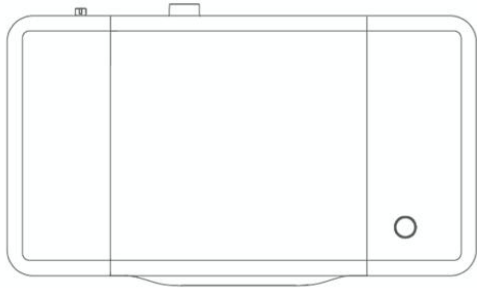


# Preparation

## List of items



Laserbox × 1



Smart Smoke Purifier × 1



3mm Basswood × 56



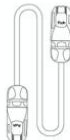
3.5mm Cardboard × 45



Power Cord × 1



USB Cable × 1



Aviation Connector × 1



User Manual × 1



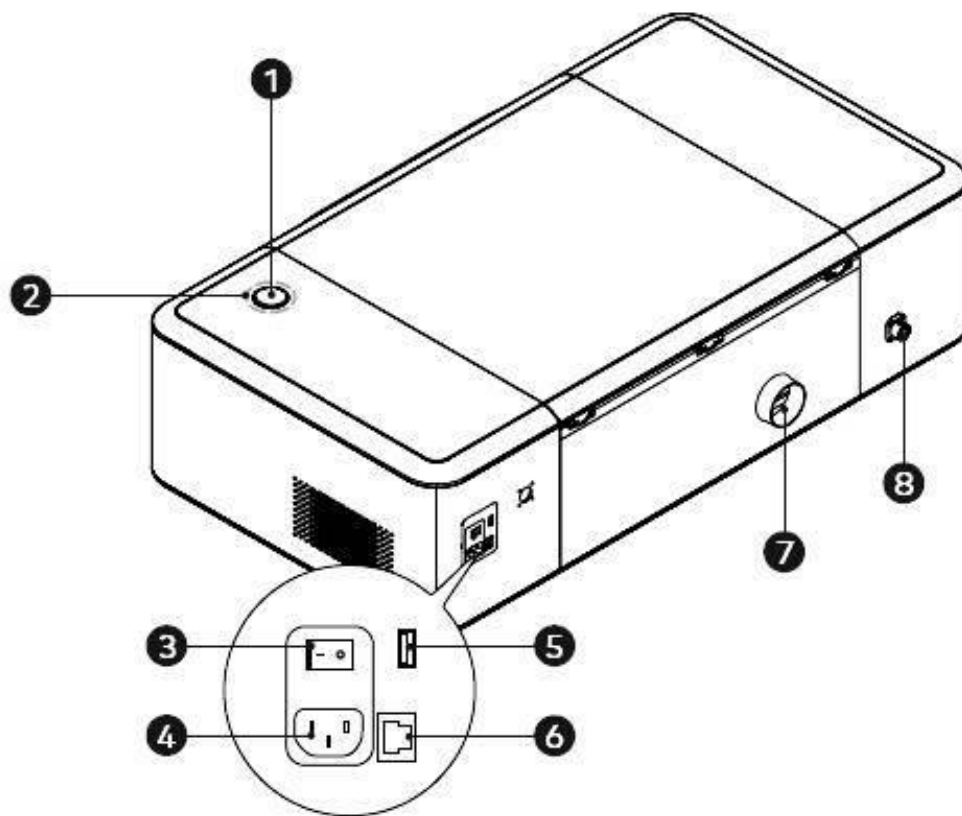
Smoke Exhaust Pipe × 2

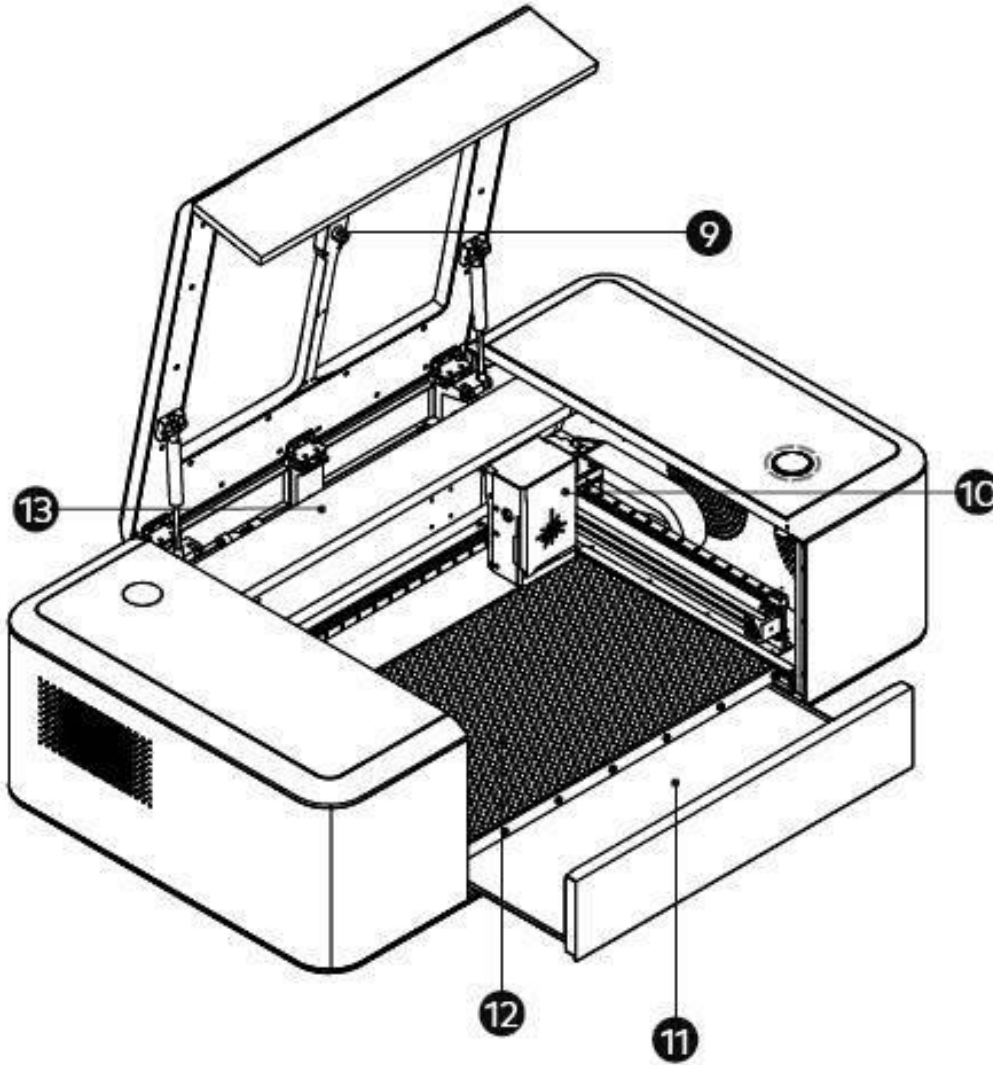


Pipe Clamp × 3

## Meet your Laserbox

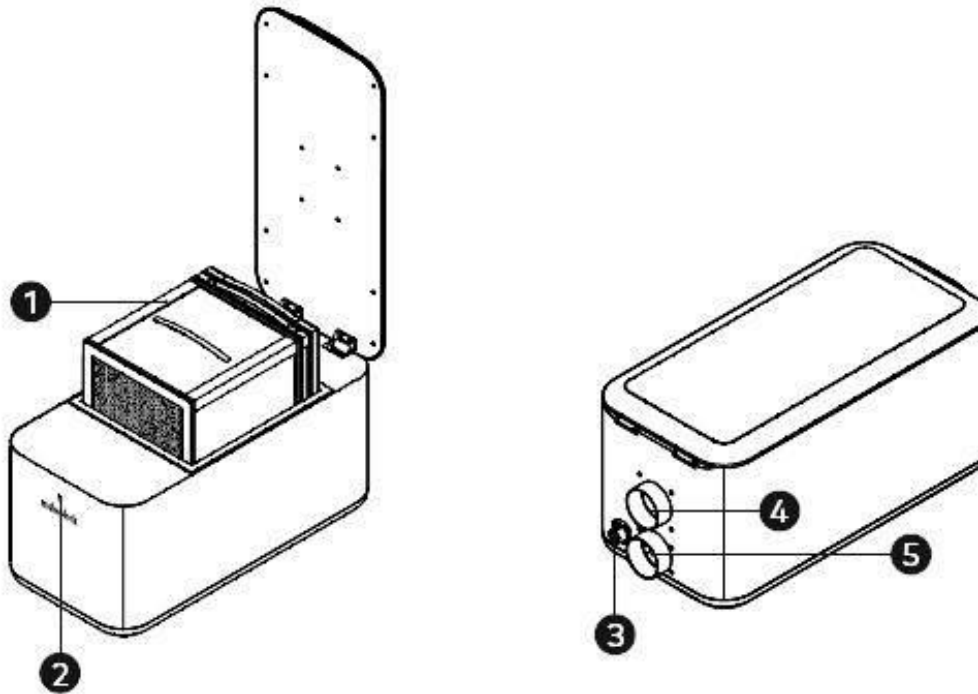
Laserbox





1	Button	2	Annular indicator	3	Power button	4	Power interface	5	USB interface
6	Ethernet cable interface	7	Smoke outlet	8	Aviation interface	9	Camera	10	Laser head
11	Tray	12	Honeycomb panel	13	Laser tube				

**Smart smoke purifier**



1	Filter	2	Indicator	3	Aviation interface	4	Smoke inlet	5	Smoke outlet
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## Annular indicator status

Indicator status	Description
Flashing white	The system gets started.
Solid white	Waiting to connect
Flashing blue	It is ready and the image has been sent successfully
Solid blue	It is in the standby mode and the Laserbox has been connected to the computer
Six indicators light up gradually	It is in the working status, and the number of indicators that are ON indicates the current progress
Solid green	Complete
Green breathing indicator	Sleep mode. It goes into the sleep mode from the standby mode after 10 minutes idle.
Solid red	Abnormal
Solid purple	The Laserbox firmware is being upgraded

## Download and install software

## Download Laserbox

Laserbox is the laser engraving software designed by Makeblock.

The software features many capabilities that let you make the most out of Laserbox. It also provides essential design tools that you can depend on to create different shapes and add filters to your design. Download Laserbox at: <https://www.makeblock.com/maker-tools/laserbox-2#Software>

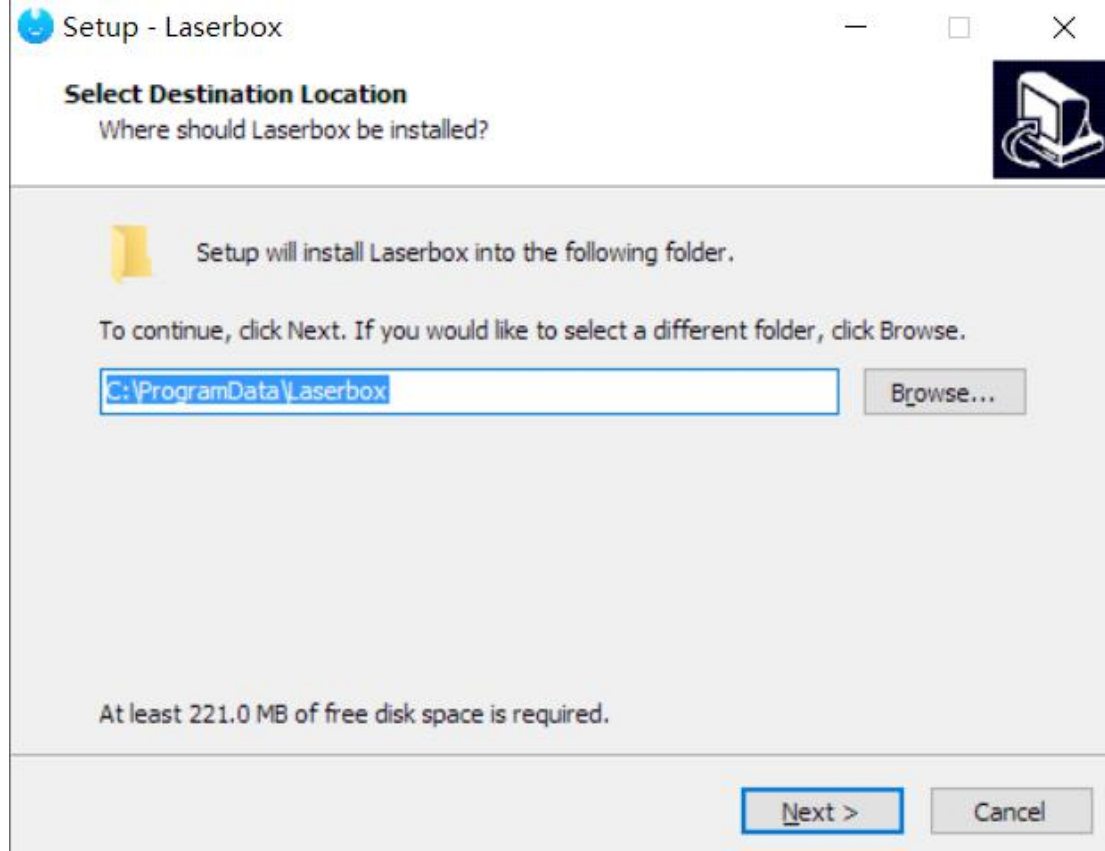
## Install Laserbox

### 1.Run installer

Run the Laserbox installer you just downloaded.

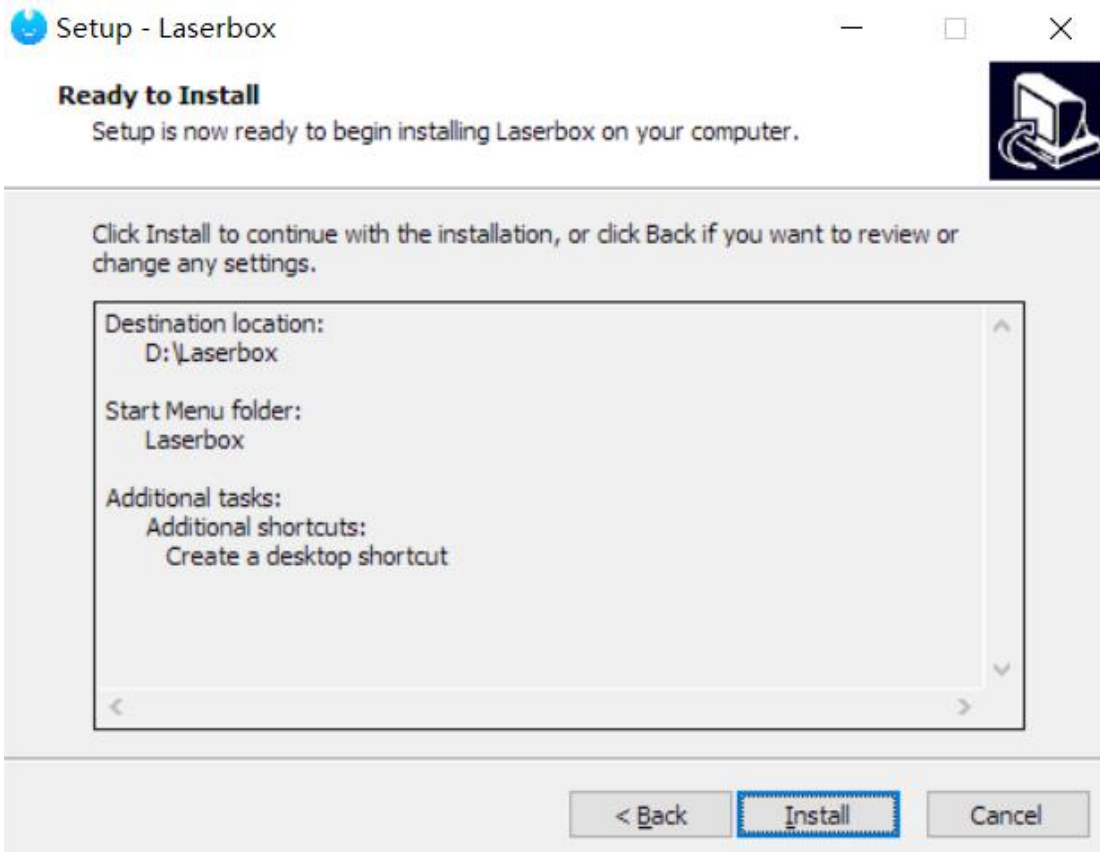
### 2.Choose destination location

Choose the folder into which you're going to install Laserbox. Click Next to continue.



