



JINGDA
PRINTING MACHINERY

SOFTNESS PLATE MAKING MACHINE

Products Manual

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Softness plate making machine Products Manual

Dear Customer, Thank you for using the company's flexo plate making machine, as well as related products. In the use of the company's products before, please read this manual, it can give you the process of installation and use of a great help, to avoid improper operation of equipment damage and material waste.

First, note

1. This product requires the use of 220V, 50Hz power supply, and a reliable grounding protection.
2. Every time, in the access to power, before checking all the switches must be in the clearance position. After use, we must also turn off all switches.
3. This product should be clean, dry, constant temperature and formation of the ground environment.
4. This product is used to wash version tetrachlorethylene and mixed solvent n-butanol, or environmentally friendly solvents, has a strong odor and micro-toxic and not fit for human consumption, in the use, handling, when dumping with gloves carefully to avoid splashing to the skin and eyes, if spilled on the body, please rinse with water a long time. Eyes spilled, immediately wash with water, then the hospital for an examination.
5. Please, as far as possible from around the side of the machine into the solvent, not a positive from the machine into the solvent, so as to avoid flow of electrical fault caused the machine inside.
6. To avoid a hard object brush extrusion long, especially after washing edition tightening screws to avoid brush flat brush grinding down the glass plate.
7. Drying process we must first set the drying time, drying and then switch. To prevent excessive drying plates injury.
8. Periodic inspection of the pole, and to prevent solvent splash plate to stainless steel poles on the pole, I would immediately dried to prevent solvent access to the cylinder rod.
9. The lamp exposure machine, with the exception of sticky tubes are strong ultraviolet light, harmful to the eyes, much stronger than when the welding arc light, not direct.

Second, product characteristics:

This product is set back exposure, main exposure, wash version, drying, with the exception of viscosity, after the exposure of functions, simple operation, has reached the level of imports of plate-making machine. copy the use of high-intensity ultraviolet light, exposure time is short, long service life, using a unique process technology and special made to restore the high points, points clear, full, small text, lines, independent point not lost.

Third, the use of pre-prepared:

1. Carefully read this description, with plate-making methods and attention.
2. According to a list of random items, random items to check are submitted.
3. In accordance with this specification use of the environment the choice of

a good machine.

Fourth, electrical control panel set up time and temperature parameter method.

1. The time and temperature parameters set:

Can be set back one-time exposure, main exposure, wash version, drying, after the exposure time or temperature, but also in the plate-making process can be, respectively, of the steps set up a separate time or temperature parameters. The machines used in boat-shaped switch, press to open up, down for clearance by switching on the NO that open, OFF, said Guan. Please keep in mind that after the end of each step must be by boat-shaped switch back to OFF position.

2. The drying temperature settings platemaker methods:

First open the power switch, circuit board value beginning to show, first press the (+ _) key to the location of the temperature parameters, and then around key> Settings, and then (+ _) Value addition and subtraction, set up after a long feature by SET button, I heard a "di" A long ring, the value set that is locked.

V. platemaker diagram (the appearance of map and the actual products may differ, however, some features remain unchanged):



Sixth, the use of

1. Please clean, dry, constant temperature environment for the formation of ground-based installation of machinery, fixed before the casters, open the machine cover.

Regulation of brush: the water tank into a high for the top 1 cm away from the brush, brush stroking hands, so that even soaked brush and then covered under the machine cover, stopped 1 second after the flip open, check the flat plate

mill glass of water traces of water uniformly distributed demands, if uneven, please adjust brush plate fixed around the four screws until the top of the peace determine the brush wear uniform patch of green board level contact so far.

2. Plug in power supply, the total red power switch, right to open, press to stop, spin-opened after the master switch power supply, under normal circumstances will hear the voice of the machine with an electric fan running, the fan in operation for the drying, open drying dry drawer, hands to feel the air flow, drying fan in the plate-making process of the whole operation must be to avoid the plate fixed at one location long baking plates, the sound operation if there is no electric power to check the shutdown.

