



# 移印钢板的制作

## How to make pad plate?

### 菲林输出

制版之前，必须准备高质量的晒版底片，你可以到输出中心制作，也可以自己购买菲林输出机自己输出菲林。高宝印刷机械有限公司推出的 KC-PM-3266FL 移印菲林输出机是专门为移印菲林输出而设计的小型精密输出机，占地面积小，操作简便，能够按照您的要求输出各类型的移印菲林。

It is very important to make a film of desin before making pad plate. KC-PM-3266FL is one model output film machine for pad printing.



KC-PM-3266FL laser film output machine

### 1) Design

According to the requirments of customers, the first step is design the drawing with computer as coreldraw and other format documents.

### 2) Cut film

Cut the film with blade to fit for output machine

### 3) Output

Put the film on the working table of output machine and operate your computer. You

know, you should install RIP programmer through computer.

### 4) Developing :

Take out the film and dipping it into developing disk for severials minutes.

5) FUJI 系列制版材料是日本富士药品工业株式会社出品的感光材料，广泛运用于化工 电子 塑胶 纺织 五金 玩具 印刷等领域。在移印行业，FUJI 感光胶占据着 65% 的市场份额，它具有解像力高，性能稳定的特点，是制作移印钢板的主要消耗材料。FUJI 感光材料是一个庞大的家族，但在移印各行业用途最广的是 FSR，FMR，LMR，FSMR 负性金属感光胶。在移印钢板制作过程主要用到 **FUJI 感光胶**，**FUJI 显影水**。

Fuji coater and Fuji developer made in Japan by FUJI chemicals industry company. Widely used in the field of electron, plastics, metal. Toys, printing, chemicals. Specials in pad plate-making, FUJI chemicals get 65% percent market. There are many kinds of FUJI products. FMR is one of the best.

## FMR-40 EMULSION

### FMR-40 感光胶

#### 1、特性 1 Pecularity

1) FMR 是负性感光抗蚀剂，有较好的耐酸、耐酸性。



Fuji Emulsion and developer

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1) FMR is native sensitization emulsion , well resist acid and alkalinity.

2) FMR 的解像性比较好, 由于抗蚀剂中的金属离子含量极少, 所以适合于半导体管 (电晶体)、二极管、IC (集成电路) 和 LSI (大规模集成电路) 等方面使用。

2) FMR is of high precision solution and with seldom metal ion. It very fit semiconductor, IC, LSI

FMR - 40 是一种微黄透明的黏性液体, 密度在 0.85 - 098 之间, 承装在绿色铁罐中, 一般是 2LIT 一罐。

## SP-A100 系列移印钢板感光胶

### Photoresist SP-A100 series for pad printing plate

| 项目 ITEMS                      | 产品名称/PRODUCT NAME   |  |
|-------------------------------|---|--|
|                               | SP- A 100 移印钢板感光胶   | Photoresist SP-A100 for Pad Printing Plate             |
| 用途 Applications               | 用于凹印、凸印等转移印钢模板模具等精密图纹化学蚀刻<br>SP-A100 series is a photoresist of contacting exposure,dilute alkali development,with the high performance of insulation.It's the adhesion and covertures between coatings and plate are absolutely excellent.It is suitable for making fabrication pattern of pad printing plate,etc..It has an excellent resist to etching of acid or alkali solution.It is used under the coating styles of spin,soak and roll. |  |
| 技术特点<br>Technical Description | 印刷适性良好, 耐变性好, 干燥速度快 显影性能好, 无余胶<br>覆盖性好刻做精密印刷、分辨率高, 涂层细密, 有良好的接着性膨润剥离型, 剥离速度较快<br>SP-A100 series is roduced by modified techniques inported from Japan,manufactured by the raw materials imported from Japan,Germany and USA as well.It has a high resolution,quick drying,good adhesion,and quick stripping.  |  |
| 颜色/Colour                     | 无色、透明蓝  | Colourless/Transparent blue                            |
| 分辨率/Resolution                | 5-10 微米   | 5-10µm   |
| 固体份/Solid                     | 30-45% ( wt )   |  |
| 粘度/Viscosity                  | 200 ± 310mPa.s 旋转涂布、辊涂或浸涂   | 200±310mPa.s for spin,roll or soak coating             |
| 细度/Fineness                   | 5 µm  |  |
| 预烘烤/Pre-bake                  | 4 分钟旋转涂布 ( 100-400r/m ) 后即干;4-8 分钟 ( 热循环风烘箱, 温度 60 ± 20 ) 或自然干燥方式<br>15-25 分钟 Dry after 4mins.spin coating(100-400r/m),4-8 mins(heat wind cycle 60±20 ) or self-drying 15-25 mins   |  |
| 曝光能量 Exposure energy          | 90-140mj/c m <sup>2</sup> ( 高压汞灯, 到达板面)<br>90-140mj/ c m <sup>2</sup> (on the board surface by using high-pressure mercury lamp)  |  |
| 显影/developing                 | 10-60 秒 ( 专用显影液, 溶液温度 25-30 ) 10-60 sec.in the developer at 30  |  |
| 后烘烤 Post-bake                 | 6-20 分钟 ( 热循环风烘箱, 温度 80 ± 10 ) 或其它方式  | 6-20 mins(heat wind cycle80±10 )                       |
| 硬度 Hardness                   | Jis K5400: 2H   |  |
| 蚀刻 Chemical Etching           | 氯化铁、氯化铜等酸性、碱性蚀刻液  | Iron chloride, Copper chloride; etc acid &alkalescence |
| 包装 Packing                    | 1 公斤、40kg/ 密封盖马口铁罐或 PE 密封罐  | 1kg,4kg in tinplate or PE pail                         |
| 保存期限/Shelf life               | 制造后 12 个月 ( 20 以下暗处保存 )   | 12month(≤20 ,dark preserve)                            |
| 绿色环保<br>/Environment Firendly | 无溶剂, 无环境污染问题  | Environment Friendly                                   |

