

Laserbox D1

User Manual

Statement

Thank you for choosing the xTool products!



If you use the product for the first time, read carefully all the accompanying materials of the product to improve your experience with it. If you do not use the product according to the instructions and requirements of the Manual, or mis-operate the product due to misunderstanding, etc., Makeblock Co., Ltd. shall bear no responsibility for any loss resulting therefrom, except for losses caused due to improper installation or operation by Makeblock professional maintenance personnel.

Makeblock Co., Ltd. has collated the contents of the Manual rigorously and carefully, but errors or omissions may remain.

Makeblock Co., Ltd. is committed to continuously improving product functions and service quality, and therefore reserves the right to change any product or software described in the Manual and the contents of the Manual at any time without prior notice.

The Manual is intended to help you use the product properly and does not include any description of hardware and software configuration. For product configuration, refer to the related contract (if any) and packing list, or consult your distributor. Images in the Manual are for reference only and the actual product may vary.

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	Warning Physical injuries or damage to the machine may be caused if you do not follow the instructions or principles.
	Warning Physical injuries or damage to the machine may be caused by laser light if you do not follow the instructions or principles.

FCC STATEMENT:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Safety first (important)

1. General safety

Read and get familiar with all safety precautions and procedures before using the machine. Strictly follow all safety precautions and ensure that the machine is properly assembled and is working properly.



Follow the operating principles:

- Check the machine for damage every time before you use it. Do not operate it in any way when any damage or defect is found.
- Ensure that the workspace is clean and flat. Note that the laser tube is made of glass and is very fragile. If it is broken, the machine fails to work.
- Do not disassemble the machine or change its structure in any way without authorization. Do not modify or decompile its operating system.
- Keep the operating area of the machine clean. Residues and chippings accumulated during cutting and engraving are dangerous and may cause fire. Clean the machine regularly.
- The machine works properly at the temperature of 0°C to 35°C and can be stored properly at the temperature of 0°C to 45°C. Do not operate it at a temperature lower than 0°C.

2. Laser safety

Laserbox D1 has no protective cover. Do not touch the laser when operating the machine.



Follow the safety precautions:

- Do not operate the machine when any part of it is removed. Removing any part may cause damage to the machine.
- Do not engrave or cut any material that contains PVC or vinyl (plastic materials are not recommended). These materials (and other materials containing chlorine/chloride) may generate corrosive vapor that is extremely harmful to the human body and may cause damage to the machine. Any damage caused by engraving or cutting any material containing PVC or vinyl is not covered by Makeblock's warranty.
- Do not engrave or cut any unknown materials. Vaporization/melting of many materials, which include but are not limited to PVC and polycarbonate, may release harmful smoke.

3. Fire safety

When the machine cuts or engraves a material, a high-density laser beam is used to irradiate the material, heating up the surface of the material to vaporize it without burning. But most materials are inherently flammable and may be ignited to form an open flame that may burn down the machine (even if it is made of flame-retardant materials) and its surroundings. From our experience, using laser to perform vector cutting (on acrylic, in particular) is most likely to produce an open flame.



Read the following warnings and suggestions carefully:

- Ensure that the workspace is well ventilated, so that the smoke can be discharged properly.
- Do not stack materials (especially organic ones, such as paper) around the machine. They may cause the spread of flames and increase the risk of material ignition.
- Do not leave the machine unattended when it is working. If the machine works with incorrect settings and is left unattended for a long period of time, or if a mechanical or electrical fault occurs, a fire may be caused.
- Clean the machine regularly. Excessive accumulation of residues and chippings from cutting and engraving may increase the risk of fire.
- Ensure that the area around the machine is clean without any cluttered flammable materials, explosives, or volatile solvents, such as acetone, alcohol, or gasoline. Keep a fire extinguisher and perform regular maintenance and inspection of it.

4. Electrical safety

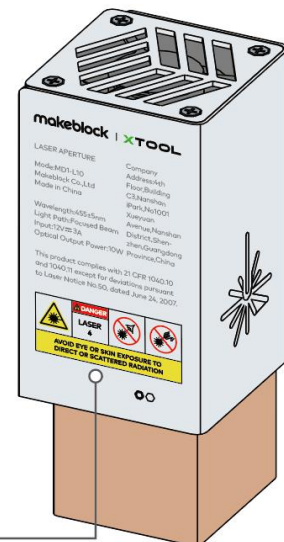
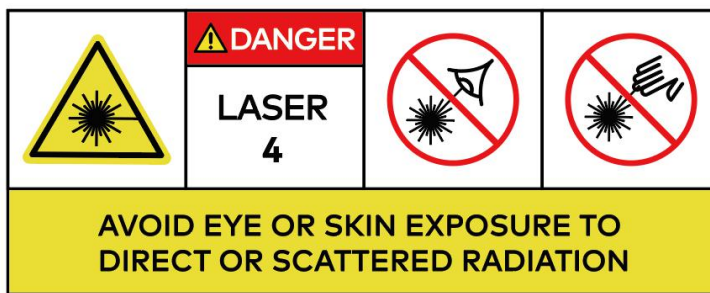


Read the following warnings and suggestions carefully:

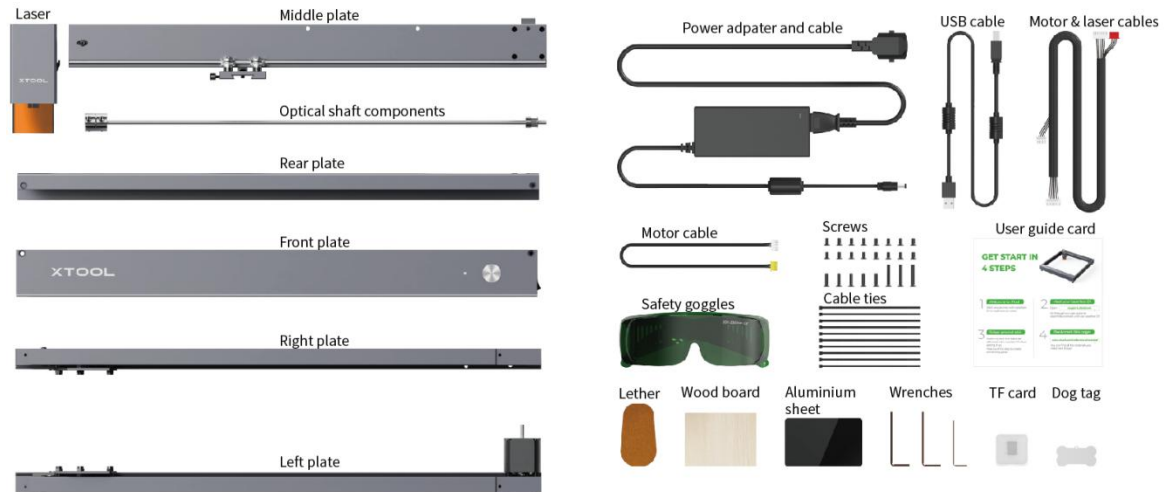
- Do not open any access panels when the machine is connected to a power supply.
- Do not touch any electronic area with your hands or other tools when the machine is connected to a power supply.

5. Warning and instruction signs

On Laserbox D1, the warning and instruction signs are labelled where physical injuries or damage to the machine may be caused before and/or during operation. If a sign is damaged or lost, replace it immediately. You can use the following template to print the sign you need.

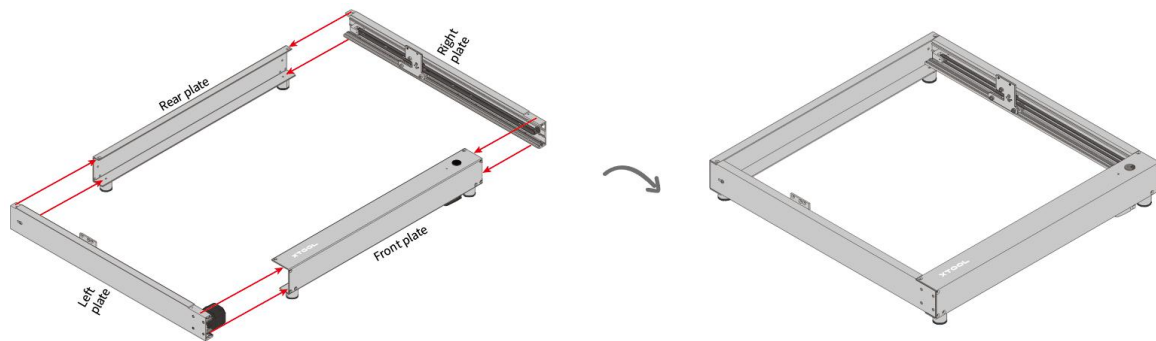


Packing list



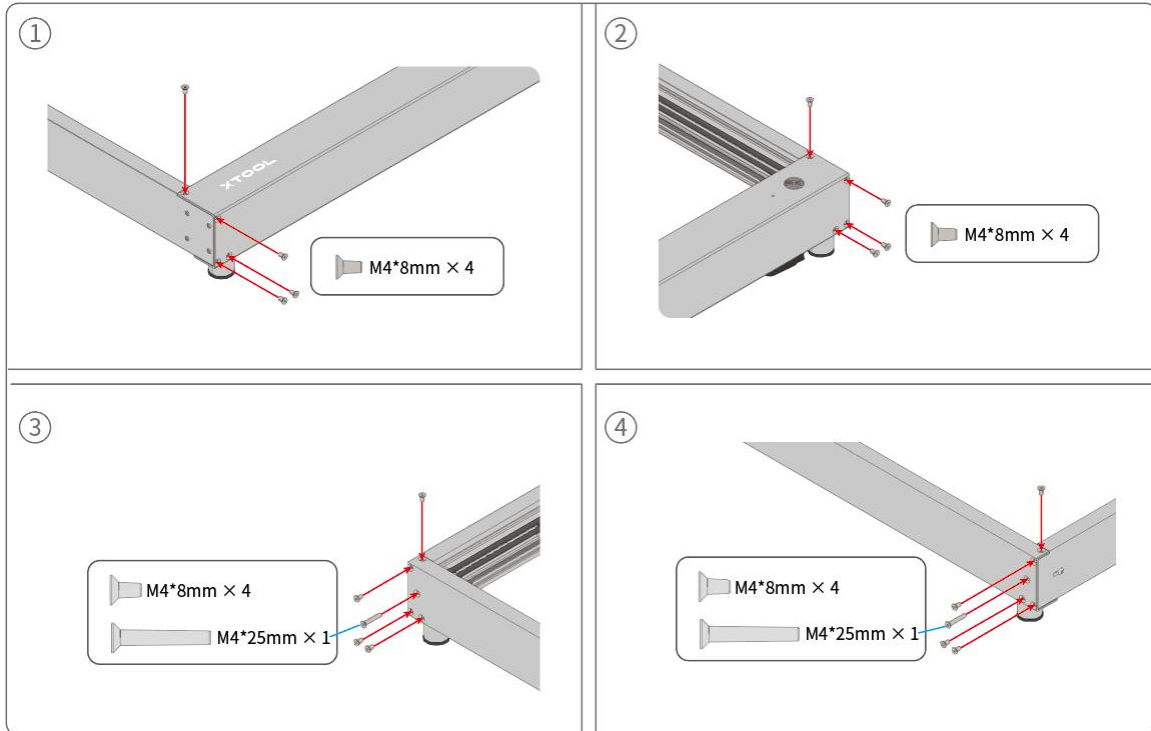
Assemble Laserbox D1

1. Fit the four side plates together on a desk or flat ground.



Note: Align the edges of the plates when fitting them together.

