

# User Manual

## L1



# Operating Instruction for Laser Engraving Machine

Please read this instruction carefully before using the product and keep it properly. There may be a delay in the content of the paper manual. Please download the latest version from the official website.

The data download URL is as follows:

User Manual: [www.dkjxz.com/download/L1\\_User Manual.zip](http://www.dkjxz.com/download/L1_User Manual.zip)

Software: [www.dkjxz.com/download/L1\\_Software.zip](http://www.dkjxz.com/download/L1_Software.zip)

Teaching video: [www.dkjxz.com/download/L1\\_Video.zip](http://www.dkjxz.com/download/L1_Video.zip)

## Installation Steps:

### Parameter table of laser engraving machine

Product dimension:	420*450*160MM
Packaging dimension:	580*390*150MM
Product weight:	2.55KG
Weight after package:	4.05KG
Product material:	aluminium alloy +ABS
Engraving area:	148*174MM
Product attachment:	U disk, data line, power supply, anti-light mirror, kraft paper, instruction manual

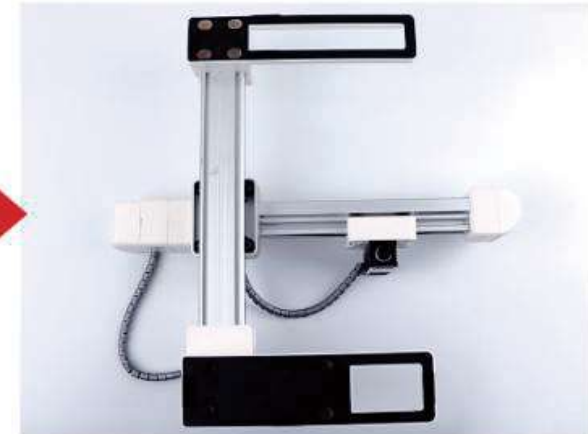
1. Power supply: for the power supply of engraving machine
2. Data line: used to connect the machine and computer
3. Touch pen: control display screen
4. U disk: internal storage of pictures and engraving software
5. Anti-optical glasses with protection lens: used for protecting eyes from laser luminosity.
6. Instruction manual: instructions for the use of engraving machine
7. Kraft paper: for the testing of engraving



1. Remove the machine



2. Install the horizontal shaft



3. Tighten the fixing screw and install the two footplates

## Operational debugging:

1. Connect the machine to the computer with the data cable and the power line to the socket.
2. Install the driver in the u disk first, and then open the software in the u disk.

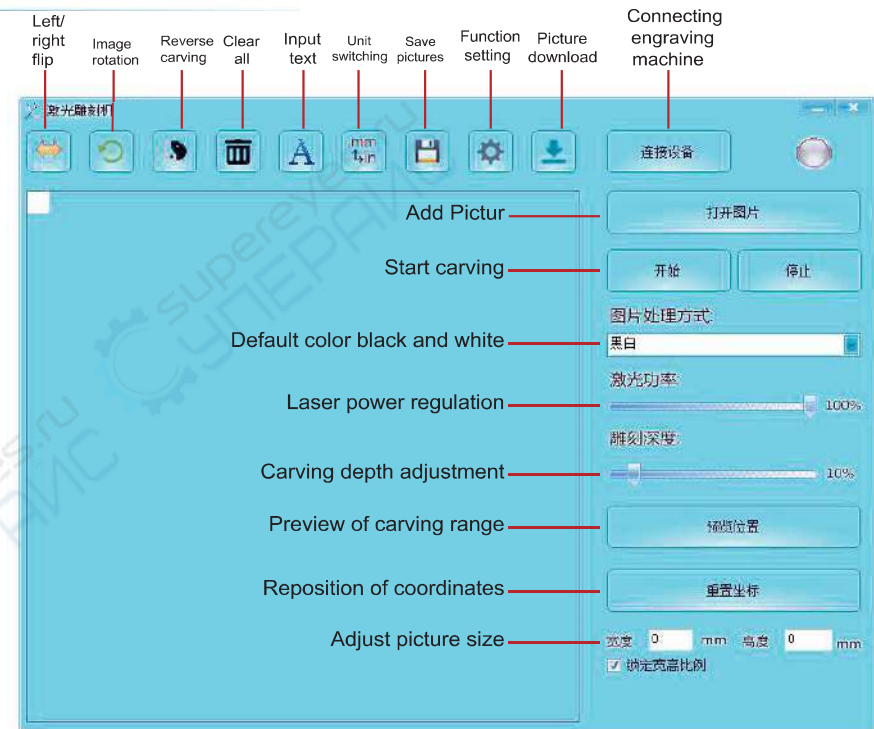


To install the driver file:

Open the folder with the driver name, right-click the install driver **as administrator**, and then click the install button to wait for a moment to confirm that the installation is complete.



## 3. Software engraving interface function :

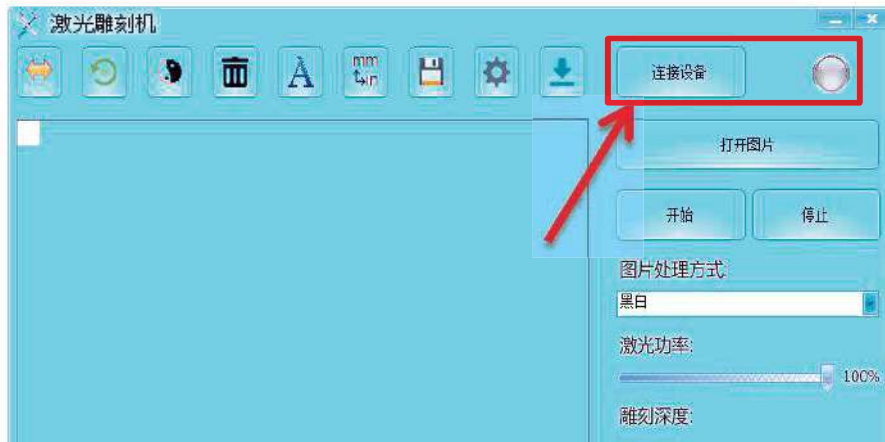


4. Adjust the focus of the laser head to the minimum, If the focus is not small enough, the carving effect may not be so good.

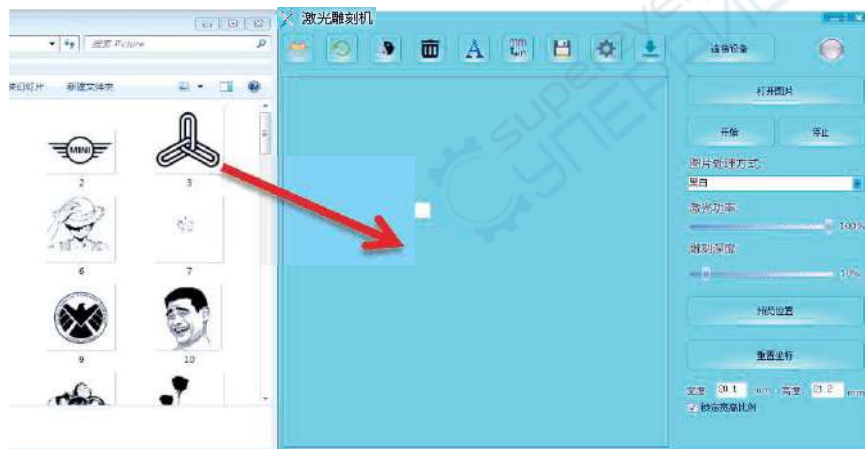


## Picture Engraving:

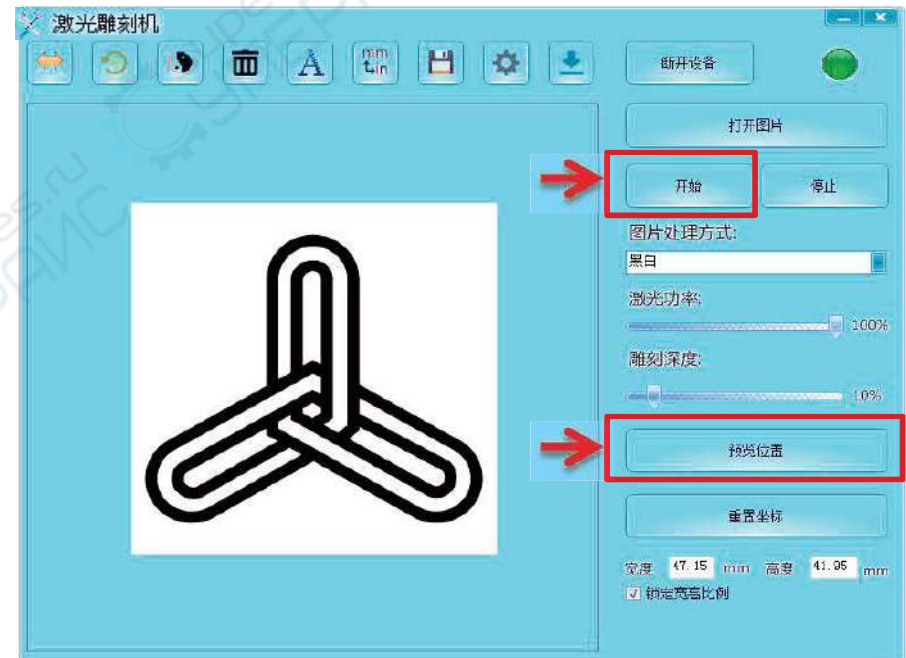
1. Open the software, click to connect the device, the right pilot will turn green, indicating that the connection is succeeded!