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钢板制作过程：

**PLATE-MAKING PROCESS**

**1)表面处理：**用天那水对金属板进行完全的脱脂处理。可以用布料沾取天拿水或者酒精清洗表面，并放置一段时间待溶剂全部挥发。制版过程需要在红色或黄色安全灯光下进行。

**1) Cleaning treatment :**

Cleaning pad plate with solvent . Please take clothes dipping into solvent or alcohol and cleaning the pad plate. Use the

plate before solvent completely volatilization. All process must be going long in the safe light of red light or yellow light.

**2)涂布处理：**

旋转式涂布、浸蘸、喷涂等。有多种方式可以将 FUJI 感光胶涂布于钢板表面：旋转涂布机离心式涂布，手工涂布，浸蘸式涂布机涂布，喷涂式涂布和手工涂布等。为了使感光胶能均匀的涂布于钢板表面，可以先将感光胶滴于钢板表面，然后用手旋转使感光胶在钢板表面均匀流平，然后在放入旋转涂布机中涂布。

**2) Coating :**

Turning coating、dipping, spraying. There are many ways to coat FUJI emulsion onto pad plate: by turning coating machine, by dipping coating machine, by spraying coating machine, by manual coating tool. When using turning coating machine, First turn the steel plate after pour some Emulsion on it till Emulsion uniform levelling on the surface of steel plate, then fix it on the turning coating machine to coat.

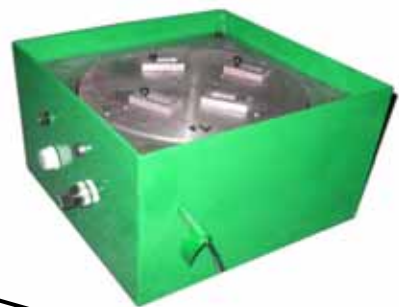
**用旋转涂布机涂布:**

使用旋转式涂布机 KC-PM-30TC 进行涂布。旋转式涂布机有一个圆形转盘，能够在电机的带动下旋转。具体使用方法如下：

**Coating by turning coating machine:**

There are round plate installed connecting motor.

- 将钢板固紧在旋转涂布机的工作台上
- Put the pad plate on the turning disk and fixture it like photo.
- 倒入适量的 FUJI 感光胶在钢板上面



KC-PM-30TC coating machine

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- Pour some FUJI emulsion to surface of pad plate.
- 启动涂布机并调整合适的速度，使感光胶均匀的涂布在钢板表面。
- Start on the turning machine and adjust the speed so that the emulsion coating to the pad plate evenly.

### 用浸蘸涂布机涂布:

使用浸蘸式涂布机 KC-PM-40TC 进行涂布。浸蘸式涂布机有一个磁性托盘，可以吸紧移印钢板的侧面，托盘能够自动下落到盛有感光胶的槽中。具体使用方法如下：

#### Coating by dipping coating machine:

There is magnetism salver installed on this machine.

- 打开磁性托盘开关，将钢板如图吸附到托盘下方。  
Put the pad plate on the dipping coating machine and start the magnetism switching. Pad plate will be adsorbed on the salver of the machine.