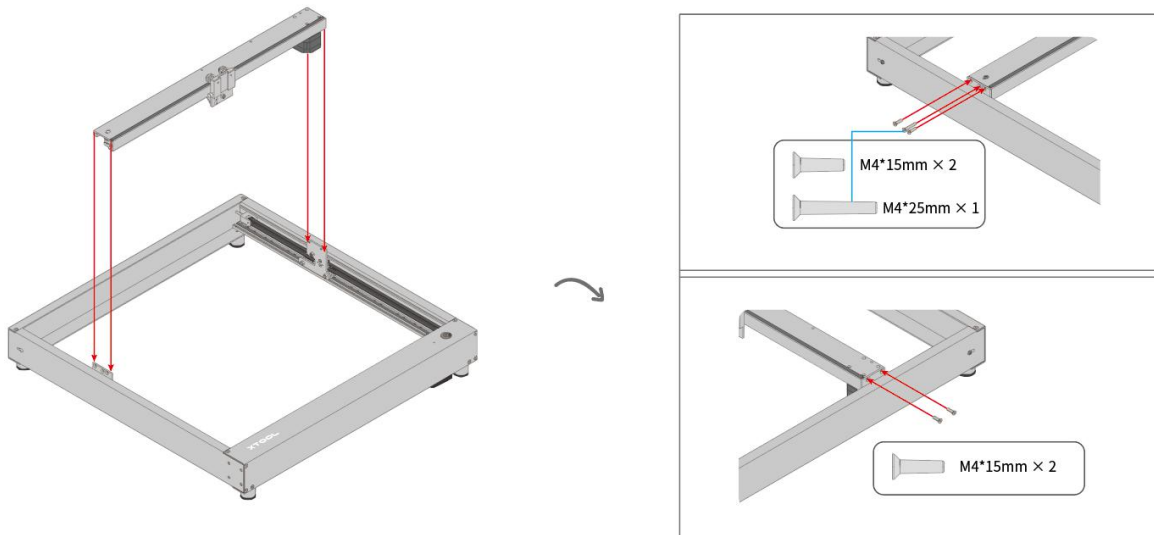
2. Use screws at each joint of the plates to fix them together.



Note:

- Before you tighten the screws, press each joint of the plates to make sure that all the four supports stand firmly on the desk or ground.
- The longest screws (M4*25mm) are used to set the tightness of the timing belts. Do not tighten them. Otherwise, the timing belts may be damaged.

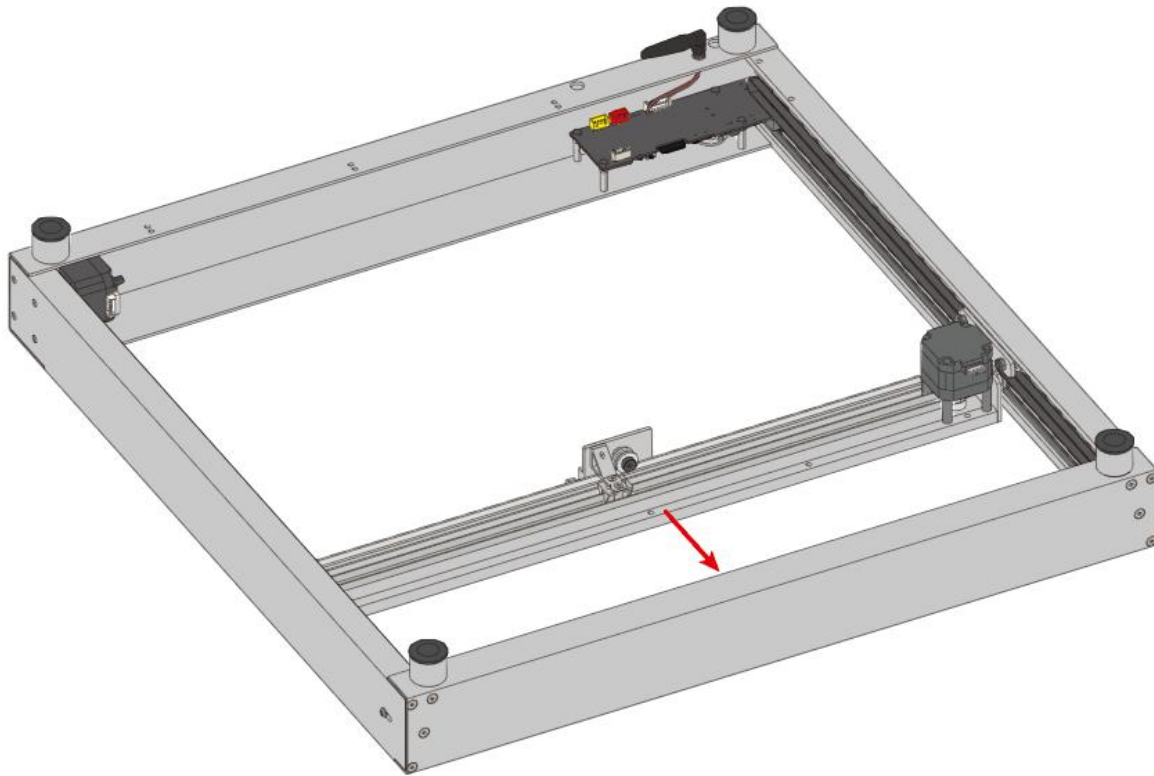
3. Fit the middle plate.



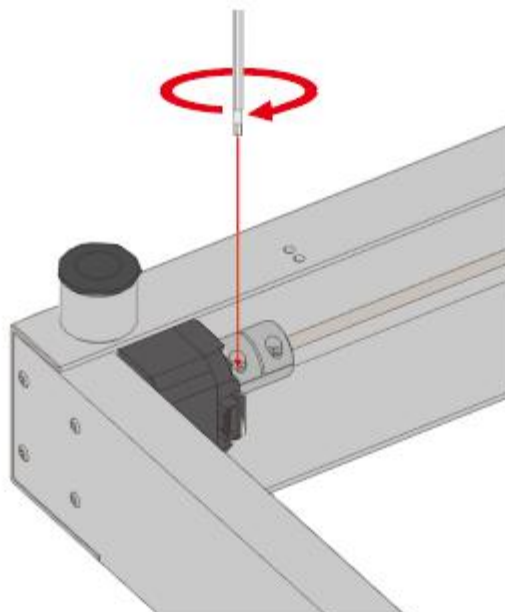
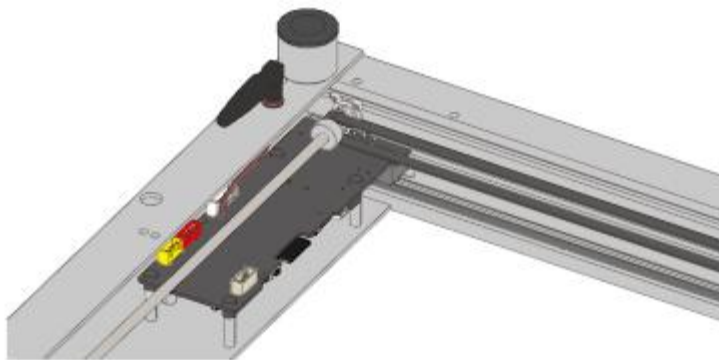
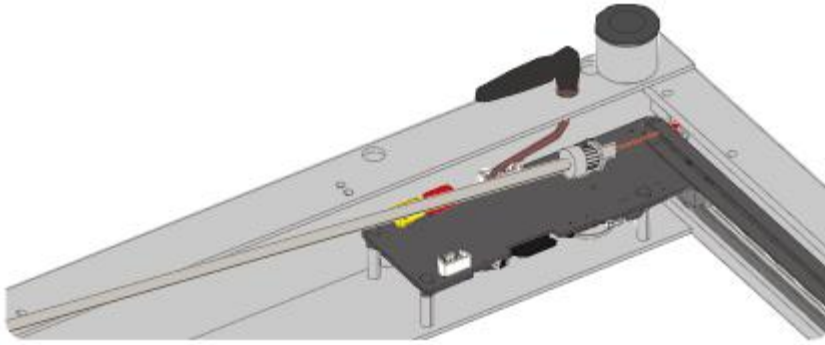
Note: The longest screw (M4*25mm) is used to set the tightness of the timing belt. Do not tighten it. Otherwise, the timing belt may be damaged.