2. Open the picture folder in the U disk, select a picture, and drag into the software.

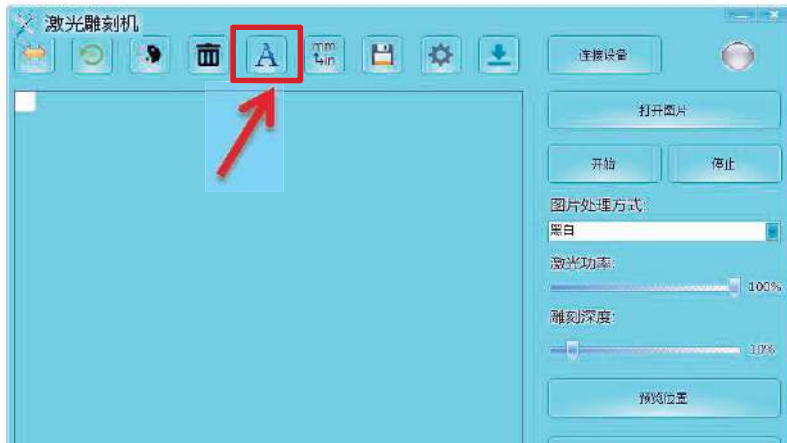


3. First: click Preview position to preview the picture to determine the appropriate carving position. Second: you can also drag and drop the picture with the mouse, you can adjust the position of the picture. Mouse wheel can adjust the size of the picture, but also in the lower right corner of the direct input size third: click "start", start carving.



## Text Graving:

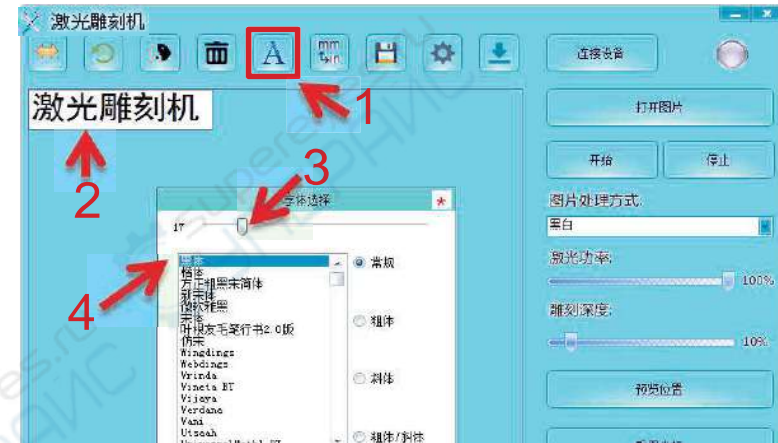
1. Click to input text



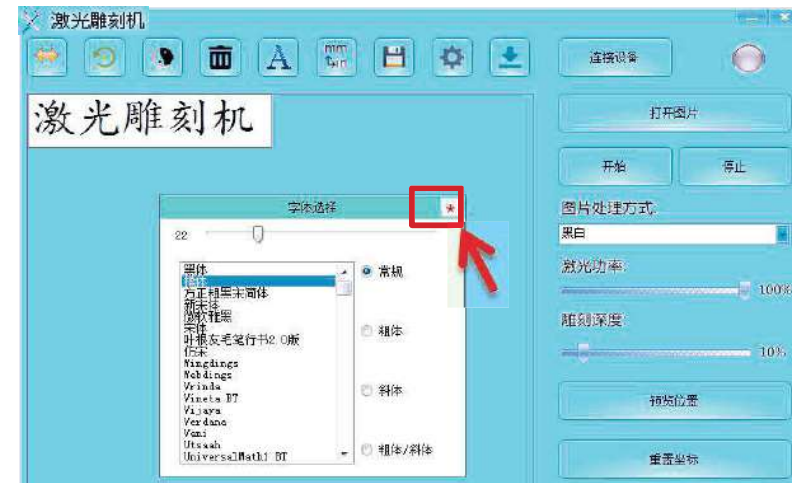
2. Enter the text in the white box when the white input box appears, press Enter to change the line, the size of the box will change with the size of the text!



3. To adjust font and text size, click on the "A" icon and double-click on the white text Word input dialog box will pop up font edit box, you can adjust the font and text size.

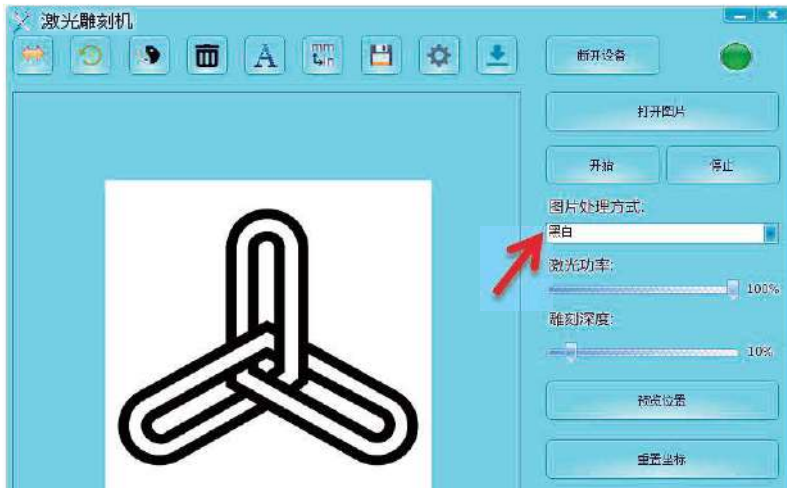


4. After adjusting, click on the star mark and complete the text input.

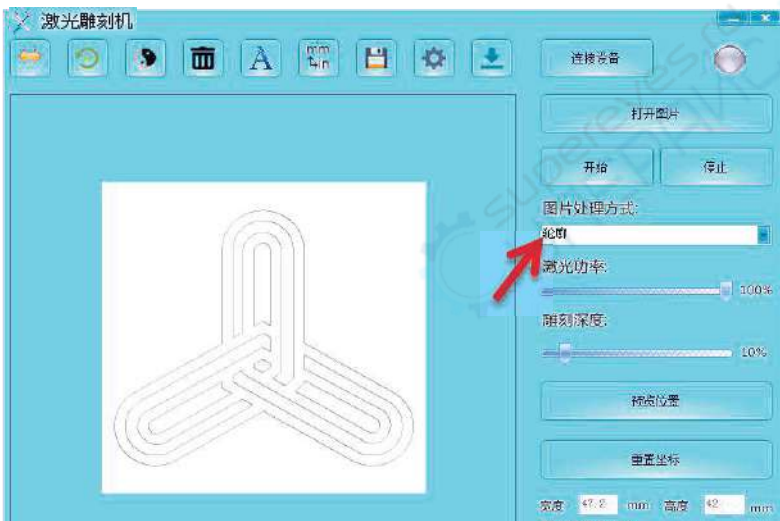


## Outline Cutting:

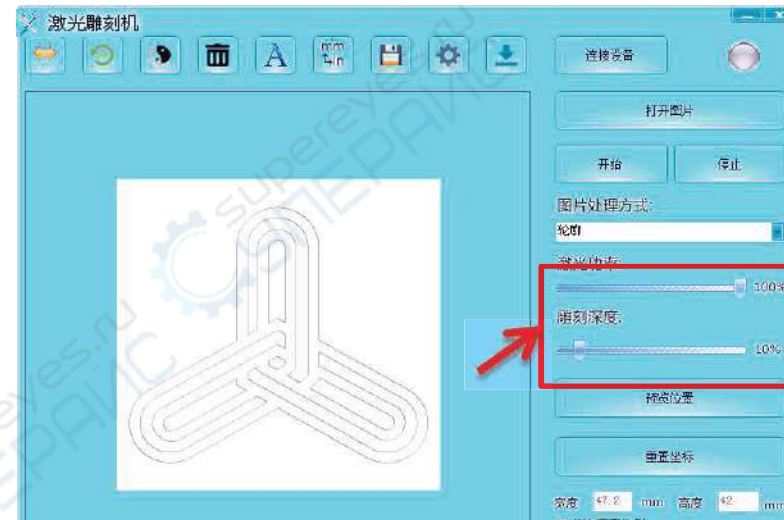
1. Drag in the picture, and the default color mode is black and white;