- 倒入适量的 FUJI 感光胶在涂布槽里

Pour some emulsion to the trough of dipping coating machine. More viscosity emulsion is suitable for dipping coating.

- 启动涂布机，使钢板全部浸入感光胶。较长的停留时间将获得较厚的胶层厚度

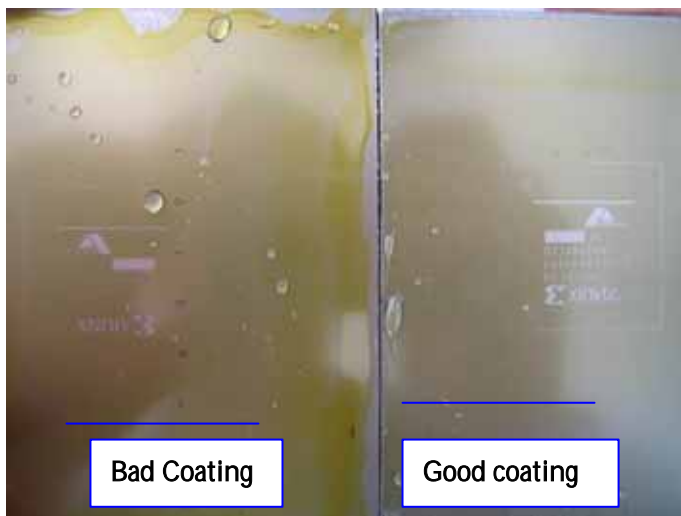
Start on the dipping coating machine and let the magnetism salver with pad plate press down to dip into the emulsion completely for some time.



KC-PM-40TC Dipping-type coating machine

### 手工涂布:

使用喷涂方式进行涂布将获得最高程度的均匀性。将感光胶盛放于喷枪里面，调整压力，对准钢板表面进行喷涂。使用专门的喷涂机将更加精确。没有上述涂布机可以采用手工涂布方法进行涂布，只要方法得当也可以获得满意的涂布质量。手工涂布有两种方法：一种是使用丝网涂布用的上浆器进行涂布；另一种是使用手模仿旋转涂布机的方法进行转动来涂布。



Hand coating has two methods: one is using a screen coating tool like screen plate, the other is imitating turning machine by hand to coat. Of course, with one spraying gun full of emulsion is very well.

Please coating by hand when having no coating machine, correct way will get high quality emulsion thickness. One is coating by stainless coating tool like screen plate, the other is imitating turning machine by hand to coat. Of course, with one spraying gun full of emulsion is very well.

3)烘干：置入干燥箱中，进行烘干处理。

### 3)Drying :

Drying the pad plate in a drying closet after coating FUJI emulsion . Set a temperature at 100-150 degree for 20

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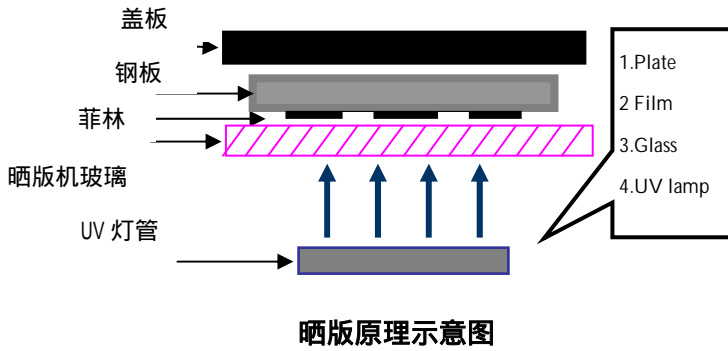
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minutes.

你也可以使用电吹风吹热风对感光胶进行烘干。烘干使保证感光胶在腐蚀过程中免遭腐蚀液腐蚀的关键步骤。



Cover film onto pad plate



KC-PM-5060UVE

You may use hot air blowing for hair to drying pad plate so that emulsion can be break in the process of etching.

在专用的干燥箱 KC-PM-2030DC 或者 KC-PM-4545DC 内烘干使推荐的做法,因为干燥箱的温度更稳定,更准确,干燥时间也可以方便的设定和调整,这对于你寻找制版故障问题有很大好处。

We suggest you drying pad plate with a drying closet KC-PM-2030DC or KC-PM-4545DC. Closet has more precision temperature and drying time adjustment.