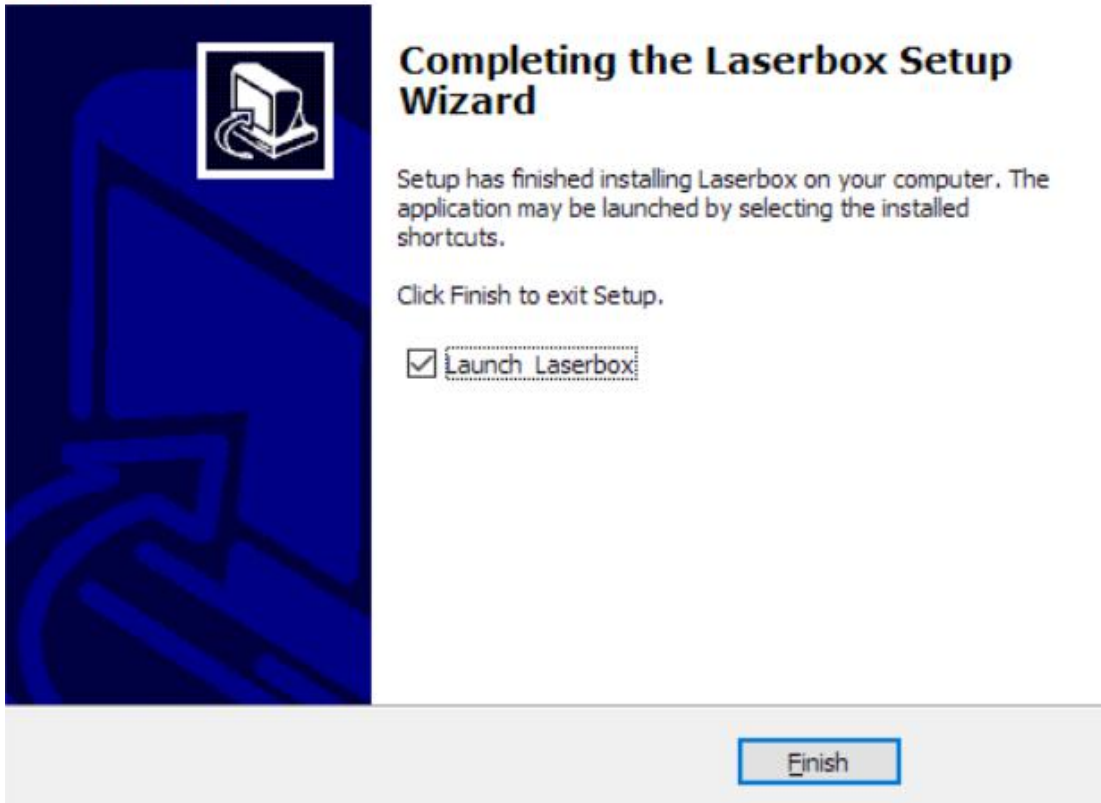
### 3.Select additional tasks

Follow the on-screen prompts to select any of the additional tasks you want to perform, including adding a folder to the Start menu or creating a desktop shortcut. Click **Install** to start the installation.



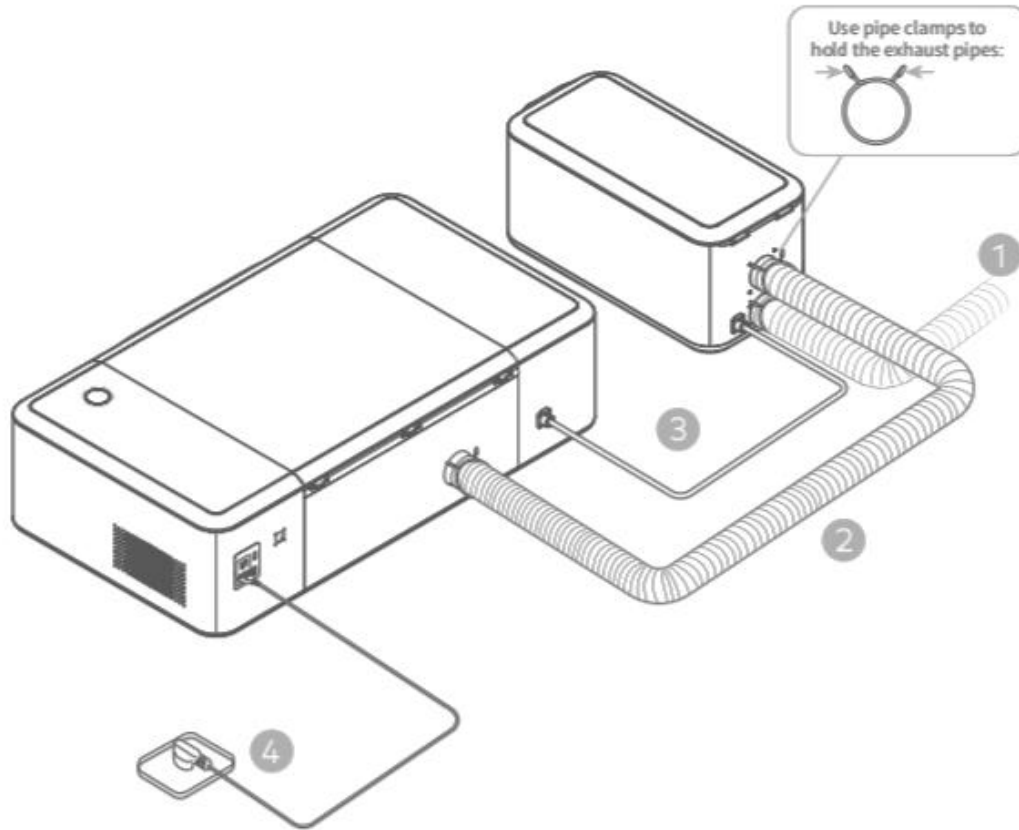
#### 4.Finish

After the installation is complete, click **Finish** to exit the installer.



## Connect devices

Connect the smart smoke purifier to Laserbox.



1. Plug the 2m exhaust pipe into the purifier and lead the pipe to the window.
2. Connect Laserbox and the purifier with the 1.5m exhaust pipe.
3. Connect Laserbox and the purifier with the aviation connector.
4. Connect to a power supply.

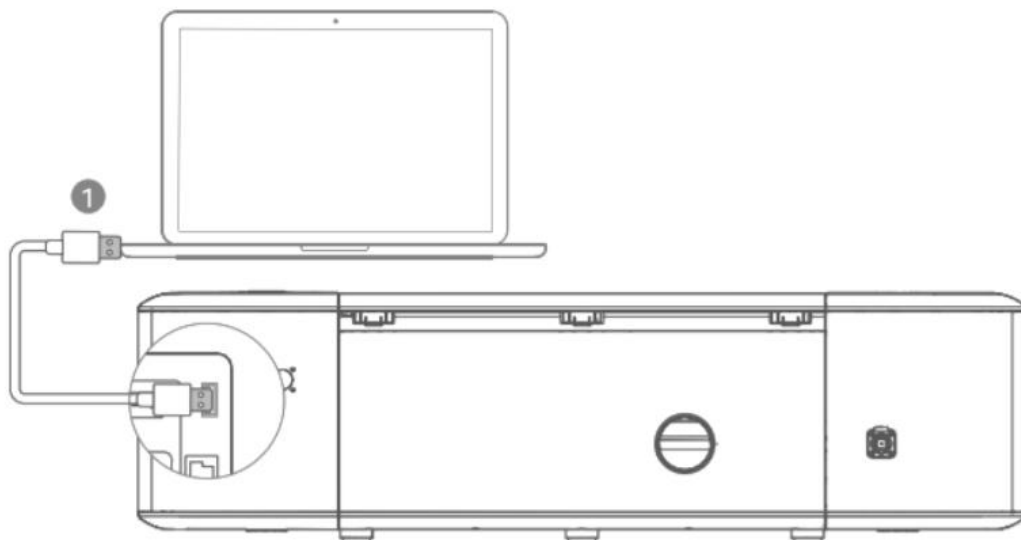
**Start Laserbox for the first time**

The laser head automatically resets and calibrates after you press the power button. When the first startup is complete, the annular indicator will turn solid white. The startup process takes a while, so please be patient.

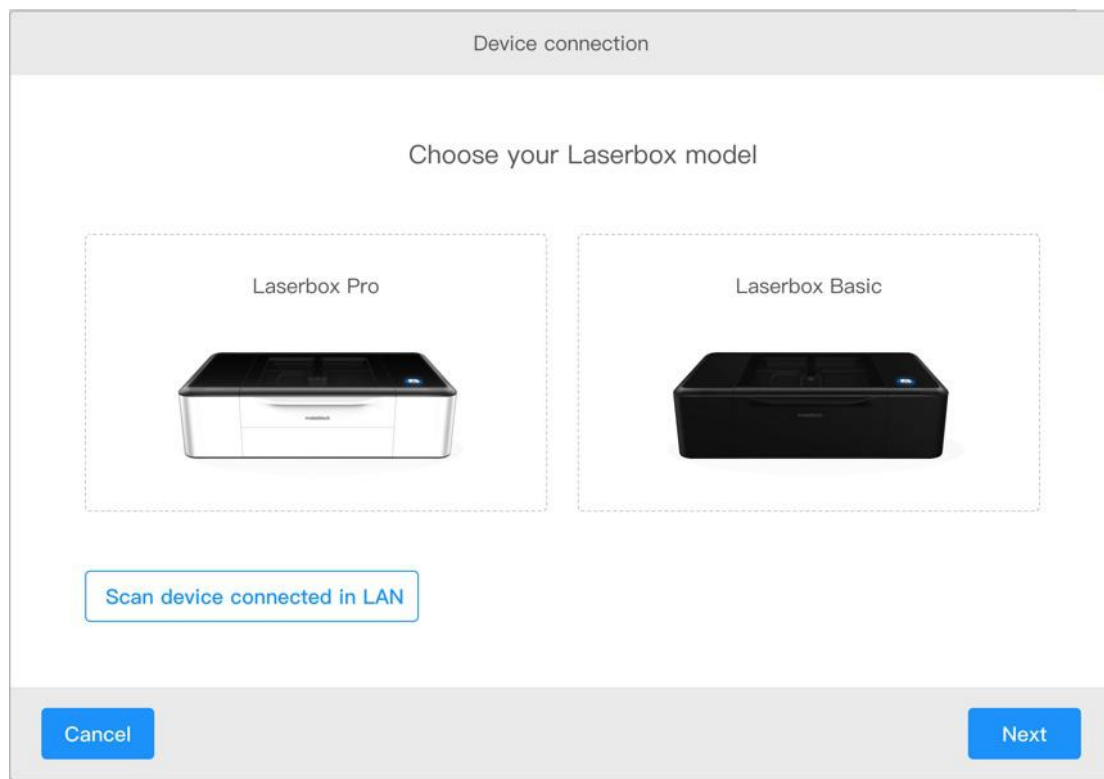
**Connect laserbox to a computer**  
**Connect via a USB cable**

1. Use a USB cable to connect Laserbox to your computer.

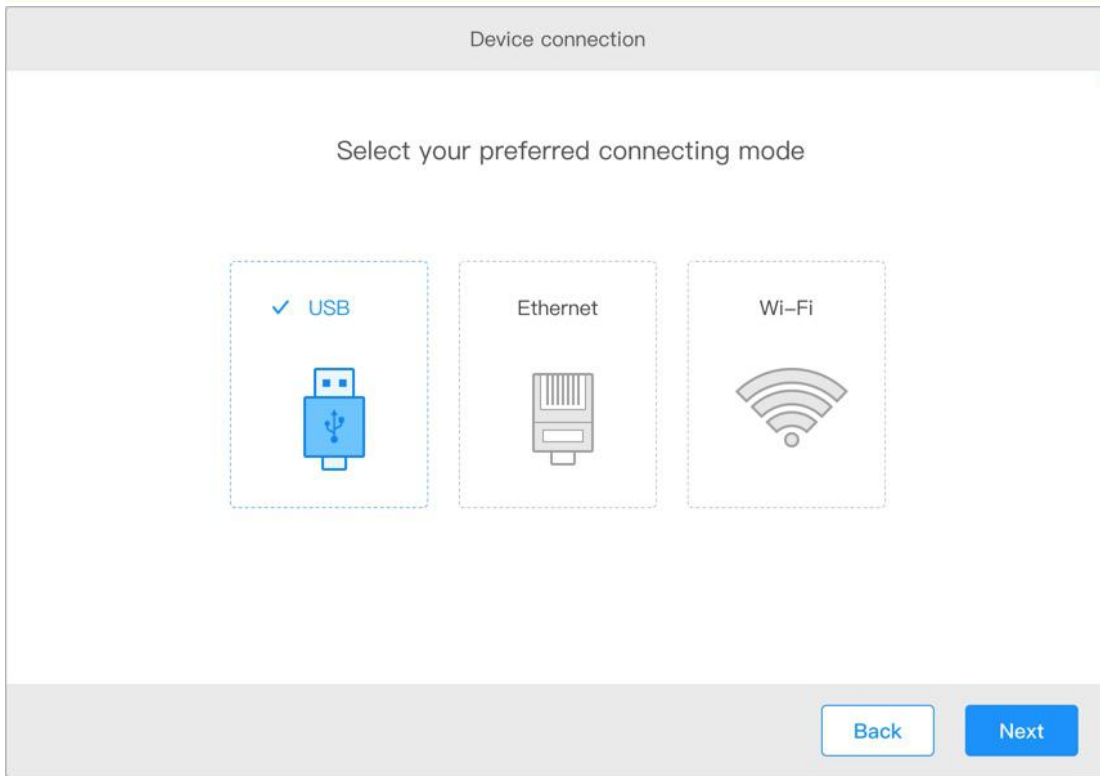




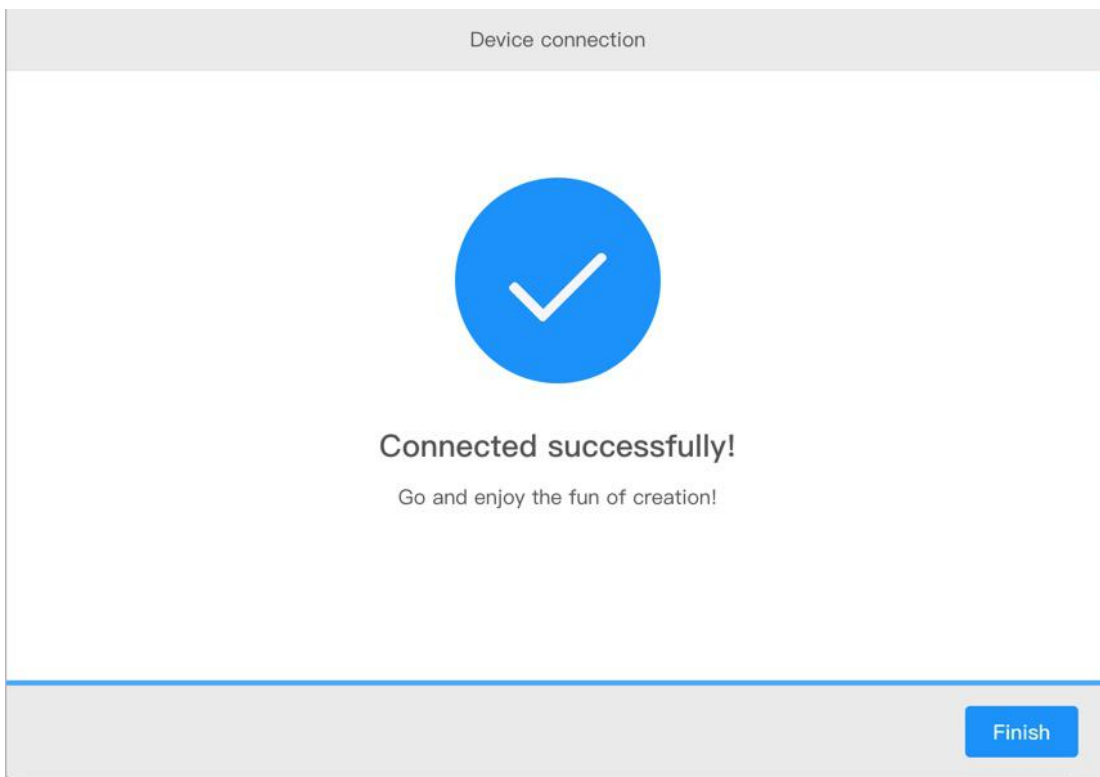
2. Open the software Laserbox, choose your Laserbox model, then click **Next**.



