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# How to make screen plate

# 制作网版的参考资料

SM-TS 系列拉网机

SM-120160TS SM-160210TS

SM-UVE 系列晒版机

SM-90120UVE SM-120150UVE SM-150200UVE

SM-DC 系列烘版箱

SM-90120DC SM-120150DC

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## Screen plate making solution



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# 使用说明书

## How to make screen plate

保持车间清洁

### Keep the workshop clean

为了保证网版制作质量，不出现纱眼等，应保证车间无灰尘。

In order to guarantee the quality of screen Plate, avoid pinhole, should ensure the workshop is Clean

- 将晒版机的真空黑布罩和放罩网版及菲林的玻璃板擦拭干净。
- 在晒版之前，轻轻擦拭菲林片。

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- 车间若有烟灰缸，应经常保持干净。
- 若是用风扇进行清洗后的吹干，则也应保证扇的风叶上无灰尘。
- Keep the exposure machine vacuum black rubber sheet and glass flatom to wipe clean
- Before Exposure, gently wipe Films.
- Workshop if there ashtray, should always be kept clean.
- Cleaning after the drying fan, should ensure that no dust on the fan blades.

#### 1. 晒版光源

##### UV Exposure Source

应保证晒版时光的强度。使用点光源可以保证光在网版上不存在散射现象，从而保证晒版准确

- 1) 适用金属卤化物光源或碳弧光源效果最好。
- 2) 适用水银灯，氙光灯效果一般。
- 3) 若选用其它的如荧光灯，则速度较慢。

Should be to ensure the Wattage of UV lamp. Using the point light source can ensure that the light scattering phenomenon does not exist on the stencil, so as to ensure the accuracy of the exposure

- the applicable metal halide light sources or carbon arc light source works best.
- The applicable mercury lamps, xenon light effects in general.
- If the choice of the other, such as fluorescent lamps, slow

#### 2. 真空布罩

真空布罩必须软一点，能够让菲林片紧贴玻璃板。同时要求布的颜色为黑色或深色，以免反光，造成曝光不准确。

##### Vacuum rubber cover

Vacuum rubber cover must be a little soft, enables Films close to the glass plate. Also asked a black or dark color of the cloth, so as not reflective, resulting in inaccurate exposure

#### 3. 网框

建议使用不锈钢或铝制网框，木质网框容易变形，不稳固，而且受潮后还更加不牢固，这样会给印刷对位带来困难。

- 与铝制网框相比较，不锈钢网框受温度影响较小，仅为铝制网框的一半。所以车间的温度变化较大，则建议使用不锈钢网框。
- 在没有机械拉网装置或使用不锈钢丝网的情况下建议使用可调节网框。

##### Screen Frame

Recommend the use of stainless steel or aluminum screen frame, wooden screen frame easily deformed, unstable, and moisture also more firmly, so to give printing on bit difficult.

- Compared with aluminum screen frame, stainless steel frame is less affected by temperature, only half of the aluminum screen frame. The temperature change of the workshop, it is recommended to use stainless steel frame.
- In the case of mechanical pull network device or the use of stainless steel wire mesh is recommended to use an adjustable screen frame

#### 4. 丝网的选择

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根据各自的印刷要求，选择适当的丝网。

### 1) 丝网的选择

在丝印行业里选使用的丝网有丝质丝网，尼龙丝网，单丝聚酯网，多丝聚酯网，金属丝网和硬化聚酯丝网。就各种丝网的使用方法及特性可向丝网生产商咨询，做到所选用的丝网与具体的印刷要求相符。除此之外，还应考虑如下几个方面：

- 丝线直径和丝网开孔面积：



决定油墨的印刷厚度的主要因素有丝网网目数，丝线直径，丝网开孔面积三个因素。另外，还有网版厚度，油墨类型，胶刮的调节也可以影响油墨的印刷厚度。

- 网目数

丝网的网目数是按每英寸或厘米内的丝网网目数。丝网的网目数决定着印刷图纹的清晰度和精细程度。丝网网目数越高，印刷图纹的清晰度和精细程度就越高。同时，采用同一种刮浆方法，对网目数较高的丝网，丝网上的感光浆就较薄，所需曝光时间就较短。（丝网网目数越高，印刷油墨层厚度就越小）

- 半色调印刷

对半色调印刷，应将色调线数至少乘以4，即得出应选用的丝网网目数。例如，—60线的半色调印刷，则为

60X4=240。所以应选用240目/英寸的丝网。（注：此处所称的“半色调”是指一些存在渐变效果的图纹。在英语中称为“halftone”。目前国内的一些权威人士把这种印刷图纹称为“阶调印刷图纹”，与它相对的是“实地印刷图纹”，即所印部位为实地油墨所覆盖，基本无线条。这里的“色调线数”是指图纹的单位长度中线条的数目，一般以厘米或英寸为单位。

- 高精度的图纹印刷

对丝网的丝线直径，不能超过印刷图纹线条的一半。

- 丝网颜色

染色丝网常用于精细图纹的印刷，因为它可以减少或避免曝光时光线在网版中的散射。从而保证曝光的准确。不过，如果您是从白丝网改用染色丝网，则在曝光时间上至少得延长50%。

### 2) 正确的拉网

若同一网版的丝网张力不均匀，则会造成感光浆的涂刮和分布的不均匀，从而进一步影响印刷质量。同时，不同网版的丝网张力不一致，会给套色带来麻烦，甚至不能套。不同的丝网品牌，同一品牌的不同网目数，线径直径不一样的丝网，其张力大小的要求都不一样。有关这方面的问题，可向丝网生产商咨询。高宝印刷机械公司生产的拉网机主要采用气动顶网，机械拉网的方式进行操作，基本可以满足不同种类的印刷要求。

### Selection of silkscreen

According to the respective requirements of the printing, select the appropriate screen.

#### 1) Selection screen

Selected screen in the screen printing industry: silk mesh, nylon mesh, polyester mesh monofilament, multifilament polyester mesh, wire mesh and hardening polyester mesh. The use

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and characteristics of various wire mesh screen manufacturers consultation, do match the selection screen with specific printing requirements. In addition, you should consider the following aspects:

- **Diameter of wire and open area:**

The thickness of the main factors of the printing ink depend on the screen mesh count, wire diameter, mesh opening area three factors. In addition, the thickness of the screen frame, type of ink, squeegee adjustment can also affect the thickness of the ink printing.

- **Mesh count**

The count of the mesh is within the screen mesh count per inch or centimeter. Silk screen mesh count determines the clarity and fine of the printed pattern. Mesh count is higher, the higher the sharpness of the printed pattern and fine. At the same time, with a squeegee method, the higher mesh count, wire-line photosensitive paste is thinner, the required exposure time shorter. (Higher screen mesh count, the smaller the thickness of the printed ink layer)

- **Halftone printing**

The half-tone printing, the color line number should be at least multiplied by 4, i.e. draw should be used in a screen mesh count. -60 Line, for example, half-tone printing, compared  $60 \times 4 = 240$ . 240 mesh / inch screen should be used. (Note: here called "halftone" refers to the existence of a gradient effect pattern. Called in English "halftone". Domestic Some pundits such printing pattern called "tone printing pattern", and it is the opposite of "field printing pattern", i.e., as printed on the sites of the solid ink coverage, the basic wireless bar." color line number "refers to the number of lines in a unit length of the pattern, generally in cm or inch units.

- **High precision pattern printing**

The diameter of the wire mesh, can not exceed half of the printed pattern lines.

- **Mesh color**

The staining mesh commonly used in the printing of fine pattern, because it can reduce or avoid the scattering of light exposure when the halftone. Thereby to ensure the accuracy of the exposure. However, if you switch from white screen-dyed silk screen, at least in the exposure time may be extended by 50%.

## **2) Pull the Silk**

Uneven, with the halftone screen tension will cause photosensitive paste coated scraping and distribution is uneven, thus further affecting the printing quality. At the same time, the wire mesh of different network version tension inconsistent, give chromatic trouble, and can not even sets. Different screen brands, same brand, not the number of different mesh wire diameter wire mesh, tension requirements are not the same. For this problem, consulting to the screen manufacturer. Aerodynamic top mesh netting machines, KC Printing Machinery Company production, mechanical Stretching Machine operating basically meet the requirements of different types of printing.