Drying in Closet

4)曝光 :

用晒版机贴合菲林片曝光。将准备好的菲林片以适当的角度和位置帖服于钢板的感光胶表面,注意图像要符合印刷要求,排除空气,并用透明胶带粘贴菲林片边缘,防止脱落。将贴好菲林片的钢板放置于晒版机的平台玻璃上,关好橡皮盖子,设定正确的曝光时间,打开曝光开关进行曝光操作。正确的曝光时间是获得精确的移印钢板的关键步骤。



KC-PM-4545DC



KC-PM-2030DC

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#### 4) Exposal:

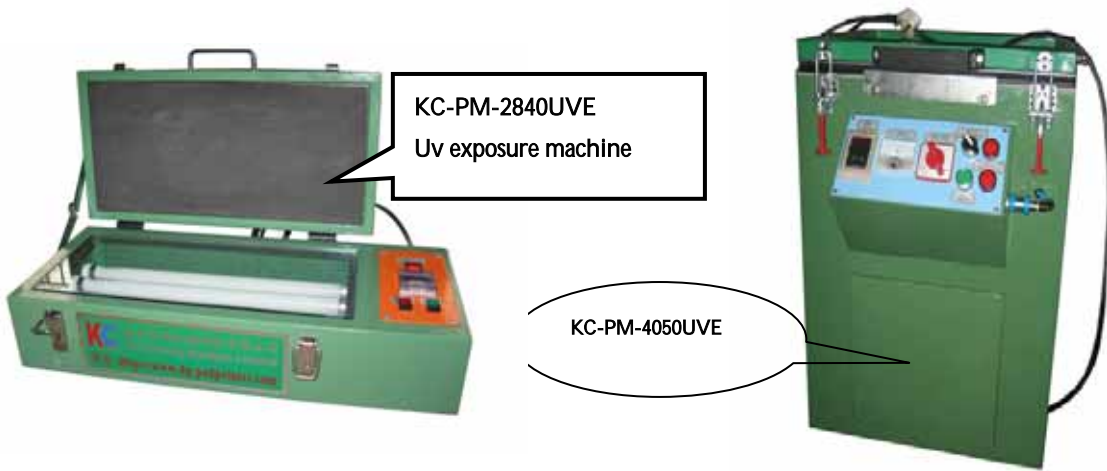
Covering film to the surface of emulsion on the pad plate by correct direction and position, adhere the film with transparence tape to avoid the film separating from with pad plate. Put them on the flat glass of UV exposure machine. Notice:

Please let UV light pass through film, emulsion like below picture. Set correct exposure time to ensure precision exposure quality

Before you master UV exposure machine and making plate process, please take a test by step testing way: exposure with 5 kinds of different exposure time then find one most correct time.

图示是一款专门针对移印钢板设计的小型晒版机 KC-PM-2840UVE，它具有自动曝光功能。使用普通紫外灯管。设定曝光时间后，UV 灯管进行曝光，曝光完毕后，UV 灯管自动关闭，完成曝光程序。

This is one kind of UV exposure KC-PM-2840UVE design for pad plate. When put pad plate covered with film on the glass and set correct time, UV lamp will start automatically till finish exposure time.



我们为精密的钢板曝光设计了带有真空吸气装置的晒版机：KC-PM-4050UVE 是立式的，KC-PM-5060UVE 是桌面式的，由于具备了真空吸气功能，曝光过程更精密。

In order to UV exposure on Pad plate, we design KC-PM-4050UVE Stand UV exposure machine and KC-PM-5060UVE with vacuum table for precision exposure.

#### 5)显影：

使用 FMR 显像液，在常温下显影 1 分钟，用 FMR 清洗剂冲洗 30 秒。将显影水倒入显影盘或显影桶中，显影液深度要略高于钢板厚度，将曝光后的钢板浸入显影水，并不断摇晃约 1 分钟直到在钢板表面能看到清晰的影像。

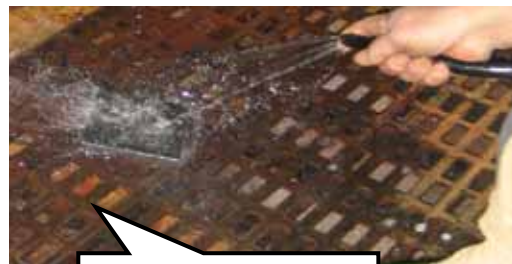
#### 5)Developing :



钢板的显影



Develop  
显影



Washing with water

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Developing with FMR developer for 60 seconds at the room temperature .after the picture display and cleaning it with fresh water or FUJI cleaning liquid. Pour FUJI developer into tray and ensure the depth is almost higher than pad plate thickness. Put pad plate dipping into developer and shaking for 60 seconds till legible image displaying on the surface of emulsion.