4. Install the optical shaft components.

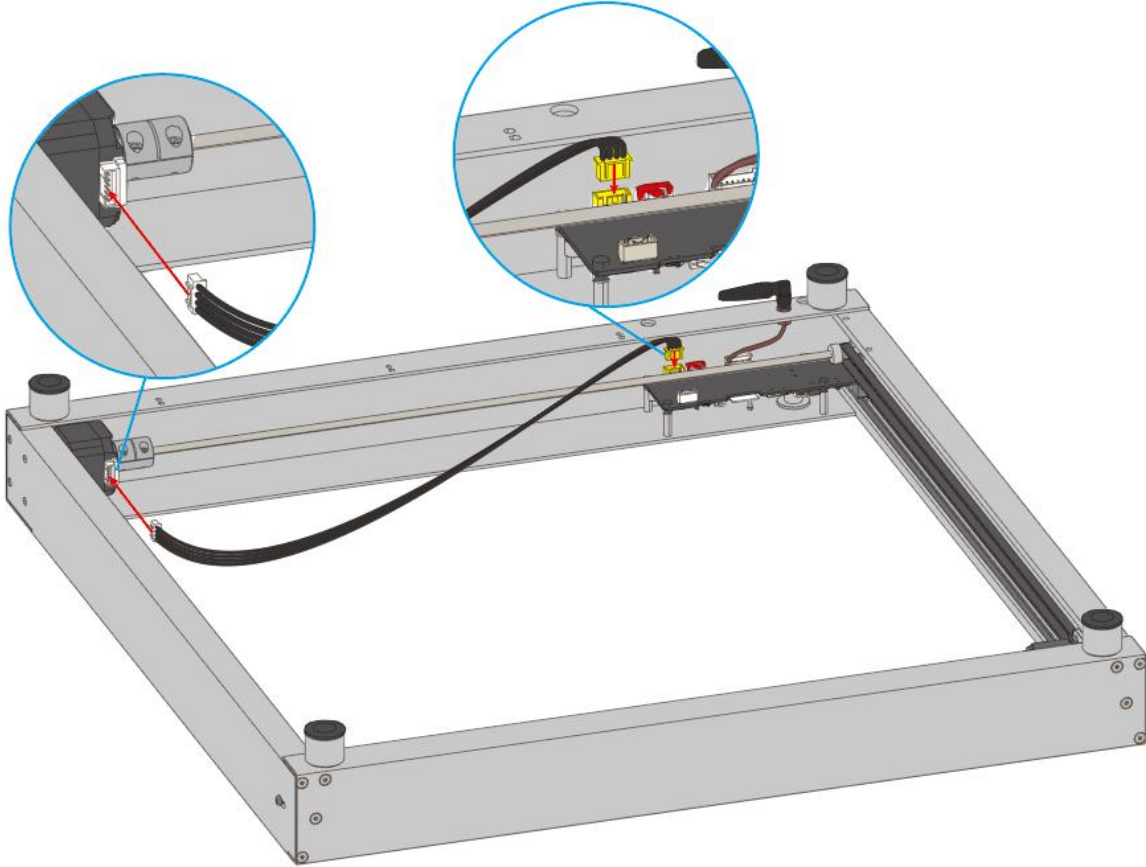
(1) Drag the middle plate to make it close to the rear plate.



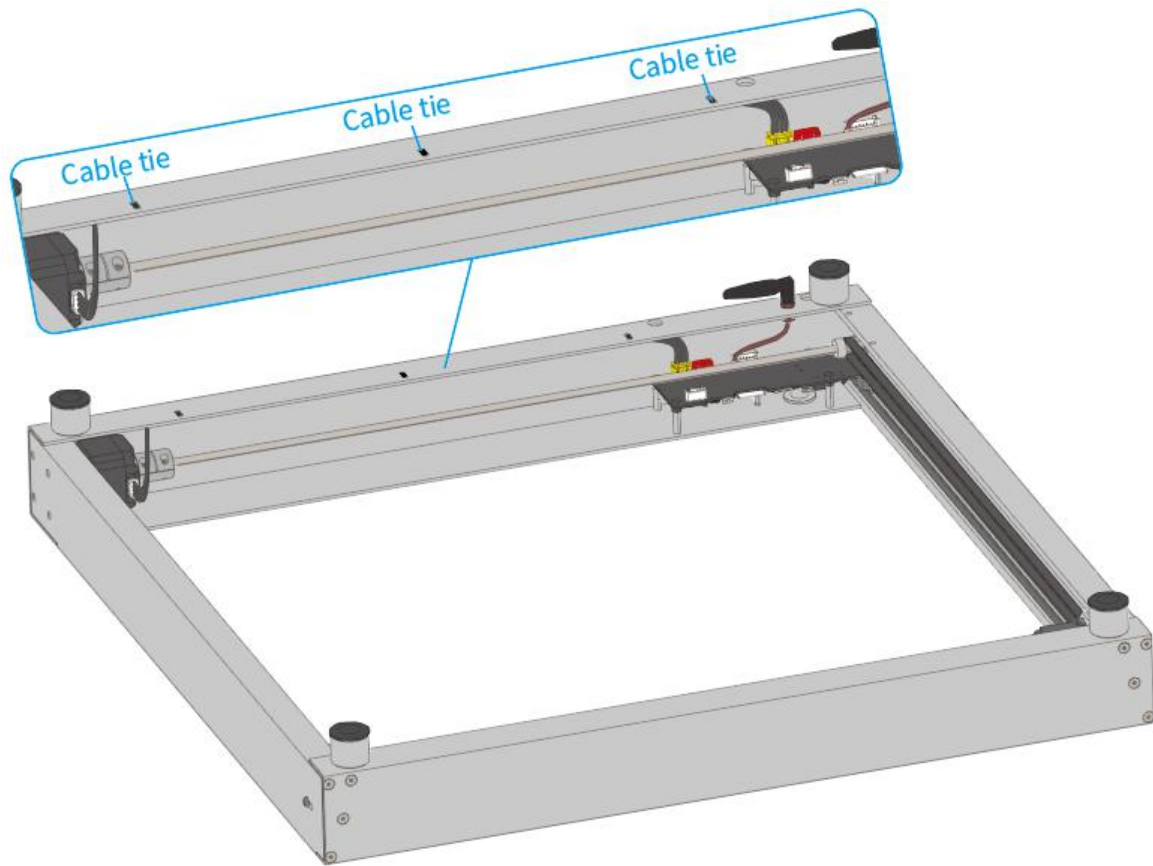
(2) Put the timing pulley through the timing belt, and then tighten the screws on the coupling.



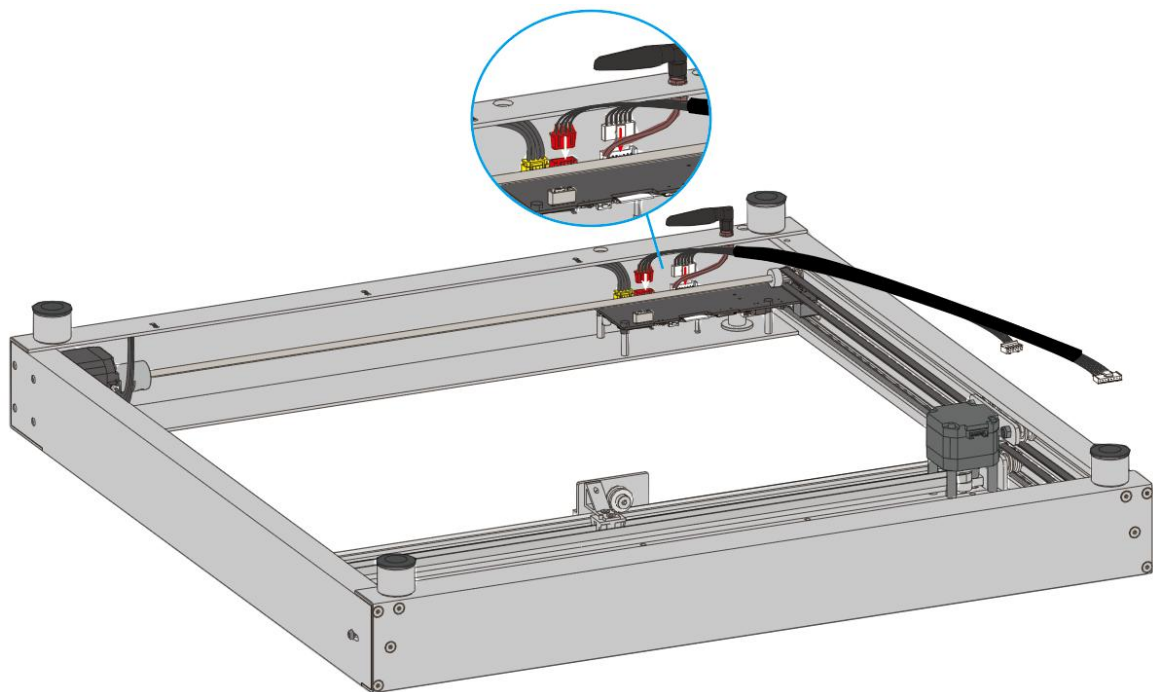
5. Use the motor cable to connect the motor on the left plate to the main control board.



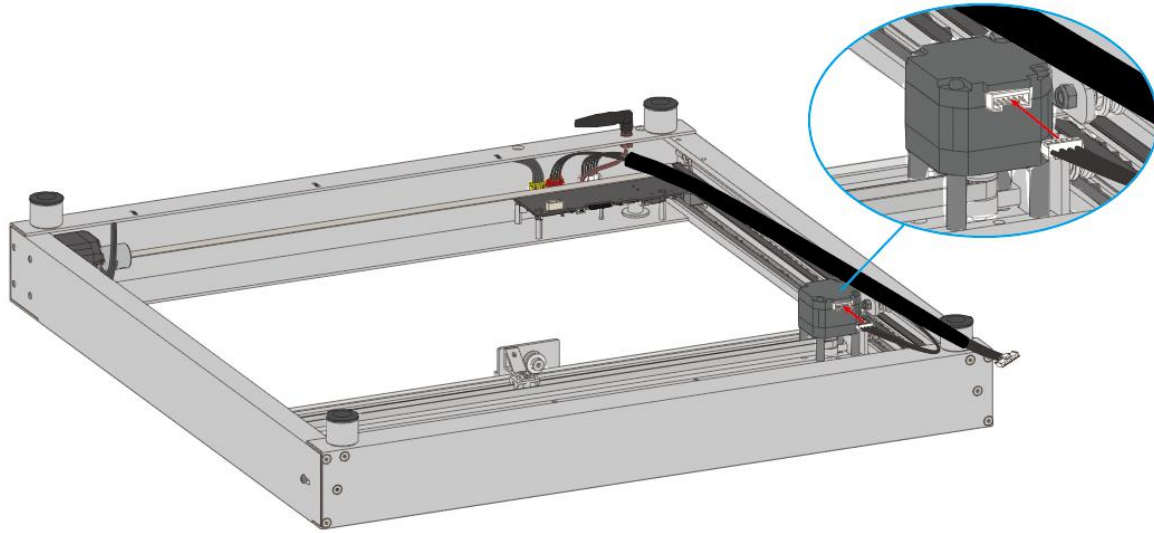
Note: Use cable ties to fit the cable on the plate so that the cable doesn't interfere with the operation of Laserbox D1.