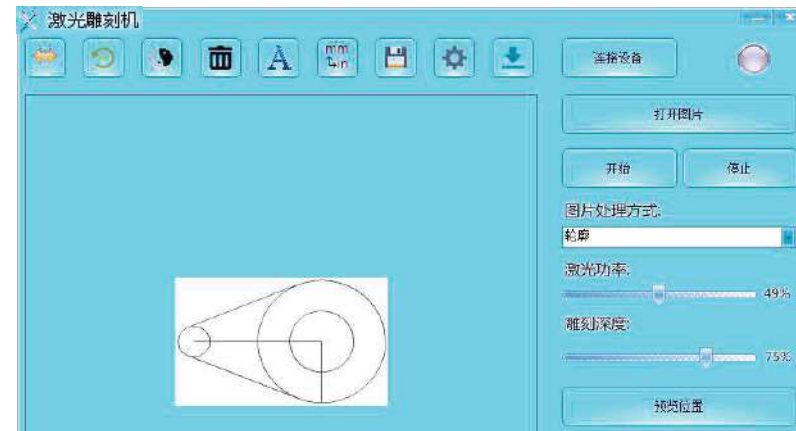
2. Select the outline to convert the picture to a profile;



3. Outline can be used for outline engraving and cutting; adjust laser power and engraving depth to control cutting depth and speed.



4. Engraving software supports DXF,Gcode, two kinds of vector graph files; directly drag into the vector diagram, the software will automatically transform into outline mode; either engraving or cutting can be processed!



# Picture Processing:

One: there are four kinds of image processing effect modes: black and white mode, discrete mode, outline mode and sketch mode; the effect of a color map in four modes is as follows:

## 1. Black and white mode



## 3. Outline mode



## 2. Discrete mode



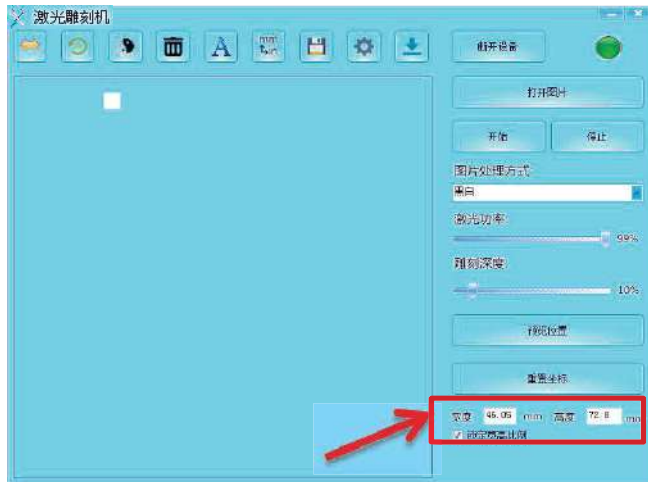
## 4. Sketch mode





## Picture Editing:

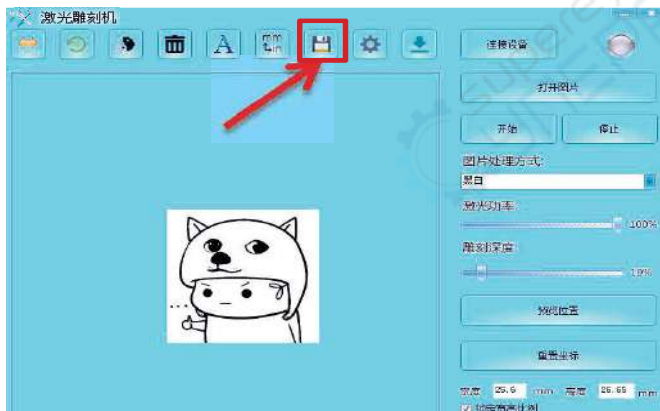
The lower right corner of the software is the scaling function, which can be magnified and reduced accurately by the input of the size. Check "Lock width and height ratio". If you change only one of the dimensions, the other dimensions will be magnified or reduced synchronously.)



## Offline Engraving:

Firstly, convert the picture to bmp offline format

1. Drag the picture into the operation interface and click the left mouse to save the picture, as shown in the following figure



## Offline Function:

2. Firstly, insert the u disk into the computer, find the picture folder in the u disk to open, then find the bmp folder open in the picture folder, and then copy and paste the converted format picture into the bmp folder (the picture name cannot be in Chinese).



**Note:** there is a picture in the factory u disk that has its own converted bmp format, and the U disk can be inserted directly into the machine to use it.

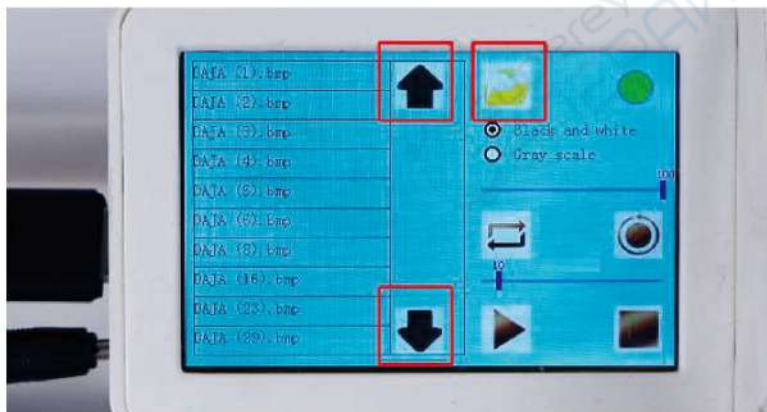
## Offline Engraving:

### Secondly, insert the u disk offline carving

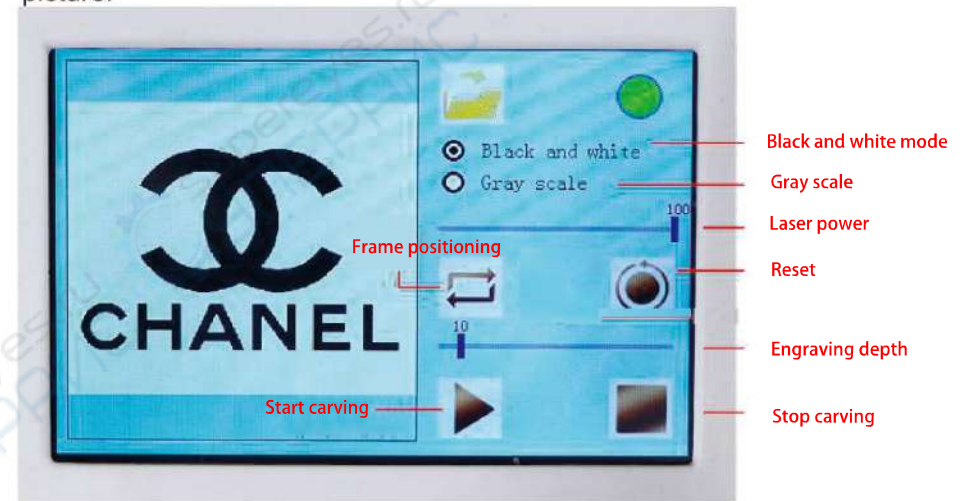
1. Connect the power supply into the u disk, turn the power switch on, the machine will reset automatically, and the dots in the upper right corner will turn green, indicating that the u disk has been connected successfully.;



2. Click on the folder, read the picture directory in the u disk, click on the following button to turn the page;



3. Randomly choose the picture name to display the pattern, each icon function as shown in the following picture.



4. Click on the box positioning, preview the engraving range, click on the screen at will to adjust the engraving position.;



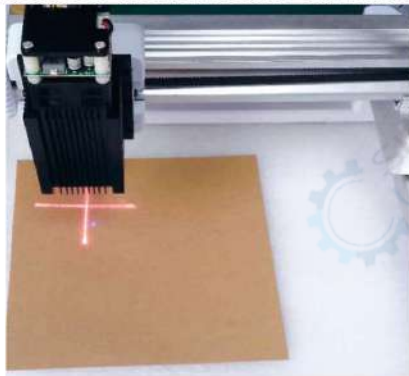
## Offline Engraving:

5. Click on the triangle icon to start carving, will show the sculpture progress percentage, the engraving process can click pause or stop; after the carving is completed, the machine will automatically reset.