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# 拉网机说明书

## TIGHTEN SILK MACHINE

### OPERATING INSTRUCTION

**SM-120160TS**

**SM-160210TS**

#### ● 概述 Summarize

本产品采用了全新设计的自锁夹结构及胶条触网布，具有防松脱、防坏网的特点，可以承受 50N/cm 的最大拉网力而不会拉破网，整个框架采用铝合金型材，表面经过喷砂处理，强度高，外观美，拉网面积可根据需要任意调整，单面拉网手通过齿链同步传递动力，保证单面多个网夹拉网力同步，拉力均匀且稳定，一次可拉多个大小不同规格的网框，效率高。

This machine used in making screen plate of screen printing. When put AL frame and silk screen on the worktable, the cylinder on the corner of tighten silk machine



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## ● 技术指标 Technology Parameter

### (一) 型号表示方法

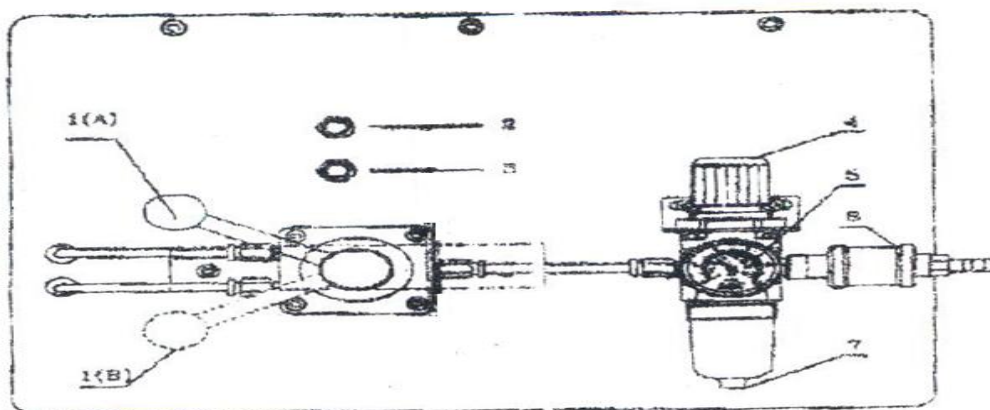
M-印刷辅助设备

120160, 160210 代表拉网的最大宽边尺寸 TS 指的是拉网机

### (二) 基本参数

型号 Model	拉网面积 TIGHTEN AREA	外形尺寸 DIMENSION	气压 AIR PRESSURE	重量 WEIGHT
SM-120160TS	1300×1600mm.	1500×1800×800mm	4-7bar	220 kg
SM-160210TS	1700×2100mm	2000×2300×800mm	4-7bar	275 kg

## ● 结构说明-气路部分 Structure Instruction-



1. 手动制动：手柄置于 A 位置时，气缸向上抬网；手柄置于 B 位置时，气缸向下网框放下。

When handle is at "A" position, the cylinder raise up to press frame and silk;

When handle is at "B" position, the cylinder come down and frame let down.

2. 流量制：气缸向上运作调速。



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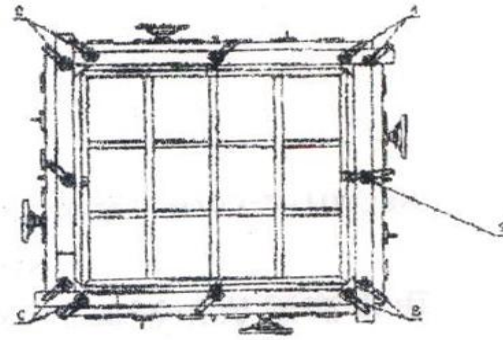
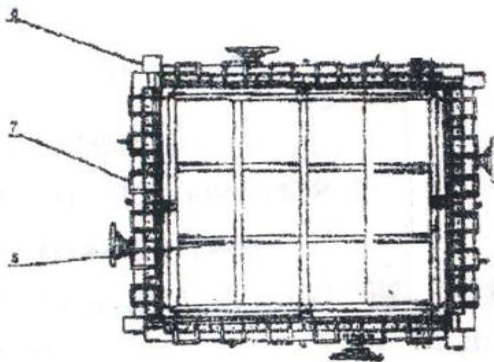
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- Flux screw: adjust the speed of cylinder from down to up
3. 流量制：气缸向下运作调速。  
Flux screw: adjust the speed of cylinder from up to down.
4. 调压旋钮：将旋钮上提后顺时针旋转，压力增高；反之则减小。  
Pressure adjustment screw: carry it and turn right, the pressure add  
Carry it and turn left, the pressure reduce.
5. 压力表：显示通入机器的压缩空气压力。  
Pressure meter: display the air pressure.



6. 气源：将活塞环左右推动可以阻止机器通入压缩空气或使气缸排气。

Impulse it left or right to stop and connect compress air.

7. 排水顶针：机器通入压缩空气时，把顶针往上顶，即可排出积水。

Drainage top: press it up to transpire the water

1. 手轮：当手轮向左旋转时，网砂处于张紧状态，当手轮向右旋转时，网砂处于松弛状态，详细请参阅上图标示。

Wheel: when turning it to left, silk will be tighten, when turning it to right, silk will be laxity.

2. 活动脚轮：当要调节拉网机的拉网面积时，先要松开活动脚轮的锁丝。



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Truckle: please disentangle the locating screw when adjusting tighten area.

3. 气缸：网框向上或向下动作的动力来源

Jar: to hold Screen frame up and down.

4. 固定脚：整个拉网机的固定支撑。

Fastness foot: total tighten silk machine support and fix up

5. 杯头螺丝：当要调整气缸左机架上的上下位置时，先要松开此螺丝，调整好后要锁紧此螺丝，以便于固定气缸。

Cup head screw: when adjusting the position of left machine frame, please untie the cup head screw.

3. 机架

Machine frame

4. 网夹：在拉网砂时用于固定网砂四边，以便于使网版达到最佳。

Silk nip: fastness the edge of screen silk.

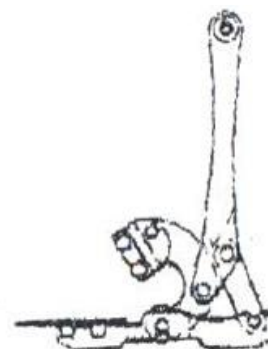
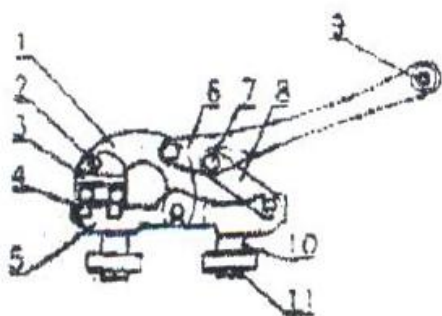
5. 网框支撑架。

Screen frame support

6. 万向把手：当在调整拉网机的拉网面积时，先松开四边上的此万向把手，以便于在调整好拉网机时，使气缸处于网砂四边上对应的中间位置，从而达到网框受力均匀平衡，调好后再锁紧此把手。

注意：当在调整拉网机的拉网面积时一定要先同时松开 A、C 或 B、D 机对角的四个万向把手，调好后再锁紧万向把手。

Universal handle: disentangle it to adjust tighten area. You are requested to disentangle A, C, B, D four handle together.