3. Rear Exposure:

First set up the exposure time, exposure opened the drawer, to cut a good flexible version up on the back of a drawer of the exhaust exposure of the central board, to gently push the drawer into the exposure, good exposure time settings, press the key to open the exposure exposure began. Exposure time is up, the number of exposure time to stop beating. Back exposure to establish a solid substrate, but also can control the wash version of the depth of polyester film base to strengthen the photosensitive resin layer with a combination of power, access to the printed version of durability. In order to avoid under-exposure, in particular large-scale field plates and anti-white plates, we do not select at least the main exposure time, plates are generally large enough exposure latitude, exposure can be twice or more than a few minutes exposure to ensure that resin so that the full response. If your main exposure time is set to a minimum, then there is less than the risk of exposure, and reduce the life of plates. The back exposure time required to determine the thickness of the substrate.

4, the main exposure:

① exposure opened a drawer, rolled up the vacuum film, good exposure of the soft back version of a one-time coherence to tear the top protective layer, a positive exposure up a drawer on board the central exhaust.

② the film under the film facing material on the version, open the vacuum to open the key to the vacuum film will be brought up evenly on the bedding in the film, the gas out from the center to the surrounding bars, remove film and between the small plates air bubbles, Note: Do not get rubbed the corner gas bar, we must repeatedly Sassafras! Film and at any point between the plates will result in exposure of the failure of the bubble.

③ pointer readings in a vacuum table and the stability of less than 0.08mp after exposure gently into a drawer, set the exposure time, press the key to open the exposure, exposure began.

④ time to time the number of stopped, press the key to open the vacuum, vacuum pump to stop working, open the drawer light, good vacuum roll film, remove the plates and flexible film, film properly in place, open the cover, in flat plate mill paste to the glass double-sided tape, and then exposed Flexo has been the formation of paste materials.

Note:

① Using Flexible Plate glass paste to the back of the double-sided tape, exposed

face, this process of hand or other objects should not contact exposed surface of flexible plates, so as not to affect the effect of copy.

② paste methods: plates on both sides to seize with both hands, forming a curved outward to the central arc-shaped plates at the top of the first paste, and then extended to both sides, and then pressed Plate edges without images.

③ the main length of exposure time by the film version of the model and the content of material to determine. Too short exposure time would be too graphic slope straight, curved lines, in small, small part of being away, too long exposure time would be contrary paste version illegible. If the printed edition with a large, in small, coarse, fine lines, a black film may cover the exposure, respectively, small parts will not be lost due to washing version, in order to ensure the quality of plates.

5. Wash version:

Open the cover, into the solvent, covered shelters, set up to wash version of the time, press the key to the wash version of an open, wash version of the time comes, the number of stopped time, washed version of the end of the wash version switch closed, open on covered with a soft sponge gently dry the solvent on the plate can not be rubbed back and forth to observe the effect of washing plates, if they pass from one side to gently grinding flat glass plates say a few words, and then inserted a finger in the back plates ground level close to the local board, bit by bit to the plate to pull the board from the ground level down.

Please note:

Plate ① Do not hold direct tear of the iceberg, as the effect will be affected even copy fracture plates.

② wash normal version will stay in the brush the top of the suspended solids colored, solvent change, that is if there is no green patch from the brush is too large, do not wash plates can adjust the brush section of Method 2. Plate

③ Please immediately remove the drying finished, not a long time immersion.

6. Drying:

Open the drawer drying, the plates washed clean flat on the central drawer, close the drawer, set the right temperature and drying time, drying temperature press to open the key, then press the drying time to open the key, the machine began to heating, drying in 20 minutes, open the drawer dryer, check the publication of material, the purity of fresh solvent used to clean plates because the plates are finished resin glue residue and the solvent with the presence of impurities, at this time do not need to shutdown, finished and then continue to Add drawer dry plates. Drying time is up, time to stop beating the figures, the length of drying plates in accordance with specific circumstances, the length of washing version, and experience set to revert to the original size version of the thickness of material. Baking temperature is normally between 50 °C -60 °C. Two-hour version of the general thick, thin version of an hour. Baking time, baking temperature too high version will be affected by brittle plate printing life. Baking temperature too low to extend the drying time, baking time is too short, and there will be print version Black version of the phenomenon of paste.