## Cross Red Orientation:

1. Through infrared cross cursor auxiliary positioning, the vertical direction of the items to be carved can be accurately placed.



2. The infrared cross cursor will be automatically turned off when engraving, and will be automatically turned on while waiting (Note: This function depends on the laser module, most modules do not have this function.)

## Notes:

1. The engraving machine is sometimes interrupted by power outage or artificial reasons. At this time, the machine must be reconnected and click the "reset coordinates" button to correct the origin, otherwise there will be an inconsistency between the software position and the engraving position;



2. Engraving software is mainly used for engraving, its picture and text editing function is limited, if there are higher requirements, please use other special software to edit, and then drag into the engraving software to carve;
3. Laser head is a consumable, it is recommended to carve two hours off the power for ten minutes, cut half an hour off the power off for ten minutes;
4. Laser brightness is harmful to the eye, please try not to look directly at the laser, do not shoot directly into the eye.

# Connection method The mobile phone will actively connects to the device WIFI

1. Scan QR code with mobile browser to download and install mobile APP for engraving operation.



Google Play



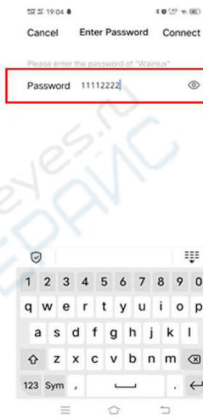
Android



IOS



Select WiFi, connect to wainlux



Enter the password: 11112222



The connection is successful

2. Mobile wifi connection



Open your phone's Settings app



Select WiFi Settings



Click Open



Open the engraving machine APP

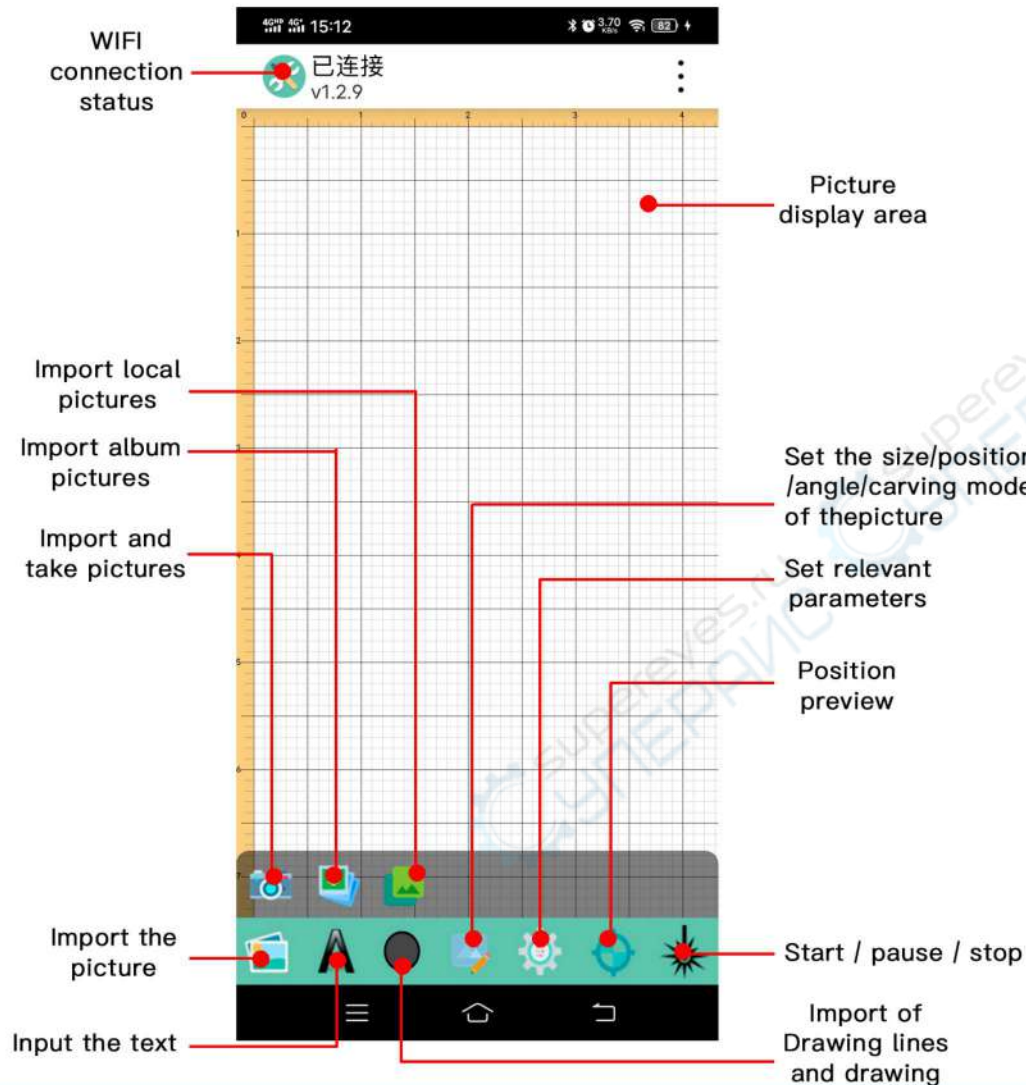


Wait a while, the upper left corner shows connected, indicating that the connection is successful and you can operate the device

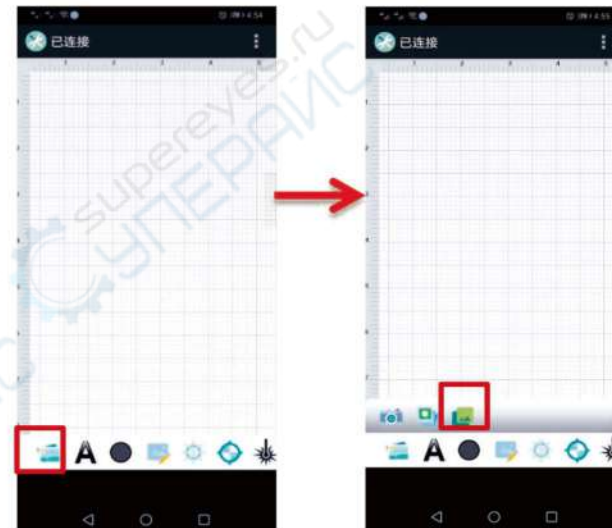
# Engraving by Mobile Phone App Connecting to WIFI:

## I. The picture of the mobile phone app is imported into the sculpture

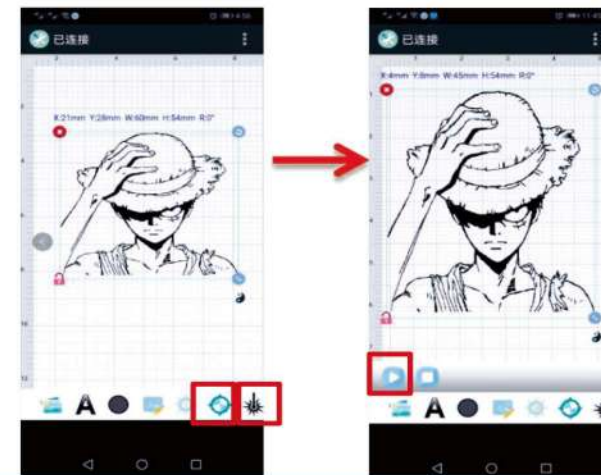
1. Introduction of engraving interface function of mobile phone app software;



2. First open the first icon in the lower left corner, then select the third icon to open the image that you want to carve to import into the app interface;



3. And the second picture preview position in the lower right corner of the first lower right corner places the object to be carved in the proper position, then stops the preview position at the lower point, and the focus lens is adjusted to adjust the laser spot to the minimum point and then the carving is started;



## Engraving by Mobile Phone App Connecting to WIFI:

### II. Input text for carving with mobile phone APP.

1. Open the second icon in the lower left corner, then enter the text, letter or number you want to carve in this position, and import it into the app interface automatically in the space below the point when the input is complete;



2. Click the penultimate picture preview position in the lower right corner to place the item you want to carve in place, then stop the preview position, adjust the focus lens to set the laser spot to the smallest point, and then start carving.