- |       |           |            |       |        |         |       |    |    |
|-------|-----------|------------|-------|--------|---------|-------|----|----|
| 1. 曲柄 | 2. 连接锁    | 3. 上夹板     | 4. 胶棒 | 5. 下夹板 | 6. 手柄侧板 | 7. 转轴 | 8. | 9. |
| 手柄    | 10. 网夹啤令垫 | 11. 网夹啤令螺钉 |       |        |         |       |    |    |

## ● 操作步骤 Operation Process

1. 首先根据网框大小调节拉网机的拉网面积，然后将活动脚轮锁死。

Adjust tighten area according to the dimension of screen frame, then lock the truckle

2. 选择合适的网框支架，将其放在拉网机上。

Choose appropriate steel frame and put on the tighten silk machine

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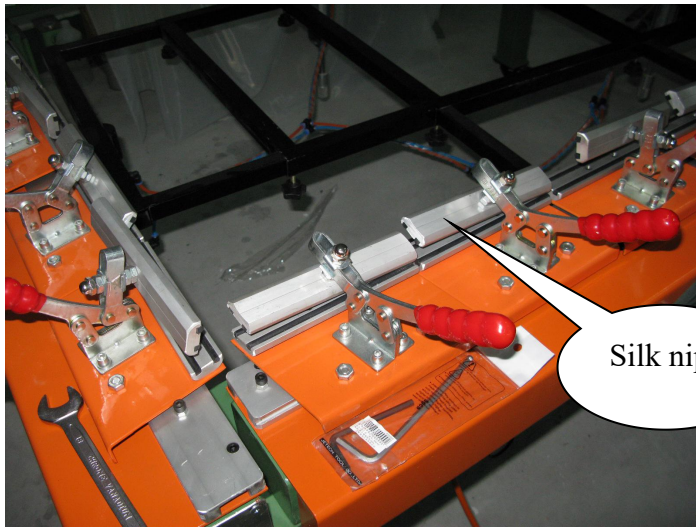
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3. 调节气缸，使网框与网平面之间的距离在 5-6 mm，以避免在拉网过程中由于网砂张力增大，网框顶住网砂而造成网砂破裂。

Adjust the height of jar and keep 5-6mm distance between screen frame and silk surface to avoid breaking silk when screen frame rise up to contact it.



Silk nip

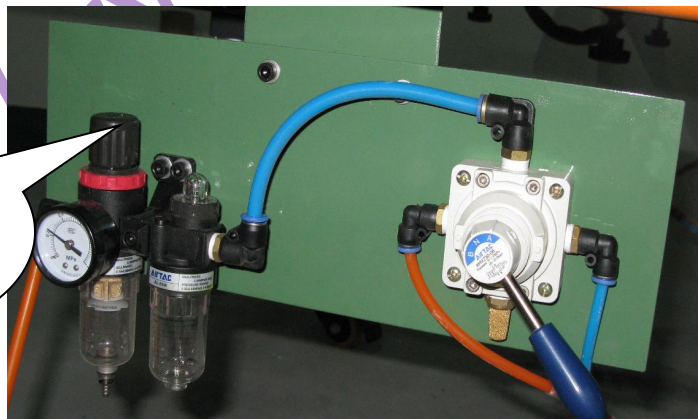
4. 拉平网砂，用网夹固定好网砂的边缘，再慢慢旋转机架四边的手轮，使网砂慢慢处于张紧状态，如此反复，直到网砂的各处张力大致相等为止，张力的大小视网砂的日数和质地而定，网张好后最好用张力计进行最终检查，注意：网砂拉力不能一次拉到位，必须分开几次，比如：拉网力要求 40N，先拉到 15N 经过最少 5 分钟的停留后才拉到 20N，如此反复拉网才可。

Level silk, fix up the edge of silk with nip. Slowly turn the wheel handle to tighten the

silk till the tension reach a best estate and keep stabilization. Suggest you check the tension with tension meter. Notice: do not tighten silk one time, you must tighten it three or four times. First tighten o lower tension, wait a moment, and then tighten a more tension till reach latest tension.

5. 调节气缸，使网框上升，注意网框要均匀地接触网砂，然后在网框与网砂相接的地方涂上黄胶，注意必须等待胶干以后，方可将网框与网砂一同取下。

Pressure adjustment valve



Adjust jar to raise the screen frame up, check contact stabilization of four corners. Coating adhering glue till the glue become completely dry, take frame and silk off.

6. 等张纱完闭以后，扳动换向夹，使气缸回到初始位置，关闭气源通断夹，如果长时间停机，还要切断气源。

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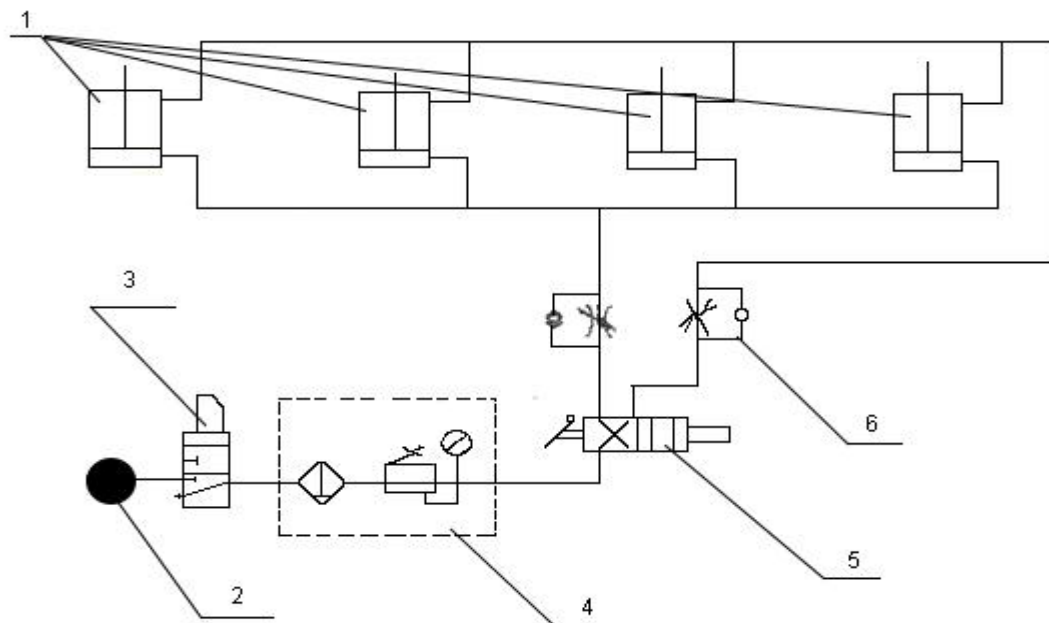
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After tighten, turn direction nip, let jar return beginning position, shut off air switching. If long time not use machine, shut off air power.

7. 工作一段时间以后, 应按下排水顶针, 排出玻璃杯中的积水。

Discharge the waste water in glass cup.

## ● 气压传动系统



1、顶网气缸 Screen rise cylinder 2、气源 compress air 3、气源通断夹 compress air switching 4、水隔组合 combination switching 5、手动制动夹 handle-controlling valve 6、流量调节夹 air pressing adjustment valve.

### 5. 上浆器

当丝网用竖直方向上的支架固定时, 则应使用上浆器。

- 对上浆器, 要求是具有金属氧化物膜的铝质材料或不锈钢材料, 其刀口最好要尖, 光滑, 不带毛刺。
- 上浆器的尺寸应比网框的宽度短 4 至 6 英寸, 即与印刷时胶刮的长度一样即可。
- 若上浆器的长度长于 20 英寸 (50 厘米) 时, 上浆器应该有一凸面刮边, 以克服在刮压时, 丝网变形的影响。

对平放的网版, 则用普通的刮胶来上浆即可。胶刮应为软橡胶材料, 同样, 其长度应比网框的宽度短 4 至 6 英



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寸。若上浆器较为钝，则刮的感光层会厚一些。

#### 6. 制版过程中的用水

网版制作时，应有压力适度的水龙头，在水龙头上最好还配上高压阀。

#### 7. 纸张的准备

在每次冲洗过后，应用吸水纸擦干。对印刷后的油墨清除，则可用报纸擦拭。

#### 5. Emulsion coating machine

When the screen is held in place by a vertical support frame, the applicator should be used.

for the coating tool, the request is a metal oxide film of aluminum or stainless steel material, the edge is best to be sharp, smooth, without burr.

The size of the coating device should be 4 to 6 inches shorter than the width of the frame, which is the same as the length of the squeegee at the time of printing.

If the length of the applicator is longer than 20 in. (50 cm), the applicator should have a raised-faced scraper to overcome the influence of the web deformation during scraping.

On the flat screen, then use the ordinary scraper to sizing can be. The squeegee shall be a soft rubber material and, likewise, shall be 4 to 6 inches shorter than the width of the frame. If the sizing device is relatively blunt, then the photosensitive layer of the scraping will be thicker.

#### 6. Water in Plate Making

Screen production, there should be moderate pressure of the faucet, the best in the faucet is also equipped with high-pressure valve.