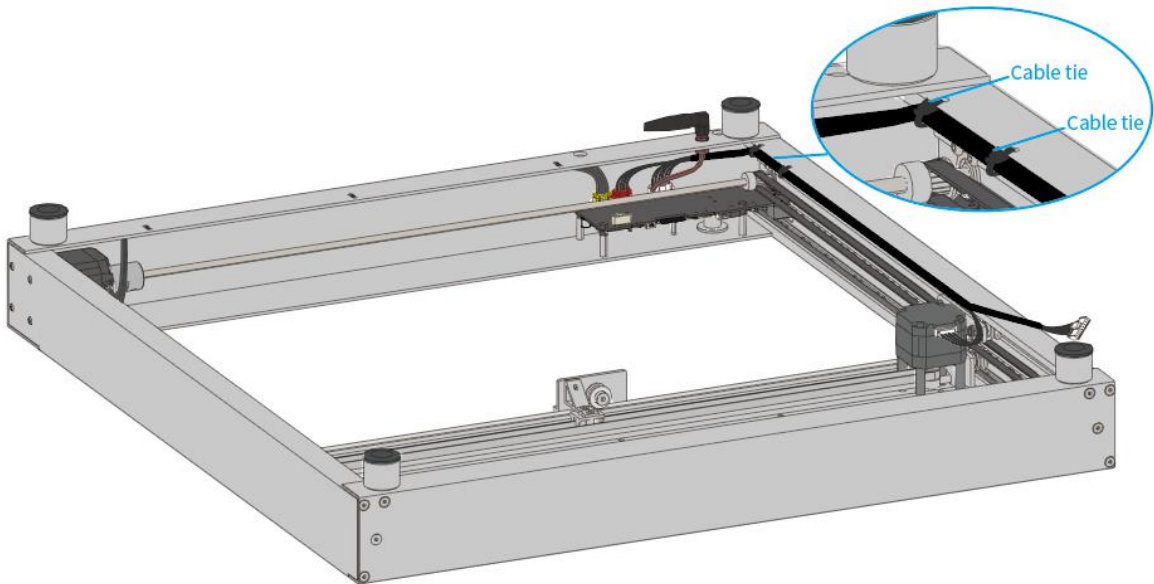
6. Insert the motor & laser cables into the ports on the main control board.



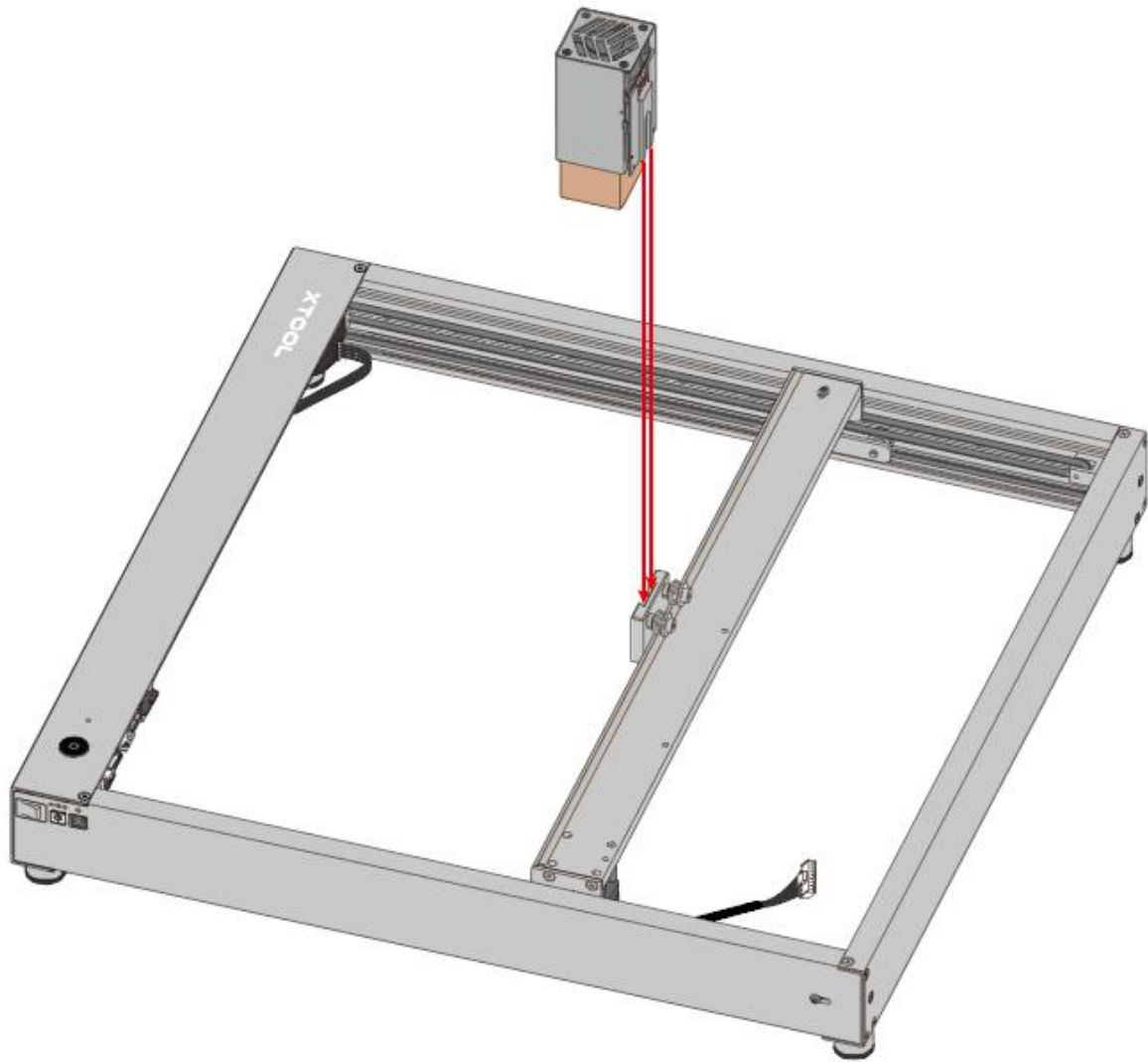
7. Connect the motor on the middle plate to the main control board.



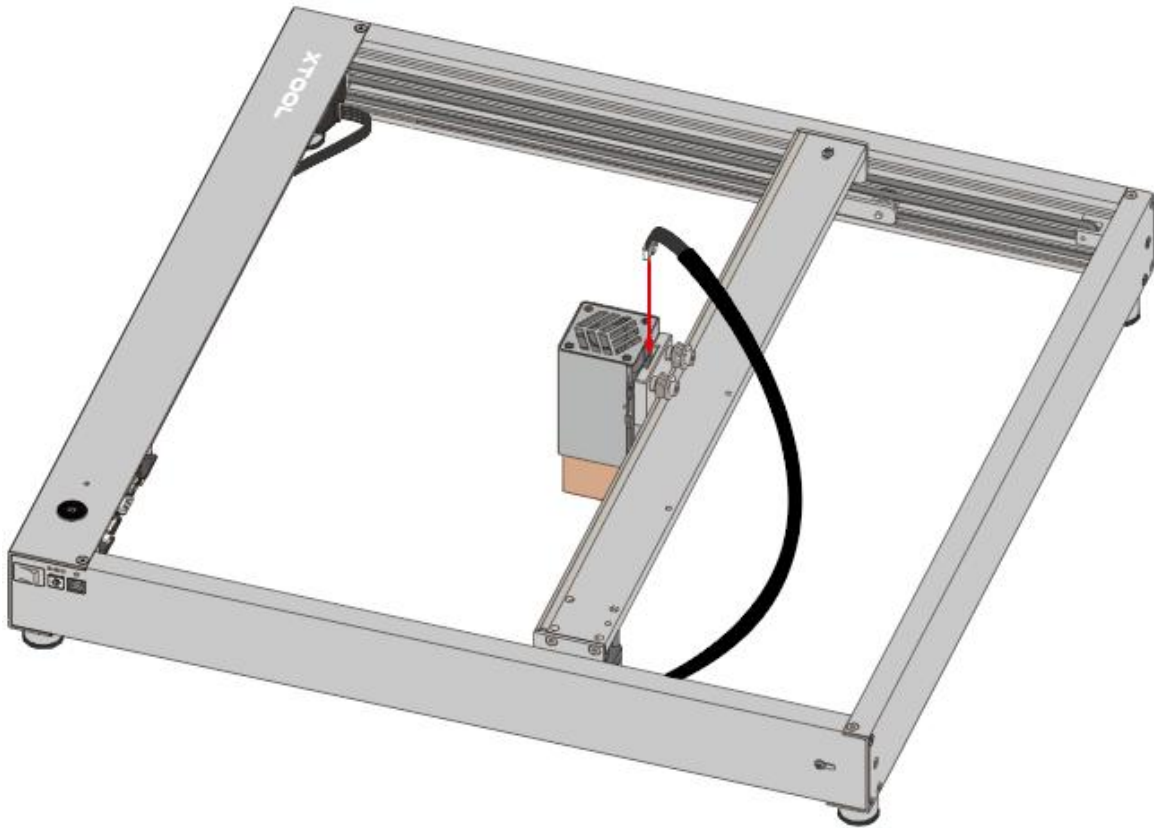
8. Use cable ties to fix the cables on the plate.



