine

One. Usage & Users' spectrum

UV-620S is a newly developed machine based on our standard UV Coating Machine, users' requirement and working experience. with features of fully-automatic, small location, low cost, easy operation and high quality coating, it is mainly used in photography, card, label, short-run printings etc doing full UV coating or spot UV Coating on thin materials.

Two. Specifications

- 1 Max. Coating size.....600×440 m m
- 2 Max. Paper size.....615×450 m m
- 3 Min. Paper size180×260 m m
- 4 Paper weight.....80-250g/m²
- 5 Max. Coating speed.....5000sheet/h
- 6 Power supply.....11KW UV lamp @ full power
- 7 Overall dimension(L×W×H).....2260×960×1200m m
- 8 weight.....1100kgs

Three. General Introduction

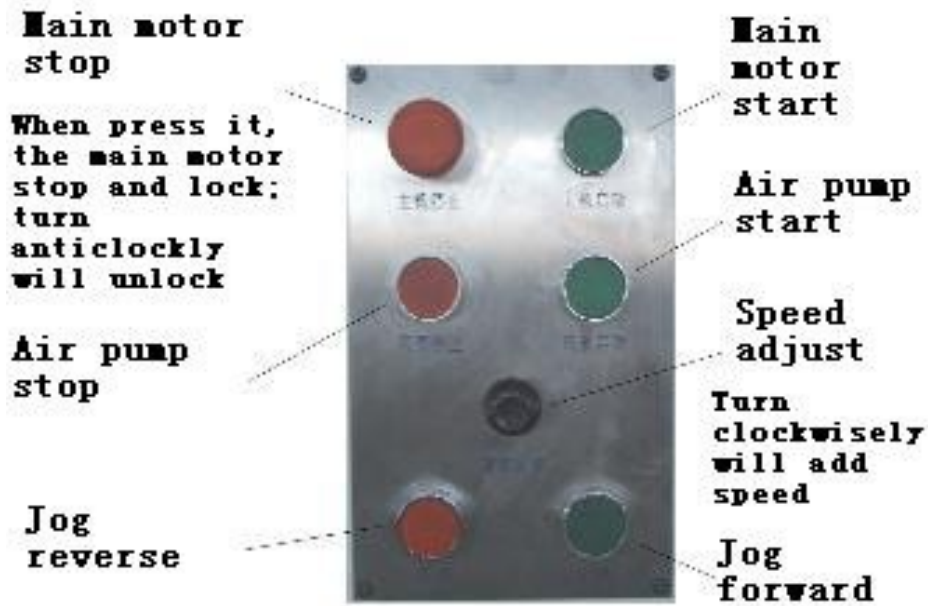
Feature of machine structure

- Multi-sucker, long-side paper feeding, ruler orientation to ensure of doing thin paper and precise registration.
- Adjustment function in paper feeding table, adjustment is available

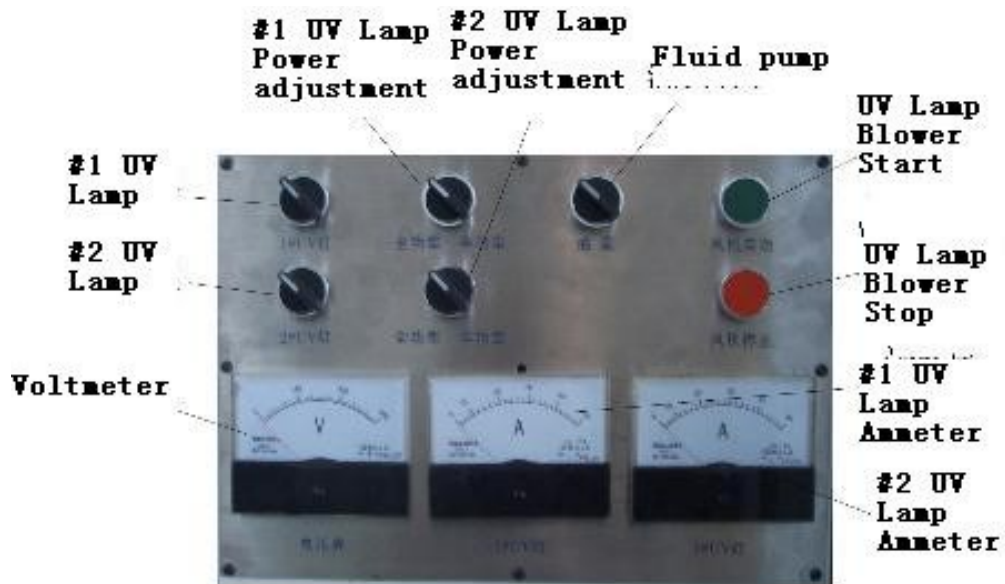
in working process.

- Controlled by PLC □ Stepless speed adjustment is available with Japanese Omron inverter.
- Double-sheet sensor to make sure of continual work without stop when feeding double sheets. The second sheet will drop down under feeding table. Suction-feeder with suckers is good option for running thin papers.
- Impression rollers touch up automatically with clutch.
- Fancy flexo roller controls the coatings quantity to make sure of smooth all-over coating.
- Strong and reliable cast iron frame, big axis, heavy rollers to make sure of high quality coating; all gears are made of alloy steel after high-temperature quenching and good finishing.
- Block-out UV cabinet to ensure of fast drying and less leakage of UV light.
- Automatically-controlled paper stacker.
- Hongshan bearings and imported electronic parts to ensure of high performance and reliable quality.
- E-stop etc to ensure of safety
- Function of moving the paper stacker very fast.

Four. Control Panel



Main Control Panel



UV Lamp Control Panel



Paper Stacker Control Panel

Five. Installation

1 After the machine arrives, it should be stored in dry ground without strong sunlight; the package should not be removed in storage; the machine should be checked if the storage is more than one year after delivery from our factory and should be cleaned and lubricated if necessary.

2 The passage and gate of the workshop should be not less than 2.5meters in width and height.

3 Requirement of the ground

(1) In order to avoid sinking of the ground, there should be tamped earth downside of 400mm concrete groundwork.

(2) If there is no 400mm concrete groundwork, it should be at least 150mm groundwork and below the groundwork, there should be reticulate reinforcing steel bar with $\phi 10\text{mm}$ and space

between 200mm.

(3) If the machine is installed upstairs, the carrying capacity of the floor should be more than 1500kg/m².

(4) If there is equipment shaking the groundwork around the machine, there should be shockproof slot in the groundwork around the machine.

4 Instal the machine

(1) Put the machine on the groundwork

(2) Check if the chain of paper dental delivery is proper; it will make loud noise when too loose and it will consume the chain when too tight.

(3) Fix the UV Lamp and quartz glass into the lamp cabinet.

(4) Adjust the level precision of the machine: put the gradienter with precision of 0.02/1000 on the measure surface of the machine, the vertical error (upright against the rollers) should be less than 0.08/1000; put the gradienter on the impression roller, the horizontal error should be less than 0.04/1000. Above information is just for reference, and final result should be on basis of easy operation. In order to keep the machine still, the machine base should be very close to the ground, the more, the better.