#### 7. Preparation of paper

After each rinse, blot dry with absorbent paper. For printing ink after cleaning, you can use newspaper wipe.

## 直接网版感光制作准备

Prepare for directly plate-making

### **第一步 丝网的准备-Screen prepare**

#### 1. 丝网的除油

所有的丝网，不管是新的，还是用过的网版，都应进行除油处理。这是制作出高质量网版所不可缺少的步骤。另外对合成丝网，还必须进行打粗，以增强网版的抗机械磨损性。同时注意，在往网版上刮感光浆之前，必须烘干丝网。

有很多因素都可能影响网版的质量，而且这些因素都是用肉眼看不见的，如油墨或清洗剂中残留在网版上的油气，对新丝网，可能还有一些丝网编织时所用的油，以及在操作中的汗水，空气中的尘埃等。进行除油处理就可以有效地控制这些不利因素，从而提高网版的使用寿命。



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- 除油剂是专用于丝网的清洗除油的试剂。不同的感光胶供应商会推荐不同的配套除油剂供选择,除油剂的使用不会对网框,丝网带来腐蚀。使用方法较为简单,即用一刷子蘸一些除油剂往湿润过的网版上涂,刷子选用中等硬度的毛刷即可。网框和网版的每个角都应进行除油。
- 对丝网的清洗,不能使用家用的一些清洗剂或清洗粉。

## 1. Screen degrease

All screens, whether new or used, should be degrease. This is an indispensable step in creating a high-quality screen. In addition to the synthetic screen, must also play rough, in order to enhance the screen version of the anti-mechanical wear. Also note that the wire must be dried before scratching the sensitive paste onto the screen.

There are many factors that can affect the quality of the screen, and these factors are invisible to the naked eye, such as ink or cleaning agent residue in the screen version of the gas on the new screen, there may be some mesh weaving The oil used, as well as in the operation of sweat, dust and other air. Degrease treatment can effectively control these unfavorable factors, thereby enhancing the life of the screen version.

degrease agent is dedicated to the screen cleaning degrease agent. Different photosensitive adhesive suppliers will recommend a different matching degrease agent for the choice of the use of degrease agent will not be on the net box, wire mesh corrosion. Use a relatively simple, that is, with a brush dipped in some degrease agent to the wet screen over the coating, the brush can use a medium hardness of the brush. Each corner of the frame and screen should be degrease.

The cleaning of the screen, can not use some household cleaning agents or cleaning powder.

## 2. 对合成丝网的打粗

对于尼龙丝网和聚酯丝网,在进行除油之前,必须进行打粗处理。其方法有两种:

打粗除油两步走:湿润丝网,然后往丝网的印刷面喷打粗粉或碳化硅粉末。然后用刷子反复刷,直到起泡沫。最后用水冲洗,接下来才进行除油。

- 打粗除油一步走:使用专门的网版打粗除油剂。

## 2. The synthesis of wire mesh rough

For nylon and polyester screens, roughing must be performed before degrease. There are two methods:

Two steps to play rough degrease: wet screen, and then to the screen printing surface sprayed with coarse powder or silicon carbide powder. And then use the brush repeatedly brush, until the foam. Finally, rinse with water, then degrease.

to play rough degrease step: use a special version of the network to play rough degrease agent.

## 第二步 感光浆的敏化

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## Sensitization

直接感光胶通常都配有重氮敏化剂或敏代浆。即在使用感光浆之前，将敏化剂均匀地混和到感光浆中，以敏化激活感光浆。

### 1. 重氮敏化粉的溶解

往重氮敏化剂中加入适量的温水，摇均，然后过 15 分钟让气泡完全消失。

- 等重氮敏化粉完全溶解，即在倒入到感光浆中之前，应看一下瓶盖上还有无未溶解的粉末。
- 对粗糙的丝网或要求感光层较厚的情况，在溶解重氮粉时，加入的水不能太多。但也不能少于半瓶。注意，这种情况下，曝光时间应相应地延长。
- 对网版要求较薄时，则将感光浆给予稀释，即将敏化溶液倒入感光浆中后，接着再加入一瓶温水（瓶为装敏化剂的瓶），最后进行充分地搅拌。即进行了 10% 的稀释。注意在这种情况下，应相应的缩短曝光时间。

### 2. 将溶解后的敏化剂加到感光浆中

将溶解后的敏化剂加到感光浆中，然后用干净的塑料或不锈钢给予充分的搅拌，观察颜色是否一致。若您的感光浆为无色，在这时可加入所配色料。

- 若使用带不锈钢搅拌刀的电动搅拌器较为理想，不能使用木质，铜，或铁的搅拌器。
  - 在搅拌时，应注意刮到边，即注意容器的角落，以免搅拌不均匀。
- 在搅拌时，应注意刮到边，即注意容器的角落，以免搅拌不均匀。
- 搅均后，至少要放置一个小时以上，以消除气泡现象。否则会影响网版制作效果。

### 3. 标上敏化的日期

经过敏化的感光浆在室温下可贮存 4 至 6 星期，在冰箱内可贮存 3 个月。

Direct photo resists are usually equipped with a diazo sensitizer or an agitator. That is, before using the photosensitive paste, the sensitizer is uniformly mixed into the photosensitive paste to sensitize and activate the photosensitive paste.

### 1. Dissolution of diazo sensitized powder

To the diazo sensitizer by adding the right amount of warm water, shake are, and then 15 minutes so that the bubble completely disappeared.

- Such as diazo sensitized powder completely dissolved, that is, into the sensitive paste in the pulp before, should look at the cap there is no end dissolved Solution of the powder.
- For rough screen or thicker layer, the amount of water should not be too much when dissolving diazo powder. But not less than half a bottle. Note that in this case, the exposure time should be extended accordingly.
- When thinner screen requirements, will be diluted with photosensitive paste, sensitizing solution will soon be poured into the photosensitive paste, then add a bottle of warm water (bottles for the sensitizer bottle), and finally fully stirred. I.e. a 10% dilution. Note that in this case, the exposure time should be shortened accordingly.

## 2. The sensitizer after dissolution is added to the photosensitive paste

The dissolved sensitizer is added to the photosensitive paste, and then with a clean plastic or stainless steel to give sufficient stirring to observe the color is consistent. If your light-sensitive pulp is colorless, at this time can join the color.

- If using an electric stirrer with a stainless steel stirrer, a wood, copper, or iron stirrer can not be used.

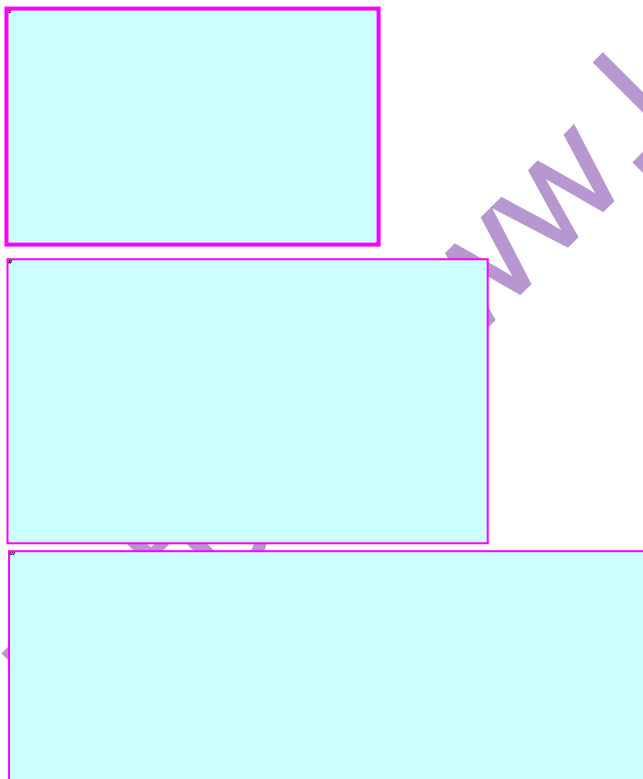
In the mixing, should pay attention to scraping the edge, that is, attention to the corner of the container, so as not to stir uneven.

In the mixing, should pay attention to scraping the side, that is, attention to the corner of the container, so as not to stir uneven.