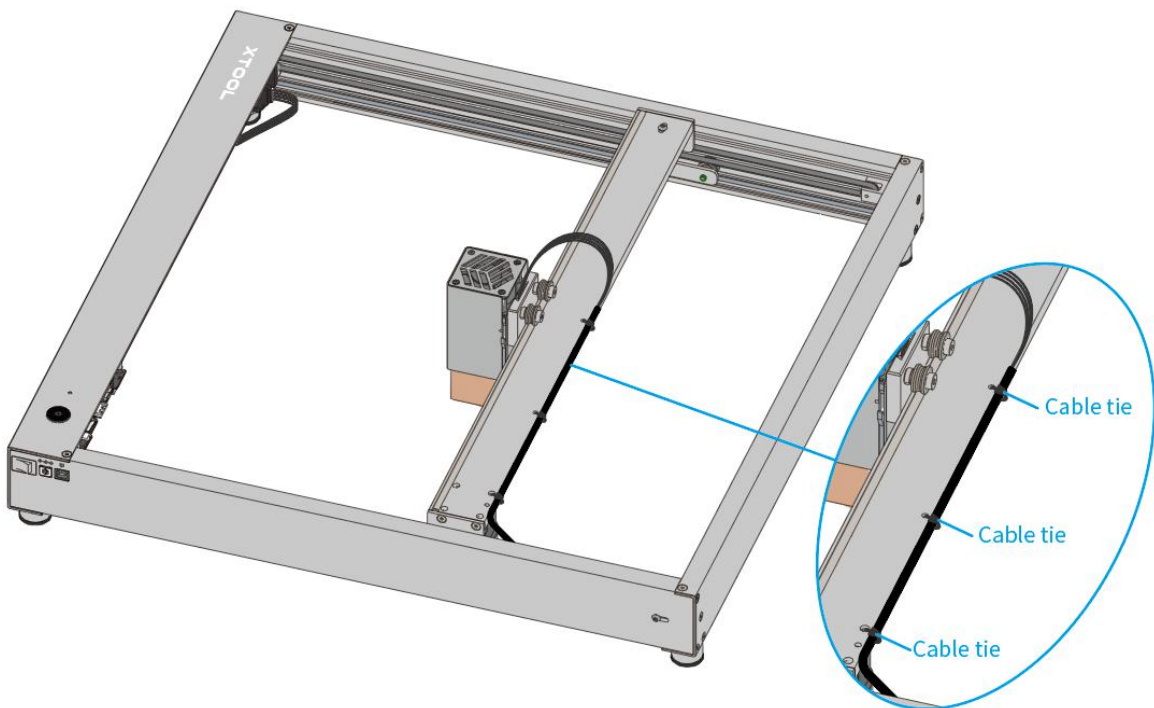
9. Fit the laser.



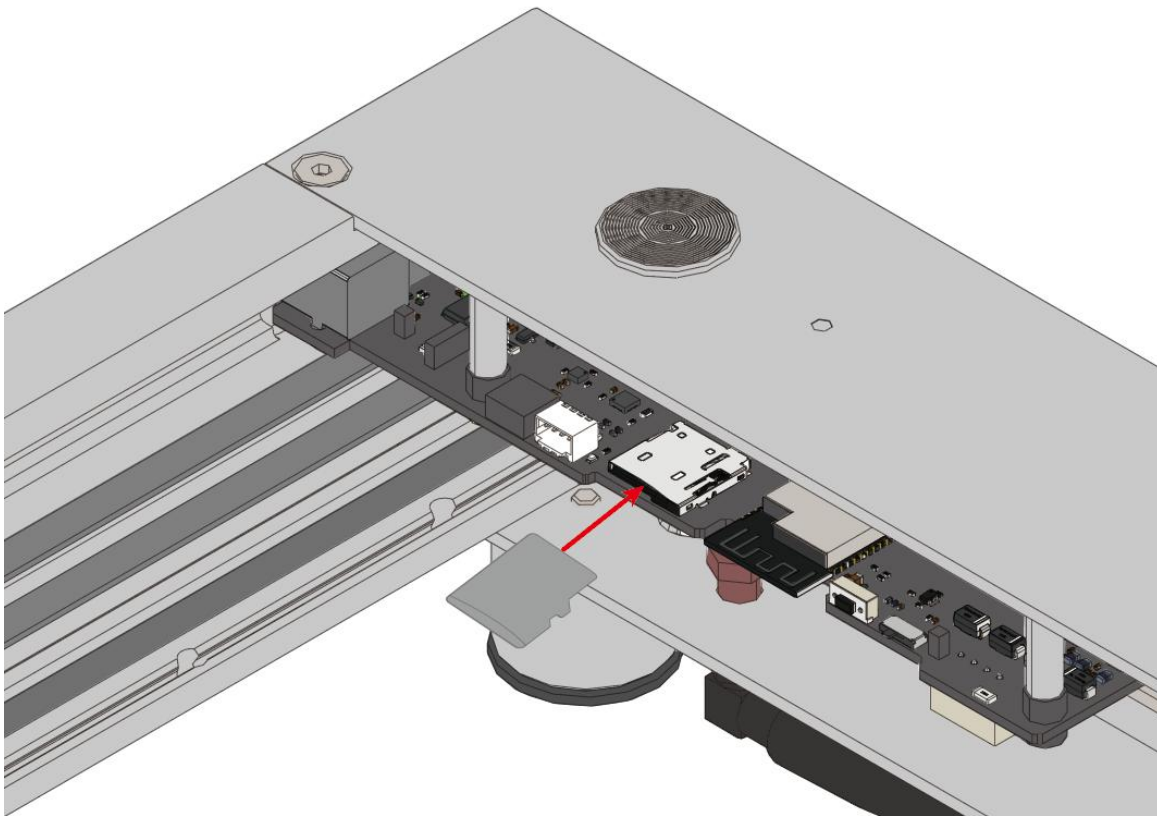
10. Connect the laser to the main control board.



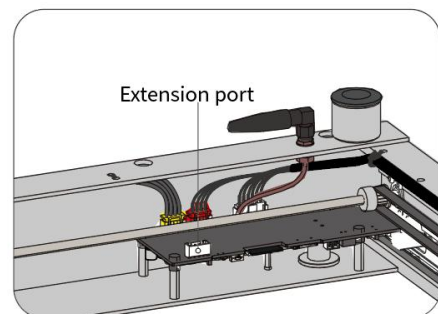
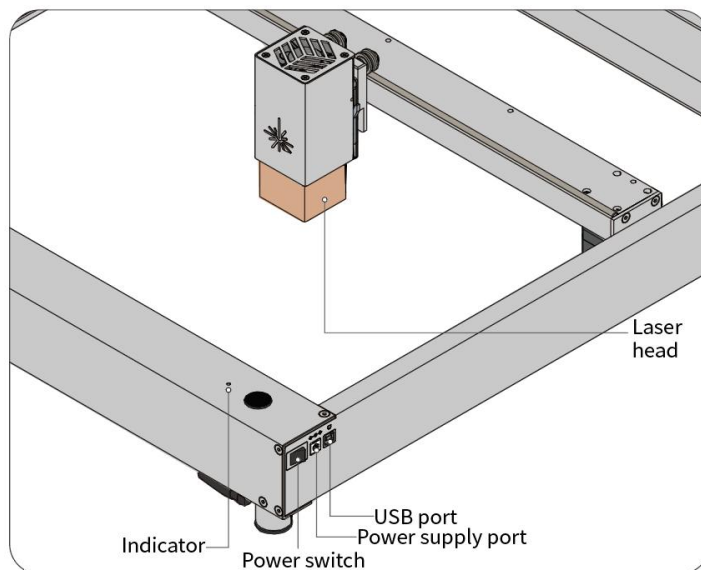
11. Use cable ties to fix the cables on the middle plate.



12. Insert the TF card into the card slot.



Meet your Laserbox D1



Connect your Laserbox D1

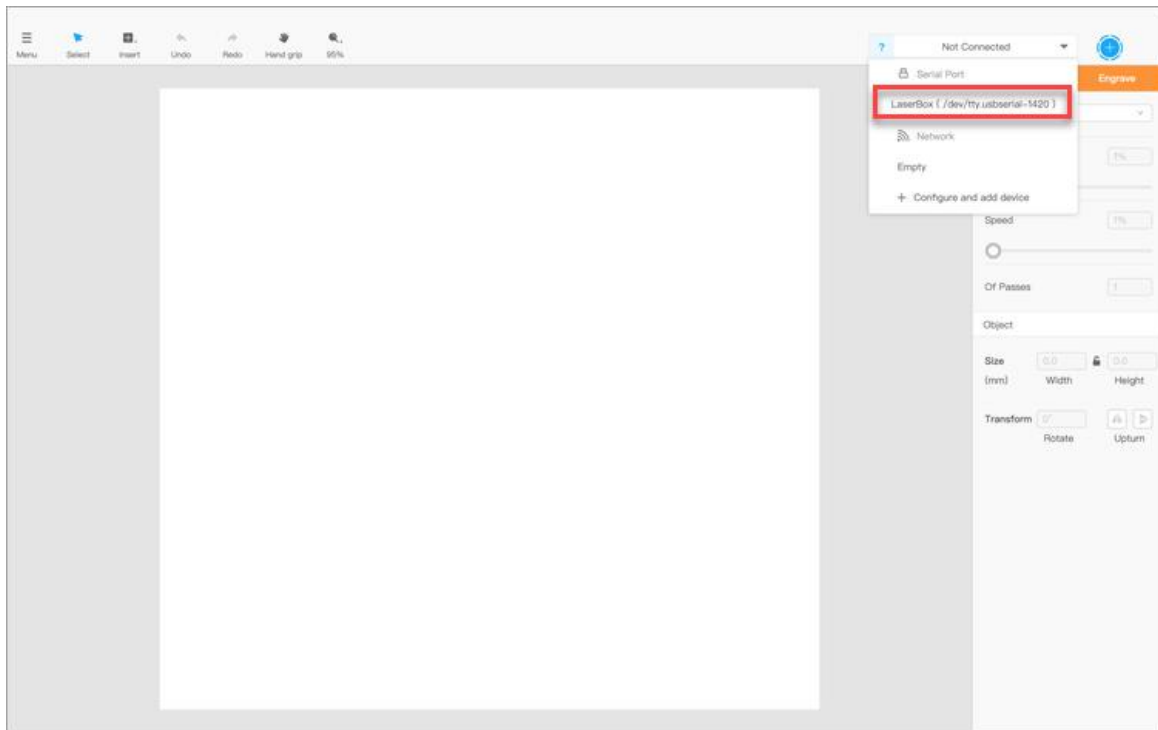
Note: You can visit our website to watch the tutorial video: <https://www.xtool.com/>