6) 冲洗：确认充分显影后应立即用清洁水源将钢板表面的显影水冲洗掉， 残余的显影液有可能会对腐蚀程序造成损害。

**6) Washing:**

washing by clean water completely to remove the developer and solvent emulsion. Remains of developer and emulsion will hurt pad plate in the process of etching.



**7) 烘烤：**

在 150 的情况下，加热 20-30 分钟，提高耐腐蚀性。冲洗完毕后的钢板应再次放到烘干箱内进行烘干处理，此次烘干除了消除钢板表面的水分，还可以进一步固化感光胶的附着力， 放置在腐蚀程序出现剥落现象。

**7)Drying：**

Drying in same closet at the temperature of 150 for 20-30 minutes to improve resisting acid capability after washing. Water and developer will be removing in drying closet. Ensure removing water and developer completely. Please observe and check if display empty area on emulsion surface and if clear adumbration of words and drawing.

图是经过烘干处理的待腐蚀的移印钢板，图文部分已经完全清晰的裸露出来， 覆盖感光胶的地方则将钢板完全保护起来，在腐蚀程序，裸露的部分会和腐蚀液接触发生化学反应形成凹陷，而被保护部分则依然保持平面状态。

Left photo of pad plate display two part area: exposed area, protected area. In etching process, exposed area contact with etching acid and have a chemistry reaction to make a cave.; protected area keep flat estate.

**8) 腐蚀：**

用腐蚀水腐蚀 40 秒左右。通常是用手蘸取腐蚀水在裸露区域均匀移动完成腐蚀，这种腐蚀方法依赖于操作人员的技术经验的熟练程度，难以精确控制腐蚀时间和腐蚀深度；采用腐蚀机进行腐蚀可以有效控制腐蚀时间和钢板于腐蚀液的接触状态，最大限度的保证腐蚀质量。



**8)Etching：**

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Etching pad plate with a brush dipping into etching acid for 40 seconds. Taking one brush dipping with etching liquid move on the exposed area of pad plate many times for 40 seconds. Manual etching depend on the experiential of operation worker. It is more difficult to control precision depth and time. By etching machine you will high quality etching quality through setting correct time and estate between etching liquid and pad plate.

腐蚀水可以是硝酸溶液，硝酸溶液与钢板的反应速度较快，不适合特别精细的文字和具有网点的阶调图文，所以常用来腐蚀精细度要求不是很高的钢板。目前由于国内绝大多数企业从事的移印产品属于比较简单产品，使用硝酸进行腐蚀的比例占较大空间。精细的腐蚀机腐蚀的场合以三氯化铁溶液为普遍使用。三氯化铁溶液和钢板的反应属于氧化还原反应，反应速度比较平稳，受外界的条件影响较大，所以容易实现精细的含有网点图文的腐蚀。

|   |  |
|---|--|
|   |                             |
| <p>1. 安装移印钢板<br/>Install pad plate<br/>抽出腐蚀架，将移印钢板安装在腐蚀架上。<br/>Take out frame , install pad plate</p>                                     | <p>2. 放进腐蚀槽<br/>Put into etching trough.<br/>将腐蚀架放入腐蚀槽中。<br/>Put frame with pad plate into etching trough.</p> |
|    |                            |
| <p>3. 设定腐蚀时间<br/>Setting etching time.<br/>Setting etching time according to request. More long etching time get More depth pad plate</p> | <p>4. 取出钢板<br/>Take out pad plate.<br/>After finishing etching process, please take out Pad plate.</p>         |

铬钢使用于移印行业具有良好的抗腐蚀优点，普通的腐蚀液难以进行腐蚀，必须选用双组分的腐蚀水腐蚀。它是有腐蚀水加上催化剂共同作用的。使用时配置按照腐蚀水：催化剂：清水 = 1：1：1 配置；用多少配多少，这种混合液腐蚀性很强，应放置在小孩不易接触到的地方；一次不易配太多。

Nitric acid has a fast speed with steel plate, so use it to etch common steel plate. Halftone drawing and

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precision words etched by etching machine full of chloridizing iron liquid. Before etching with machine, please take a brush to brush 2-3 times to remove film so that it can be etched.

### ETCHING BY ETCHING MACHINE 用腐蚀机进行腐蚀

用腐蚀机 KC-PM-2050EM 腐蚀移印钢板是实现标准化操作和数据化以及获得高质量移印钢板的重要手段。腐蚀机内安装有腐蚀槽，腐蚀槽中盛满腐蚀水，腐蚀水以喷溅方式接触移印钢板，接触时间可以设定，同时，移印钢板可以在槽中往复运动，以提高腐蚀的均匀性。

Etching machine KC-PM-2050EM consist of operation system, etching trough, and plate installed frame. fix pad plate on the installed frame and put into etching trough, start the machine, etching liquid will spraying onto pad plate. In order to get uniformity etching depth, plate frame can move from left and right.