Please note:

① Do not set drying time is strictly prohibited, and the direct heating by the drying temperature switch plates, for a long time deformation heating plates will crack!

② good drying plates should be flat.

7. After the exposure: the drying out of the plate directly on the exposed face up flat vacuum membrane drawer, close the drawer, set up after the exposure time, exposure to open a key press. After the exposure of photosensitive resin in order to complete hardening (polymerization) up to the required hardness. After the exposure time is too long, would weaken the Indian version of the life, but also lead to the end plate and image-based surface cracks. After over-exposure plates will also affect the transmission performance of the ink, the appearance of printed matter may seem complex printing plates and the effect of poor contact printing, the machine operation may have to increase the printing pressure to compensate, leading to the wear plate much scrapped prematurely.

In addition to stick: the post-exposure plates up front, flat on the sticky board in addition to the central, close the drawer, set up time after the addition to viscosity, visco-opening addition to the key press, with the exception of viscosity after the publication of material from Add Exposure drawer. In addition to the elimination of sticky viscous plates in order to facilitate the transmission of printing ink.

The end of this whole process of plate

7, a list of random items:

1. The use of a manual
2. Reserve a vacuum membrane
3. Installation of a single report and warranty

8, plate-making and troubleshooting common problems

Fault phenomenon	The cause of the malfunction	Solution
Polyester protective film off	Cutting from the Flexographic positive	Cutting back from the Flexographic
	With scissors, cutting tool is not sharp	To use sharp knives
To plug gaps in local	Exposure over	Exposure time is set correctly
	Plate poor contact with the film, there are air bubbles	More time for the expulsion of gas bubble wand
Blurred image	Film there is an error	Alcohol to clean or re-production of qualified film (vaginal tablets)
	Offset the use of film (positive film)	Electric opened a drawer and dried with hair dryer

Machines can not start	Damp or water	Electric opened a drawer closed air switch
	Air switch tripping	Water or alcohol use sponge clean
Exposure after the plates are not flat grinding paste glass plate	There is water glass, ink and other impurities	After the exposure must be completely dry prior to Plate
Opaque and resistant Indian outlets decline	Plates has not been completely dried	Replacement Plate
Photosensitive resin layer and the polyester layer stripping	Plate quality	Adjust the temperature set low after the first high -
	Low version do it, have a bubble too fast temperature rise	Vacuum cleaning with alcohol membrane
Error-free film, graphic defective	Vacuum dust and other impurities in the membrane	For dust-free environment in the plate
	There are dust debris version	To shorten the back, the main exposure time
Graphic can not be sufficient to achieve the depth of	Back, the main exposure time is too long	
Small text does not match the string bending	Insufficient back exposure	
	Less than the main exposure	
	Water temperature is too low	
	Wash water temperature too low for too long version	
Yin text is not clear	The main exposure time is too long	Mask or reduce the exposure (with lines at the same version)
Plate cracking good system	Version did not immediately after washing drying	Version in time to wash after drying
	Preservation of environment in the ozone	PE bag with a black seal to preserve
	Exposure time is too short	Extend the exposure time
Curly Plate	Drying temperature too high for too long	Reasonable drying time and temperature settings
	Without the protection of long-term storage in high-temperature environment	PE bag sealed with a black shade to preserve
Wash version of the depth of inconsistent	Ventilation fan to stop, caused by high temperature exposure of the drawer	When boot the machine to check whether the operation of the rear ventilation fan

	Brush formation did not transfer	
	Part of the UV light does not shine, non-uniform exposure	Adjust the brush pressure and the level of Check the lamp and electrical lines
Layout made sticky, tacky	Version of excessive washing, solvent concentration of not	Replacement of fresh solvent
	In addition to short stick	In addition to setting the right time to stick
	In addition to stick or burn bright lamp	Check the electrical lines, the replacement of tubes in addition to setting the right time to stick
	After the exposure of less than	After setting the correct exposure time
	There is no version of dry cleaning materials	After drying for 20 minutes with fresh solvent cleaning in the wash version of the layout of the residues after
	Solvent selection, the ratio error, proportion of under	Choose a suitable standard solvent

Nine, maintenance

1 End version of each system with fresh solvent wash brush, wash version because after the adhesive resin in the brush, the time is not clear, the solidified plastic resin will affect the brush of their useful life.