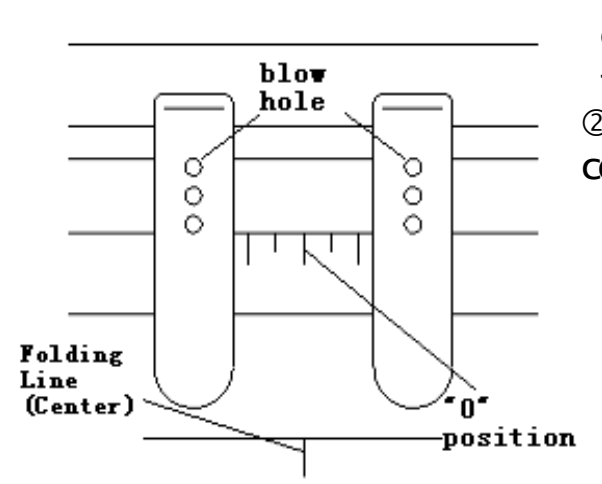
(5) Connect the machine with power supply with wires.

(6) Firstly start the machine to check and adjust thoroughly; then jog slowly to check and adjust the machine. At the same time clean the machine thoroughly and lubricate all parts. The machine will be ready for coating after the machine runs in slow speed without paper delivery for one hour.

Six Structure & Adjustment

Adjustment of feeding system

1 Adjustment of ruler in paper table

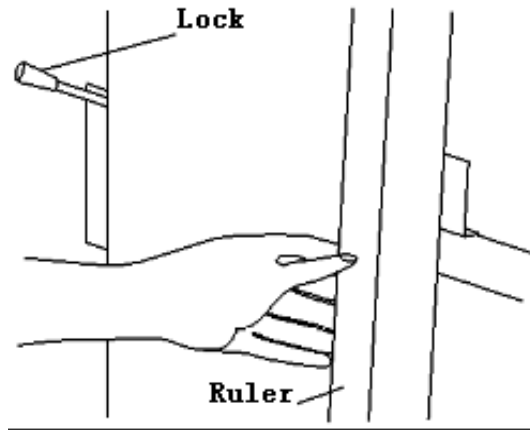


- ① Tidy up the paper neatly and put it in the paper table with glossy side upside.
- ② In operation, the paper should be in center of the machine. Fold

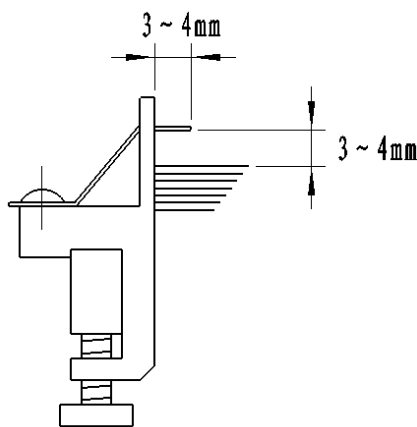
one paper and the folding line should level to the "0" position

③ After the paper location is finished, move the rulers to the paper. The rulers should be 5-10mm away from the paper.

④ Pulling the lock up, the ruler can be moved freely; push the lock down, the ruler is fastened.



② Adjustment of Dental Paper Separators

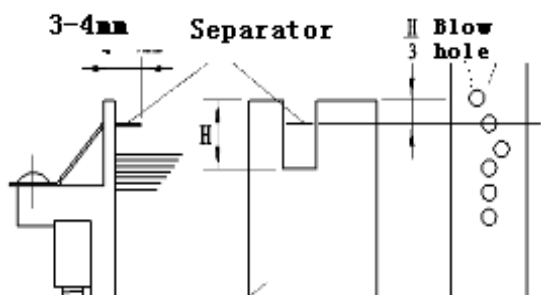


① Shape of Dental Paper Separator □ Fix the paper separators in the base; the paper separators should be 3~4mm out of the base; the front part of separators should be horizontal or a little downside.

② Location of paper separator:

Fold the paper in quarter and unfold; put the paper in the paper table, the paper separator should level to the sucker in the center between two folding lines.

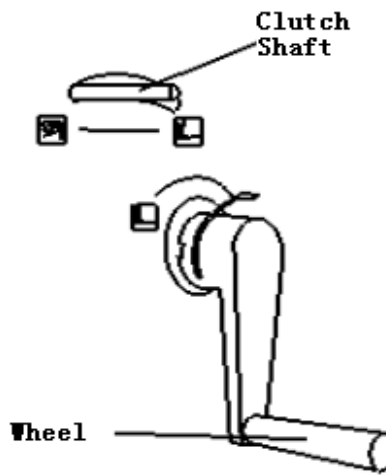
③ Adjustment of front blow holes



① Location of front blow holes □ Fold the paper in quarter, the two blow holes should level to the two folding lines accordingly.

② The height of front blow holes: the height of front blow holes should level to paper separator as the picture shows. There is a switch inside the front blow hole to adjust the height of it. It should be adjusted according to paper in work.

4 Adjustment of paper table

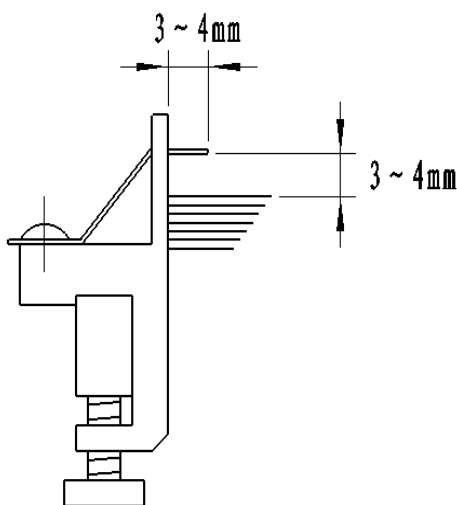


① Turn the wheel clockwise to move the paper table upside till 5mm away from paper separator.

② Push the clutch shaft to left side, the paper table will move upside automatically in work.

③ Push the clutch shaft to right side, and turn the wheel anticlockwise to move the paper table down .

5 Adjustment of paper height

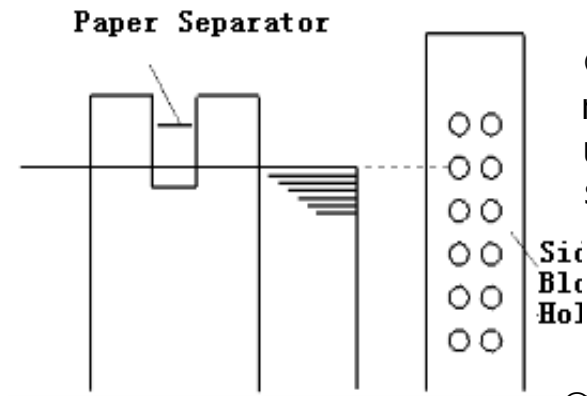


① When machine in work, the paper table will move upside automatically.