3. Select **USB**, then click **Next** to connect Laserbox to the computer.

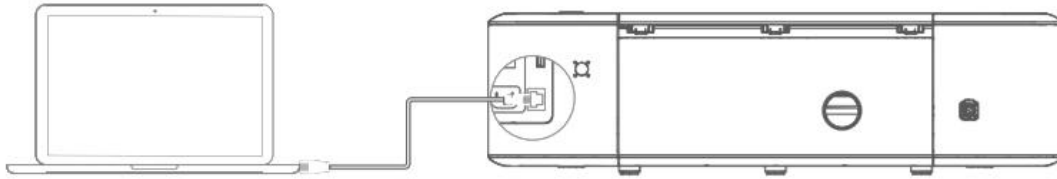


4. Connected successfully.

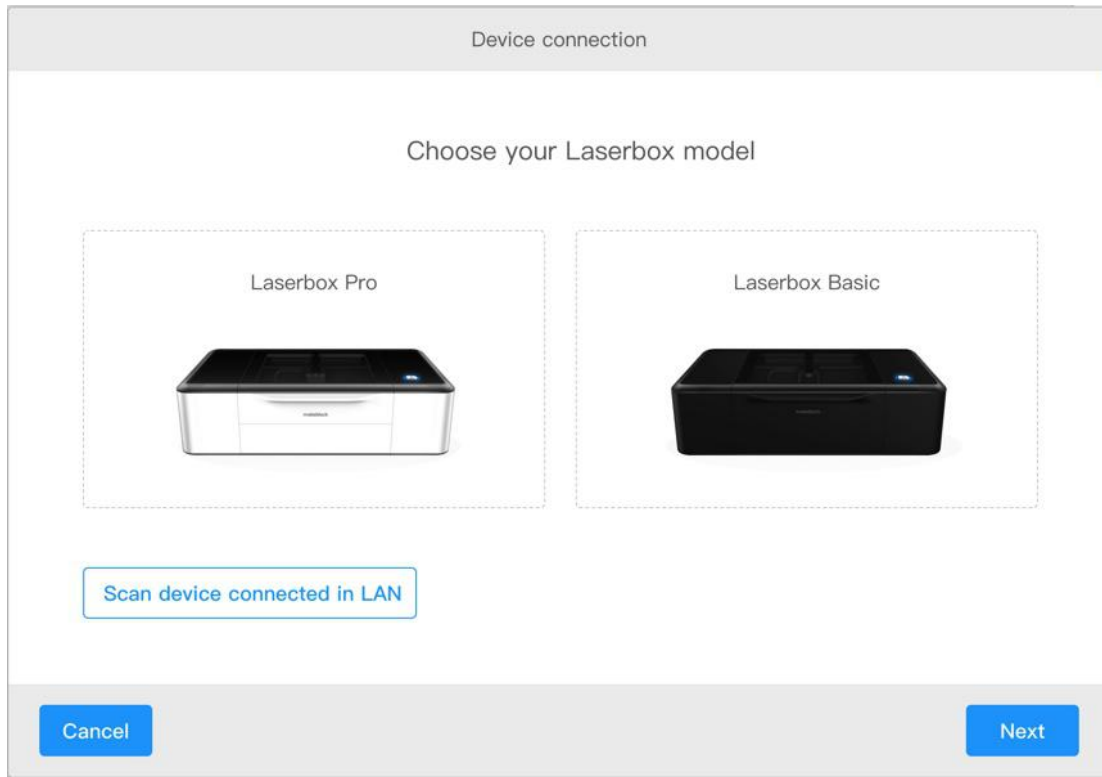


**Connect via an Ethernet cable (not included in the package)**

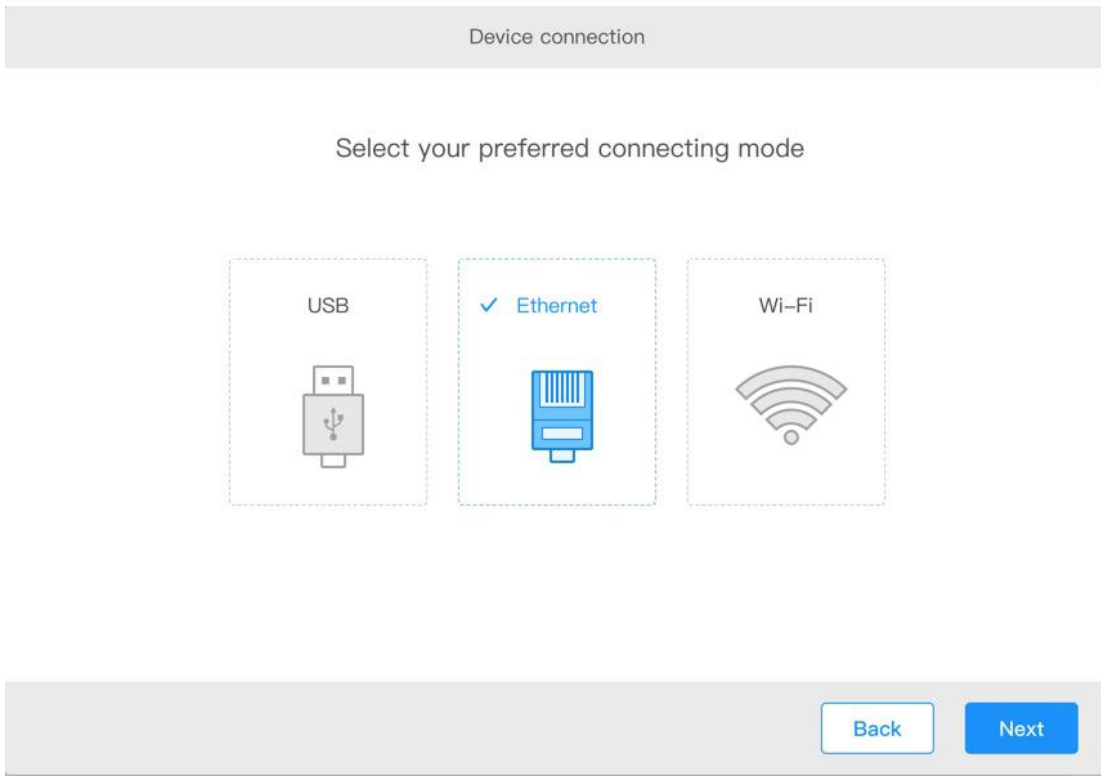
1. Use an Ethernet cable to connect Laserbox to your computer.



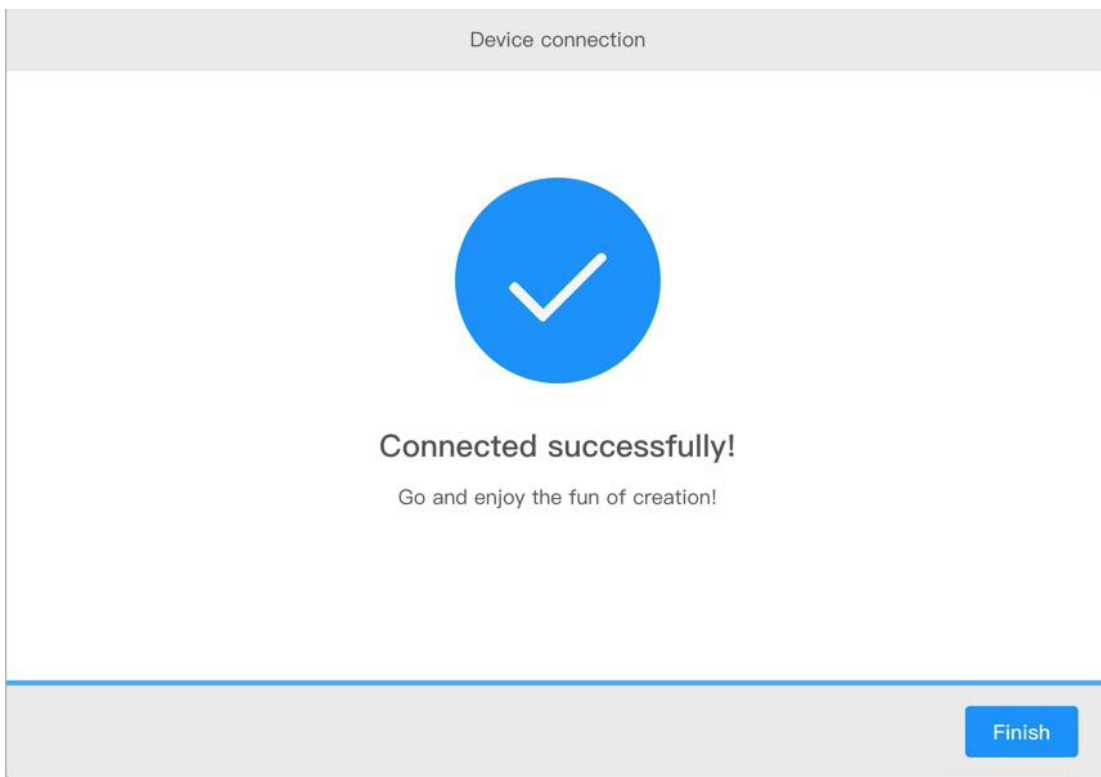
2. Open the software Laserbox, select choose your Laserbox model, then click **Next**.



3. Select **Ethernet**, then click **Next** to connect Laserbox to the computer.

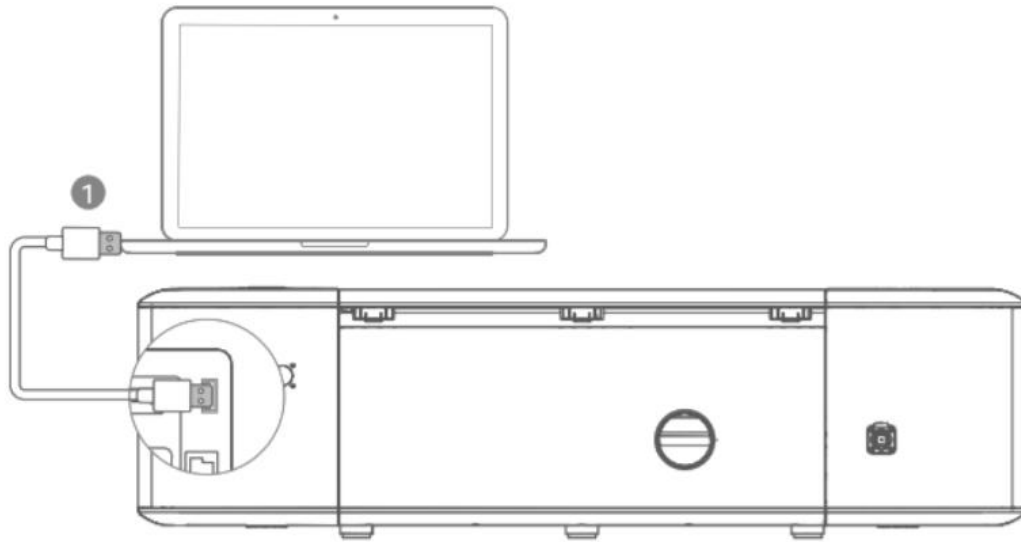


4. Connected successfully.

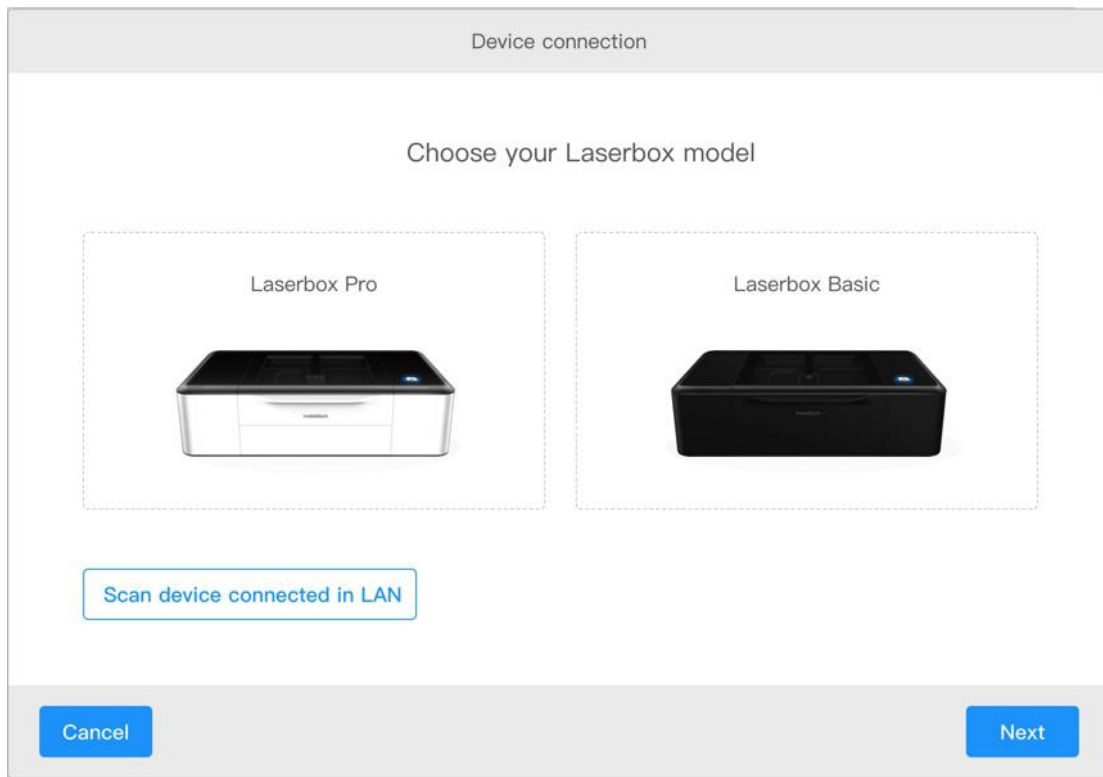


**Connect via Wi-Fi.**

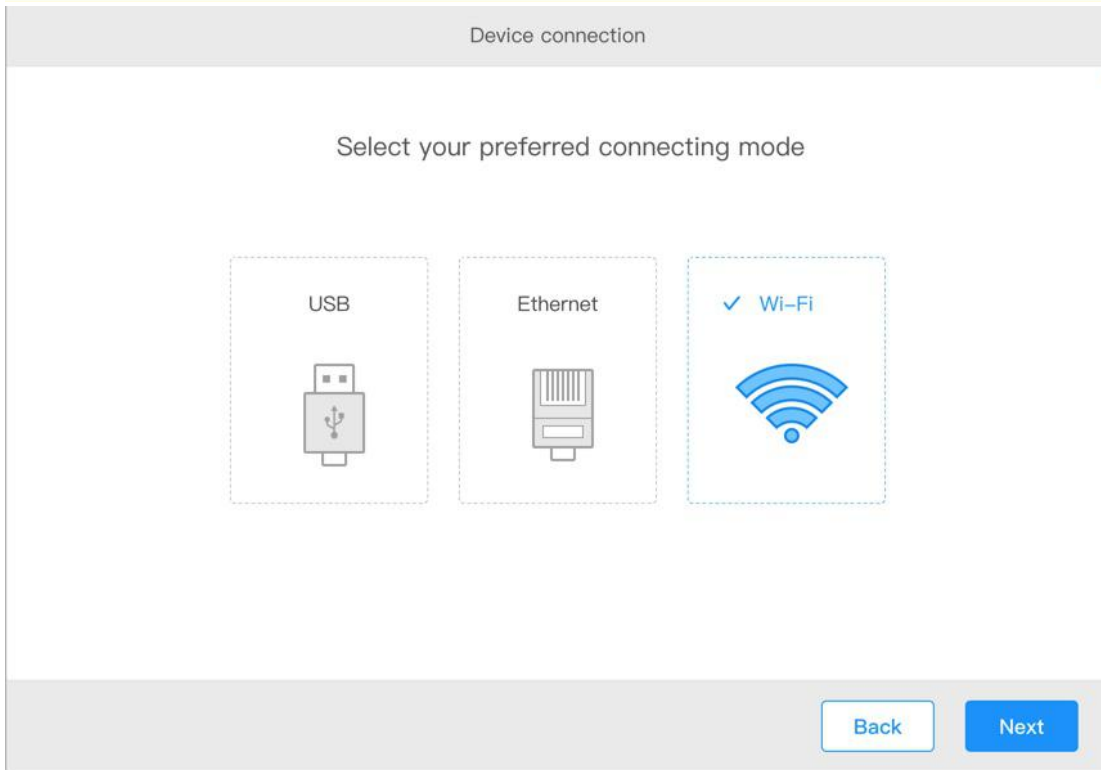
1. Use a USB cable to connect Laserbox to your computer.