2 plate after repeated solvent turbidity change, please replace the plate so as not to affect results.

3 High vacuum products imported film, dust and other foreign matter, if the above, please scrubbed clean with alcohol, can not be used in other difficult volatile, corrosive and strong organic solvents or water scrubbing! Volume light operation light shop to prevent nails, sharp objects, such as film angle scratch, do not tear strength, folding time, the weight and so on, far away from the fire source.

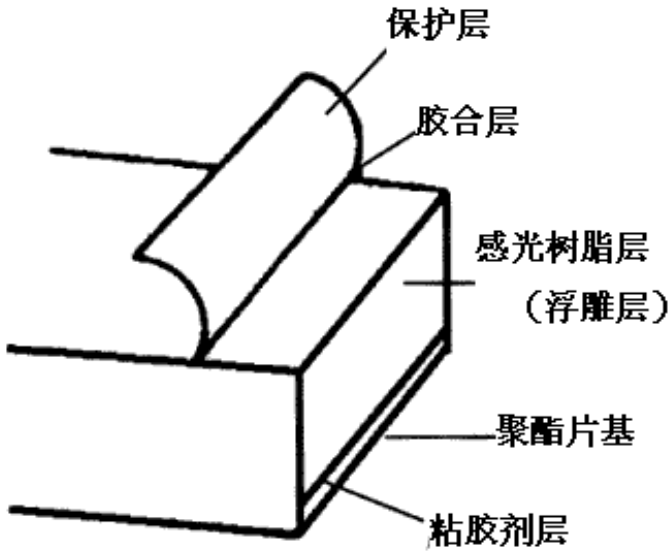
4 every three months after the chassis cover open, check the oil pump, vacuum oil surface must be high-speed and glass panels on the flat line instructions oil, is too high and too low will affect the vacuum suction.

5 a long time without emptying the machine I would be grateful if the solvent and to maintain a clean tank.

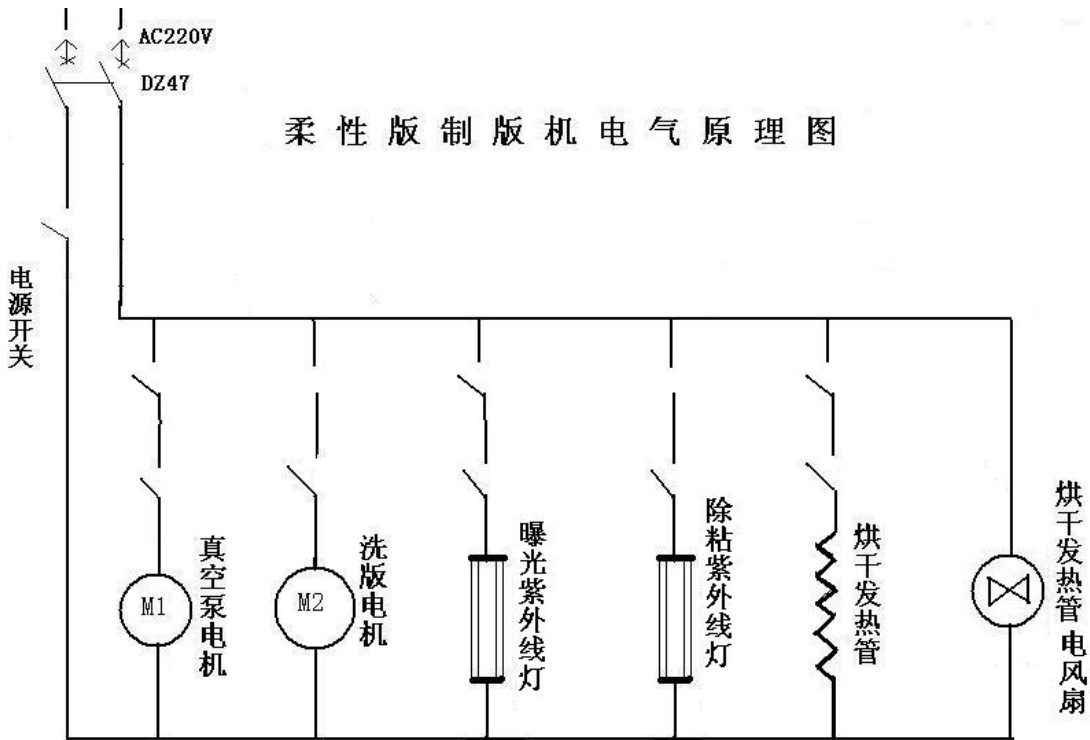
6 drying is completed, if the plate is no longer, please do not immediately close the drawer drying in order to dry heat pipe heat cleared.