② The moving height of paper table will be controlled by the height adjustment switch. Turn clockwise, the height will be low; turn anticlockwise, the height will be high.

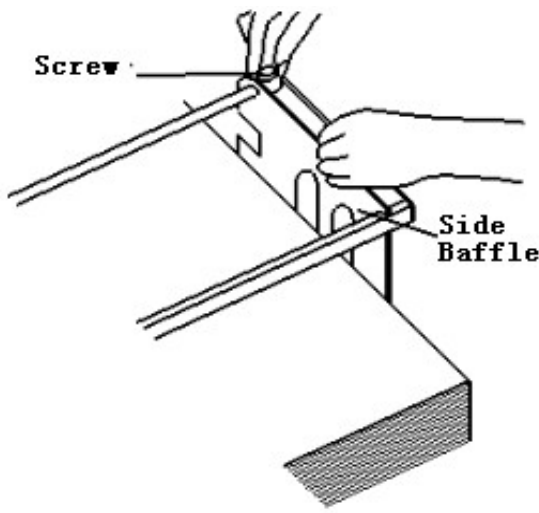
③ When air pump in unworking condition, the paper is 3mm ~ 4mm away from paper separator. It should be adjusted according to different paper.

6 Adjustment of side blow hole

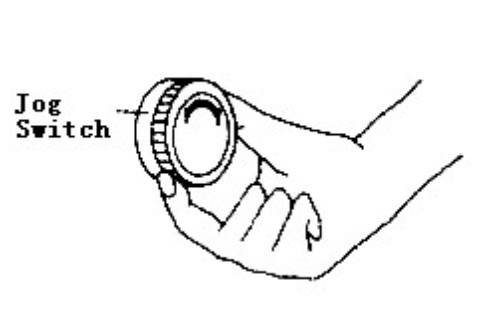
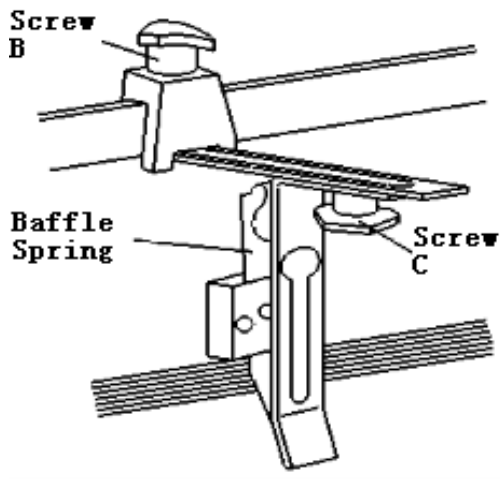


① Adjust the height of side blow hole by moving the blow pipe. when air pump in unworking condition, the central hole should level to the paper.

② Adjust the height of side blow pipe till the blow hole levels to the paper; when air pump in working condition, it should blow at least the top 10 sheets.

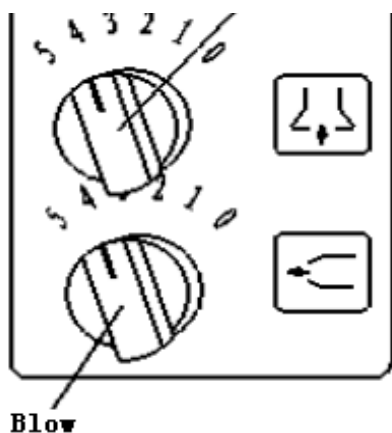


③ there is Jog switch in side baffle; turn clockwise, the side baffle will move against operation side.



①And quantity of blow and inspire is important to paper delivery.

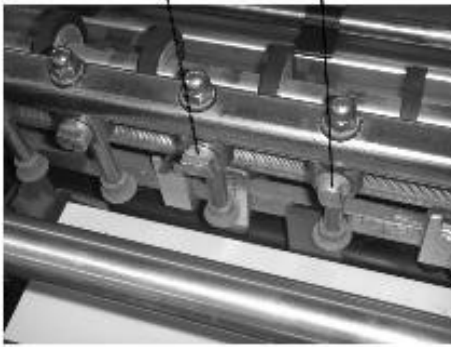
②Adjust the quantity of blow according to different paper. Turn the blow switch anticlockwise to increase the quantity till it can blow up the top dozen sheets smoothly.



④Too strong blow will cause double-sheet error; too tight blow will cause paper jam or no paper. Generally thick paper requires stronger blow while thin paper requires tight blow.

Notice: There are 12 suckers. When the paper size is small, the unused suckers should be closed, that is, to turn the switch of sucker to horizontal level.

Sucker close Sucker open

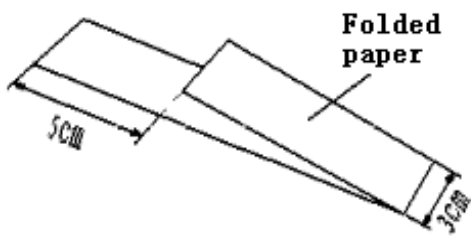


Adjustment of double-sheet sensor

Switch



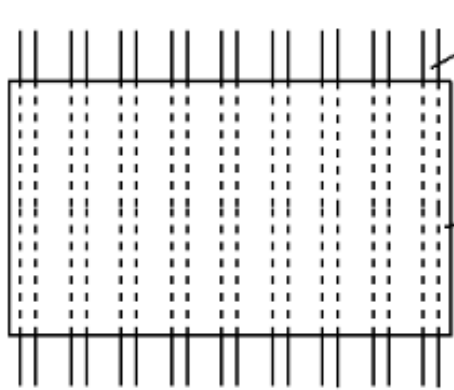
① Turn the switch clockwise, the sensor will move upside; turn the switch anticlockwise, the sensor will move downside.



② Cut down one 3mm wide scrip and fold it with one layer is 5mm longer than the other layer. Put the scrip under the

sensor and adjust the sensor till single sheet causes no action while double sheets cause action of flipper. When flipper works for single sheet, just turn the switch clockwise for another one or two times

10 Adjustment of belts

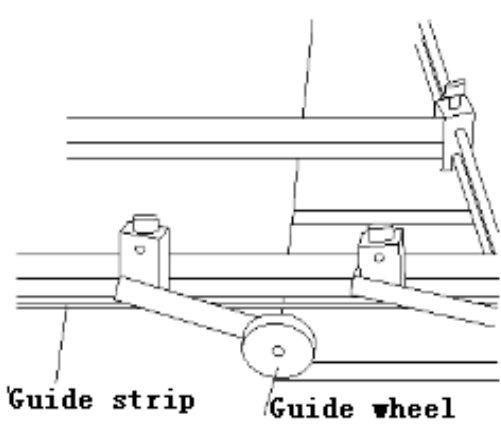


① The belts should be put under the paper equally.

② When move the belts, should operate the machine in slow speed; The side belts should try to move under the paper.