### Etching by hand 手工腐蚀

现在绝大多数企业采用手工腐蚀，即采用手工的方式进行腐蚀。腐蚀前应先进行修版，靠近图文的部分用细毛笔蘸 FUJI 感光胶进行封版，必要是可以使用放大镜进行观察，要彻底杜绝钢板上面的针孔。较大面积的空白区域可以采用 PP 胶带进行粘贴，以避免腐蚀水对空白区域的腐蚀。我们建议您使用 PP 胶带将钢板围成一个方形容器的方框，这样腐蚀水可以倒进方框内进行腐蚀。

修版后也必须进行干燥。

然后将腐蚀水倒入钢板的文字面，并用毛刷刷洗重要的腐蚀区域，记录腐蚀时间，通常的腐蚀时间为 40-60 秒钟，建议你购买一个秒表来记录时间，观察腐蚀的文字和图像，时间完成后，即迅速将腐蚀水倒去，并用清水洗净版面。

Most of operator etch pad plate with hand. Before etching, Please take a small brush to cover the empty Place with fuji Emulsion to avoid etch the place not include words and pictures.

- If you have Pocket magnifine, Please watch and check the pinhole on the plate, Please cover it.
- Some operator use PP tape to protect the large area empty district.
- Small experience : Making a small ibbb on pad plate with PP tape.
- Pour etching liquid into small ibbb for 40-60 seconds , Please take brush to move on the surface of pad plate when etching if necessary.



### 9)脱膜：

腐蚀后的钢板要去掉表面的感光胶膜才能印刷，使用 FMR 脱膜液或者天那水，在常温下浸 2-3 分钟，用布擦干净。

### 9) Removing :

Use FMR removing or Tiana solvent liquid to remove the remain film on the pad plate.

Then cleaning it with fresh water.

### 10) 深度测定：

钢板的深度是移印钢板最重要的参数，建立深度数据库将有助于为不同的客户确立最适合的深度参数创造条件。深度测定使用深度测定计进行，使用时先设置平面钢板的基准值为零，然后测定凹陷的深度值，两者之差就



Measure the depth



Spraying anti-rust oil

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是钢板的深度。通常来说钢板的深度值是 21UM. 但是不同的客户又有不同的要求，深度可以根据文字的遮盖力有所增减。又图是钢板深

度测定的方法：将钢板平放于深度测定计的平台上面，先测定平面的值，在测定深度，量取两者之差。

#### 10) Depth measure :

The depth is most important parameter of pad plate. Measure the depth by Depth Measure Meter. Put the pad plate on the flat-Table of depth measure meter, standard depth is 21um. But different customer need different depth.

#### 11)包装

制作完毕的钢板应用 30 倍放大镜进行图文检查，符合要求的钢板要符合原稿的图文质量，边缘锋利光滑，深度适合，网点光洁清晰，没有针孔和砂眼。移印钢板制作完毕需要装进塑料袋里，将钢板表面所有异物去除干净，装进塑料袋里，喷上防锈油，即可交付客户使用。

After finishing all process of making pad plate:

- Remove all remains by clothes dipping with solvent..
- Put into plastics bag and Spray anti-rust oil to pad plate and marking name.

#### One well quality pad plate:

- Smooth and tartness brim of words; Correct deepness
- Correct position of drawing. Mesh dot clearly and completely No pinhole, no aperture