10, Plate preservation

- ① plates are not exposed in the former, if the sunlight has been, will photosensitive polymer materials, resulting in a lower, or by shallow relief. Therefore, attention should be paid to light the preservation plates.
- ② cracked plate is preserved relief inappropriate, resin version is very sensitive to ozone, once the plates come into contact with ozone, would have some small plates of the split will lead to printing. Printed version in the store should be avoided on the corona treatment plant, next to the motor, as in the above areas vulnerable to ozone, so that cracking plates. PE bag with a black seal to preserve in a cool dark place.
- ③ days that can not use water or other chemical solvents to wipe Edition, chemical solvent on the resin version has a strong corrosive effect, so that cracking plate, printing can not be normal. Therefore, it is recommended wiping version should be used to scrub the exclusive use of solvents in order to extend the life of printed version, it should not be prolonged water immersion plates.
- ④ soft version to prevent the weight, storage time can not be too long in order to better use in a year.
- ⑤ after printing plates must be clean, otherwise the ink will dry in the printed version of the surface, it is difficult to remove, and may lead to a bad version. For solvent-based inks or UV inks, and plates should be used to match the lower the concentration of mixed solvents (such as alcohol) to carry out the washing. For water-based ink that can be used alkaline liquid detergents or Flexo Printing dedicated cleaning High cleaning fluid. The use of soft, clean cotton cloth to clean gently, avoid washing with a hard brush to prevent the plates have scratches. Washed hair with a piece of cloth can not (non-woven fabric, silk) dry plate, careful not to repeated friction plates, until dry, you should use paper or foam plates and films will be separated from the storage plate, sealing in a black plastic bag, placed or hung in a cool well-ventilated place to prepare for re-use. If the plate is kept in the sleeve or the printing plate cylinder, the use of opaque material to cover package.



11, electrical schematic diagram:



12, plate-making process before and after the attention of the other points

1. Try not to field a large area with small print, such as dots on a version of the detail, even the same color and we should try to be divided into two pages, it can not be considered separately from the local version to pad.

2. As far as possible to avoid large-scale multi-color overprint block it.

3. Text specifications can not be too small, cloudy, especially text, otherwise the pressure changes when the printed matter, printing a facsimile of a larger deformation, so that Yang changes Rough graphic, graphic vaginal thinning or paste dead.

4. Independent of the width of fine lines should be larger than 0.2 mm.

5. Flexo Printing, the reticulate roller Chuan reference hole on the general point of view of sculpture is 45 °, in the ordinary type reticulate mass printing roller, the film should be avoided for 45 ° angle lines to avoid japonica printed.

6. To avoid along the horizontal direction of the printing drum and the length of the design of wide bars and the ground rules, the ideal is a slash, curve, wave lines, and other irregular curves.

7. Layout design to avoid a larger circular pattern. Occurs because when the printing plate or flexible tensile elastic compression, geometric patterns and rules will become irregular, oval-shaped into a circle.