11 Guide strip & guide wheel

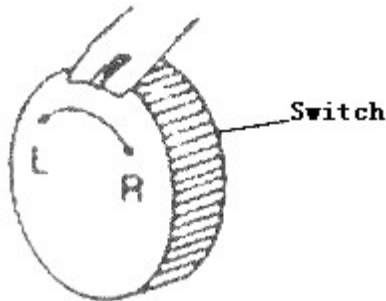
① Guide strip: The function of guide strip is to avoid paper floating in delivery; the side guide strips should be on paper sides while the other guide strips should be on belts.



② Guide wheel: The function of guide wheel is cause enough friction between paper and belts so to deliver the paper smoothly. The guide wheels should be put on paper equally.

Adjustment of register system

1 Adjustment of the up-down rollers



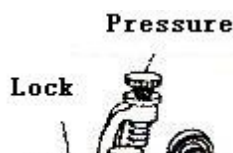
①The adjustment of up-down rollers has been set before delivery. Generally adjustment is not necessary when running 50-135gsm paper.

②When the paper is thicker, turn the switch clockwise for another one or two lines.

③When the paper is thinner, turn the switch anticlockwise for another one or two lines.

Notice: whatever thick the paper is, the adjustment should be between 1-5 lines otherwise it will disturb the settings.

2 Adjustment of side ruler



①There are two switches to fasten in the side ruler, one is Fixup switch and another one is Lock switch. Loose Lock and Fixup to move the side ruler. For big

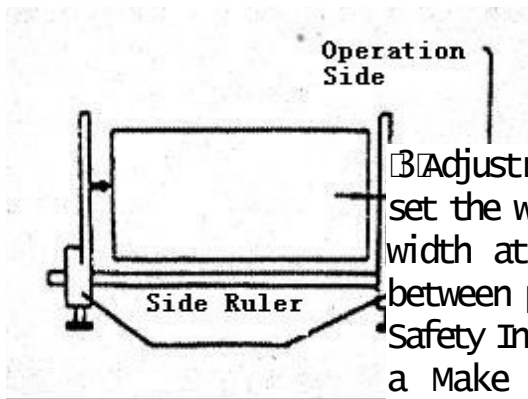
paper belts link to the side ruler. After the adjustment is finished, turn the Lock to right side to fasten it.

②Jog of side ruler: Loose the Fixup switch, and turn the Jog switch clockwise, the paper will move against operation side; turn the Jog switch anticlockwise, the paper will move toward operation side. Max. space is 5-6mm. Set it in center before coating and $\pm 3\text{mm}$ is available.



1 Adjustment of location of side ruler:
Start the machine manually, feeding the paper and stop it when the paper is going to drop down.

Locate the Operate Side 3-5mm far way
Adjustment of paper stacking syfrom the paper. Let paper drop down on



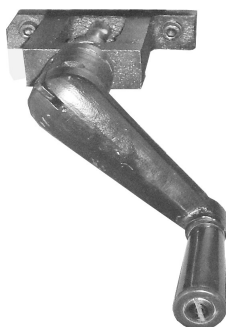
the stacker and set the unworking side to push the paper to the operation side.

3 Adjustment of Paper Poker: In landscape orientation, set the width at 6mm if the paper is small and set the width at 140mm if the paper is big. Set the height between paper and paper holder.

Safety Inspection:

a Make sure that bolts of paper poker have been fastened.

b Make sure that paper poker will not touch the paper holder (when start the machine manually, please make sure that paper holder will not touch paper poker).

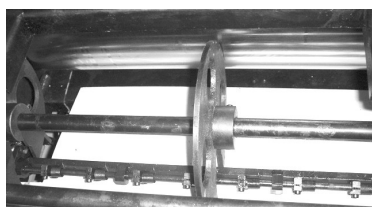
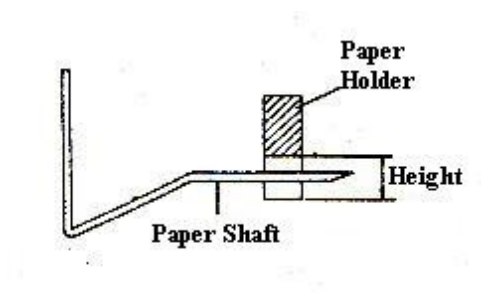
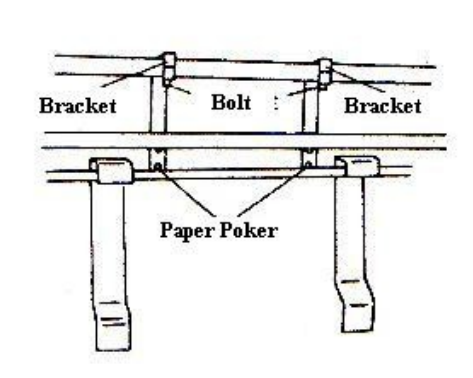


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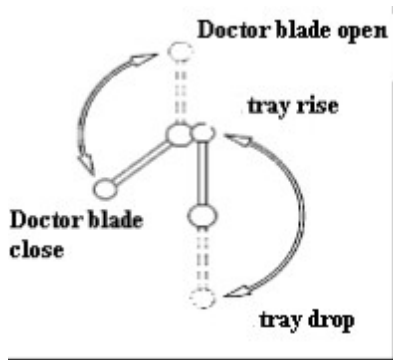


Please adjust the round paper tray according to different paper size so the paper can connect smoothly.

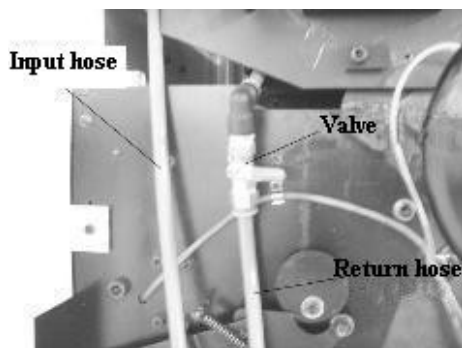
Adjustment of Coatings Circulating System

1. Fixup of coating tray

Turn the coating tray handle to Drop position to let coating tray move forward around coating tray base till it touches the limit slice. And then turn the coating tray handle to Rise position.



② Coating Circulating



Close the valve of return hose and put the input hose (white silica gel hose) into the UV coating tank and start fluid pump. Please note the coatings level and stop the

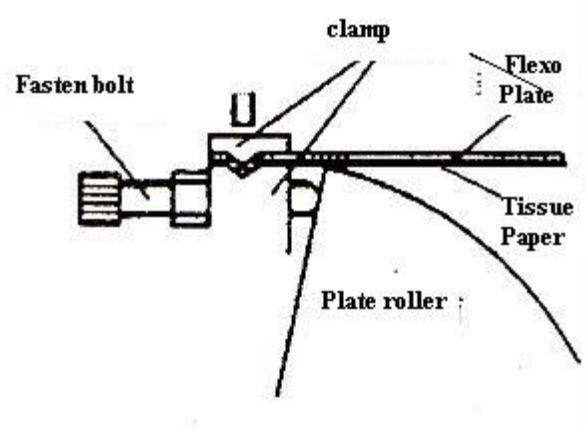
fluid pump when the coatings reach the anilox roller. And you can start the fluid pump again anytime the coatings is not enough.

warning: Please do not put too much coatings in the tank otherwise it will spill over in work.