Stir all, at least to place more than an hour to eliminate the bubble phenomenon. Otherwise it will affect the screen production effect.

## 3. Mark the sensitized date

Sensitized pulp can be stored at room temperature for 4 to 6 weeks, can be stored in the refrigerator for 3 months.



### 第三步 刮浆

### Emulsion coating

1. 所谓刮浆就是用感光浆将丝网给封上一层, 同时将丝线也进行严密地封上。在刮浆时应做到慢, 有力, 均匀。影响网版制作效果的因素有: 丝网网目数, 丝线直径, 丝网颜色, 丝网的张力和清洗是否干净, 感光浆的固化程度和温度, 上浆器刀口的厚度, 以及刮浆时的角度, 速度等。

刮浆有三种方法:

- 1) 先在网版的印刷面上刮上一层, 然后在网版的胶面刮上一层。最后烘干。从印刷效果看, 刮上的感光层较薄, 网版厚度小, 网版的储墨量也会较小。
  - 2) 先在网版的印刷面刮两下, 然后在胶刮面刮上 1 至 5 下, 每刮一下, 转动网版 180 度, 然后平放, 烘干, 印刷面朝下。这样制作出的网版和油墨储量要稍大一些。
- 3) 在第二种方法的基础上, 即烘干后, 再在网版的印刷面刮上一层, 再烘干, 这样制作出来的网版较厚, 油墨储量较大, 印刷图纹的修边拉力极高。
1. The so-called scraping paste is to use the photosensitive paste to the screen to seal a layer of silk, while

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the wire is tightly sealed. In the scraping paste should be done slowly, effectively, evenly. The factors that affect the effect of screen production are: screen mesh number, silk diameter, silk screen color, screen tension and cleaning is clean, the degree of curing paste and temperature, the thickness of the blade, and the squeegee Angle, speed and so on.

There are three methods for scraping paste:

1) first in the screen printing surface scraping a layer, and then scratch the screen in the plastic layer. Finally, drying. From the printing effect, scraping the photosensitive layer is thin, the screen version of the thickness of small, screen version of the ink will be smaller.

2) First, the screen printing surface scraping twice, and then scraped in the plastic scraping surface under 1 to 5, each scratch, turn the screen 180 degrees, and then flat, dry, printing face down. This makes the screen and ink reserves to be slightly larger.

3) on the basis of the second method, that is, after drying, and then in the screen printing surface scraping a layer, and then drying, so the screen out of the thick, ink reserves, printing pattern Trimming high tension.

## ● 网版制作

## ● Screen plate making

### 1. 感光浆的选择

为了选择合适的感光浆材料，须从几个方面来考虑：油墨的类型、稀释剂和清洗溶剂、晒版光源类型以及对印刷质量方面的一些要求。

#### 1. Selection of photosensitive paste

In order to select the appropriate photosensitive slurry material, from several aspects to consider: the type of ink, thinner and cleaning solvents, copy light source type and the printing quality requirements.

### 2. 网版刮浆

#### A. 网版刮法对网版质量的影响：

- 1) 若需快速制作网版，可选用直接膜片网版制作法。
- 2) 在胶刮面涂刮感光浆，使其穿过丝网，到达印刷面。
- 3) 刮掉网框盒中多余的感光浆（特别是两端）尤其重要。这样可以使丝网的印刷面更加平滑，以便菲林片与丝网的充分接触。
- 4) 网版平放，借助重力与感光浆留在丝网的印刷面，同时这样也有助于网版干燥均匀。
- 5) 为了增强网版的耐印性，涂完第一次烘干后，可在丝网胶刮面加刮一次感光浆以提高丝网的抗磨性。
- 6) 从第一种刮法转到第二种刮法，可增加丝网印刷面的感光浆剂量，从而使图纹更加清晰，若采用第三种方法时，效果更明显。

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17

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7) 注意：采用第三种涂刮方法时，每刮一次，都应对前面刮上的感光浆进行充分烘干。  
注意：感光层越厚，所需暴光时间越长。

## 2. Screen scraping paste

### A. Screen scraping method on the quality of the screen:

- 1) For rapid production of screen, you can use direct diaphragm screen production method.
  - 2) Scrape the photosensitive paste on the squeegee to pass through the screen and reach the printing surface.
  - 3) It is especially important to scrape off the excess photosensitive paste (especially the two ends) in the frame box. This can make the printing surface of the screen more smooth, so that film and mesh full contact.
  - 4) screen flat, with gravity and photosensitive paste to stay in the screen printing surface, at the same time this will help screen drying evenly.
  - 5) In order to enhance the screen printing of India, finished the first drying, the scraping surface in the plastic screen scraping a photosensitive paste to improve the anti-wear of the screen.
  - 6) From the first scraping method to the second scraping method, can increase the screen printing surface of the photosensitive paste dose, so that the pattern is more clear, if the third method, the effect is more obvious.
  - 7) Note: The third method of scraping, scraping every time, should be in front of the photosensitive paste scraping on the full drying.
- Note: The thicker the photosensitive layer, the longer the exposure time required.

### B. 上浆器以及丝网类型:

- 1) 感光浆涂层中的气泡会导致网版出现小孔，网版刮浆很容易出现气泡，为了减少气泡，在刮的时候应轻，慢，稳。
- 2) 在购买或更换上浆器时应记住，尖的或刀口薄的上浆器刮的感光浆薄，钝的或刀口厚的上浆器所刮感光层较厚。
- 3) 一般说来，刮得慢，感光浆就有充分的时间透过丝网，这样感光浆涂层相应会厚一些。
- 4) 若使用不同厂家的丝网，应注意丝网型号是否一样，包括丝网的网目，丝线的直径，开孔面积和理论油墨量。

### C. 网框支架有助于稳定网框

使用网框支架，可让网框保持固定的高度和固定的角度，可避免网框的滑动，这样涂刮操作起来较为方便。

### D. 高精度的印刷要求边缘清晰度好，解像力高

- 1) 增加印刷面的感光层厚度，可改善边缘清晰度，但可能影响图纹的解像度。如果可能的话，最好用深色的精细丝网，涂层时，采用第三种方法。
- 2) 同时，应保证菲林底片的质量，控制好晒版的真空条件，以及采用：“分步测试法”来确定合适的曝光时间。

### E. 粗糙的丝网

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18

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- 1) 若丝网较为粗糙, 应选用合适的感光浆, 同时还需适当地敏化激活, 使其有较高的粘度和固体程度。
- 2) 涂刮器的刀口要厚一些, 涂刮时应慢一点。
- 3) 选择涂刮方法时, 应让丝网开孔部分有足够的感光浆。我们建议进行湿对湿涂刮, 刮一次, 翻一次面, 然后干燥。若要对涂层加厚, 可在印刷面再涂刮一次 (只能是印刷面), 最后进行充分地干燥。若有必要, 可进行多次涂刮烘干。
- 4) 由于粗糙的丝网比精细丝网的储墨量大, 在涂刮方法一样的情况下, 粗糙的丝网表面感光浆多, 所以应相应地延长干燥和晒版时间。

F. 对金属丝网最好采用第三种涂刮法

感光浆已盛在上浆器的铲斗里而暂时又不用的情况下, 应把它罩好, 以免让灰尘等污染, 若返回到感光浆桶中, 会污染整桶感光浆。

B. Sizing and screen type:

- 1) photosensitive paste coating in the air bubbles will lead to small holes in the screen version, screen scraping paste is prone to bubbles, in order to reduce air bubbles in the scraping time should be light, slow and stable.
- 2) When purchasing or replacing the applicator, keep in mind that the thin, blunt, or thick-edged applicator of the sharp or thinner applicator scraper has a thicker photo resist layer.
- 3) In general, scraping slowly, there is sufficient time for the photosensitive paste through the screen, so that the photosensitive slurry coating corresponding to thicker.
- 4) If the use of different manufacturers of wire mesh, wire mesh should pay attention to whether the same model, including the screen mesh, thread diameter, open area and the theoretical amount of ink.

C. The frame supports help to stabilize the frame

The use of net frame support, allows the net frame to maintain a fixed height and a fixed angle, to avoid the network frame sliding, so coated scratch operation more convenient.