Power on Laserbox D1

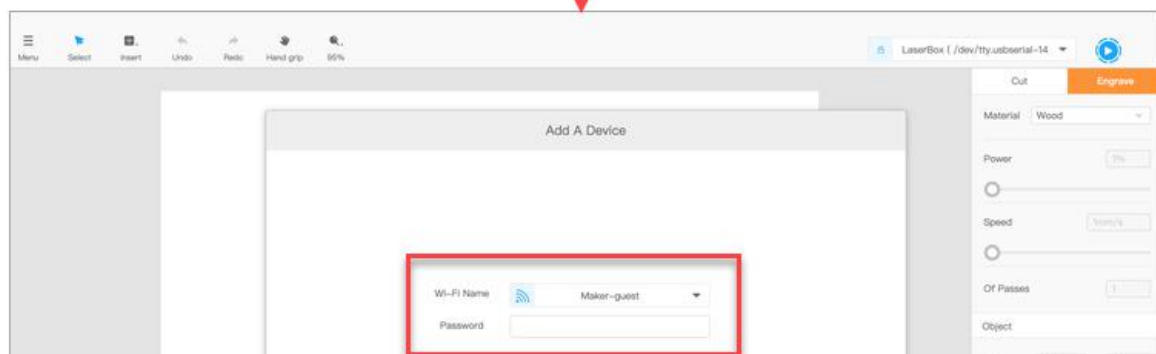
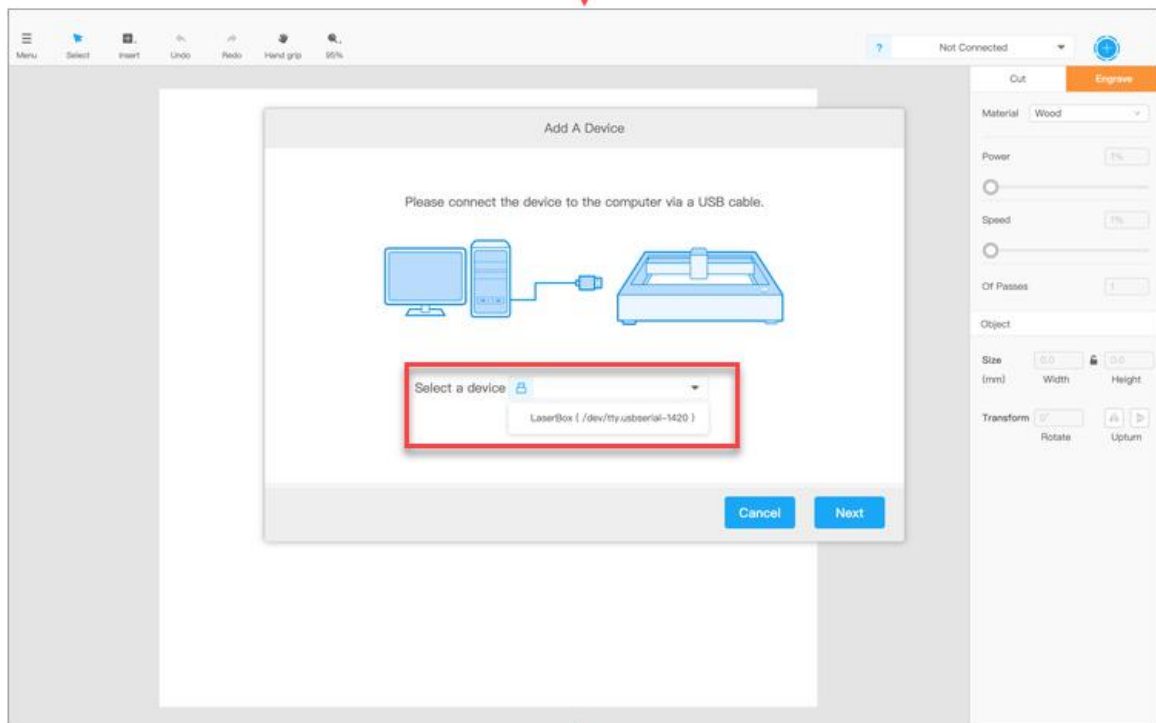
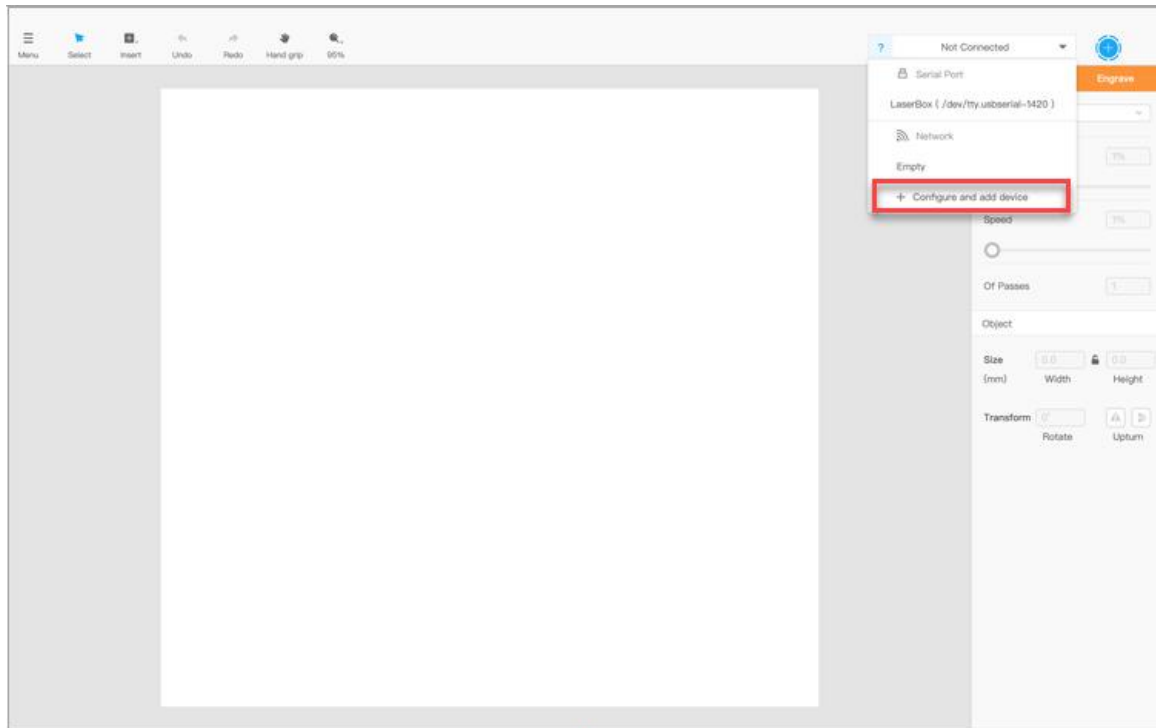
1. Connect Laserbox D1 to a power supply.
2. Turn on the power switch and wait till the annular indicator is normally on in white.

Connect Laserbox D1 to your PC

1. Visit our website to download the software on your PC: <https://www.xtool.com/software>
 2. Use the USB cable to connect Laserbox D1 to your PC.
 3. Open the software, click the **Not Connected** drop-down list box to select a connection mode.
- To use the USB connection mode, select your device.



To use the Wi-Fi mode, select + **Configure and add device**, select your device in the dialog box that appears, and then set the Wi-Fi name and password.



Note: Make sure that Laserbox D1 and your PC work on the same LAN. After Laserbox D1 is connected in Wi-Fi mode, you can remove the USB cable to control it wirelessly.