Adjustment of Coating System

① Fixup of printing plate

On this machine, the printing plate is flexo plate and the size is 616x505x1.7mm.



② Please clean the plate roller and back of flexo plate before fixup.

③ Remove the plate pressure board; fasten one side of flexo plate to

plate clamp with inner hexagon screw; put one 0.25mm thick underpaper under the flexo plate; run the machine manually to wind the flexo plate and underpaper to the roller; finally fasten another side of flexo plate.

④ Fasten the two sides of flexo plate: fasten the screws from the central clamp; do not fasten the screws fully at one time; fasten them step by step till the flexo plate is fully fastened.

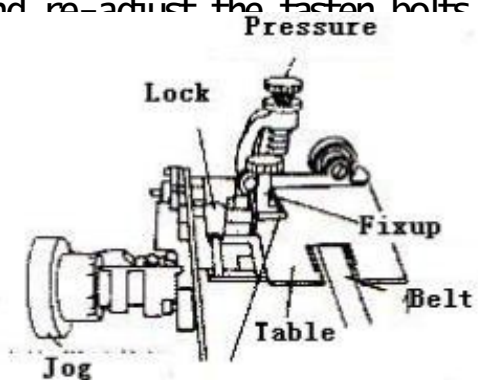
⑤ Tighten-up: adjust the fasten bolts of flexo plate to make flexo plate parallel to the roller opener and to make the distance between clamps and side of roller opener nearly the same, at the same time to make the fasten bolts working. Fasten the screws with nut from the central flexo plate to tighten up it.

2 Adjustment of coating position

1 Jog of back and forth

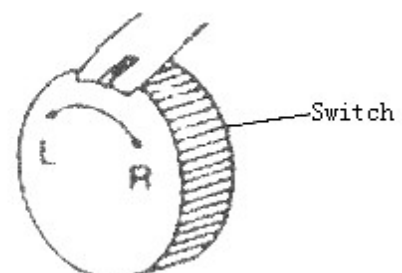
Loose the fasten bolts of flexo plate and re-adjust the fasten bolts

according to the difference between position. The jogging of back and setting different distances between c
The jogging is very small within 5mm



2 Jog of right and left

① Choose the more orderly side to be standard side; drop down



The ruler wheel of this side and
rise the ruler wheel of another
side

②Start air pump and feeder,run
the machine manually; deliver
one paper to the delivery guide
and adjust the position of side
ruler till it is 3-5mm far away

the paper when the side ruler wheel hasn't dropped down.

Continue to run the machine and check whether the side ruler can
pull the paper smoothly to the right position.

③Start the machine and try two or three sheets; stop it and adjust
the position of paper and ruler accordingly.

The ruler has jog function and it should be set at the central
position every time before coating. The adjustment range is ± 3 mm. If
the adjustment is very small, just loose the fasten bolts and jog;
after finish the adjustment, fasten the bolts. At the same time, the
position of paper should be adjusted accordingly.

④Adjust the pressure of pull wheels according to the paper. Thick
paper requires high pressure while thin paper requires low pressure.

If necessary, change the spring.

□ Adjustment of coating pressure

The pressure between rollers will influence the coating quality and life cycle of rollers. Too high pressure will make less coating and quicken wear of rollers; too low pressure will provide insufficient coatings and will cause dirty coating. When adjust, firstly adjust the space between anilox roller and rubber roller; and close to make the rubber roller touch the flexo plate; and adjust the pressure between the rubber roller and plate roller through pressure bolts.

1 Pressure between anilox roller and rubber roller

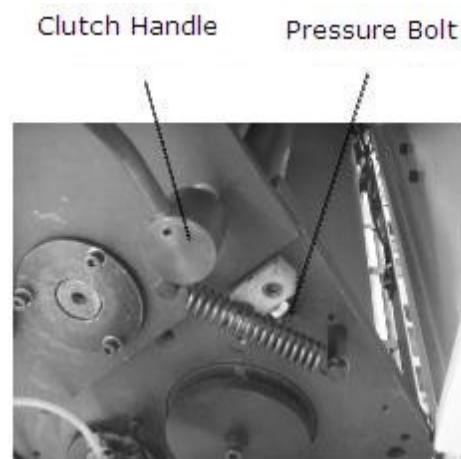


Turn the wheel clockwise, the pressure between the anilox roller and rubber roller will become low; while turn the wheel anticlockwise, the pressure will become high.

If the pressure between anilox roller and rubber roller is not consistent, loose the connecting collar of the pressure adjustment shaft and turn the wheel to adjust

And fasten the connecting collar ; finished.

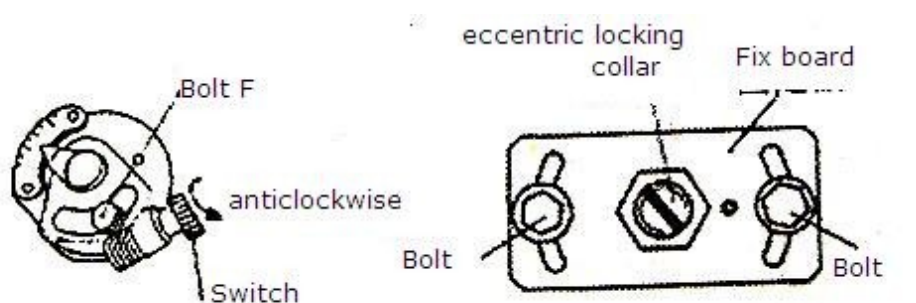
Pressure between rubber roller and pl



The pressure between rubber roller and plate roller is one main factor to influence coating flow; too low pressure will cause big texture in the coating while too high pressure will leave coatings between rubber roller and plate roller. The way of adjustment is to adjust the pressure bolt under the clutch handle. Warning: make sure that the double side pressure is consistent and lock the nut after adjustment.

3 Pressure between plate roller and impression roller

Pressure between plate roller and impression roller is another main factor to influence the coating flow. The pressure should be adjusted according to paper thickness and coating thickness.



① If the pressure is not equal in both sides, please adjust the eccentric locking collar of unworking side: Use 'T' screwdriver to loose the two screws, and hammer the fix board. Adjust clockwise, the

pressure of unworking side is increased; adjust anticlockwise, the pressure is decreased. Fasten the screws after adjustment is finished.

②If the pressure is equal in both sides, adjust the pressure quantity: loose the bolt F, and turn the switch clockwise, the pressure is decreased; turn it anticlockwise, the pressure is increased. Fasten the bolt F after adjustment is finished.