### III. multiple pictures, text, multiple engraving modes, engraving, carving, carving

1. The middle icon below the lead-in picture point is opened and then slides to the bottom, and the engraving mode (default is black-and-white) is found after the engraving mode is found. Click the blank in the lower right corner of the selected cutting mode, and then drag and hold the icon in the lower right corner of the picture to resize the picture;



2. Import the second picture to set the engraving mode to the nostalgic mode, hold down the picture and drag it to the appropriate position, and then enter the text to drag to the appropriate position; first click the penultimate picture preview position in the lower right corner to place the item to be carved in the appropriate position, then click down to stop the preview position, adjust the focus lens to adjust the laser spot to the smallest point, and then start carving.

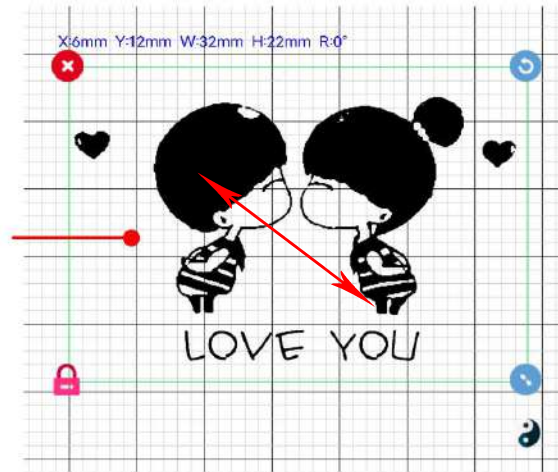


# Engraving by Mobile Phone App Connecting to WIFI:

## IV. Operation of other functions

### 1. Introduction to picture browsing function:

As shown in the figure, the two hands are pointing outwards to enlarge the picture for browsing, the two hands are pointing inwards to reduce the picture browsing, and a finger is pressed and pressed to move the position of the movable picture (this operation does not change the engraving size of the picture).



### 2. Introduction to picture editing function:

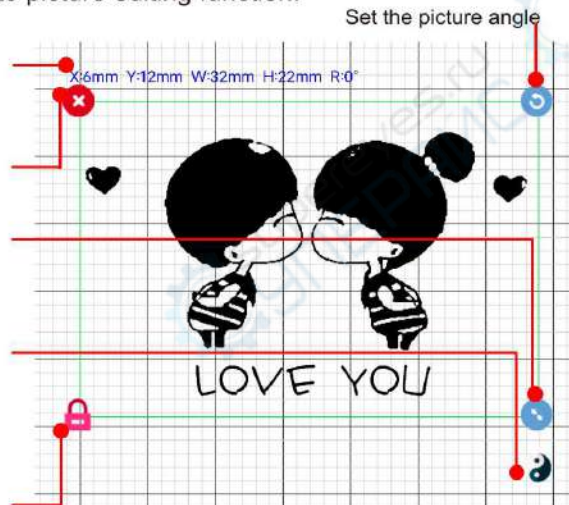
Displays the position, size, and rotation angle of the picture

Delete pictures

Reduce/ enlarge a picture to adjust the size of the engraving;

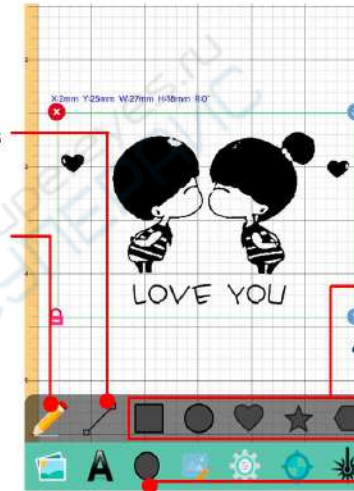
Film processing

Lock the scale of the picture



### 3. Insert lines, a variety of pictures and self-drawn curve function introduction.

Insert straight lines  
Individually customized curves



Icons of a variety of different graphics

Insert the graphics main menu

## 安装步骤:

### 激光雕刻机参数表

产品尺寸:	420*450*160MM
包装尺寸:	580*390*150MM
产品重量:	2.55KG
包装重量:	4.05KG
产品材质:	铝合金+ABS
雕刻面积:	148*174MM
产品附件:	U盘+数据线+电源+防光镜+牛皮纸+说明书

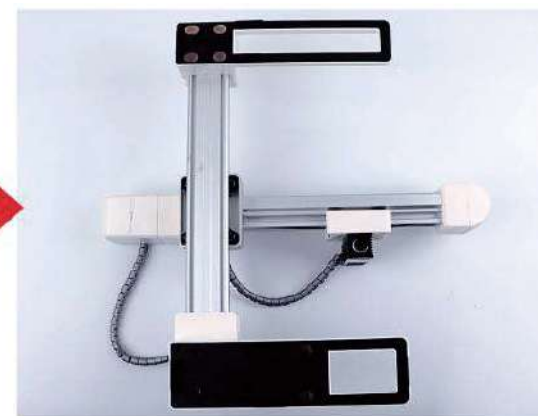
1. 电源: 用于给雕刻机供电
2. 数据线: 用于连接机器和电脑
3. 触控笔: 操控显示屏
4. U盘: 内存储图片和雕刻软件
5. 防光镜+防护镜片: 阻挡激光亮度, 保护眼睛
6. 说明书: 雕刻机使用说明
7. 牛皮纸: 用于雕刻测试



1. 取出机器



2. 装上横轴, 拧紧固定螺丝



3. 再装上两个脚板即可



## 操作调式:

- 1.将机器用数据线连接电脑，电源线连接插座。
- 2.先安装U盘中的驱动，再打开U盘中的软件。

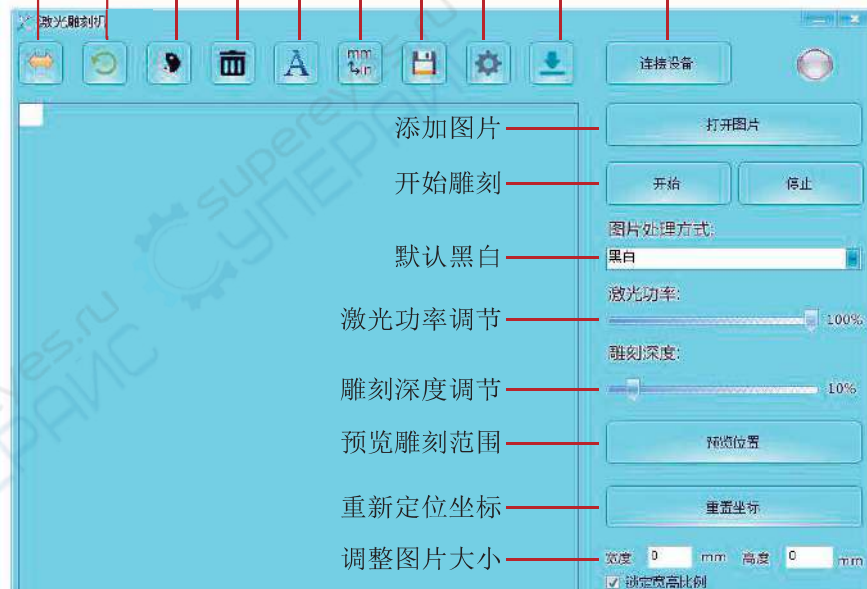
安装驱动文件步骤:

打开“driver”名称的文件夹，右键单击以**管理员身份**安装驱动，然后单击“安装”按钮等待片刻确认安装完成。



### 3.软件雕刻界面功能:

左右 图像 反向 清除 输入 单位 保存 功能 图片 连接  
 翻转 旋转 雕刻 所有 文字 切换 图片 设置 下载 雕刻机



4.调节激光头焦点到最小点，焦点不够小可能无法雕刻或效果不好。

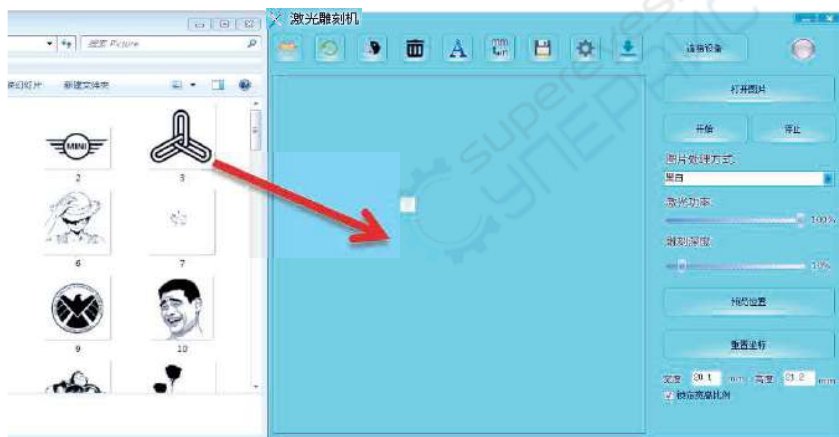


## 图片雕刻:

1.打开软件，点击连接设备，右边的圆点会变成绿色，表示已经连接成功！



2.打开U盘中的picture文件夹，选择一张图片，拖入到软件中。



3.第一：先点击“预览位置”预览图片，确定适合的雕刻位置。  
第二：还可用鼠标拖拽图片，可以调整图片位置。鼠标滚轮可调整图片大小，也可在右下角直接输入尺寸  
第三：点击“开始”，开始雕刻。



## 文字雕刻:

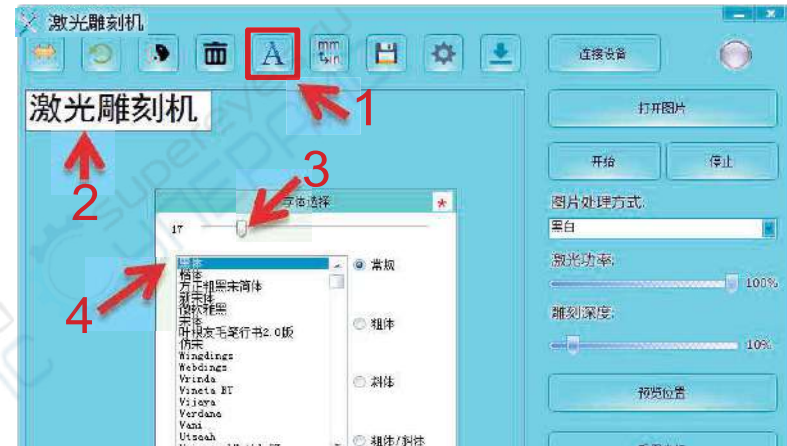
1. 点击输入文字



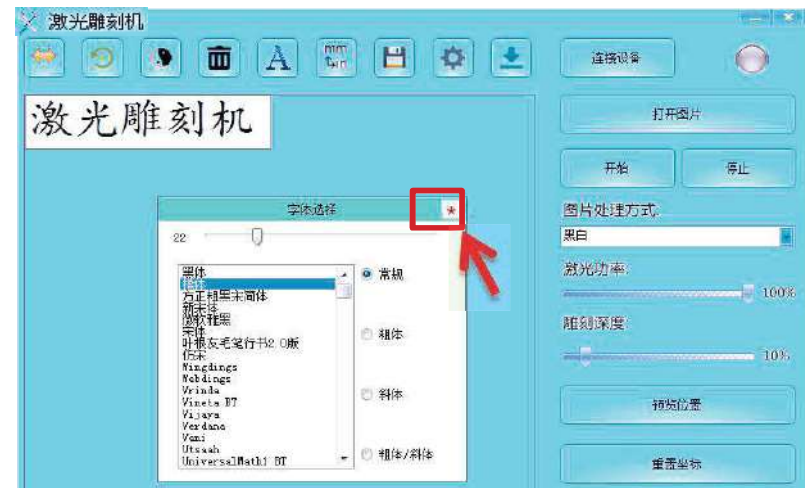
2. 出现白色输入框，在白色框中输入文字，按回车可换行，框的大小会随文字的大小而变化！



3. 若想调节字体和文字大小：点击字母“A”图标，双击白色文字输入对话框会弹出字体编辑框，可任意调节字体和文字大小。

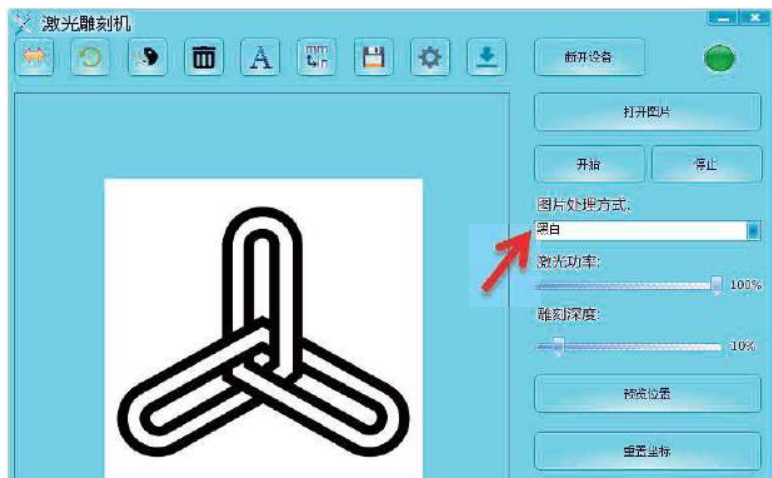


4. 调整后点击星形标示号，文字输入完成。

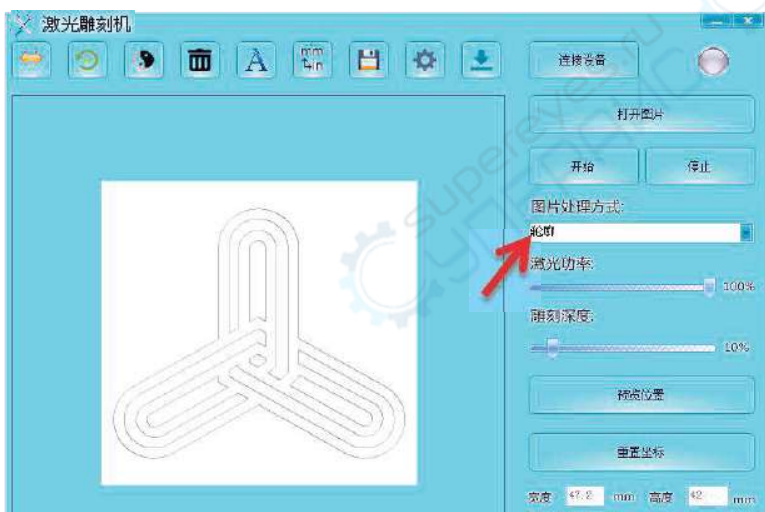


## 轮廓切割:

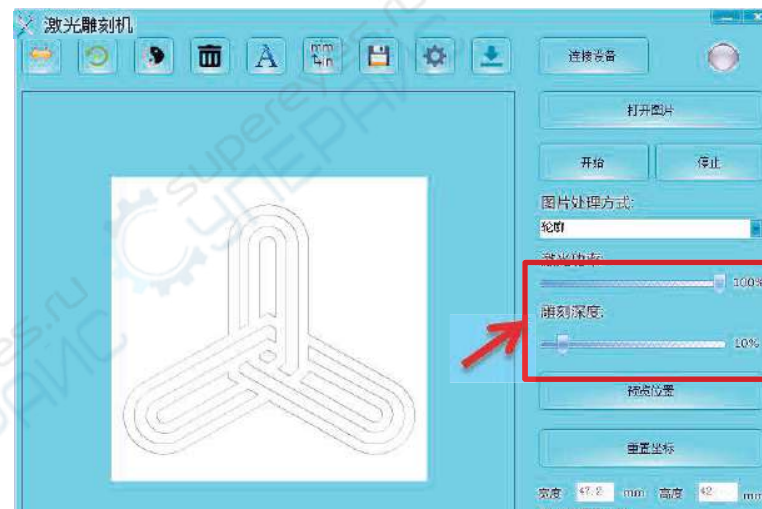
1. 图片拖入默认为黑白模式



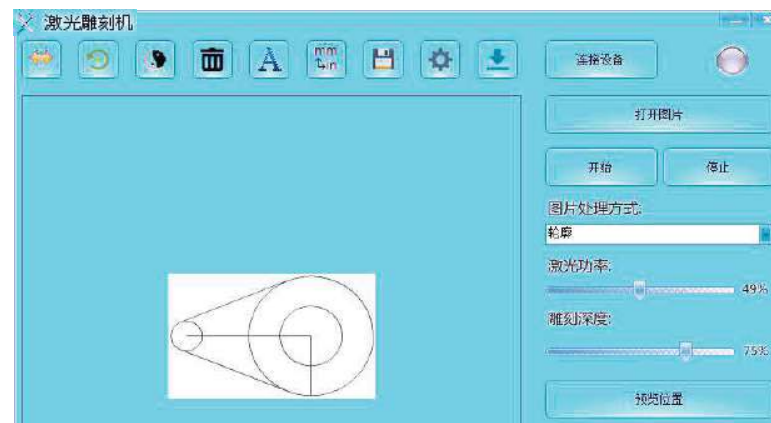
2. 选择轮廓, 图片转换为轮廓图



3. 轮廓可以用于轮廓雕刻和切割, 调节激光功率和雕刻深度, 会影响切割深度和速度。



4. 雕刻软件支持DXF、Gcode、二种矢量图文件, 直接拖入矢量图, 软件会自动转换为轮廓模式, 即可进行雕刻或切割!