D. High-precision printing requirements edge clarity, and resolution of high

- 1) to increase the printing surface of the photosensitive layer thickness, edge clarity can be improved, but may affect the resolution of the pattern. If possible, it is best to use a dark fine mesh, coating, the use of a third method.
- 2) At the same time, should ensure that the quality of film negatives, control the copy of the vacuum conditions, and the use of: "step test" to determine the appropriate exposure time.

E. Rough screen

- 1) If the screen is rough, should use the appropriate photosensitive paste, but also the appropriate sensitization activation, it has a higher viscosity and solid level.
- 2) Tupper blade to be thicker, scraping should be slower.
- 3) When selecting the scrape method, make sure that there is enough photosensitive paste in the opening of the screen. We recommend wet-to-wet scratching, scraping once, turning the surface once, and then drying. If you want to thicken the coating, you can re-coated in the printing surface

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scratch once (only printing surface), and finally to fully dry. If necessary, can be carried out several times Coating and drying.

- 4) As the rough screen than the fine screen ink storage capacity, in the same way as the scratch method, the rough surface of the screen more than pulp, so the drying and drying time should be extended accordingly.

F. A third scrape method is preferred for the wire mesh

The photosensitive paste has been sung in the sizing of the bucket and not the case, it should be a good cover, so as to avoid dust and other pollution, if the return to the photosensitive drum, the whole barrel of pollution will be sensitive pulp.



### 3. 网版的烘干

#### 3. Drying of screen plate

为了提高图纹的清晰度以及保证感光浆在丝网表面的均匀分布，干燥过程中应保证周围没有灰尘污染，而且应在暗室或黄色灯光下操作。在摆放网框时，印刷面朝下，保持丝网水平。虽然在无灰尘的

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情况下可用风扇吹干，但为了加快干燥速度，可使用烘干箱（注意：最高温度不能超过 40℃）。

由于潮湿的表面会影响感光浆对光的敏感性，所以必须做到涂刮层的充分干燥，然后才进行曝光。在不完全干燥的情况下，会出现曝光不足的情况。

烘干操作指南：

- 1) 采用第三种涂刮方法时，每涂一次必须做到上一涂层的充分烘干，否则，会使潮气夹在感光层中间。
- 2) 如果可能的话，应保持室内温度恒定。若室内湿度较大，要延长曝光时间，尤其是在夏天，若没有除湿装置，应特别注意这点。其实安装除湿装置的费用也不是太高。
- 3) 在工业上常使用烘干机（最高温度 40℃），尤其是在较为潮湿的环境里。但是必须知道，由于加热会使网框膨胀，对套色带来不便，即很难达到套色准确。所以为了确保套色准确，所有的丝网及网框都要在相同的环境下干燥。并且在进行曝光之前，应让它们恢复到室温。
- 4) 对操作环境，应尽量将曝光，干燥的地方与网框的制作，清洗的地方分开，因为在丝网的制作和清洗区域较为潮湿。

In order to improve the clarity of the pattern and the photosensitive paste the uniform distribution of the screen surface, the drying process should ensure that no dust pollution around, and should be operating in the darkroom or yellow light. Place the screen frame, printed side up, keep the screen level. Dust free fan drying, but in order to speed up the drying speed drying box (Note: the maximum temperature must not exceed 40 ° C).

Scratch coating layer is fully dry, wet surface will affect the light sensitivity of the photosensitive paste must be done before the exposure. Not completely dry, there will be underexposed

#### **Drying operation guide:**

- 1) The third scratch coating method, each coated once must achieve sufficient drying of a coating, otherwise, make moisture caught in the middle of the photosensitive layer.
- 2) If possible, should be kept to a constant indoor temperature. If the indoor humidity to extend the exposure time, especially in the summer, if not lower humidity device, should pay special attention to this point. In fact, the cost of installing lower humidity device is not too high
- 3) often used in the industrial drying machine (maximum temperature 40 ° C), especially in the more humid environment. Must know, however, that the expansion due to heating causes the screen frame chromatic inconvenience that is difficult to achieve chromatic accurate. Therefore, in order to ensure that the chromatic accurate, all wire mesh and network box must be dried in the same environment. And they should be allowed to return to room temperature before making an exposure.
- 4) of the operating environment, should the exposure, dry place with the screen frame making cleaning separately, because more humid in the production of wire mesh and cleaning area

#### **4. 感光材料的保存**

对重氮感光浆和二元处理感光浆，一旦激活，应在阴凉处保存，不能有日光和灯光的直接照射，保存在冰箱内最好。

一般说来，涂过的丝网应放置 2 个星期后再进行曝光，不过，应贮存在没有污染的较为干燥的暗室中，若存放环境湿度太大，丝网寿命会缩短，而且所需曝光时间也会延长。

- 1) 未经激活的感光浆保存期可达一年，在阴凉环境下更好。

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- 2) 激活的重氮基感光浆的贮存期在 4-6 个星期，一般说来，贮存环境温度越低，贮存的时间就越长。所以，一定要将感光浆的敏化激活日期标在容器上。
- 3) 所有的感光浆应避免出现冰冻现象。

## 5. 晒版（曝光）过程

曝光操作属于几个重要步骤之一，曝光掌握得好坏关系到图纹的精细度，图纹轮廓清晰度，以及图纹的抗磨性。为了保证有好的曝光效果，应进行以下三个步骤：粗略计算曝光时间，进行分布曝光测试试验和用网版的印刷图纹与底片进行对照。

### A. 粗略计算曝光时间

有很多因素决定曝光时间的长短，根据实际情况，计算出适合于自己印刷方法及环境的曝光时间。

- 1) 查看基本曝光时间表，主要是看使用的光源和感光浆涂刮方法。
- 2) 列出各个影响曝光的因素（如染色丝网、湿度大等）每个因素都有影响系数（俗称“曝光系数”）。例如，若你使用多丝聚酯丝网，曝光系数为 1.3-1.5。
- 3) 将曝光时间基数乘以曝光系数，得出粗略曝光时间。

曝光时间基数 X 曝光系数 = 粗略曝光时间

### B. 网版制作曝光指南：

- 1) 金属丝布和染色丝网遮光性较强，所以，所需的曝光时间要长一些。粗糙丝网比精细丝网所需曝光时间长。
- 2) 为了保证网版图纹的清晰度，以及锯齿和咬齿现象，要让网版处于较好的真空状态下，以保证底片与感光层的充分接触，同时应记住对染色丝网的曝光时间要相应地长一些。
- 3) 在使用可调光源（指位置可调），为了保证网版曝光均匀和减少咬齿现象，距离最好为所晒图纹对角线的 1.5 倍或者说为网版对角线长度的 1.5 度。
- 4) 曝光不足，常常会带来网版不能再带沙眼和锯齿。在冲洗时，若网版的胶刮面有粘和软的感觉，表明该网版曝光不足，即没有足够的光能到达胶刮面的感光层，这样，感光层很容易被冲洗掉。同时，曝光不足，感光层较软甚至感光层容易被冲洗掉。使该网版不抗机械磨擦和抗溶剂性差。
- 5) 有时候，有一些曝光不足的网版还可采取补救措施。其方法为：轻轻的冲洗掉网版，将较软的感光层洗掉，用白纸擦一下，然后将网版烘干，最后进行曝光。  
注意，应让胶刮面朝向光源。
- 6) 由于气温和湿度随季节变化，所以建议隔几个月要进行一次分步曝光测试。同时，晒版的灯源在长时间的使用过程中也会有变化，因为电源贮存器也未必能及时给予补充。所以进行定期的分步曝光测试可以知道光源及灯泡的使用情况以及什么时候给予更换。
- 7) 在必要时，应更换灯泡。
- 8) 使用重氮或二元处理感光浆，常常会有潜像（影）出现，即曝光后影色的改变。  
若使用 SBQ 感光材料，不会出现这种情况。

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### C. Guides of Exposure

1) Wire cloth and stain mesh shielding is strong, therefore, the desired exposure time to be longer. Rough wire mesh and fine wire mesh to the long exposure time required.

2) is preferably a vacuum state in order to ensure the sharpness of the halftone pattern and the saw-tooth and biting teeth phenomenon, let halftone to ensure full contact of the back-sheet and the photosensitive layer should be remembered that the exposure to dyeing mesh time longer.