Notice: The pressures between anilox roller and rubber roller, rubber roller and plate roller, plate roller and impression roller have been set before shipment; especially the parallel between all rollers has been set. The adjustment is not necessarily made frequently. If any trouble occurs, please read this Manual carefully and make sure of its reason before adjustment; if possible, please contact the dealer or distributor who sell the machine directly or contact us.

Seven Maintenance

1. Cleaning the machine

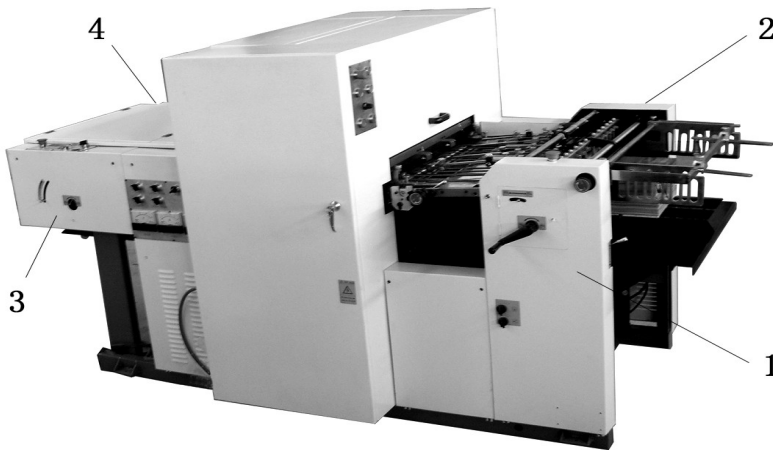
Every day or when the machine stops for more than half an hour, the machine should be cleaned to avoid UV coatings drying and crystallization on the rollers so it can work normally next time.

way of cleaning: descent the coating tray, open the valve of return pipe to collect the coatings; release the pressure between all rollers; put UV cleaner on the cloth and clean the rollers with such cloth.

warning: in cleaning the rollers with wet cloth, please do not let the UV cleaner flow into the coating tank through return pipe. Clean the rollers with dry cloth finally.

The coating tray should be cleaned periodically to avoid UV crystallization and corruption to the coating tray.

2 Lubricating the machine



1 Lubrication: 32# hydraulic oil.

2 Lubricating position: any part with red paint and any parts which have vis-a-vis movement against each other.

3 Way of Lubricating: when the machine stops, remove the cover 1, 2, 3, 4; add oil to the required parts with lubricating gun; then start the machine and run it slowly for several minutes and stop again; add oil to the required parts again. After lubricating is finished, fix the covers.

In other parts, there are automatically adding oil and just press it 5-10 times.

4 Lubricating frequency: two times one day.

5 Notice of cleaning and lubricating dental paper holder in the impression roller: Use brush with hot water to clean the dental paper holder and shaft; and lubricate in the bearings; run the machine slowly for several minutes and lubricate the bearings again.

Warning:

1 Make sure that there is no sundries on the machine before starts it.

2 Generally do not press E-stop in high speed running unless there is serious trouble which should stop the machine immediately.

3 The UV lamp is not allowed to open when the machine stops.

4 When the machine is newly installed, there should be at least 500hour of adapting period and during this period the machine should be run at less than 2/3 of highest speed.

Eight. Troubleshooting in coating

1 Coatings trace in the paper back after coating:

① There is UV coatings in the impression roller. Stop the machine and check ; clean the impression roller with dry cloth.

② Check the passageway from dental connector to paper tray. If there is UV coating, clean it off.

2. Unsmooth coating or texture in the coating:

- ① The coating is not in same deepness; mix round for some time.
- ② The coating is too deep; add some thinner and mix it up totally.
- ③ Unreasonable pressure; the pressure between all rollers will influence the coating quality. Adjust the pressure to a perfect condition.

3. UV lamp no working

- ① Check whether it is open circuit
- ② Check whether the machine start normally
- ③ Check whether the UV lamp is just off shortly and it hasn't cooled down totally.
- ④ Check whether the voltage is too low.
- ⑤ The life circle of UV lamp is about 800-1000hours. Please replace it periodically.

Nine. Electric parts

Requirement on power supply:

1. 380V four wires, three phases
2. The wire section should not be less than 10 square millimeter
3. Good grounding condition

Troubleshooting and solution in PLC system

- why does the clutch not work?

1 If Y10 light is on, the clutch magnet should be closed. If the clutch magnet is not closed, please check whether there is open circuit in the magnet wire or there is damage to the magnet.

2 If Y10 light is off, please check as following instruction:

① When the paper passes the sensor (that is photoelectric eye), it will sense the paper and X22 will be on.

② At the same time clutch will approach and sense magnet, then X3 will be on. The sensing distance of the magnet is 3mm. Magnet has positive side and negative side; when one side can not sense, change to another side.

③ When the clutch in-phase light (that is X3) is off, the paper pass over the photoelectric eye 3cm. The in-phase position of clutch has been set before shipment and please do not change it anytime. If the position has been changed in maintenance, please adjust it as follows:

Start machine, air pump and feeder; run the machine manually to make one paper go through passageway. When the paper moves to front ruler, continue to run the machine manually; when the paper passes over the photoelectric eye 3cm, the magnet should just depart from the Hall switch (that is, X3 light is just off). If the position is not suitable, adjust the position of the eccentric or the position of magnet in the eccentric along the machine running direction.

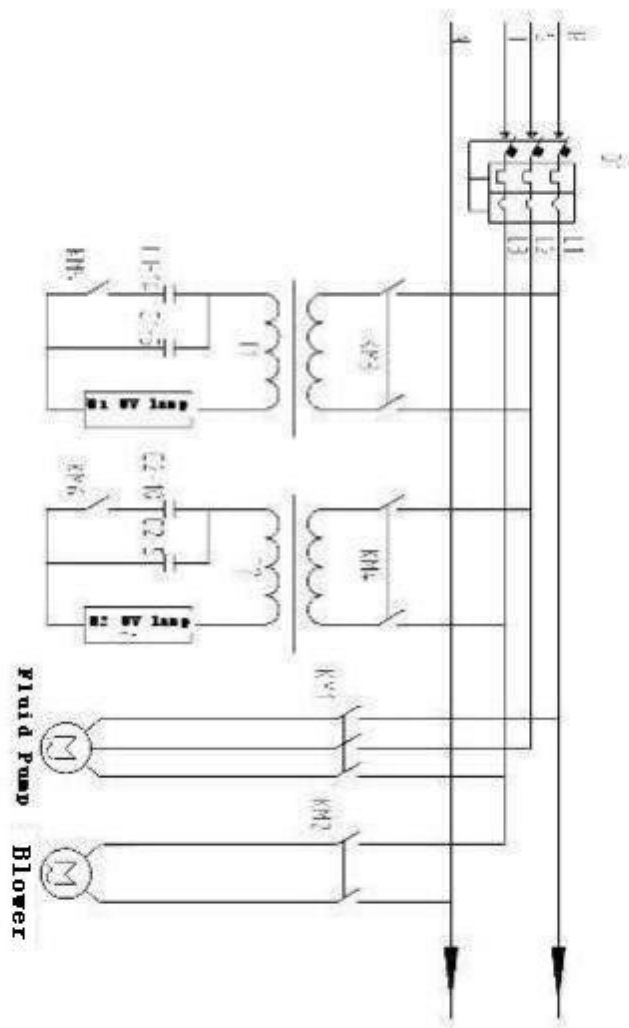
●why does the machine stop after it starts for one bout?