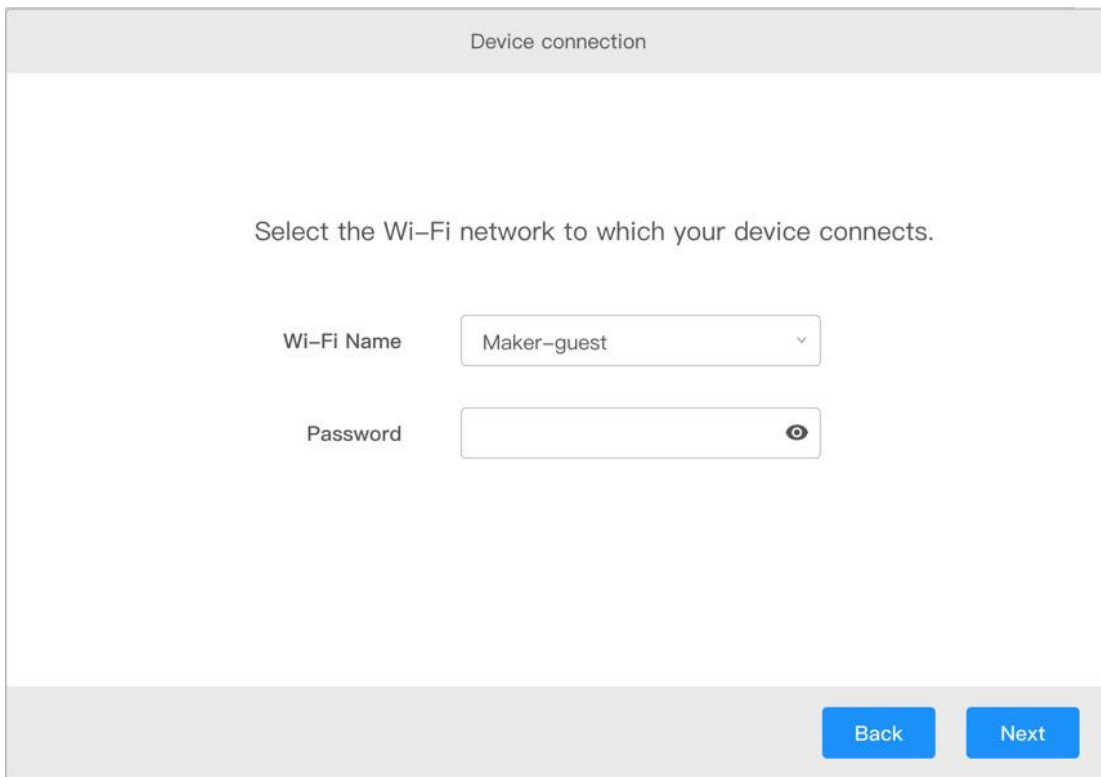
2. Open the software Laserbox, choose your Laserbox model, then click **Next**.



3. Select Wi-Fi, then click **Next** to connect Laserbox to the computer.



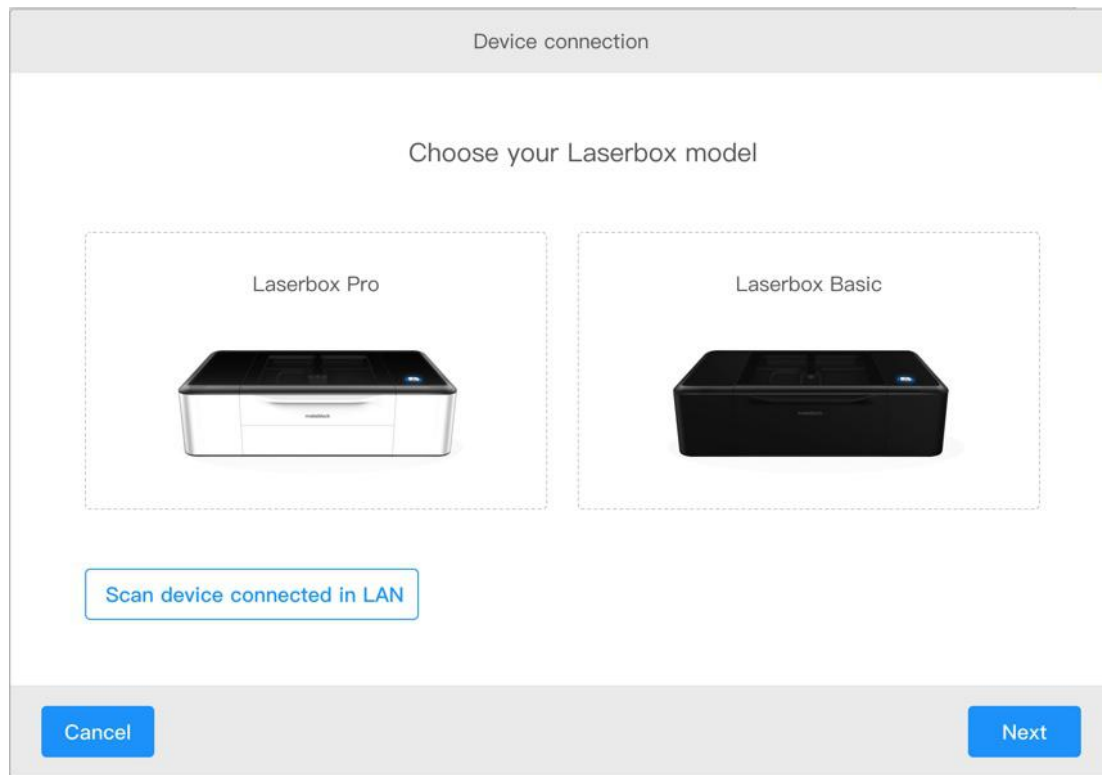
4. Connect to an available Wi-Fi network.



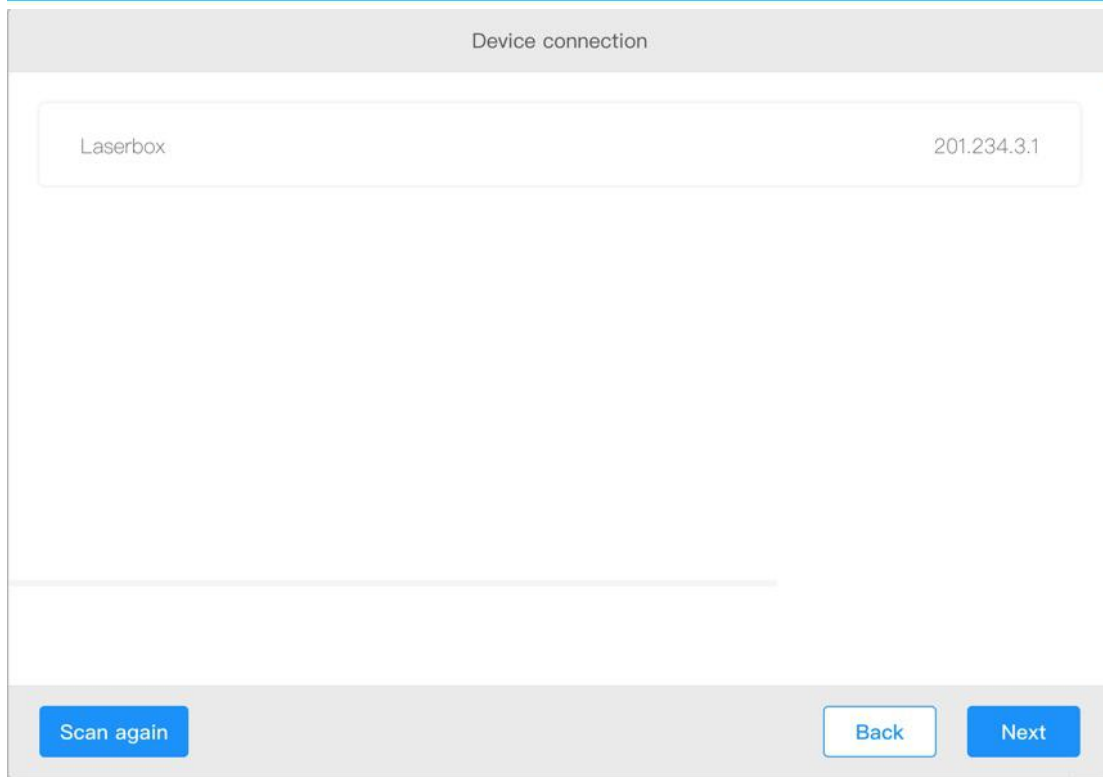
5. Remove the USB cable when successfully connected to a Wi-Fi network. When the computer and the laser cutter are on the same Wi-Fi network, you can wirelessly control the laser cutter using the software Laserbox.

### Connect to a networked Laserbox.

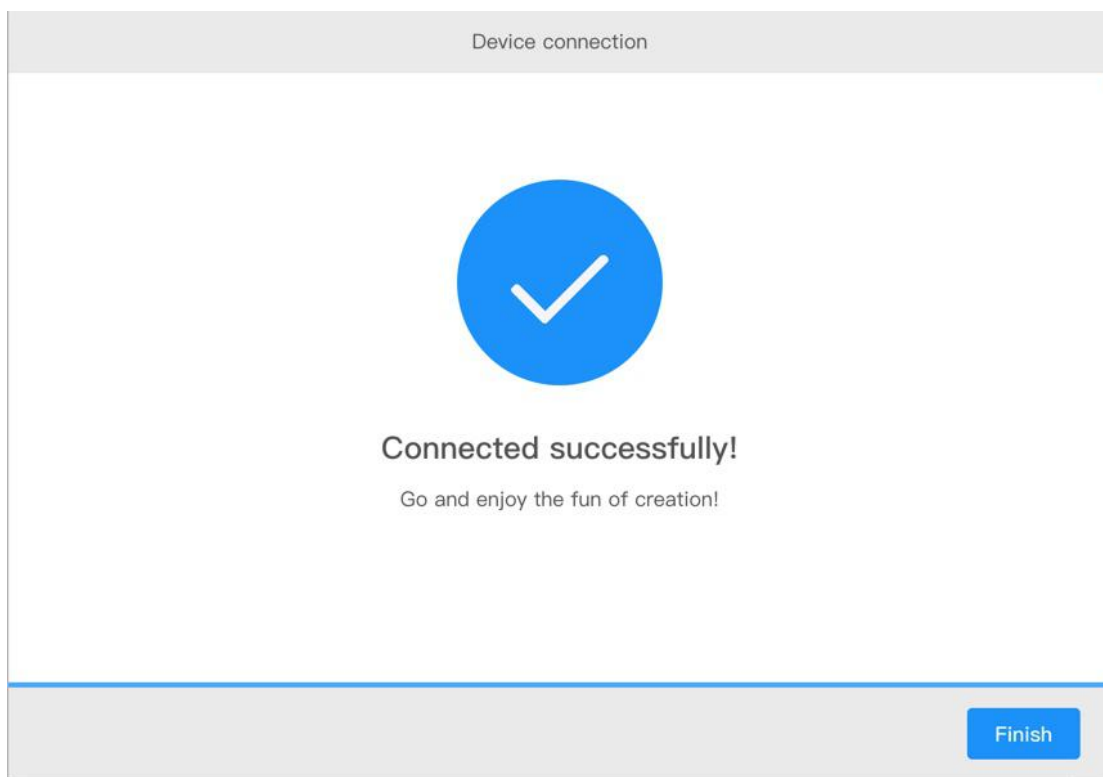
1. Ensure your computer and the laser cutter are on the same Wi-Fi network.
2. Open the software Laserbox, select **Scan device connected in LAN**.



3. Select the device you'd like to connect from the list. Click **Next**.



4. Connected successfully.



## Features



# Cut/Engrave

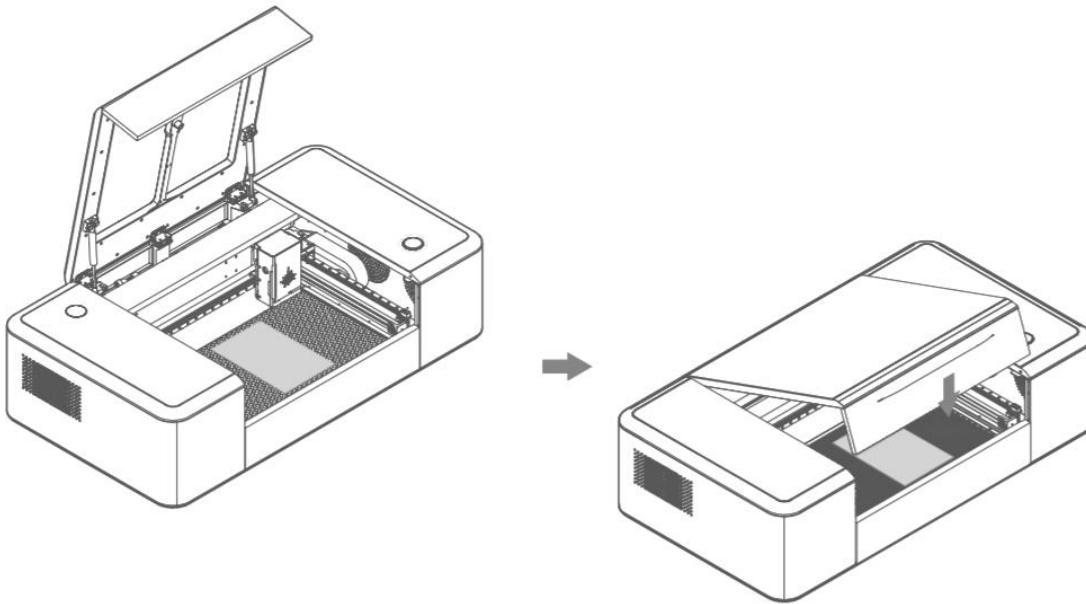
## What can it do?

Laserbox can engrave or cut every single layer in the canvas, and finish processing them in one task.

## How to use it?

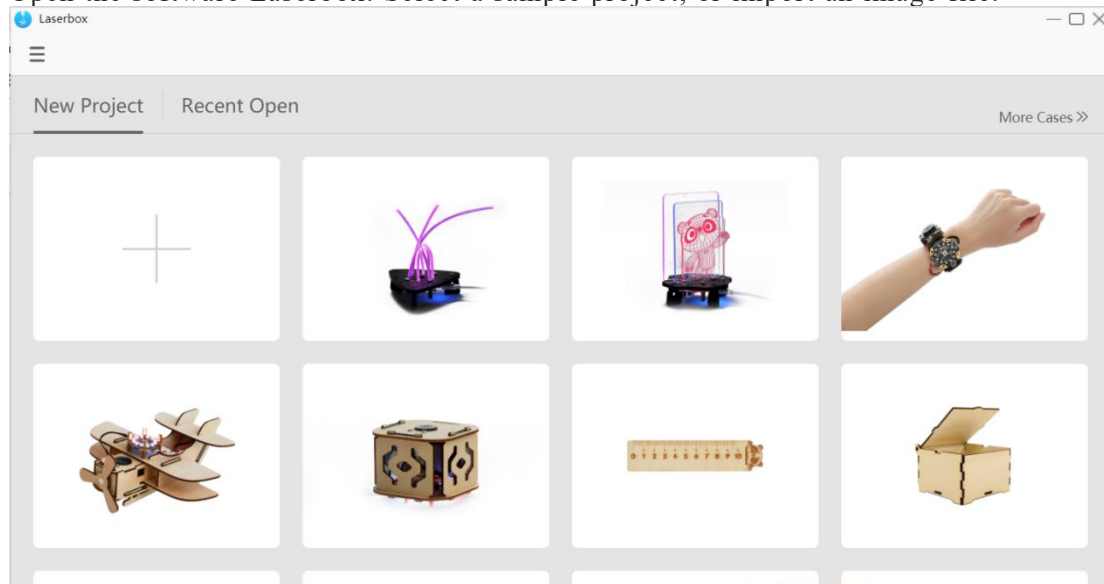
### 1. Place materials.