Connect Laserbox D1 to the laserbox app

1. Search for **laserbox** in an app store to download the laserbox app.

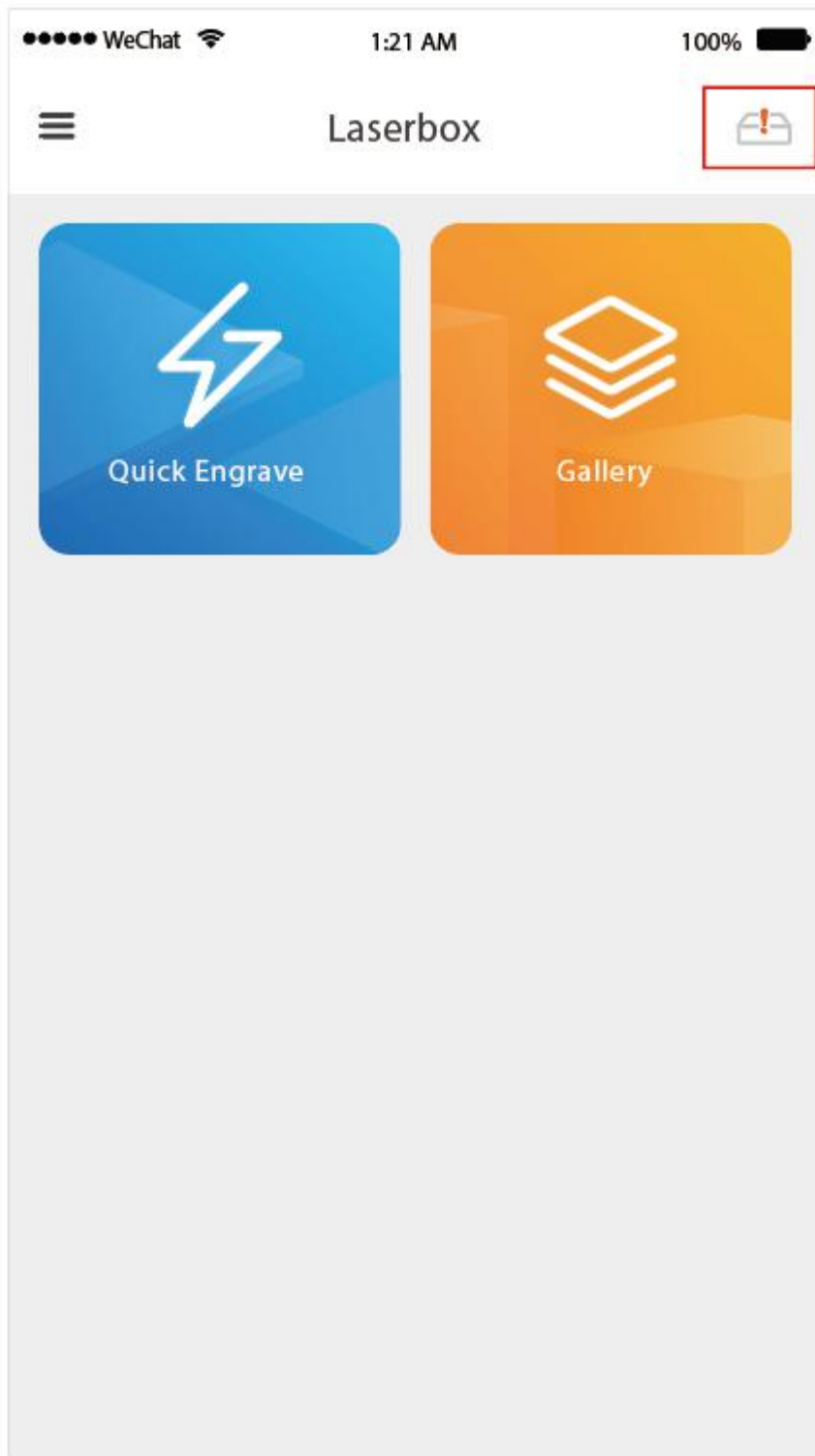


2. Long-press the button on Laserbox D1 for 5 seconds to enable its Wi-Fi setting function.

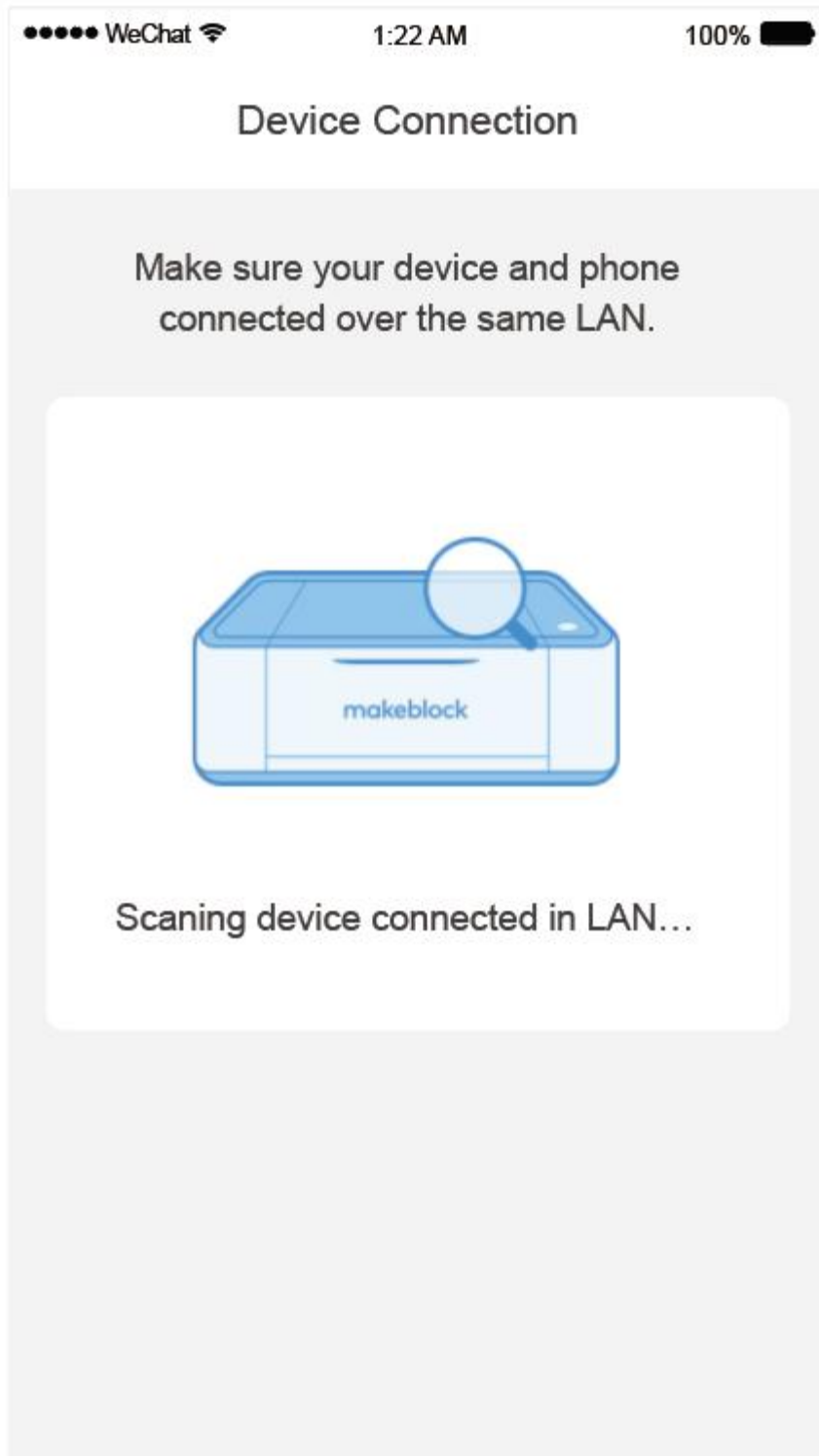
3. Use your mobile device to search for and connect Laserbox D1 as a network.

Note: The network name of Laserbox D1 is **laserbox_xxxxxx** (xxxxxx indicates the last six characters of the MAC address of Laserbox D1).

4. Open the app and click the device icon in the upper right corner.

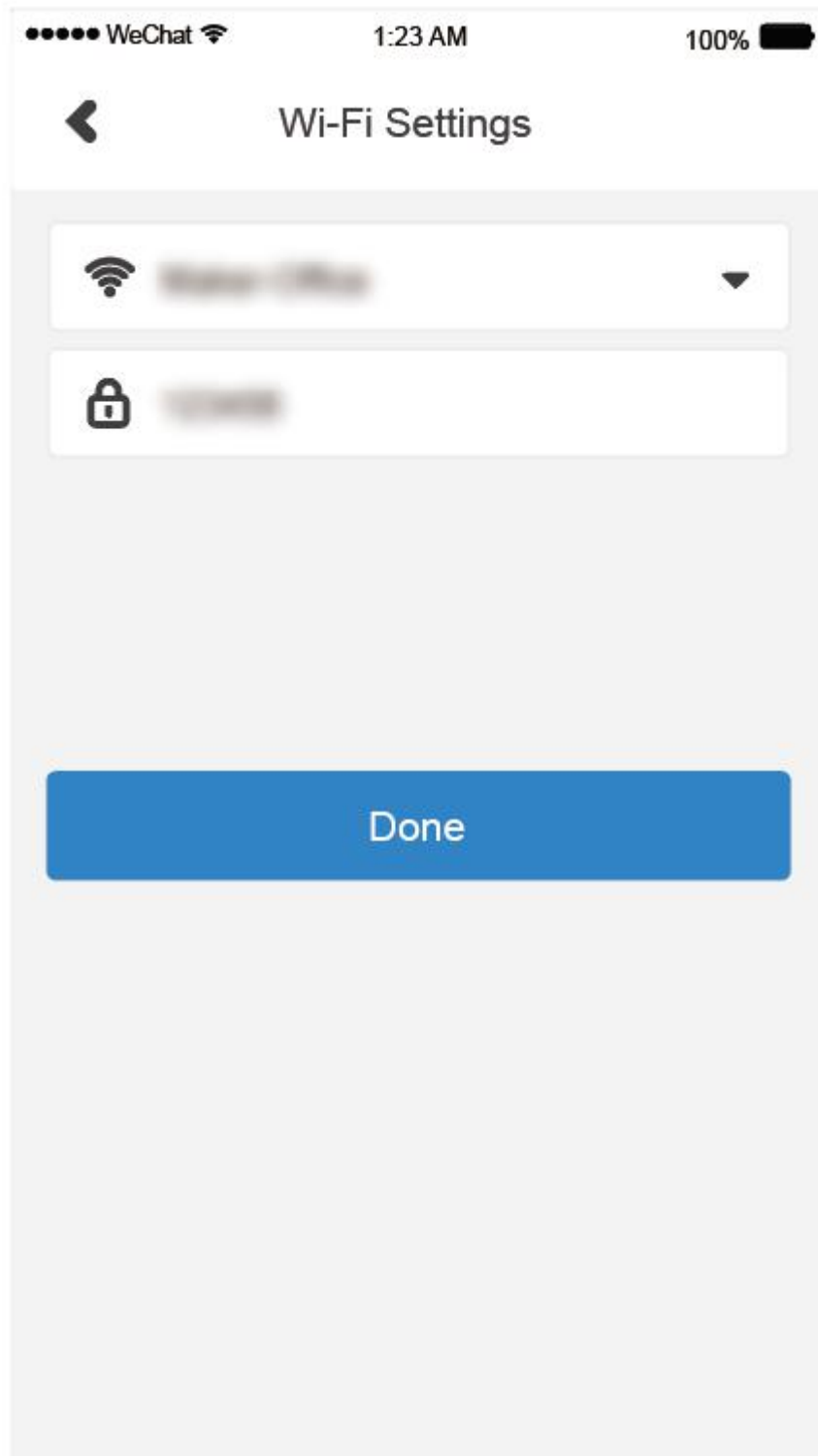


The app starts to search for devices.