## 图片处理:

一: 图片处理效果模式共有四种: 黑白模式、离散模式、轮廓模式、素描模式; 一张彩图在四种模式下效果如下:

### 1、黑白模式



### 3、轮廓模式



### 2、离散模式

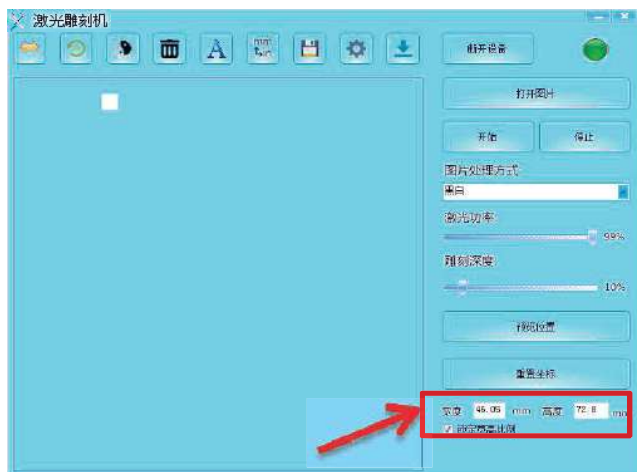


### 4、素描模式



## 图片编辑:

软件右下角为缩放功能, 可通过尺寸的输入精确的放大缩小图案大小。(勾选“锁定宽高比例”, 若只改其中一尺寸, 其它尺寸会相应的同步放大或缩小。)



## 脱机雕刻:

### 一、将图片转换为BMP脱机格式

1. 将图片拖到操作介面内后左击鼠标保存图片如下图



## 脱机功能:

2. 先将U盘插入电脑, 找到U盘中的picture文件夹打开, 再在picture文件夹内找到bmp文件夹打开, 然后把转换好格式的图片复制粘贴到bmp文件夹内即可(图片名称不能为中文)。

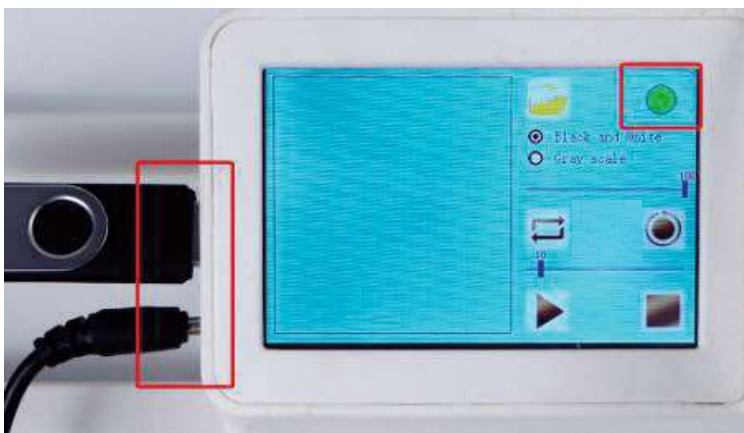


备注: 出厂U盘里有自带转换好BMP格式的图片, U盘可以直接插入机器使用

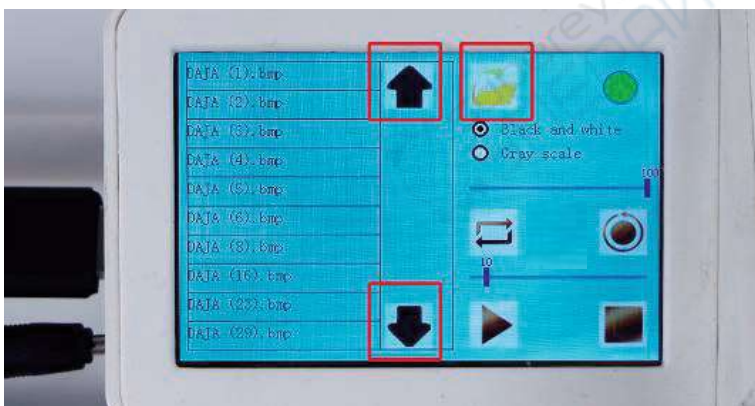
## 脱机雕刻:

### 二、插入U盘脱机雕刻

1.连接电源插入U盘，将电源开关打开，机器会自动复位，右上角的圆点变成绿色，表示U盘已经连接成功。



2.点击文件夹，读取U盘内的图片目录，点击下方方向键翻页。



3.任意选择图片名称显示图案，各图标功能如下图所示。



4.点击框定位，预览雕刻范围，随意点击屏幕可调整雕刻位置。



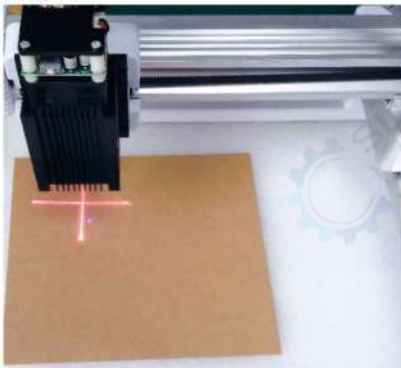
## 脱机雕刻:

5. 点击三角形图标后开始雕刻，会显示雕刻进度百分数，雕刻的过程中可以点击暂停或停止；雕刻完成后，机器会自动复位。



## 十字红光定位:

1. 通过红外线十字光标辅助定位，可准确摆放好要雕刻物品的垂直方向。



2. 在雕刻时会自动关闭红外线十字光标辅助定位，而待机时又会自动打开(注: 此功能取决于激光模组，绝大部分模组不具备此功能。)