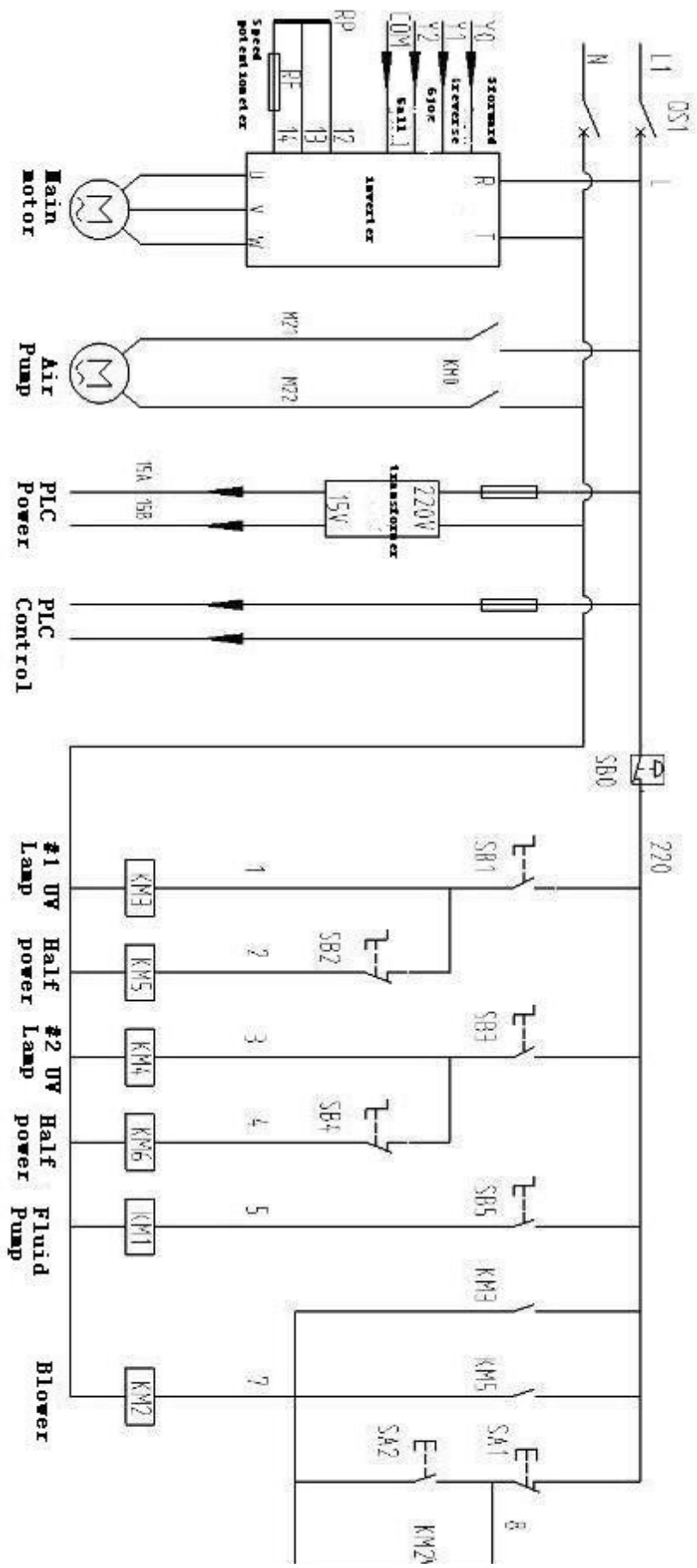
1 □ In working, the paper delivery belts move under the photoelectric eye or move near the photoelectric eye, the photoelectric will mistake the belts to be paper and regard it as paper jam so the machine will stop after it starts for one bout. The solution is to remove the belts away from the photoelectric eye.

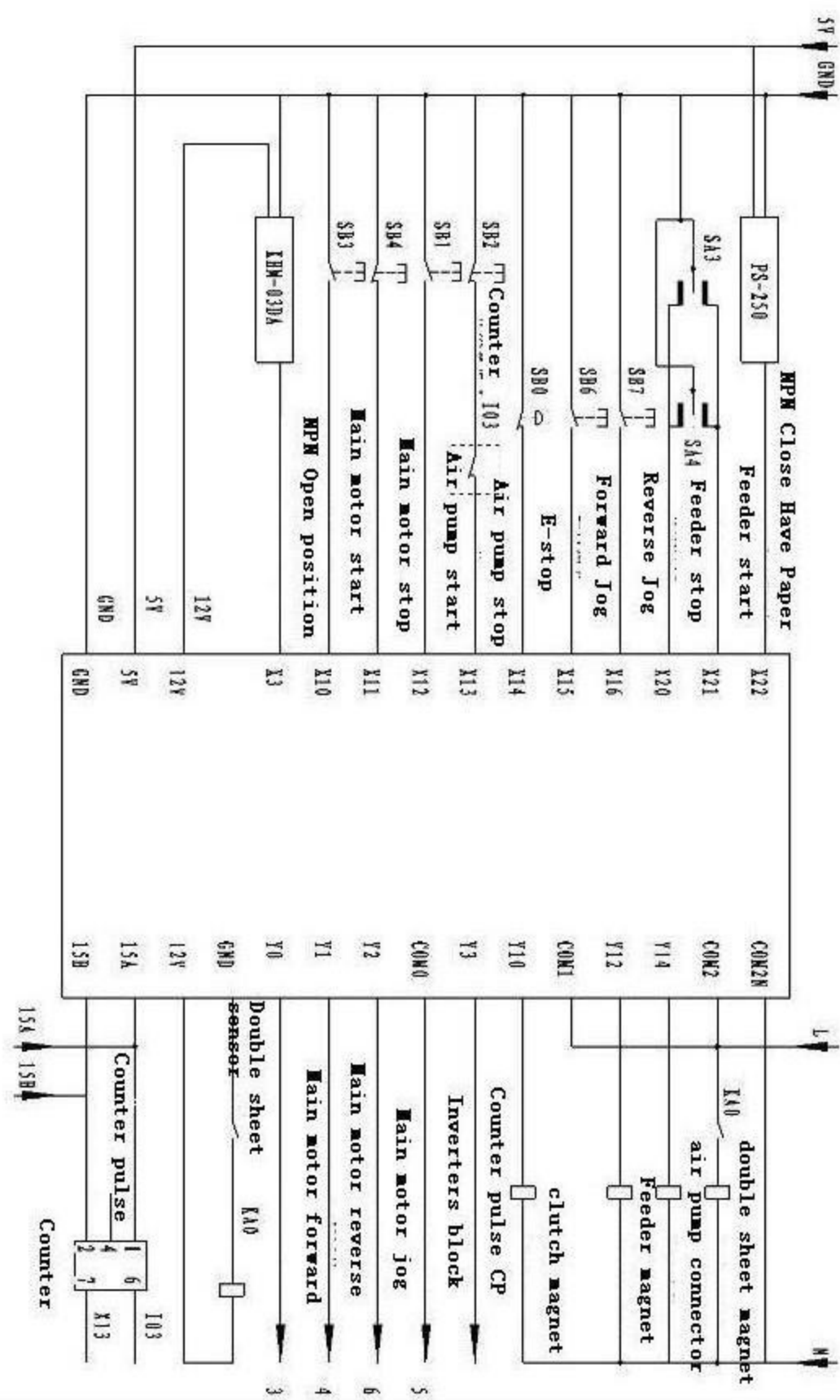
2 □ Photoelectric eye is an infrared switch which should avoid oil or water. In working or cleaning, make sure that no liquid or dirt will go into it or cover on it. Some liquid around the photoelectric eye will be leaked into it through screw hole and damage it. Please pay more attention to above case and the two screw holes can be covered by adhesive label.