Open the lid. Place a Makeblock material in the working area. Ensure the ring code side faces up.



### 2. Import the file.

Open the software Laserbox. Select a sample project, or import an image file.

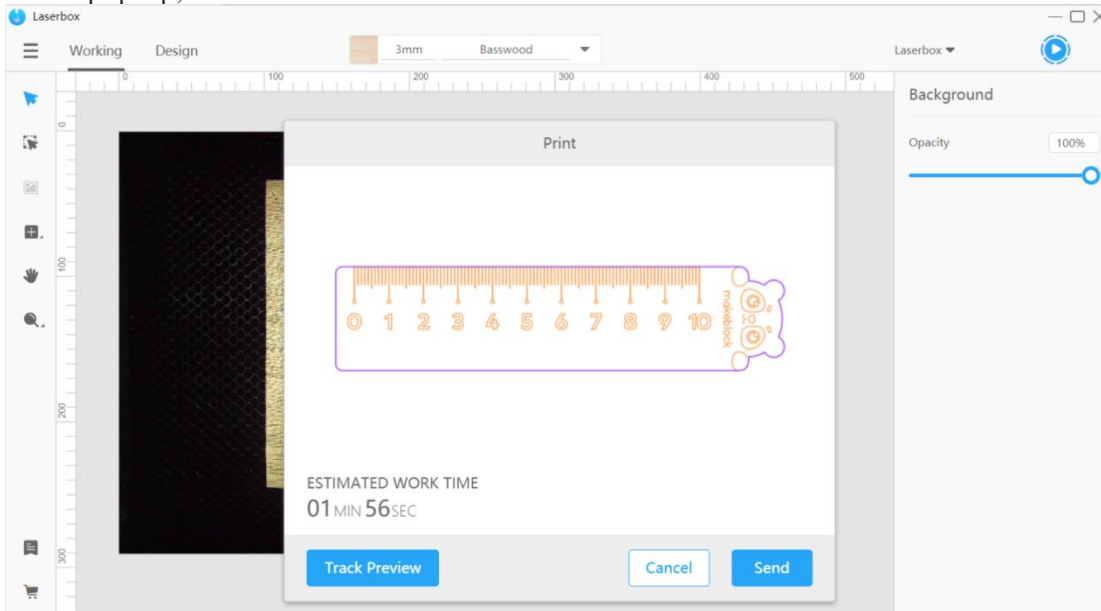


### 3. Click the start button.

Click the start button at the upper right corner.

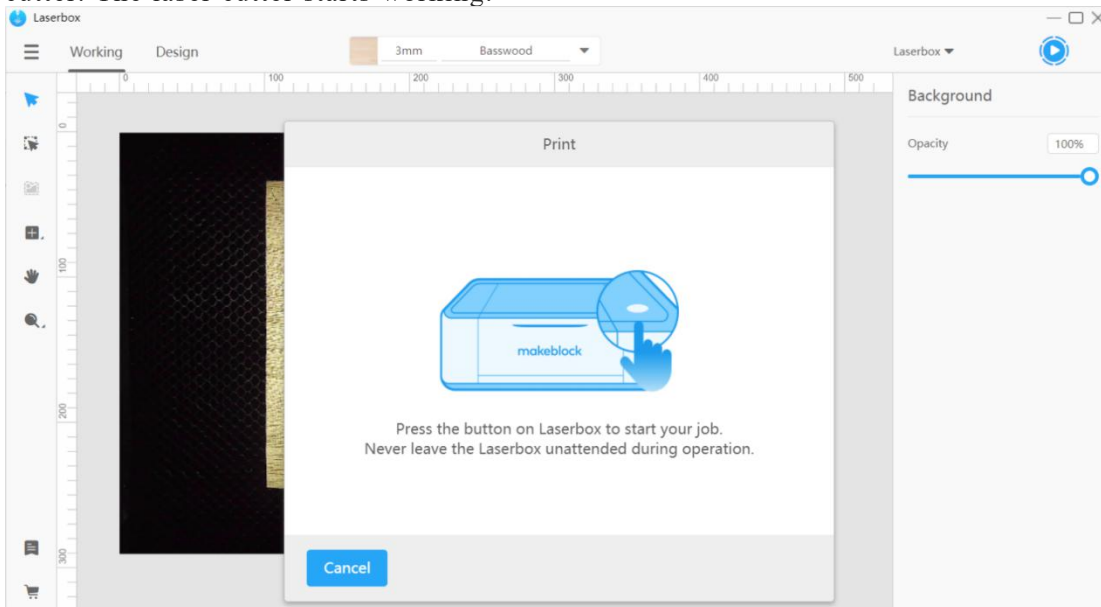
4. Click the send button.

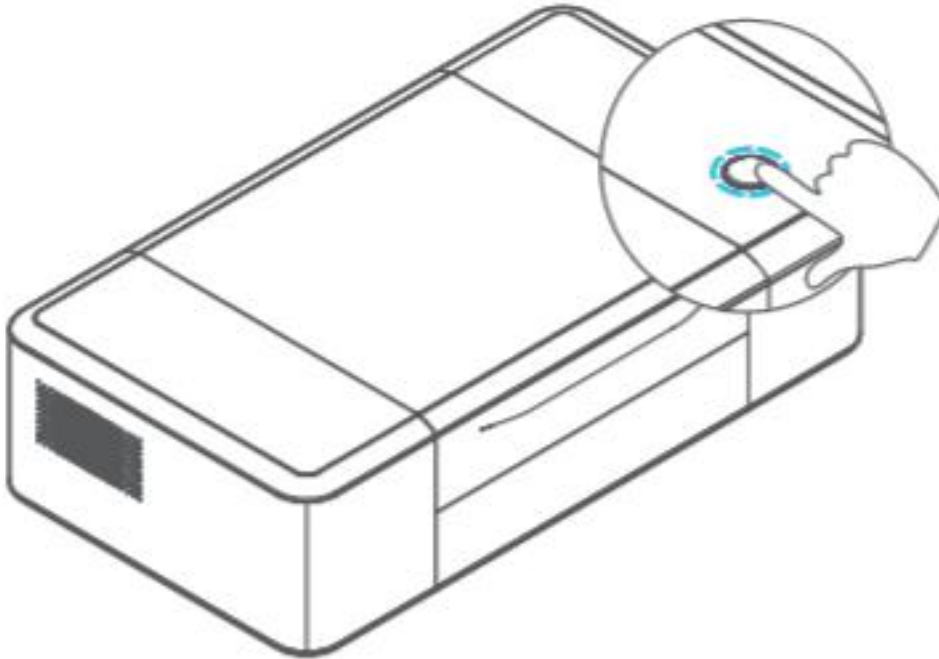
In the pop-up, click **Send** to send the file to the laser cutter.



5. Press the button.

After the file is sent to the laser cutter, follow the on-screen prompts to press the button on the laser cutter. The laser cutter starts working.





#### 6. Task finished.

When seeing a prompt or the annular indicator turn green, you know the task is complete. Then you can open the lid to take out the result.

## Identify materials

### What can it do?

Laserbox features a high-definition camera with an ultra-wide-angle lens. It automatically recognizes Makeblock materials based on ring codes, making necessary settings adjustments, including focus, speed and power, to ensure a best cut or engraving. No more manual focus or parameters setting. No more hassle over running tests on the chosen materials.

### NOTE

- DO NOT pile up several materials; otherwise, it may cause damage to the laser head.
- DO NOT stick ring codes to any of non-Makeblock materials. Laserbox relies on the ring codes to identify materials and make settings adjustments. These adjustments only apply to Makeblock materials so Laserbox could fail to give you what you expect if you're using a non-Makeblock material.

### How to use it?

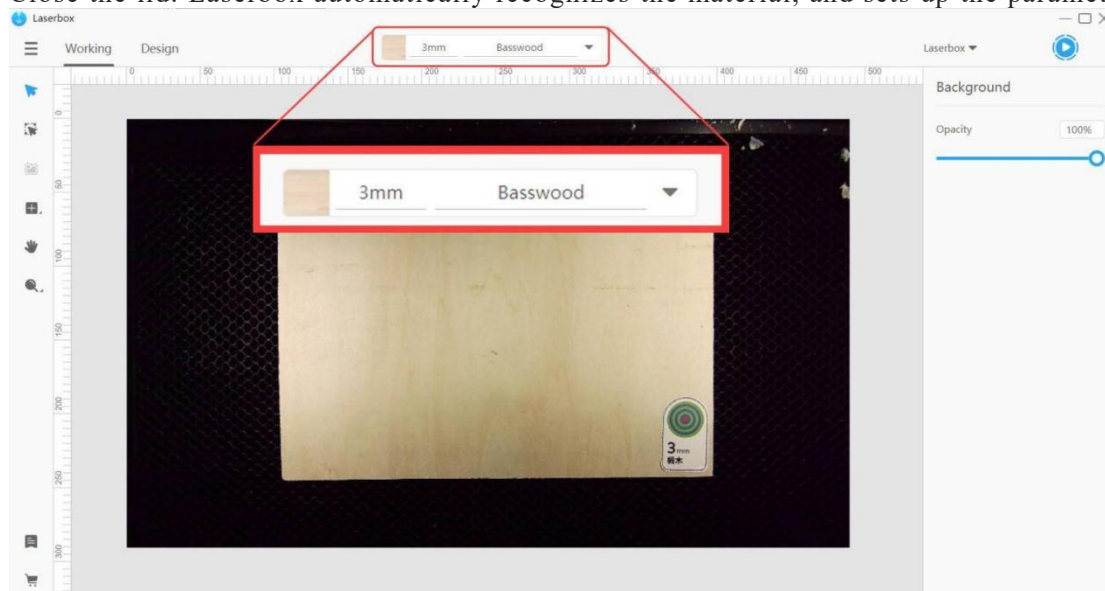
#### 1. Place materials.

Open the lid. Place a Makeblock material in the working area. Ensure the ring code side faces up.



## 2. Auto recognition

Close the lid. Laserbox automatically recognizes the material, and sets up the parameters accordingly.



## Auto measure

### What can it do?

Laserbox features a high-definition camera with an ultra-wide-angle lens enabling it to automatically measure the thickness of the material. Based on the measurements, Laserbox automatically adjusts the focus before it starts laser cutting or engraving. No manual measurement or manual focus is required. You can save much trouble.

### NOTE

- DO NOT place materials that are over the maximum thickness. Laserbox could process up to 22mm thickness, or up to 52mm thickness if the honeycomb panel is removed. Exceeding the limit could lead to a failed focus setting and even damage the laser cutter.
- Please go to our website to check the supported materials. But we can't recommend parameters settings for non-Makeblock materials, and can't promise you superior cutting/engraving experience if you're using non-Makeblock materials. Our official website: <https://www.makeblock.com/maker-tools/laserbox/>

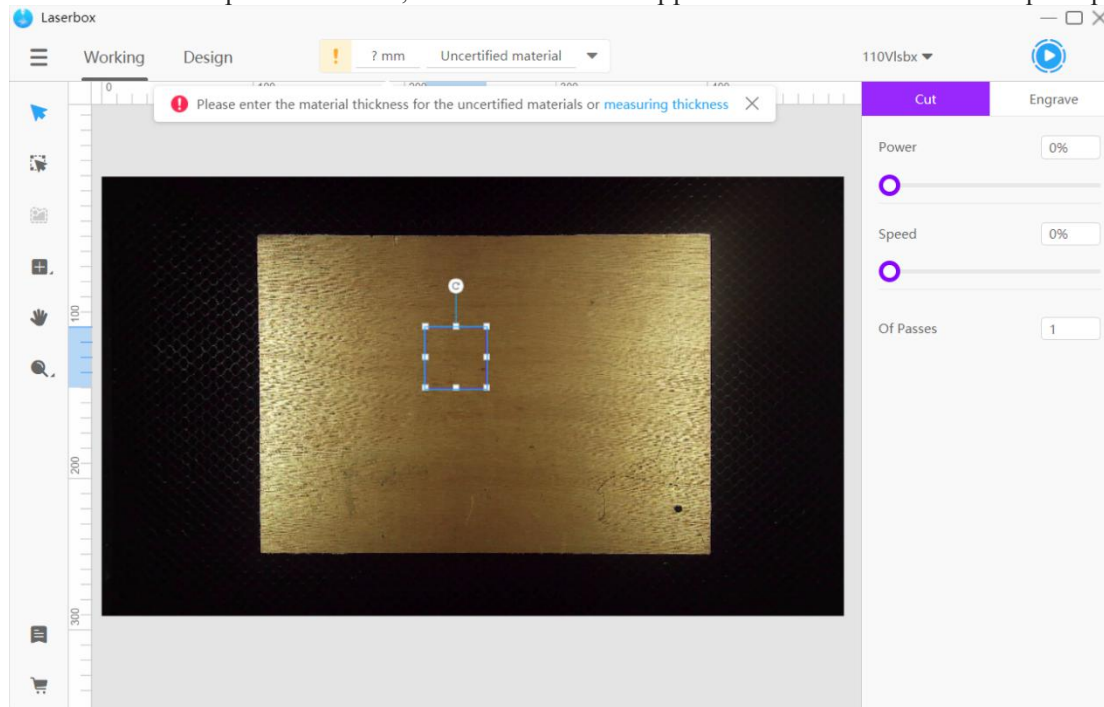
**How to use it?**

**1. Place materials.**

Open the lid. Place the material in the working area.

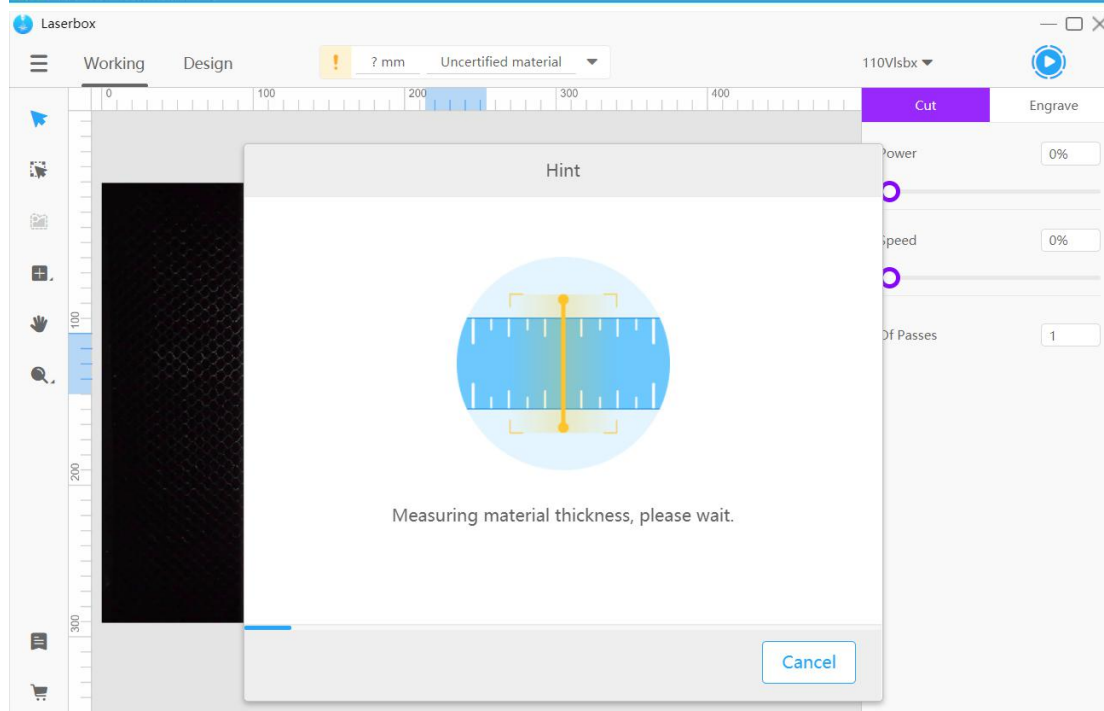
**2. Determine the location to measure.**

Import an image or insert a shape in the software. Drag the image or shape to the location where you'd like Laserbox to process. Then, above the canvas appears an auto measurement prompt.