8. To avoid the exact match exactly the requirements set.

9. The original colors to take into account the printer up to print a few color. Overlapping in the use of ink color, the size should not use two of the same color overprint, you can color in the larger area of the field where the use of partial words or patterns overprint overprint patterns, as well as local color.

13, flexible range of printing applications:

Flexo printing press for a narrow range of products are all kinds of paper goods, packaging, folding carton (for cigarettes, alcohol, medical supplies, cosmetics, health products, etc.), paper bags, paper cups, paper tableware, wallpaper, etc. . Flexo printing machine suitable for wide-format products have all kinds of plastic film, vacuum film, pure aluminum foil packaging products, such as liquid packaging, baby disposable diapers, sanitary napkins for women, Japanese washing of medical supplies and packaging.

Advantages:

1. Environmental protection, the only non-toxic inks, are widely used in food packaging.
2. Extensive print media. Sophie printable version of all kinds of paper printing can also be printed foil, plastic film, self-adhesive paper, self-adhesive film, cellophane, metal foil and textiles. Appropriate type of print media other than printing.
3. Equipment processing ability. Almost all of the narrow range of unit-type flexographic printing press can be in the same printing device processing. Such as negative printing, polishing, coating, die-cutting, cross-sectional, slitting, punching, fighting dragons, fan-folding, automatic, such as waste, or even increase in the printing unit numbers to fight, hot, or screen printing unit. Therefore, Flexo printing press production line known as the reason.
4. Small productive investment. Flexo printing press as a result of relatively simple structure, so the scale of investment in equipment is lower than the same as the offset or gravure printing machine, generally can save 30% ~ 40%.
5. Corrugated Flexo Printing using the best, and even can be said to be the only choice.

6. Printing speed.

7. Convex Printing than print quality, and as a result of the use of ceramic net roller, evenly written. ink Level thick, suitable for printing large-area field.

Flexible Printed shortcomings

Small text-color printing is the use of overlapping a weak Flexo, Flexo in registration accuracy less than the offset, it will result in the phenomenon of bilateral text. Also due to more than offset the expansion of outlets, particularly in the Agency's network of high light printing, but also increases the difficulty of Engraving and Printing. Due to the printing of different materials is subject to tension, the effects of drying, there will be varying degrees of flexibility, it also needs to pay attention to the design of the product make-up or follow the direction of paper. Because it is not appropriate for the printing direction, product registration would adversely affect the play.

Small text, fine lines; two color or multi-color lines or text overprint; small anti-white or anti-white lines of text; picture off the high-light network, or 1% of small dots; lines and text will be done in Photoshop software; along the printing Design of roller width of the horizontal direction and a long bar and the ground rules; in the printing direction to avoid long and wide gradient design; to avoid large-scale field with dots and small text on the page to do the same; dots not gentle gradient.

14, flexible version of how to calculate the amount of shrinkage version?

Flexible version of the reduced version of the volume of printing plate cylinder with a diameter (including double-sided tape) and the version of the thickness of the material itself. In general, the larger the diameter of plate cylinder, the thickness of the smaller plates, printed version of the smaller deformation of elongation, reduction is also relatively smaller version. Reduced version of the percentage of the amount of compensation can be used formula (1) basis. Percentage of the amount of compensation reduced version = $K \div R \times 100\%$ (1) One, K is a constant, can be found in Table 1. R for the printing plate cylinder (including double-sided tape) circumference printing. When the printing plate cylinder gear modulus for the 1 / 8 inches, R = the number of teeth roller plate $\times 3.175$.

For example: the need for printing a product of tooth plate 98 roller, plate thickness of 1.70mm, the reduced version of the calculation of the percentage of the amount of compensation was as follows.

Percentage of the amount of compensation reduced version = $9.89 \div (98 \times 3.175) \times 100\% = 3.18\%$

Need to be further noted that in the actual production, as a result of many factors, in accordance with the formula (1) the calculation of the printed version of a system, with its printed after printing may also fail to achieve the size requirements. In such cases, the actual measurement should be carried out to test version of the rate of reduction, such as formula (2).

Version of the rate of reduction = (printed or graphic film print graphic \div the length of the actual length) $\times 100\%$ (2)

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