3 □ The photoelectric eye should be between the two shafts, and distance is around 1.5~2cm. Too high or more close to any shaft will cause wrong action such as wrong clutch, automatic stop etc.

Circuit Diagram







Ten. Special Notice

Usage and Maintenance of Rubber Roller

1 Before starting the machine, the pressure of rubber roller should be adjusted well; the double side pressure should be consistent with the central pressure otherwise it will damage the rubber roller.

2 When stop the machine, please release the pressure of rubber roller to avoid distortion. After stopping the machine, the rubber roller should be cleaned immediately to avoid UV coating corruption. So when start the machine again, it will run normally.

3 In cleaning the rubber roller, special cleaner without corruption to the rubber roller is required.

4 In storing the rubber rollers, they should be stored in bracket to avoid extrusion and weariness to the roller surface. Do not put them in strong light or UV light otherwise the roller will age and cause damage in which way it will shorten the life circle and influence coating quality.

5 Rubber rollers are consumables which does not come into the warranty. In proper work(8 hours every day), the life circle is about 1-2 years.

Maintenance of air pump and air passageway

1 The machine uses self-lubricating air pump without oil; adding oil is not allowed.

□2 □According to different cases, please clean the air pump filter periodically. Loose the stellate nut and remove the cover of filter; remove the springs and paper core; clean the filter and paper core; after cleaning, fix it again. When fix the cover, firstly put the washer on the filter and then put the cover on the air pump.

□3 □If the air quantity becomes small, check the filter first; and then check the air passageway such as valve, pipes etc.

□4 □ After above checkout and adjustment. If there is still problem, please contact the dealer or distributor who can provide further instruction and help.

Eleven Safety

In order to avoid any accident to the operator or machine, the operator should understand every safety equipment and check it before starting the machine. Starting machine without safety cover is not allowed.

1 Operator should not run the machine before he understand this manual instruction thoroughly.

2 Unprofessional people are not allowed to dispatch the machine, repair or replace any spare parts; starting machine with safety cover open is strictly prohibited; any part of body or anything are not allowed to come into the working machine.

3 All operators should wear required uniform, and strictly follow

all instructions. Stop the machine and check it whatever problem occurs. Running machine with malfunction is not allowed.

4 The maintenance worker should make sure that all safety equipments work well and maintain it periodically.

5 Solution in emergency:

When the operator bring out any accident such as pressing the hand etc, stop the machine immediately and run the machine manually to solve the problem.

6 Requirement on the workshop:

1 Temperature and Humidity:

In order to produce ideal products in high coating quality, the temperature and humidity in the workshop should be controlled. Generally in summer, the temperature should be $26 \pm 1^\circ$ and the humidity should be $55 \pm 5\%$ CRH; and in winter, the temperature should be $21 \pm 1^\circ$ and the humidity should be $55 \pm 5\%$ CRH. The Spot UV Coating machine should be operated in environment with $20-35^\circ$ temperature and 30-70% humidity.

2 Intensity of illumination

Generally it should be more than 300Lux and the place where to check the coating quality should be 500Lux.

3 In the workshop, there should be air exchange equipment to make sure of fresh air and to avoid increasing tinder continually .

4 Fire extinguisher

In the work shop, there are paper, ink, cleaner, electric equipments etc so there should be suitable fire extinguisher like dry powder extinguisher.

5 Pay attention to the usage of the cleaner, coatings and other accessories.

6 The coatings, cleaner, cloth etc should be stored separately and specially.

7 whatever cleaner used in the cleaning, pay attention to skin protection; wear gloves etc if possible.

8 Noise

Pay special attention to noise since it will influence operator's health. Try any ways to reduce noise till reasonable level. The noise of starting machine is less than 85Dba.

Since there will be several machines running in the same time in the workshop, the noise may be more than 85Dba and ways should be taken to reduce noise: use noise-absorb materials, wear protect guard, move the noise source outside etc.

Warranty

guarantee that every machine we produce will have no problem or defect in material or workmanship. we provide twelve-month limited warranty during which period we will provide free spare parts. But if the malfunction is caused by false operation or outside reason, the customer should pay relative charges.

The warranty does not cover consumables such as rubber roller, doctor blade, UV lamp, sucker etc. Our company will supply the spare parts if customer need any one.

UV-620S Spot UV Coating Machine

Packing List

Serial No.

Loading staff

QC

Loading date:

Packing List

No.	Description	Qty	Unit	Remark
1	Spot UV Coater [main machine]	1	pc	
2	Tool box			
	1[Hex Key Wrench	1	set	
	2[Slotted screwdriver	1	pc	
	3[PhiTips screwdriver	1	pc	
	4[Oil bottle	1	pc	
	5[Oil gun	1	pc	
	6[Special spanner	1	pc	
	7[Other spanner			[stochastic]
3	UV Lamp	4	pc	
4	Quartz glass	8	pc	
5	Rubber Roller	1	pc	
6	Doctor Blade	1	pc	
7	Dental paper holder	1	set	

UV -620S Spot UV Coating Machine

Quality

Certification

Serial No.

One. Running without coating work

Run the machine in slow speed for 6hours, run the machine in medium and high speed for 6hours, and there is no unreasonable noise or dead center, normal temperature in bearing; the machine works well.

Result

QC

Date

Two. Working condition

Paper weight is 157gsm, size is 450x615mm. Requirement: smooth surface after coating, glossy, clear and full solidification.

Result

QC

Date□

Three. Outlook and finish

Covers connect well, smooth powder coating, no rust or sharp edge,
no scratch.

Result□ QC□

Date□

Four. Approval

General Manager□

Production Director□