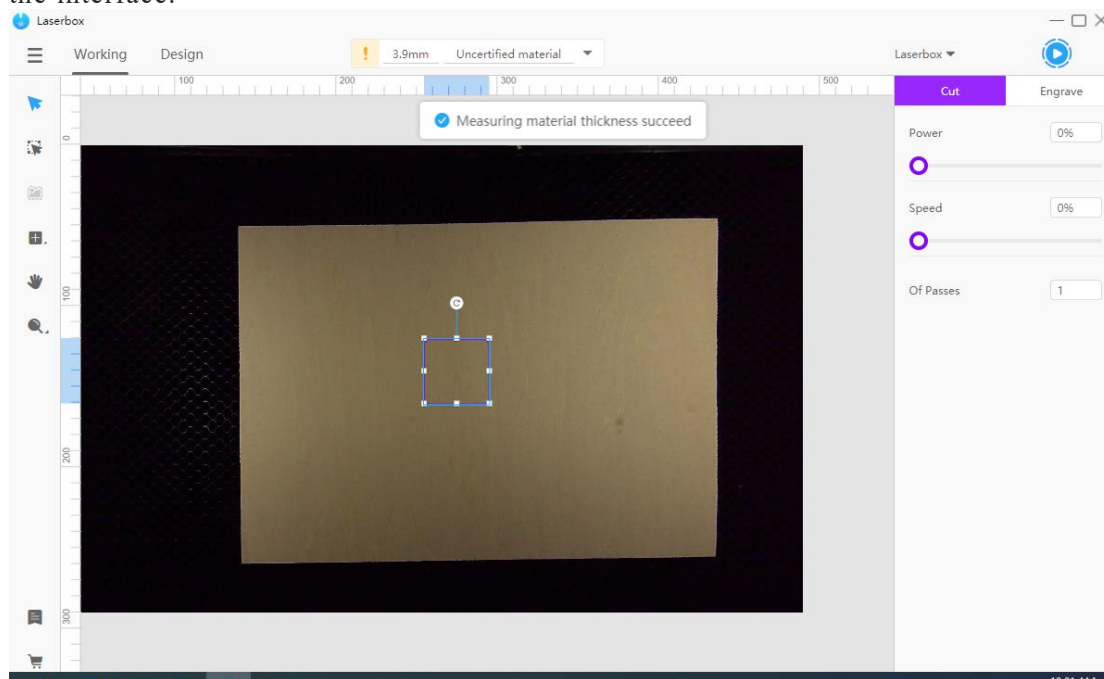
**3. Start measuring.**

Click **Measuring thickness** in the prompt. The laser head will start measuring the thickness of the location where the image or shape is processed.



**4. Finish measuring.**

A prompt pops up after measurement is complete, and the measurement result is displayed at the top of the interface.



**Extract images**

**What can it do?**

Laserbox features a high-definition camera with an ultra-wide-angle lens. It uses an image-processing algorithm which lets you extract images with a click away. You can directly use the image extracted from the surface of an item to create your own project. It could improve the efficiency a lot.

**How to use it?**

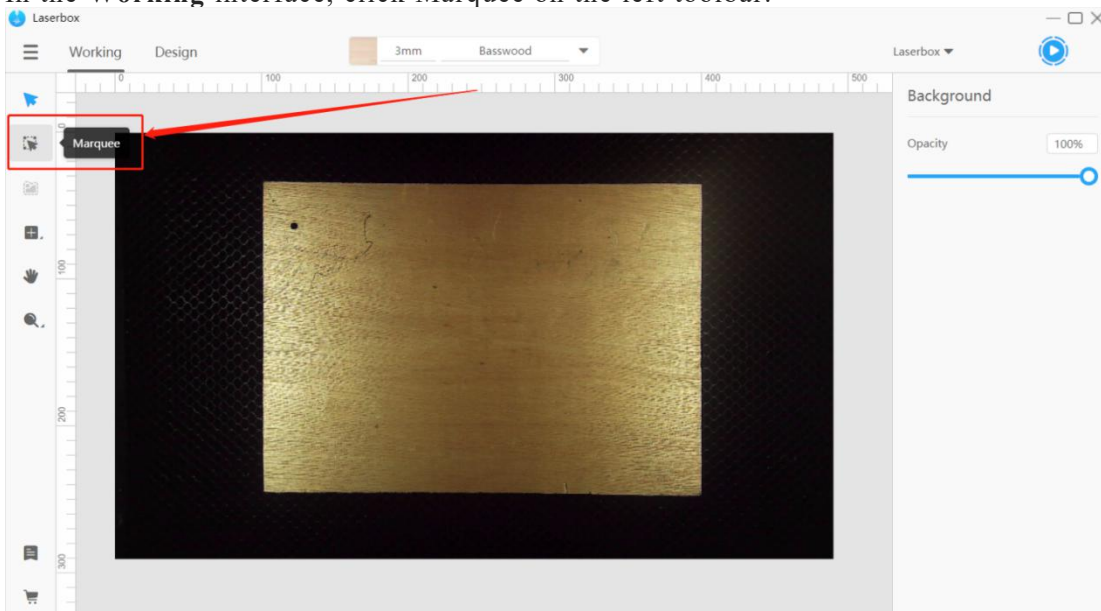
**1. Place an item.**

Open the lid. Put the item you'd like to extract in the working area.



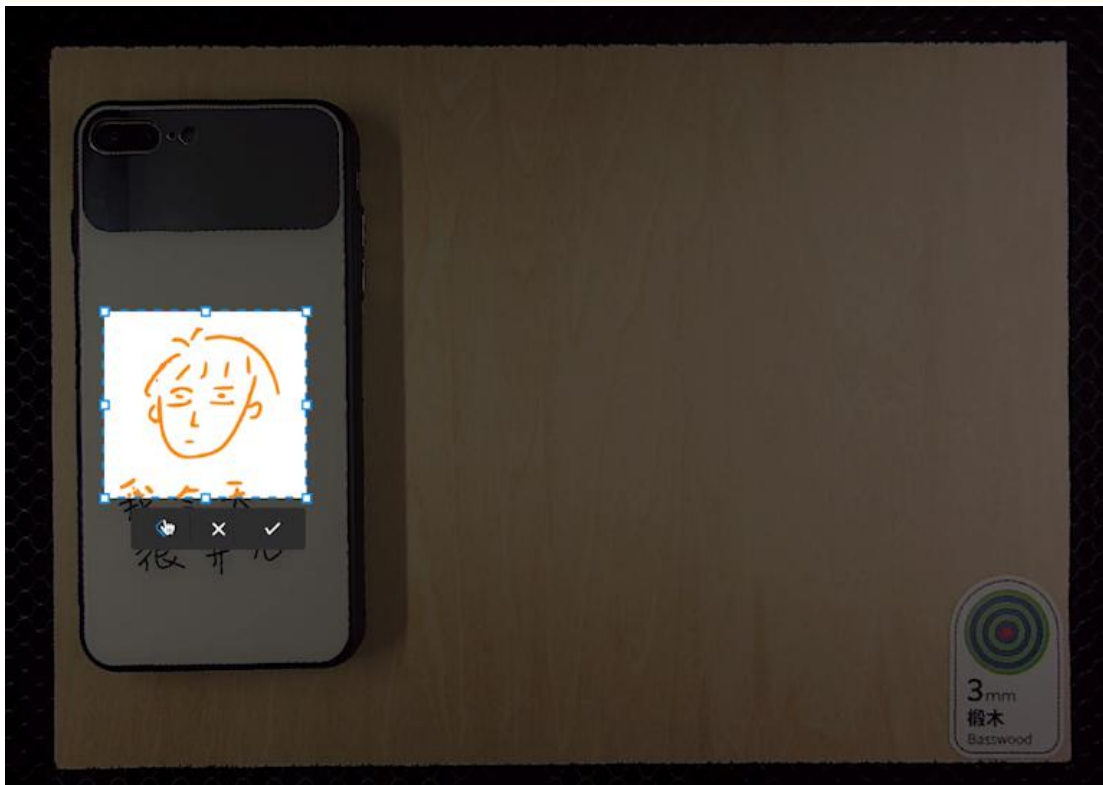
**2. Click Marquee.**

In the **Working** interface, click Marquee on the left toolbar.



**3. Frame the image.**

Drag your mouse to frame the image you'd like to extract. Use the eraser tool to remove what you don't need in the frame.



4. Finish

Click ✓ to confirm.





## Extract outlines

### What can it do?

The software Laserbox is able to quickly extract an image by its outline for later cutting or engraving, ensuring much more superior results.

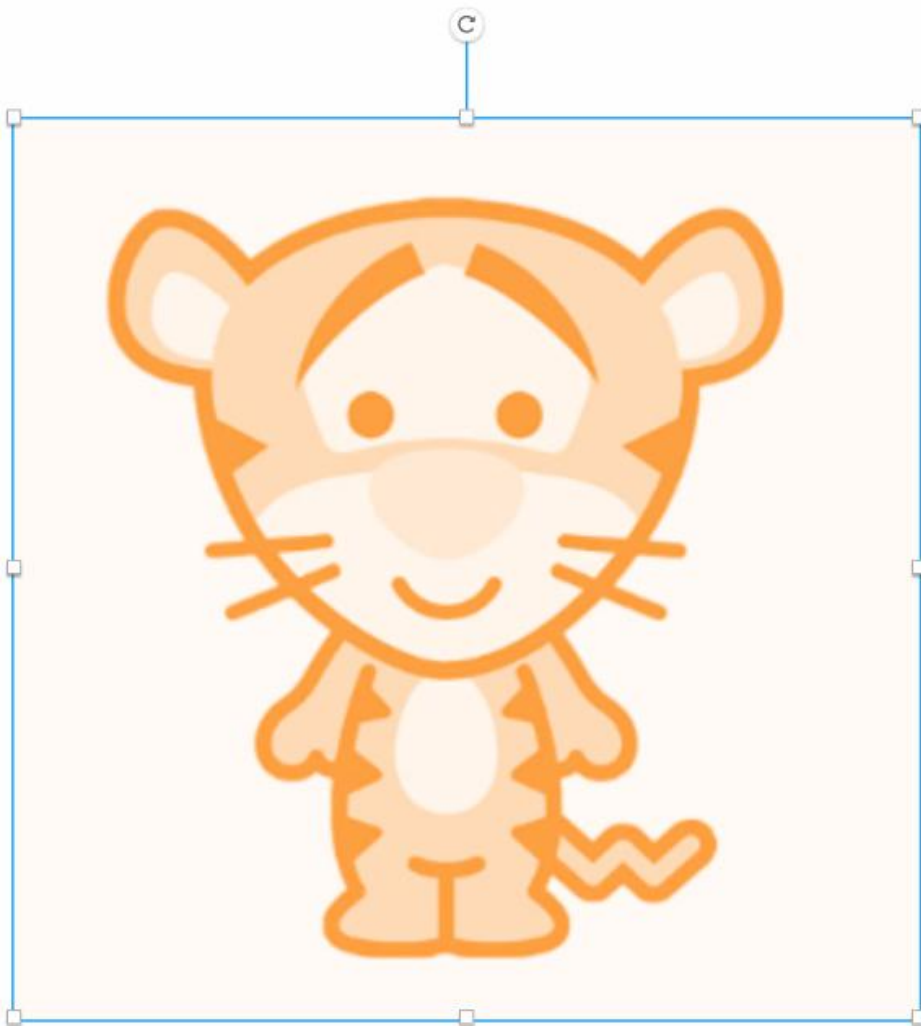
### NOTE

- Select images with enclosed outlines. Images made of broken lines may lead to failure in outline extraction.
- Select images made with a pure-colored background. Adding images made of complex textures could lead to failure in outline extraction.

### How to use it?

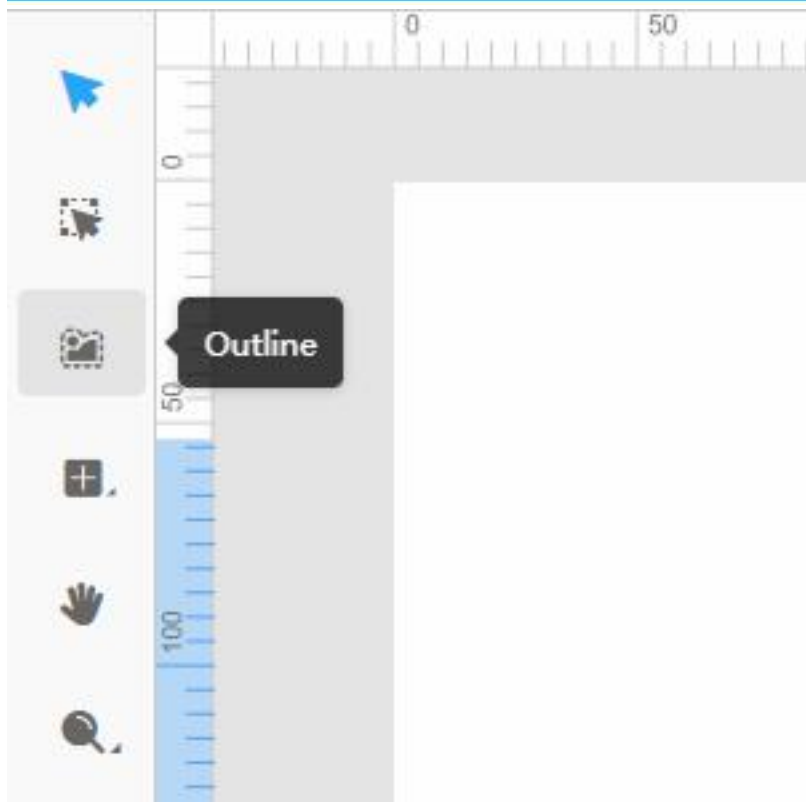
1. **Import an image.**

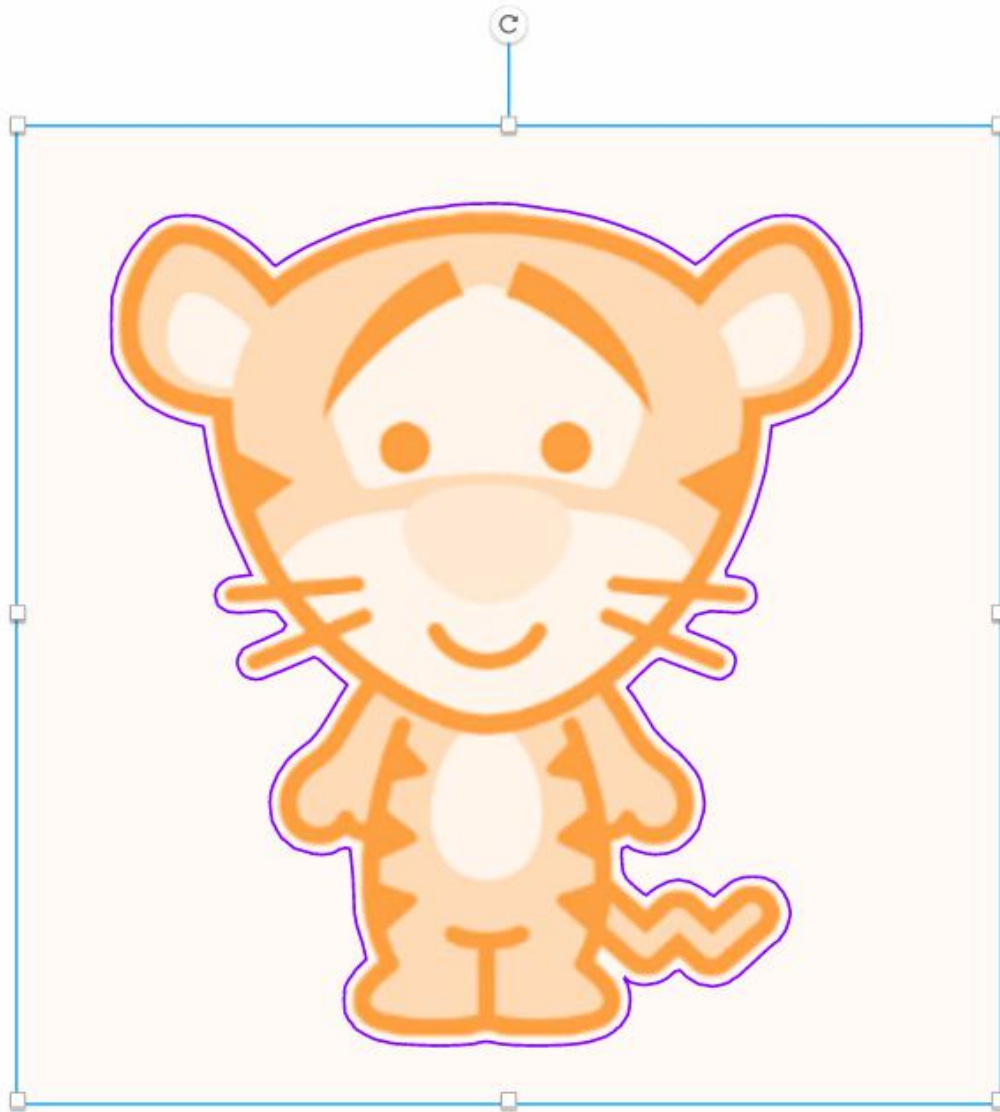
Import an image made of enclosed outlines and pure color..