#### EQUIPMENT ON MAKING PAD PLATE

| ITEM | STANDARD ITEMS                     | QTY     | Unit    | FOB shenzhen |
|------|------------------------------------|---------|---------|--------------|
|      | KC-PM-3266FL Film output machine   |         | 3842usd | 3842usd      |
|      | KC-PM-3766FL Film output machine   |         | 3966usd | 3966usd      |
| 1    | KC-PM-30TC Turning coating machine | 1set    | 235usd  | 235USD       |
|      | KC-PM-2840UVE UV exposure machine  | 1set    | 255usd  | 255USD       |
|      | KC-PM-4050UVE UV exposure machine  | 1set    | 566usd  | 566usd       |
|      | KC-PM-5060UVE UV exposure machine  | 1set    | 706usd  | 706usd       |
|      | KC-PM-4545DC drying closet         | 1set    | 712usd  | 712USD       |
|      | KC-PM-2030DC Simple drying closet  | 1set    | 124usd  | 124usd       |
|      | Film for Output machine            | 1roller | 26usd   | 26usd        |
|      | Developing powder                  | 1kg     | 3usd    | 3usd         |
|      | Fixature Powder                    | 1kg     | 3usd    | 3usd         |
|      | Emulsion                           | 5tin    | 70usd   | 350USD       |
|      | Developer                          | 5tin    | 32usd   | 160USD       |
|      | Etching liquid                     | 10lit   | 10USD   | 100USD       |
|      | Brush                              | 2pcs    | 3usd    | 6USD         |
|      | Spraying gun                       | 2pcs    | 37usd   | 74USD        |
|      | Tina Solvent                       | 10Lit   | 7usd    | 70usd        |

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# KC-PM-2840UVE 晒版机

## UV EXPOSURE MACHINE

### INSTRUCTION



#### 一 . 设备概要

KC-PM-2840UVE 是专门针对移印钢板制版而设计的 UV 晒版机，它具有体积小，使用方便，携带容易，适合移印钢板，树脂版，铜新版的晒版操作。它有盖板，操作面板，UV 灯管，平台玻璃构成。

KC-PM-2840UVE UV exposure machine used to make pad plate. It is consist of cover, Glass flat, UV lamp and operation panel.

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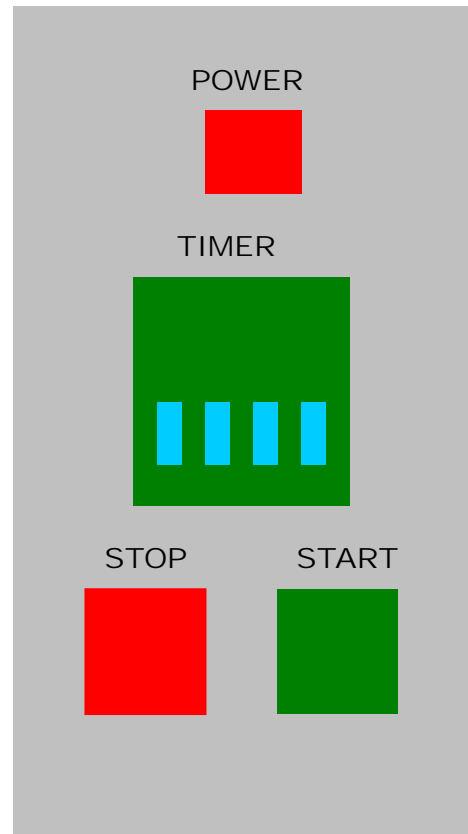


### TECHNOLOGY PARAMETER

- 电源 POWER SUPPLY : AC 220V 50HZ : AC 220V 50HZ
- 灯管功率 lamp wattage : 4×15W TOTAL WATTAGE : 4×15W
- 平台玻璃面积(glass dimension) : 450mm\*290mm
- 外形尺寸(outer dimension) : 600mm\*250mm\*150mm
- 重量 : 9KG.

## 二. 操作面板 Operation panel

- Power: 电源开关  
power supply switching. 接通或者断开电源开关。  
Press the button will connect power supply.
- Timer: 时间继电器 : Setting exposure time.  
Exposure time will be continuing till the time over.
- Stop: 关闭 UV 灯管 shut off UV lamp.
- Start: start on UV lamp till finishing UV exposure,



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when pressing this button UV lamp begins to exposure.

### 三 . 安装 Install

#### (1) 电源连接 POWER SUPPLY CONNECT.

3-1 晒版机电源采用单相 220V 供电，接地线（严禁地线接于为线或零线上）。

Please connect earth line well and connect 220V/50HZ.

3-2 机组配电要求：主电源电压：额定电压 $\pm 10\%$ 以内

Voltage 220V $\pm 10\%$

主电源电压：额定频率 $\pm 2\%$ 以内

Frequency: 50HZ  $\pm 2\%$

3-3 主电源电压波动超过规定范围时，不准启动晒版机，否则视作操作不当，由此引的损坏不在本公司保养范围之内。

Please not use UV exposure machine when voltage is over upper range.

### 四 . 开机运行 Operation process

#### (1) 开机前准备 Preparative

1-1 检查机组周围有否异状.

Check if machine is ok.

1-2 检查机组电源连接是否妥当（电压是否符合晒版机电压要求）。

Check if voltage is ok.