3) in the use of the tun-able light source (position adjustable). In order to ensure uniform and reduce the biting teeth phenomenon, the halftone exposure distance is preferably 1.5 times the diagonal of the pattern by the sun or the diagonal length of the halftone 1.5 degrees.

4) lack of exposure, often brought to the screen can not be reused or with tracheotomy and serrated. Flush, if the network version of the squeegee surface sticky and soft feel, indicating that the halftone underexposed, i.e. not enough light reaches the squeegee the surface of the photosensitive layer, so that the photosensitive layer can easily be washed away. Meanwhile, the underexposed, the photosensitive layer is softer or the photosensitive layer is washed away. The network version is not resistant to mechanical abrasion and solvent resistance.

5) Sometimes, the underexposed Screen also take remedial measures. : Gently rinse off the screen, will be washed away by the softer photosensitive layer, rub with White, and then drying the screen, and the last exposure.

Note, the squeegee side facing the light source.

6) As the temperature and humidity changes with the seasons, it is recommended that every few months to be one step exposure test. At the same time,

Proofing light source will change in the long-term use of the process, and also because of the power storage device may not be able to provide timely supplement. Periodic step-by-step exposure test so you can know the use of the light source and the light bulb, and when given replacement.

7) if necessary, replace the lamp.

8) Diazo or dual processing photosensitive paste, there are often latent image (shadow) appeared shadow color change after exposure.

SBQ the photosensitive material, this will not happen if used



# SM-UVE UV EXPOSURE MACHINE

## OPERATION INSTRUCTION

### 操作说明书

#### *Parameters* 技术参数

Model	SM-90120UVE	SM-120150UVE	SM-150200UVE
Power Supply	220V	220V	220V
Glass Screen Size	900*1200mm	1200*1500MM	1500*2000MM
Lamp Wattage	2KW	3KW	6KW
Exposure size	800*1200mm	1100*1500MM	1400*180MM
Vacuum degree	0.05mpas	0.05mpas	0.05mpas
UV consistency	80W/CM	100W/CM	120W/CM
Lamp distance	1000mm	1000mm	1000mm

型号	SM-90120UVE	SM-120150UVE	SM-150200UVE
电源	220V	220V	220V
玻璃面积	900*1200mm	1200*1500MM	2000*2500MM
灯管功率	2KW	3KW	6KW
曝光面积	800*1200mm	1100*1500MM	1400*1800MM
真空度	0.05mpas	0.05mpas	0.05mpas
功率密度	80W/CM	100W/CM	120W/CM
灯距	1000mm	1000mm	1000mm

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*Structure Instruction* 结构说明

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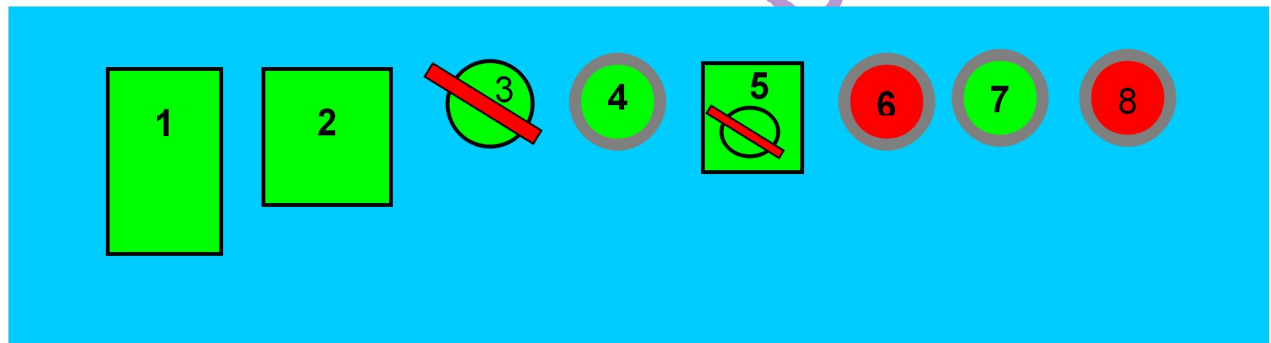
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## ● Operation Panel 操作面板



1. **"TIMER"**: Sets the exposure time in advance.(seconds)  
时间继电器： 设定曝光时间。
2. **"CURRENT METER"** : Display current range when starting UV exposure machine.  
电流表： 显示电流值。

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3. **"INDICATOR LIGHT SWITCHING"** : Start on/off indicator light.

指示灯开关： 打开指示灯开关

4. **"INDICATOR LIGHT"** . On or off when you shut on or off indicator light switching.

指示灯： 指示灯开关打开或者关闭后指示灯点亮或者熄灭 。

5. **"POWER SOURCE"** : indicates whether the machine is connecting to the electrical source, if the it lights up, which means connecting, if not, which means disconnecting.

电源开关： 打开或者关闭电源。

6. **"ON LAMP"** : Open UV lamp.

开灯： 打开 UV 灯管

7. **"OFF LAMP"** Shut off UV lamp"

关灯： 关闭 UV 灯管

8. **"EXPOSURE"** Start the button and exposure on screen plate

曝光： 打开这个开关即开始进行曝光。

## ● *Operation Procedure* 操作程序

1. Turn the main switch to connect the machine to the electrical source.

接上电源 。

2. Open "power source" Check whether the current meter display.

将电源开关置于打开位置 。

3. Put the screen frame on the glass screen of the machine slightly after it has been daubed with emulsion and pasted with film, then cove and lock up it.

将涂布感光胶的网版和晒版菲林贴合后放置于晒版机的平台玻璃上， 关闭橡皮布 。

4. Press "INDICATOR LIGHT" and start breath vacuum motor.

打开抽气开关， 进行抽真空处理， 确保网版中间没有空气存在。

5. After the rubber film has been adsorbed tightly on the glass screen, adjust the **TIMER** to the needed exposure time,

等到橡皮布紧贴到玻璃平台上， 后设定曝光时间， 准确的曝光时间可以通过分布曝光测试法进行测试

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试。

6. Press **"ON LAMP"** and the UV lamp cover at the bottom of machine automatic open

打开开灯开关，机器底部的 UV 灯管的遮板会自动打开。

7. Press **"EXPOSURE"** And UV lamp automatic exposure to screen plate

打开曝光开关，UV 灯将对网版按照设定的曝光时间进行曝光。

8. After finishing the exposure of one screen frame, you must wait for 3~5 minutes in order to cool the UV lamp by using the exhaust system, otherwise, the service life of the UV lamp will be reduced. After that, switch off the fan, and then you can begin the next exposure.

曝光后 3 - 5 分钟后在关闭抽真空开关。

## ● **Cautions** 注意事项

1. Keep the cleanness of the glass screen surface; otherwise, it will damage the exposure quality badly.

保持平台玻璃的清洁，否则会降低曝光效果。

2. Do not look at the working UV lamp without wearing the protective eyeglasses beforehand; otherwise your eyes will be injured.

请不要直接注视 UV 光，否则会损害视力。

3. High voltage inside ,it is dangerous. You must disconnect the power supply before replacing the lamp.

机器内部有高压部件，更换灯管时应关闭电源。

4. If the screen frame is made of aluminum, before putting it on the glass screen, you must check whether the edges of the screen frame are too rough or too sharp in case of scraping the glass screen.

防止铝框边缘擦坏橡皮布合平台玻璃。

## 六、清洗

### Cleaning

A. 湿润- 用自来水湿润网版的正反两面。

B. 清洗- 用水枪喷刷网版的胶刮面，直到图纹部分的网孔畅通。然后用力冲刷网版的印刷面。对曝光充足的网版应该能承受得住高压喷洗。若对网版清洗不净或曝光不足，可能会导致锯齿现象。

C. 第二阶段的清洗：

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28

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对网版的正反两面进行冲洗，直到在胶刮面不再留有软的感光材料，同时，最后也不应该有气泡和泡沫。

D. 吸干- 使用干的纸将印刷面的水吸干。

A. Moist - wet the screen with tap water on both sides.



B. Cleaning - Spray the screen with a water gun, scraper, until the mesh pattern part of the flow. And then scour the screen printing surface. The well-exposed screen should be able to withstand high-pressure spray. If the screen cleaning is not clean or underexposed, may lead to jagged.