2. Click **Outline**.

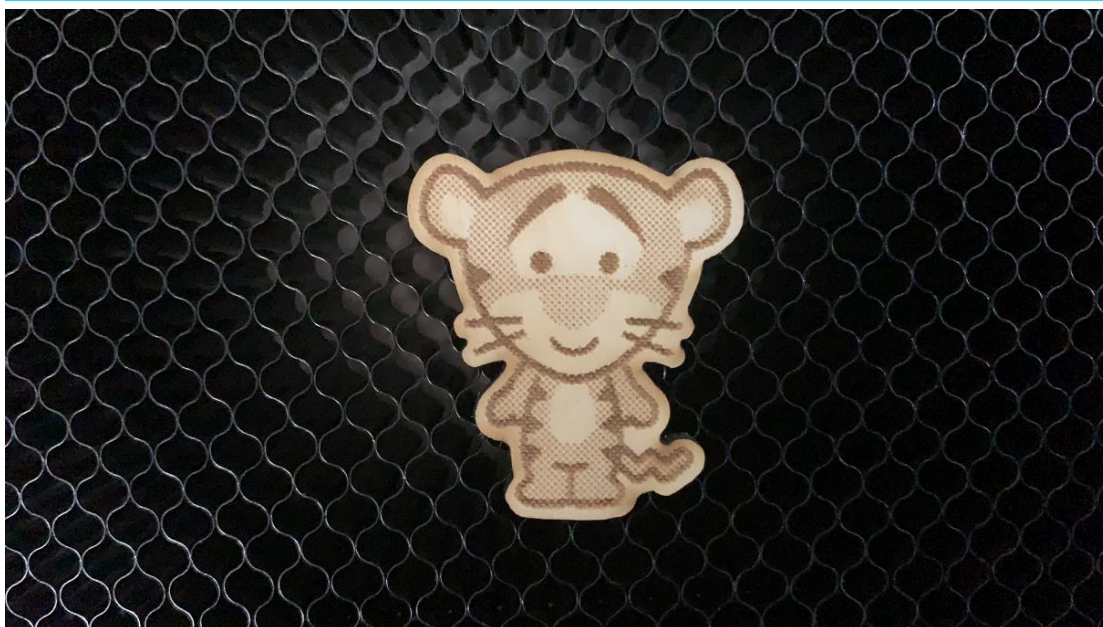
Select the image you'd like to extract. On the left toolbar, click **Outline**. Wait for a while, then the image is automatically extracted by its outline.





### 3. Start processing.

Click on the start button on the upper right corner to send the image to the laser cutter. Press the start button on the laser cutter, letting Laserbox engrave the image and cut it out.



## Bring sketch to life

### What can it do?

Laserbox can identify images drawn on Makeblock materials and A4 copy paper. Based on its identification results, Laserbox can cut/engrave those images.

By default, Laserbox engraves lines drawn in black, and cut lines drawn in red.

Go to Settings, and select the Cut outline option. Then, the laser cutter will start engraving the outlines drawn in black.

### NOTE

- Use Makeblock materials. Reflective materials or materials too dark will make it much harder for Laserbox to identify images.
- Use Makeblock-recommended markers. Images printed out or too thin (<2mm) will make it much harder for Laserbox to identify. Deli s550 marker pens are recommended.
- Avoid drawing small images. Images smaller than a size of 4mm\*4mm could be regarded as distractions and thus be deleted.
- Draw images at the center of materials. Images close to the edges may lead to the failure of Laserbox to accurately position the material scope. Images near the ring code could be regarded as distractions and deleted.
- Keep black lines at a distance with red lines when drawing an image. Make sure the distance is more than 2mm.

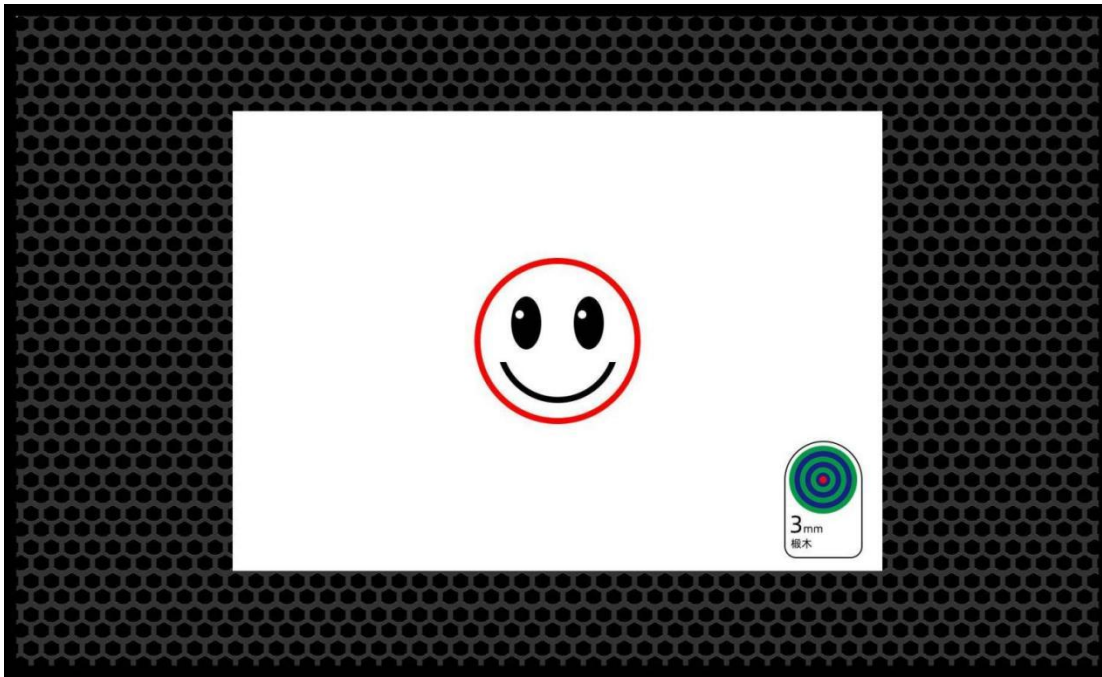
### How to use it?

1. **Draw images.**

On a Makeblock material or a piece of white A4 paper, use a black or red marker to draw images.

2. **Put it into Laserbox.**

Open the lid. Put the material horizontally at the center of the working area.



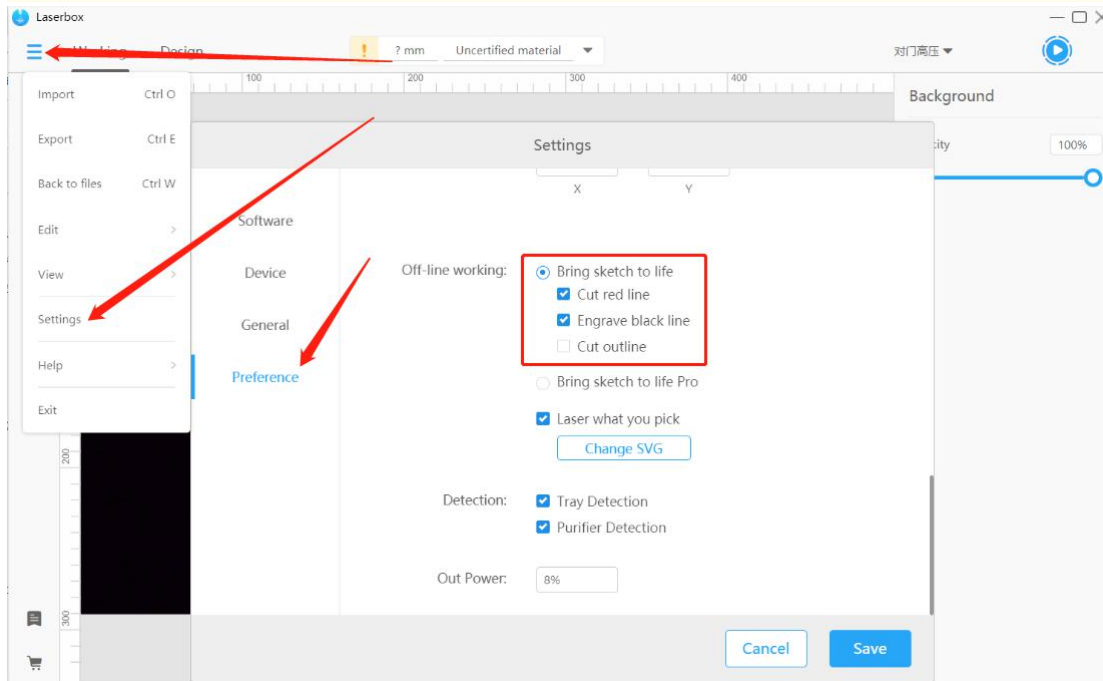
### 3. Start processing.

Close the lid. Press the button on the laser cutter to let it automatically identify the image and start processing it.



### Settings

In the software, you can go to **Settings** to define processing methods for Bring Sketch to Life. Go to **Menu >Settings >Preference**, then make sure you select the Bring sketch to life feature. You can select the options below to define how images are processed.



## Bring sketch to life Pro

### What can it do?

Laserbox can automatically identify images drawn on white A4 paper, and cut/engrave them. The first image will be cut or engraved on the upper left corner of Makeblock materials. The materials can be repeatedly processed using the remaining areas. Laserbox can identify which areas of the Makeblock materials have been processed and quickly decide where to process the next image.

By default, Laserbox engraves black lines and cut red lines.

In **Settings**, you can check the **Cut outline** option if you'd like Laserbox to cut black outlines.

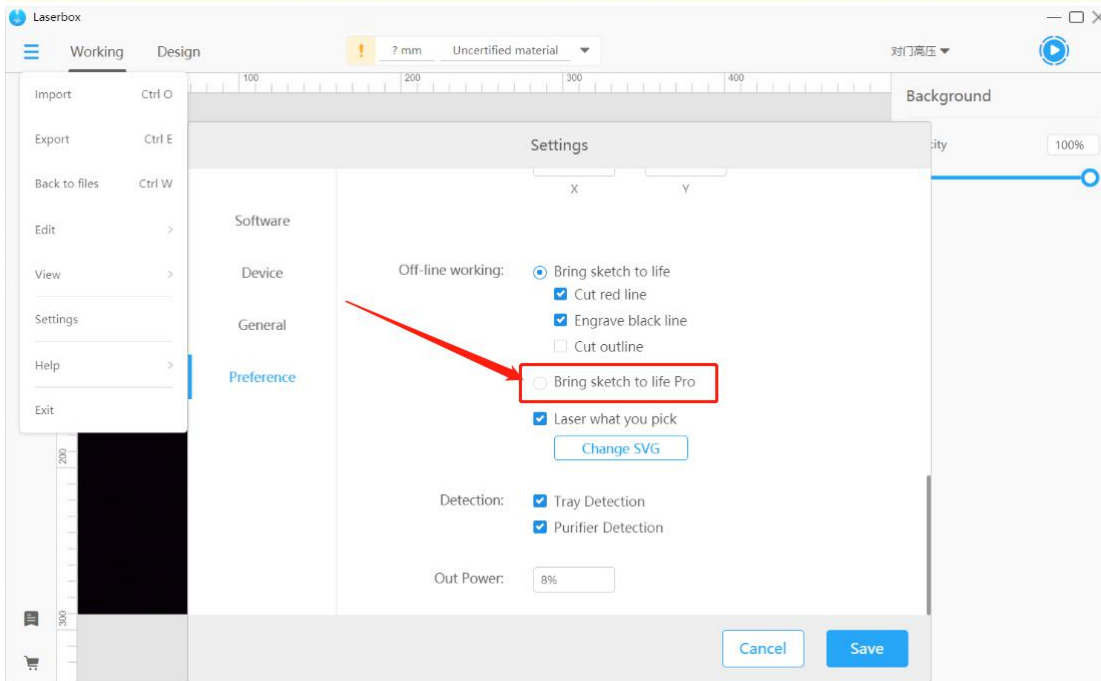
### NOTE

- Use Makeblock-recommended materials. Reflective materials or materials too dark will make it much harder for Laserbox to identify images.
- Use Makeblock-recommended markers. Images printed out or too thin(<2mm) will make it much harder for Laserbox to identify. Deli s550 marker pens are recommended.
- Avoid drawing images that are too small. Images smaller than a size of 4mm\*4mm could be regarded as distractions and thus be deleted.
- Keep black lines at a distance with red lines when drawing an image. Make sure the distance is more than 2mm.
- Remove the finished engravings once they're done. Remove the finished engravings so that Laserbox can quickly identify which areas are already processed, avoiding repetitive processing.

### How to use it?

1. **Switch to bring sketch to life Pro .**

Connect Laserbox to your computer. Go **Menu > Settings > Preference**, then select the Bring sketch to life Pro option.

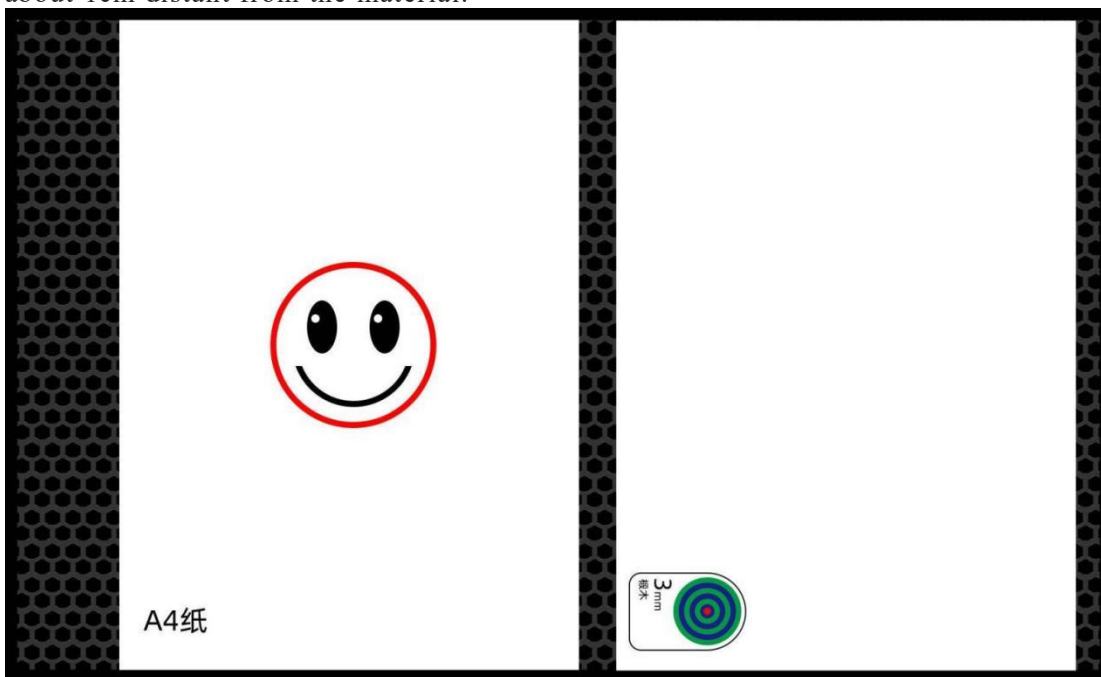


**2. Draw an image.**

Prepare a piece of white A4 paper. Use red or black markers to draw images.