#### (2) 晒版机操作 Operation

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2-1 当电源接驳后，先开启电源总开关，开机后，调好曝光时间，并把要晒的版同菲林放在晒版机的中心位置，保证最好效果，扣好盖再换“启动”机器为自动工作，到晒出版来为止。

First connect power supply, start **Power** switching, set the exposure time by **Timer** . Put the steel plate covered with film on the glass center of UV exposure unit.

Cover the covering, press “ **Start**” button till finish exposure.

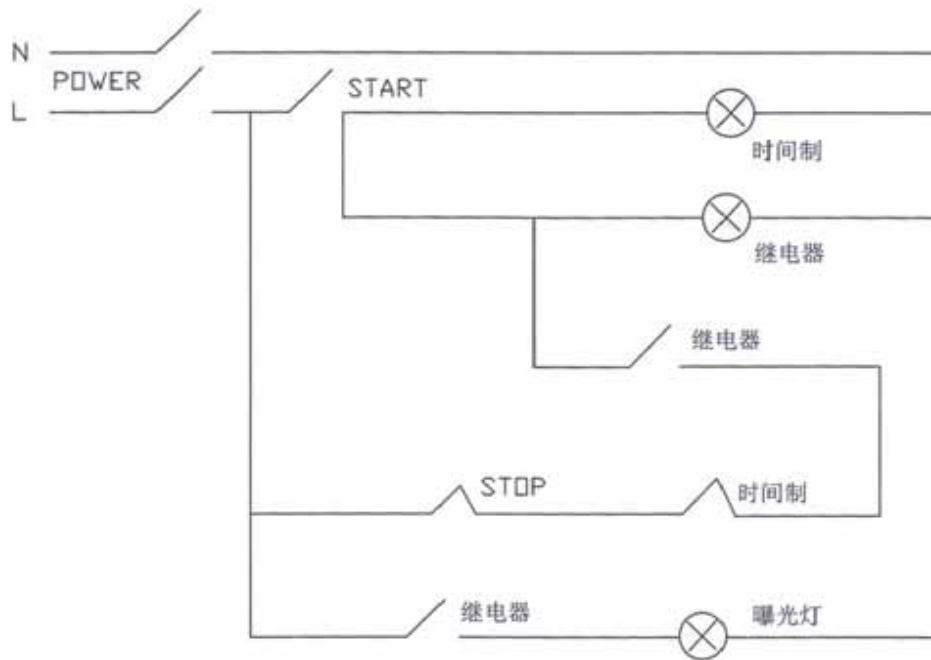
## 五 . 保养 Maintenance

请经常清洗晒版机的玻璃检查曝光灯的扇热部位是否通畅，以保证光源的平均分布。

Please clean the glass so that get best exposure quality. Please keep dispel heat hole of UV lamp open to prolong the life of UV lamp.

## 六 . 故障分析 TROUBLE SOLVE

| 问题 PROBLEM                           | 检查 CAUSE   | 检查 SOLVE   |
|--------------------------------------|--|--|
| 1 . 灯管不亮<br>UV lamp do not light     | 1 . 灯管是否通电 Check power<br>2 . 灯管是否坏 Check lamp if perfect    | 1 . 电源 Change power line<br>2 . 换灯管 Change UV lamp   |
| 2 . 灯管亮不熄<br>UV lamp do not shut off | 1 . 时间制是否正常 Check Timer delay<br>2 . 继电器是否正常 Check the relay | 1 . 更换时间制 Change timer delay<br>2 . 继电器 Change relay |
| 3 . 时间制不显示<br>Timer not display      | 1 . 时间制是否正常<br>是否有电 Check timer delay                        | 1 . 电源更换<br>时间制 Change timer delay                   |



电路图 circuit diagram

## EXPRESS-EXPOSURE UNIT

KC-PM-2840UVE

### Operation instruction 操作说明

- 1) Plug in mains plug. 插上电源线。
- 2) Open the cover of UV exposure unit. 打开 UV 晒版机盖板
- 3) Put pad plate covered with film on the glass center of UV exposure unit.  
将覆盖菲林片的移印钢板以菲林片朝下的方式放于晒版机的平台玻璃上。
- 4) Setting exposure time. 设定正确的曝光时间。
- 5) Pressing START switching to turn on UV lamp.  
打开启动开关开始进行曝光。
- 6) PRESSING STOP switching to turn off UV lamp when the time is over.  
当曝光时间结束后按下 STOP 开关关闭 UV 灯管。
- 7) Opening the cover and taking out pad plate from UV exposure machine.  
打开盖板，取出移印钢板
- 8) Shut off power 关闭电源。

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