C. The second stage of cleaning:

The screen on both sides of the positive and negative flushing, until the plastic scraping no longer leave a soft photosensitive material, at the same time, the last should not have bubbles and foam.

D. Drying - Dry the printed surface with dry paper.

## 七、封网刮边

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## Seal scraping edge

In the scraping side, the commonly used solvent-based sealing slurry, if necessary, can also be diluted

在刮边时，常用溶剂性封网浆，必要时，还可稀释。

### A. 封网

#### 方法 1:

使用感光浆封网。在刮完网版图纹部分后，用纸板或塑料板在网版的四周刮上一层。采用这种方法，涉及到对封网部位的感光浆进行延展刮平，然后才进行干燥和曝光。与对图纹部分的涂刮不同。只有在油墨为水基油墨，使用这种方法。

采用方法 1 可保证曝光时，丝网底片和玻璃板的良好接触，同时，图纹部分与网版边缘部分都同时烘干，这样可缩短制作时间。

#### 方法 2: 使用丝网填充剂或封网浆。

将洗好的丝网烘干后用一纸板，涂刮器或其它适当的工具涂刮，丝网填充剂或封网浆。

### A. Closure

#### method 1:

Use a photosensitive paste to seal the net. After scraping the screen pattern part, with cardboard or plastic plate in the screen around the scraping a layer. This method involves stretching the photosensitive paste on the web-covering area before it is dried and exposed. And the pattern part of the coating is different. Use this method only if the ink is water based ink.

Method 1 can ensure that the exposure, the screen film and glass plate in good contact, while part of the pattern and the edge of the screen at the same time drying, which can shorten the production time.

#### Method 2: Use a screen filler or sealer slurry.

The washed screen is dried and then scraped with a cardboard, applicator or other suitable tool, a screen filler, or a web paste.

## 八、排故指南：

问题-1	原因	解决方法
图纹清晰度较差，带锯齿边或不规则的边	晒版时接触不好	检查一下真空黑布的情况
	曝光不足	进行分布曝光测试法
	光的散射	改用染色丝网
	冲洗不够	对两面都给予冲洗
	感光浆不均匀等	改进涂刮感光浆的方法
	丝网太粗糙	改用细一些的丝网
Problem-1	Cause	Solution
Pattern clarity is poor, with a serrated edge or irregular side of the plate	contact is not good between film and mesh	Check the black cloth
	Insufficient exposure	Performs a distributed exposure test
	Light scattering	Use dyeing mesh
	Flushing is not enough completely	flushing on both sides completely
	Photosensitive slurry uneven	improve the method of coating the photosensitive paste
	Screen is too rough to use some fine mesh	use some fine mesh

网版发软-2	敏化剂的混和不均	仔细做好混和搅拌工作
	曝光不足	进行分布曝光测试
	感光浆过期	查看有关日期的记录
	菲林片发黄	使用新的菲林片
	湿度太大	降低工作环境的湿度
Screen plate soft-2	sensitizer mixed not well	mixing work
	Insufficient exposure	Perform a distributed exposure test
	The photographic pulp is expired	view the record of the relevant date
	Films expired	replace with new film
	Humidity is too high	reduce the humidity of the work environment

开孔斑点-3 Open-speckled	菲林片密度不够好	使用新的
	曝光时接触不够好	检查曝光的真空情况
	曝光时光线出现了散射	改用染色丝网
	在涂布前出现了曝光	使用安全灯光，或将网版贮存在暗处
	曝光不充分或曝光过度	进行分步曝光测试
	冲洗不够	检查一下冲洗步骤

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	film density is not good	use the new film
	Exposure to exposure is not good	check the exposure of the vacuum
	Exposure to light scattering occurs	switching to dyeing mesh
	Exposure before the coating	E using a safety light, or the screen is stored in the dark
	Exposure is not sufficient or overexposed	Take a exposure test
	Flushing Not enough	Check the rinse step

在冲洗时掉感光物质 -4 The photosensitive material scraping at the time of cleaning out	刮版时刮得不均匀，	改进一下拉网方法或涂刮感光浆的方法
	敏化剂的混和不均	在混和时注意
	曝光不足	进行分步曝光测试
	The scratch is uneven	Improve the method of pulling the screen or scratch the photosensitive paste coating method
	Improper mix of sensitizers	sensitizers should be observed when mixing
	Insufficient exposure	Perform a stepwise exposure test.

感光浆脱落-5	丝网的准备工作做得不好	对所有丝网进行一次除油打粗
	冲洗时水的温度过高	冲洗时温度不能超过 37℃
	感光浆已过期	注意一下有关感光浆的贮存
	在刮浆之前，丝网未干	检查一下烘干机是否出现了故障
	温度太大	延长曝光时间或降低湿度
Photosensitive pulp off	the preparation of the screen not well	on all the screen for a degreasing play rough
	Flush the water temperature is too high	when flushing the temperature can not exceed 37 °C
	The photographic pulp has expired.	Note the storage of the photosensitive paste
	Before squeezing, the screen is not dry	Check the dryer for a problem
	The temperature is too long	extend the exposure time or reduce the humidity

在曝光之前，网版出现了网 6 Screen-dot	丝网的准备工作做得不好	除油
	车间不干净	进行房间的清洁
	丝网不干	烘干丝网
	上浆器或盛感光浆的容器不清洁	应将它们盖上
	涂刮时速度太快	将刮浆速度放慢，每刮一次将网版转动 180 度

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	在搅拌时混入了空气	混和后放置 1 个小时，以消除气泡
	Non-completely degreasing	mesh done well degreasing
	The workshop is not clean	clean the room
	The screen does not dry	dry the screen
	The sizing device or the containers containing the sensitive	he sensitive paste should be uncleaned and should be covered
	When the coating is scraped too fast,	The scraping rate will be slowed down, and the screen will rotate 180 degrees every time
	After mixing, air was mixed	left for 1 hour to remove air bubbles

印刷出的产品有 气泡现象-7	涂刮感光浆时刮得不够好	注意改进刮的方法及技巧
	曝光不足	进行分步曝光试验
	感光浆与所使用的油墨不匹配	使用抗溶剂性感光浆
	冲洗剂或油墨中含有水份	不要将溶剂贮存在较大的容器中
	冲洗时出现了磨损	改进冲洗的方法和技巧
The printing of the products have a bubble phenomenon	photosensitive paste is not good enough	attention to improve the scraping methods and techniques
	Insufficient exposure	Perform a step exposure test
	The photosensitive paste does not match the ink used.	Use an anti-solvent photosensitive paste
	Rinse agent or ink contains water	Do not store the solvent in a large container
	Flushing occurs when washing	improved methods and techniques

冲洗显影不完全 -8	刮完浆后存放太久	改用新配制的感光浆来做网版
	刮后的网版被感光	要求在完全灯光下操作，网版应存放在暗处
	烘干温度过高	烘干温度不能高于 40℃
	曝光过度	进行分步曝光测试
	曝光时接触不好	检查一下真空环境
	菲林片质量较差	检查菲林片的密度
	光线出现散射现象	改用染色丝网
	晒版光源强度不够	改用精细的丝网，或使用曝光时间短的感光浆，或者改用强度大一些的光源
	冲洗不彻底	对网版的正反两面进行彻底的清洗
	晒版距离太近	尽可能做到晒版的最小距离为所晒图纹对角线的 1.5 倍
development is not completely	after the pulp slurry storage for a long time	switch to the new preparation of the photosensitive paste to do the screen
	After scraping the screen is sensitive requirements	full light operation, screen should be stored in the dark
	Drying temperature is too high	Drying temperature can not be higher than 40 °C
	Exposure to exposure test	Take Exposure test
	Exposure to contact is not good	Check the vacuum environment
	Film quality is poor	Check the density of film
	Light scattering phenomenon	switch to dyeing mesh
	Copying light intensity is not enough	switch to fine mesh, or use a short exposure time of the photosensitive paste, or switch to a larger intensity of the light source
	Rinse the screen is not complete	both sides of the positive and negative cleaning
	Copying distance is too close	As far as possible to achieve the minimum distance of the drying plate pattern of diagonal 1.5 times