## 注意事项:

1. 雕刻机有时会因为断电或人为原因中断，此时必须重新连接机器，点击“重置坐标”按钮校正原点，否则会出现软件位置和雕刻位置不一致的现象。



2. 雕刻软件主要用于雕刻，其图片及文字编辑功能有限，若有更高要求请用其它专用软件编辑好，后再拖入雕刻软件进行雕刻。

3. 激光头为消耗品，建议雕刻两小时关机断电十分钟，切割半小时关机断电十分钟。

4. 激光亮度对眼睛有害，请尽量不要直视激光，禁止直射眼睛。



## 连接方式

## 手机主动连接设备wifi

1.用手机浏览器扫描二维码，下载和安装雕刻操作手机APP软件。



Google Play



Android



IOS



输入密码：11112222

连接成功

2.手机wifi连接设置



打开设置

选择WIFI设置

选择wifi连接wainlux



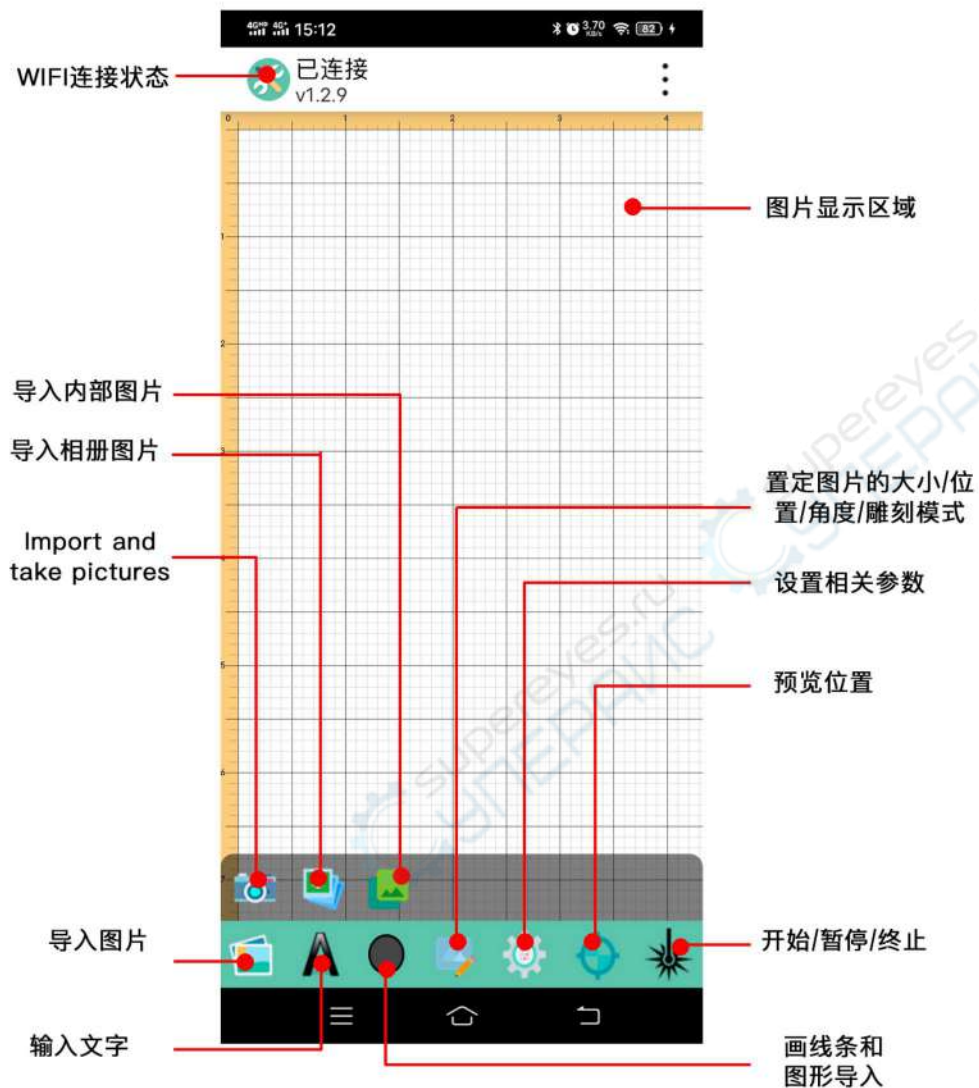
打开雕刻机APP

稍等片刻，左上角显示已连接说明连接成功，可以操作设备了

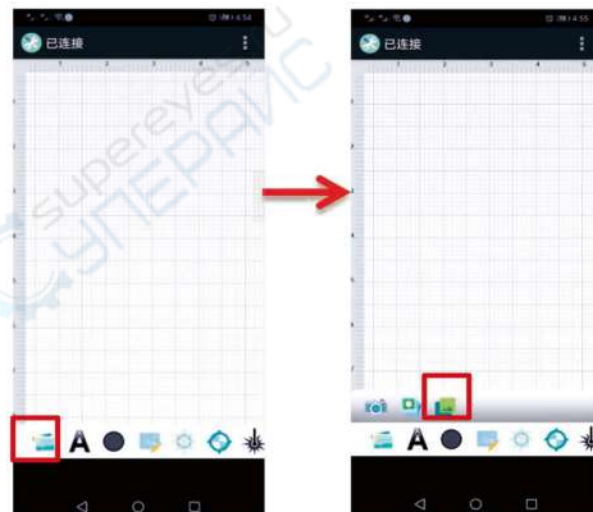
## 手机APP WIFI雕刻:

### 一、手机APP图片导入雕刻

1.手机APP软件雕刻界面功能介绍。



2.先打开左下角第一个图标，再选择第三个图标打开选择想要雕刻的图片导入APP介面。



3.先点下右下角倒数第二个图片预览位置把要雕刻的物品摆放到适当的位置后，再点下停止预览位置，调整聚焦镜头将激光光点调到最小一个点后再点开始雕刻。



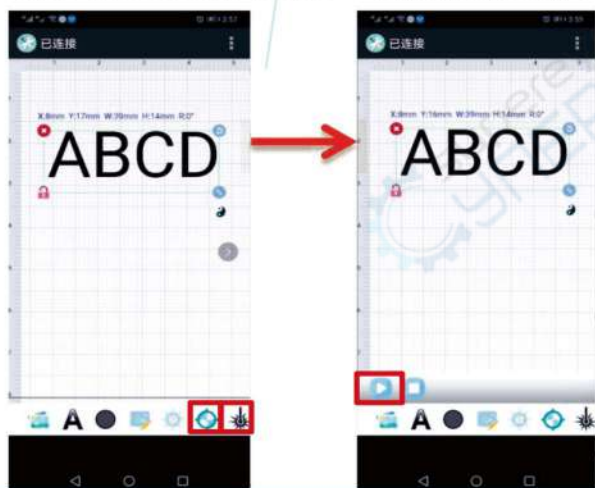
## 手机APP WIFI雕刻:

### 二、手机APP输入文字雕刻

1.先打开左下角第二个图标，再在这个位置输入想要雕刻的文字、字母或数字，输入完成后点下空白处自动导入到APP介面。



2.先点下右下角倒数第二个图片预览位置把要雕刻的物品摆放到适当的位置后，再点下停止预览位置，调整聚焦镜头将激光光点调到最小一个点后再点开始雕刻。



### 三、多图片文字多种雕刻模式雕刻

1.先导入图片点下方中间图标打开后往下滑动，找到雕刻模式后点开选择雕刻模式（默认为黑白），点击选切割模式后再点下空白处，按住图片右下角图标拖动可调整图片大小。



2.导入第二张图片将雕刻模式设置为怀旧模式按住图片拖动到合适的位置，再输入文字拖动到合适的位置调整好大小；先点下右下角倒数第二个图片预览位置把要雕刻的物品摆放到适当的位置后，再点下停止预览位置，调整聚焦镜头将激光光点调到最小一个点后再点开始雕刻。

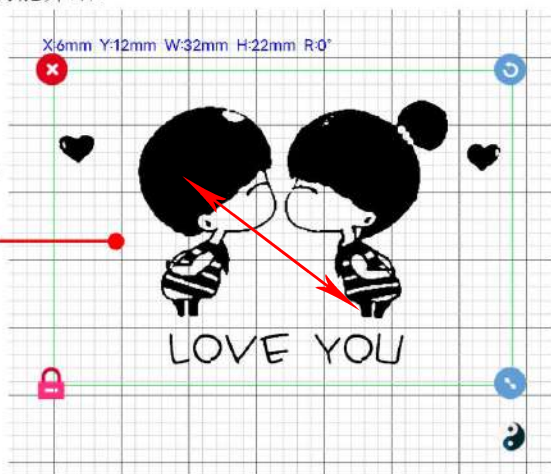


## 手机APP WIFI雕刻:

### 四、其它功能操作

#### 1. 图片浏览功能介绍。

如图所示：两手指向外划动放大图片浏览，两手指向内划动缩小图片浏览，一手指按住后划动可移动图片的位置（此操作不会改变图片的雕刻大小）。



#### 2. 图片编辑功能介绍。

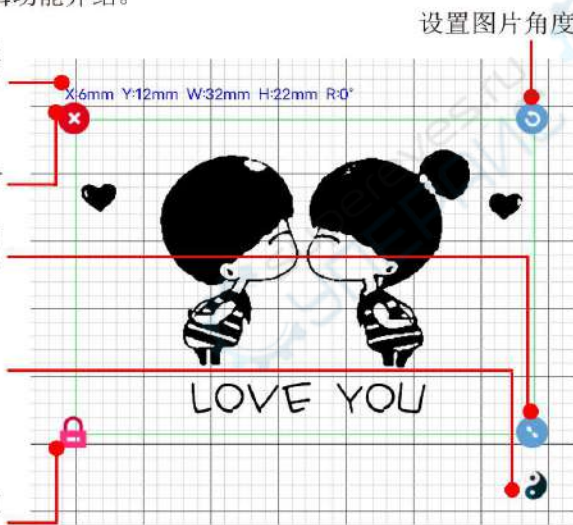
显示图片位置、大小和旋转角度

删除图片

缩小放大图片雕刻大小

底片处理

锁定图片的缩放比例



#### 3. 插入线条、多种图片和自绘曲线功能介绍。

插入直线线条

自绘制曲线图案

各种不同图形的图标

插入图形主菜单