**3. Put it into Laserbox.**

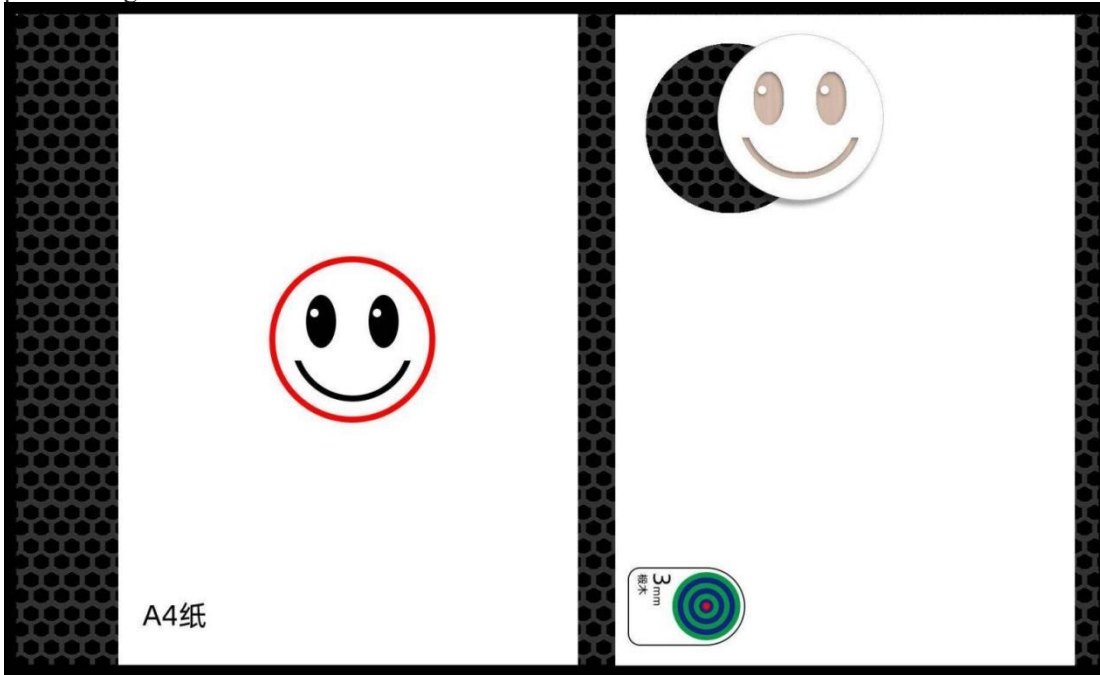
Open the lid. Put the A4 paper and Makeblock material vertically in the working area as shown. A4 paper on the left, Makeblock material on the right. Please note that the upper edges of the paper and material should align with the upper edge of the honeycomb panel. And make sure the A4 paper is about 1cm distant from the material.



**4. Start processing.**

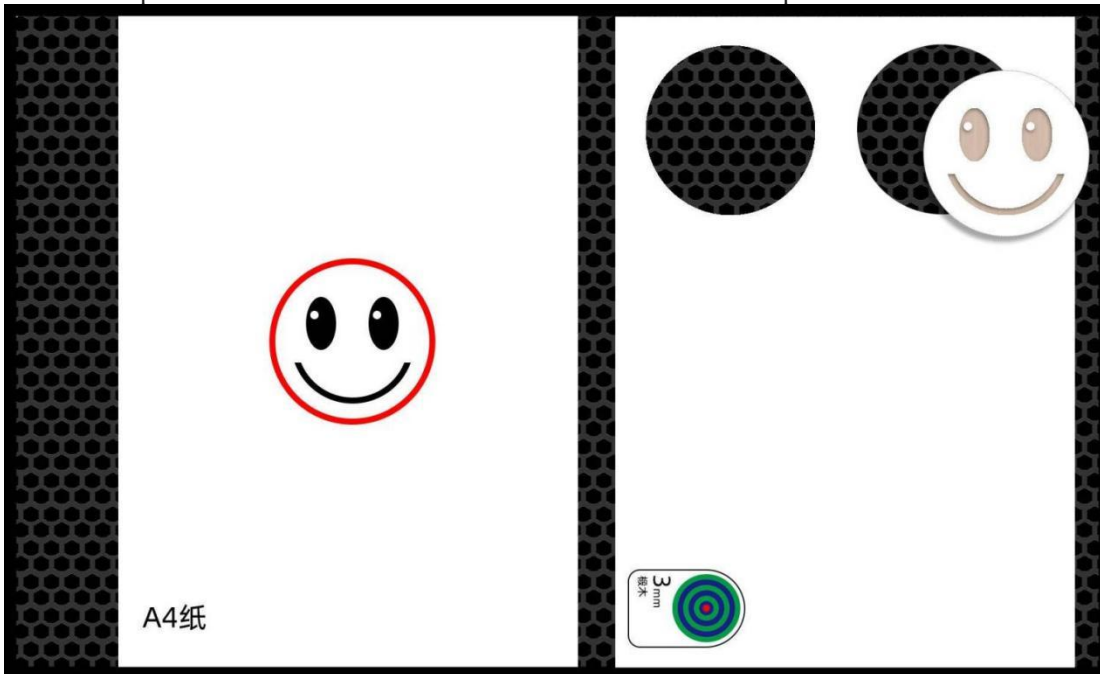


Close the lid. Press the button on the laser cutter to let it automatically identify the image and start processing it.



#### 5. Reuse the material.

Laserbox can automatically identify which areas are already processed, and decide where to process next. So a piece of Makeblock materials is reusable for multiple times.



## Laser what you pick

What can it do?

Laserbox automatically identifies the images printed on the paper, engraves the selected image on wood board, and cuts it out. You can also leave your signature or custom images on the printed sheet, having them engraved in the result as well.

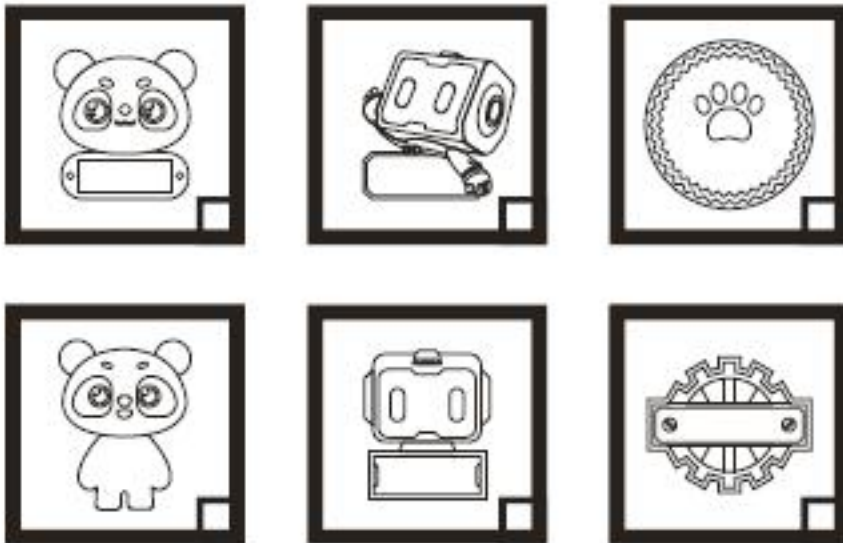
### How to use it?

1. **Print out the sheet.**

Print out the sheet on a piece of A4 paper.

Download the sheet at: <https://www.makeblock.com/support/ps-laserbox>

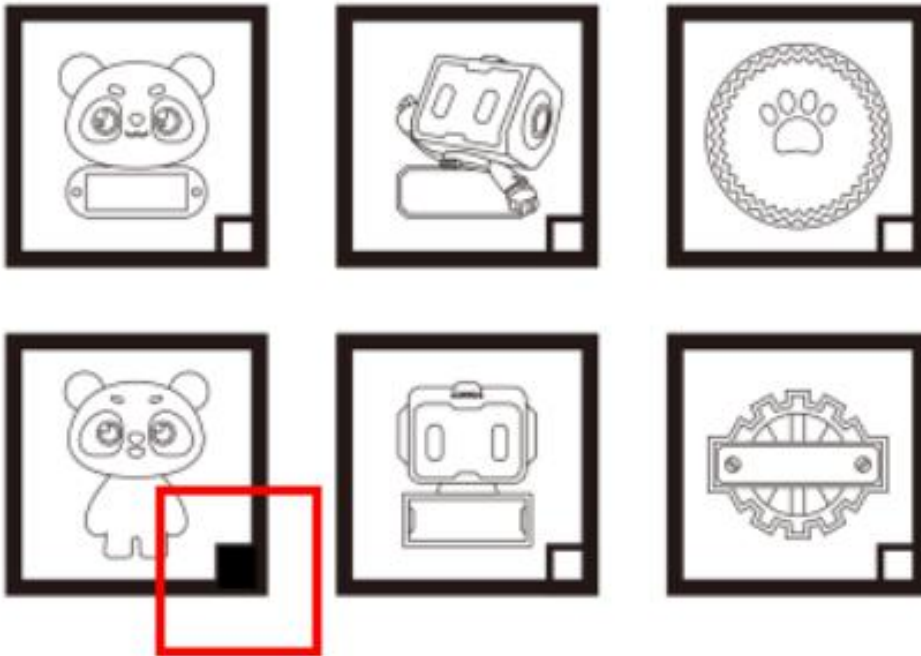
# makeblock laserbox



## 2. Select an image.

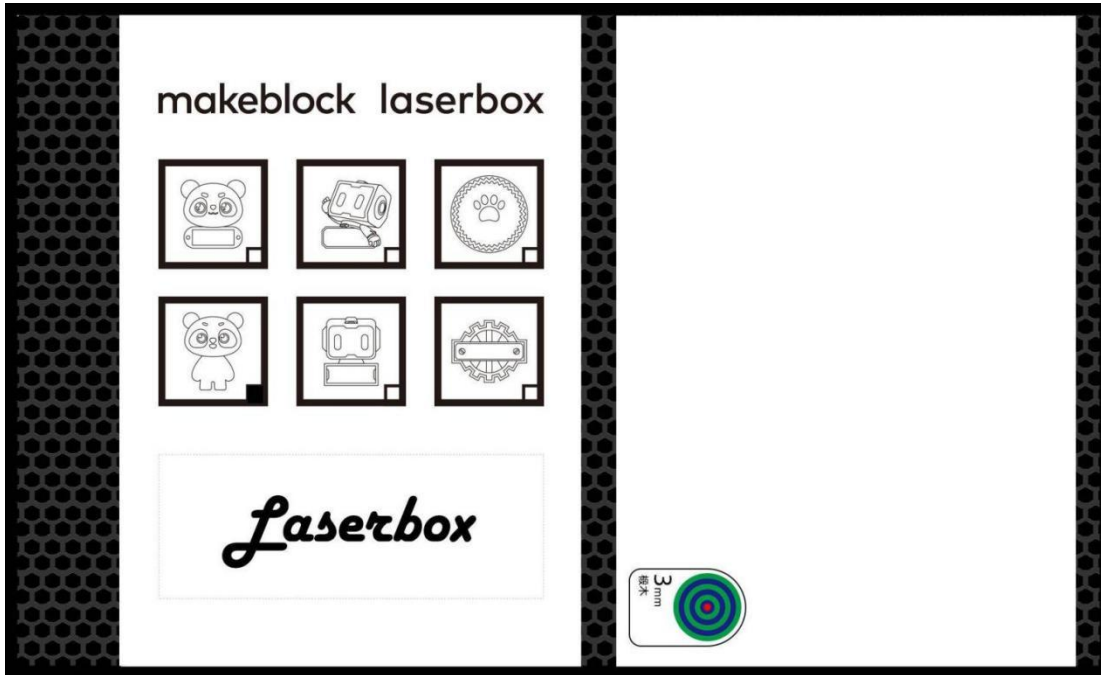
Select an image you like. Use a black marker to fill the box at the bottom right corner of the image. Draw images or leave a signature in the dashed box below. Laserbox will engrave your drawings/signature into the image you just select.

# makeblock laserbox



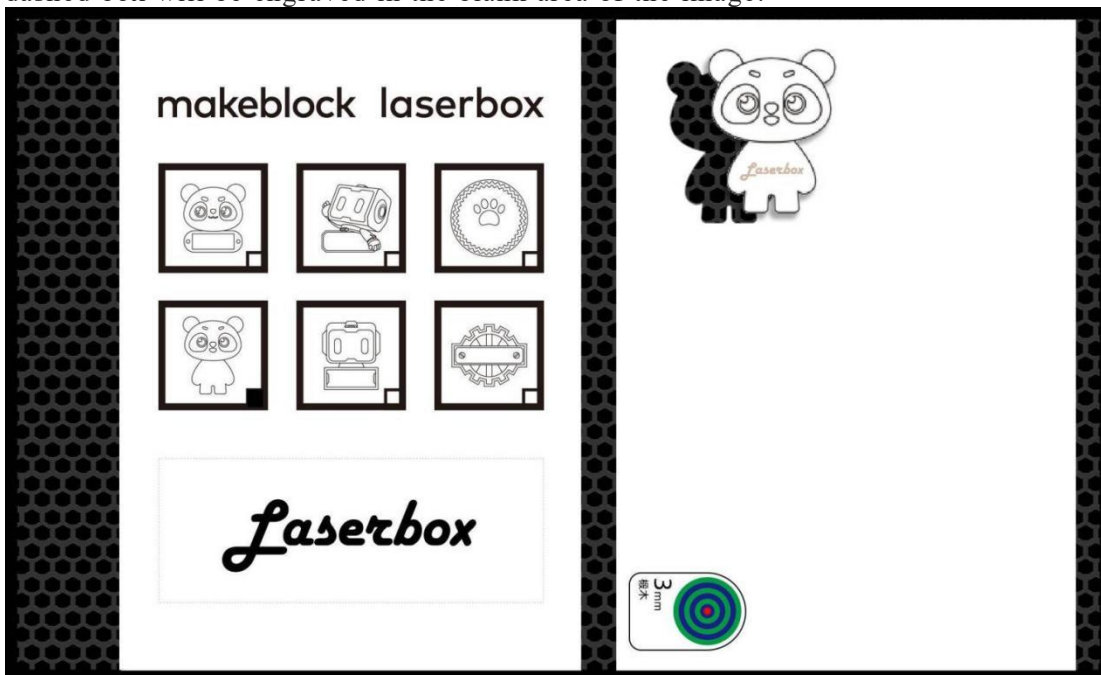
## 3. Put it into Laserbox.

Open the lid. Put the A4 paper and 3mm basswood vertically as shown in the working area. A4 paper on the left, 3mm basswood on the right. Please note that the upper edges of A4 paper and 3mm basswood should align with the upper edge of the honeycomb panel. And make sure the A4 paper is about 1cm distant from the basswood.



**4. Start processing.**

Close the lid. Press the button on the laser cutter to let it automatically identify images and start processing. The image you select will be engraved on the material and cut out. The content in the dashed box will be engraved in the blank area of the image.



**5. Reuse the material.**

Laserbox can automatically identify which areas are already processed, and decide where to process next. So a piece of 3mm basswood is reusable for multiple times.