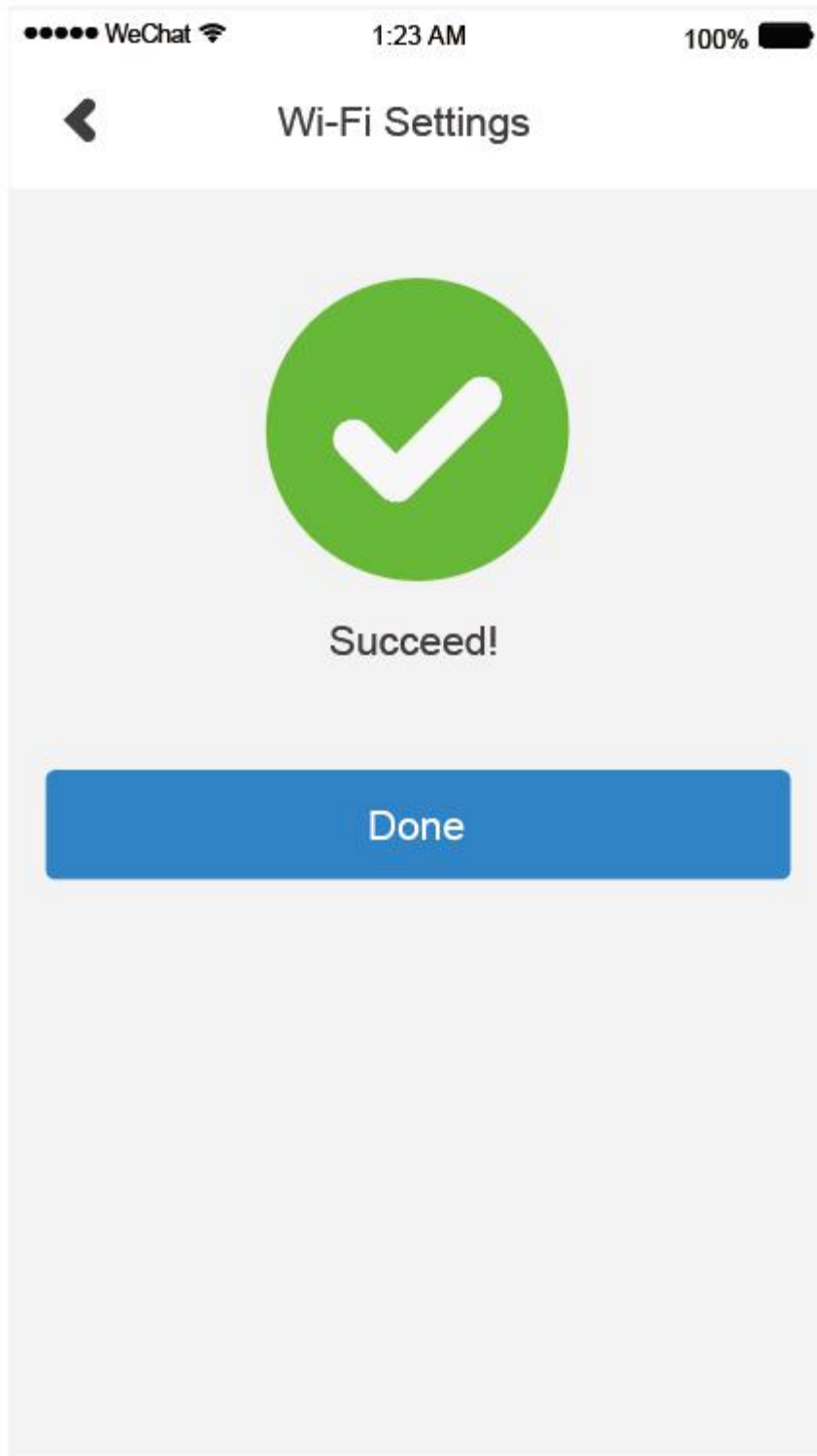


5. Set a Wi-Fi network for your Laserbox D1.

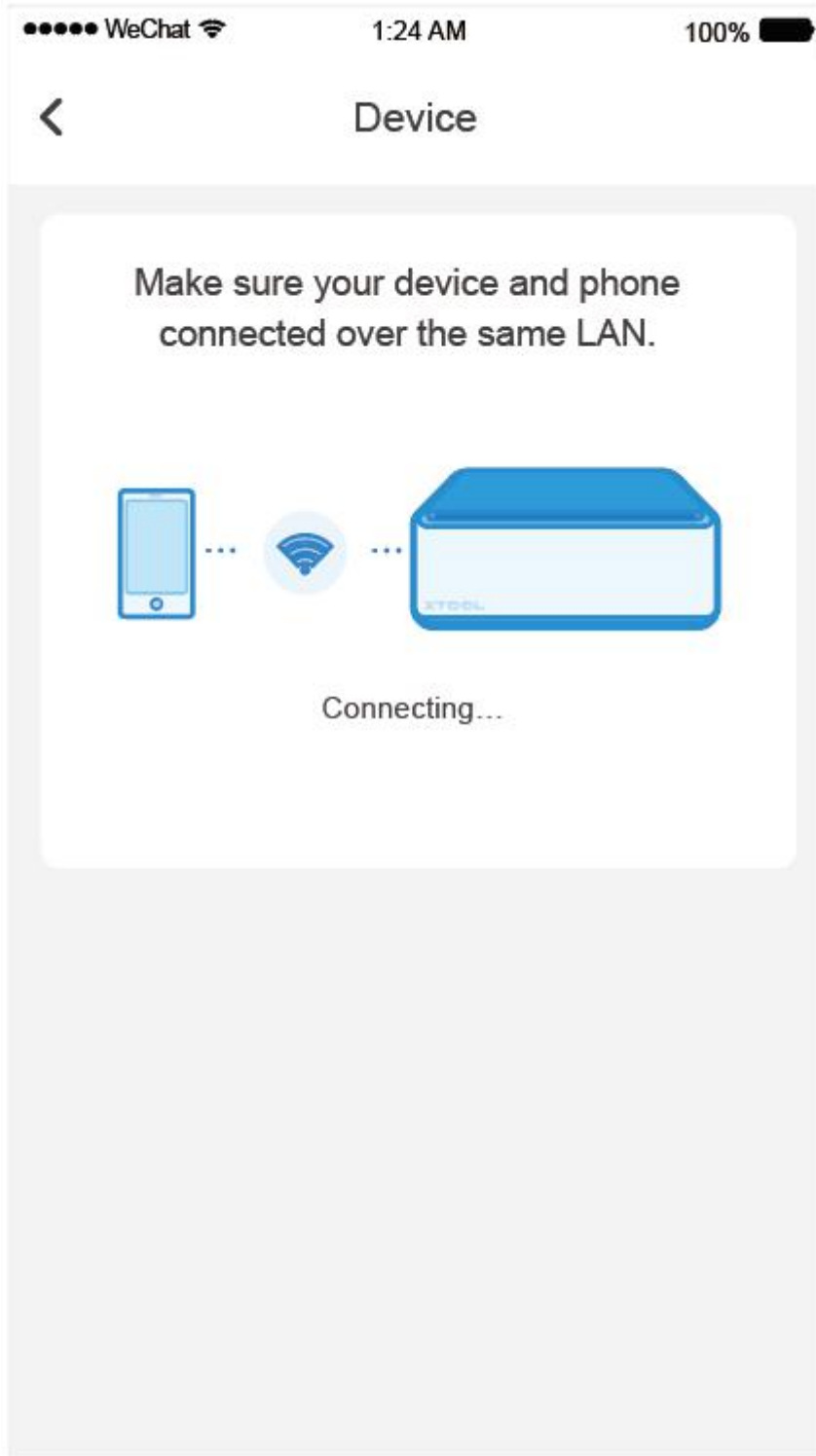
Note: Ensure that Laserbox D1 is connected to the same LAN as your mobile device.



6. After setting the Wi-Fi network, click **Done**.



The app searches for devices again and connects to your Laserbox D1.



7. Click < to enter the homepage of the app.



After Laserbox D1 is successfully connected, the device icon in the upper right corner turns into green.



Laserbox

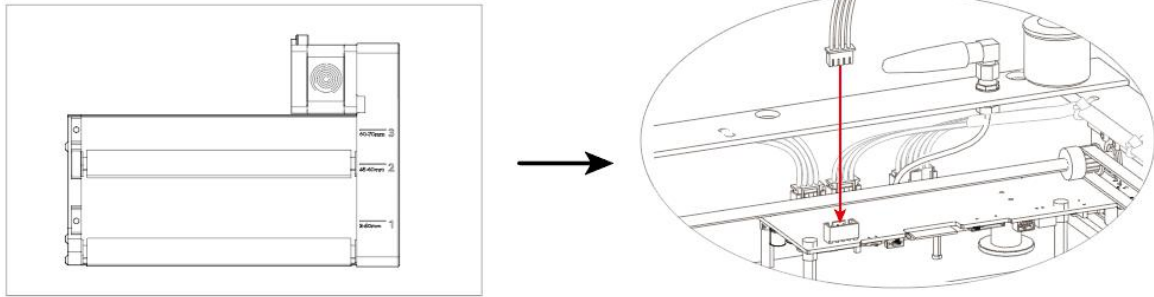


Now, you can start your creation!

Function extension

You can add the rotary engraving module to engrave cylindrical items.

Place the module parallel to and in the working area of Laserbox D1 and connect it to Laserbox D1 through the extension port.



Note: To extend the functions of Laserbox D1, you need to purchase the required parts and components.

After-sales services

Scope	Name	Warranty period
Main parts	PCB, motor, laser head, guide rail	12 months
Wearing parts	Power adapter, conveyor belt	3 months
Consumables and accessories	Power cord, USB cable, consumable parts, user guide card, package, etc.	Not covered in the warranty

Note:

1. **Warranty period** in the preceding table is defined from the date of purchase on the receipt. The invoice date will be used as a reference. Keep your purchase invoice. If no valid invoice is provided, the warranty period will be counted from the ex-factory date.

2. For more information about after-sales services, visit <https://support.xtool.com>.