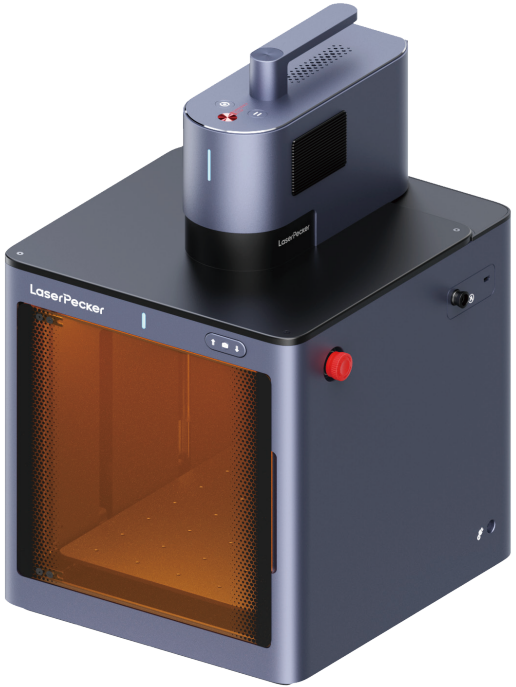
LaserPecker

LaserPecker Safety Enclosure

User Manual | Benutzerhandbuch
Manual de Usuario | Manuel d'utilisation



v1.0

LaserPecker

Contents

Safety Information

1 General Safety

- The use of this device, its specific purposes, and the emissions produced by engraved objects should comply with the laws and regulations of the user's location.
- Read and get familiar with all safety precautions and procedures before using the machine. Strictly follow all safety precautions. Ensure that the machine is properly assembled and is working properly.
- DO NOT allow use by minors, by untrained personnel, or by any personnel suffering from any physical or mental limitation that might affect their ability to use the machine safely and properly.
- Ensure that the workspace is clean and flat.
- Keep the area around the machine dry, well ventilated, and enviromentally controlled to 50-95°F (10-35°C) and 10-95% humidity.
- DO NOT leave the machine unattended during operation.

In the event of the following situations, please stop using the machine and cut off the power immediately:

- A burning smell is detected coming from the machine.
- Open flames or sparks are observed being generated from the engraving material.
- Any components of the machine appear to be damaged or malfunctioning.
- Unexpected cessation of machine operation for no clear reason.
- Abnormal sounds, smoke, or unusual lighting are emitted from the machine.

Safety Information

2 Laser Safety

- The LP5 laser engraving machine is initially classified as a Class 4 laser device. When properly equipped with the Safety Enclosure, and operated strictly according to the operational guidelines, its laser safety level can be classified as Class1, ensuring safer operation.
- The active laser and its reflections can rapidly cause fires, burns, and permanent vision damage. Under normal circumstances, the laser is blocked by the protective cover or safety enclosure during operation. Before using the machine, ensure that the protective cover or safety enclosure is installed properly. If it cannot fully cover the object, you need to wear safety goggles that can shield your eyes from the laser beams.
- Before operating the device, users should fully understand the physical characteristics of laser radiation, its hazard classifications, related health effects, and the necessary safety precautions.
- When operating the device, avoid direct skin contact with the laser to prevent potential burns or other injuries.
- Ensure the Protective Cover or Safety Enclosure is correctly installed and closed. When the protective cover or safety enclosure is opened, the device should automatically stop laser operations to prevent laser exposure, thereby protecting the operator's safety.
- During operation, the materials being engraved or cut may release toxic and harmful gases or fumes. Depending on the type and composition of the engraving/cutting materials, these emissions can pose health and environmental risks. To ensure safe use, it is recommended to use this machine with an air purifier to effectively absorb and filter any toxic or harmful gases and fumes generated.
- DO NOT use this laser in dewy, dusty, or high-EMI conditions where the active laser might easily be deflected or reflected.
- Only use the machine with stable and compatible power sources. This machine requires a 24V/7.5A power adapter. Failure to use the compatible power adapter can result in machine malfunction.
- Before starting the device for engraving, ensure that all safety precautions are in place. Wear protective goggles to prevent accidental laser injury to the eyes or skin. Remove unrelated items to avoid unnecessary damage from laser exposure. In particular, remove any flammable or explosive materials to prevent the risk of fire.

3 Fire Safety

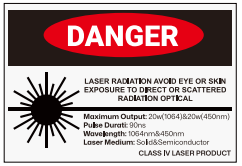
When the device cuts or engraves materials, it uses a high-density laser beam to irradiate the material, causing its surface to reach high temperatures with the aim of vaporizing the material without combustion. However, most materials are inherently flammable and may ignite, leading to open flames. Such flames could potentially damage the device (even if it is made of flame-retardant materials) and its surrounding environment. Experience shows that vector cutting with lasers is the most likely to produce open flames.

- Ensure the workspace is well-ventilated when operating the device to allow for the timely evacuation of any generated smoke.
- Do not stack materials around the device that could lead to the spread of flames or increase the risk of ignition (especially organic materials like paper).
- Do not operate the device unattended. If the device is improperly set up to run for a prolonged period without supervision, or if a mechanical or electrical malfunction occurs during operation, it could lead to a fire.
- Regularly clean the device. An accumulation of residues and debris from excessive cutting and engraving increases the risk of fire. Ensure that the working area of the device is regularly cleaned and free of any residues and debris.
- Keep the area around the device clean and free of flammable materials, explosives, or volatile solvents such as acetone, alcohol, or gasoline.
- Have a fire extinguisher ready for use and ensure it is regularly maintained and inspected.
- Cutting or engraving flammable materials at low speeds and high power inside the LaserPecker Safety Enclosure may easily cause flames. If flames are detected, stop the operation immediately.

Safety Information

4 Warning Labels

The warning and instruction signs are labeled 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.



Software Download

Download App

Scan the QR code below to download and install the **LaserPecker Design Space** App.

Please follow the operation guide and read the warnings and precautions in the App carefully.

LaserPecker Design Space

Download PC Software

Please visit https://www.laserpecker.net/pages/software to download the PC software.

Getting Help

Technical Support

If you encounter any issues, please do not hesitate to reach out to our customer support team at support@laserpecker.com

YouTube: @LaserPecker

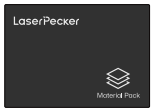
Facebook Group: LP5 Official Group

Video Tutorials

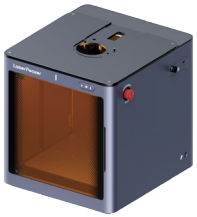
Scan the QR code below to learn how to use the LP5 machine & Safety Enclosure.

Package List

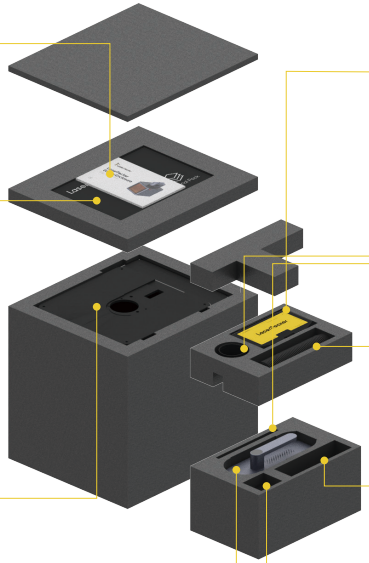
User Manual × 1



Material Pack × 1



Safety Enclosure × 1



Tool Box × 1

Hex Key H1.5 × 1 H2 × 1 H2.5 × 1
Screwdriver × 1

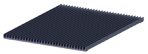
Security Key × 2

USB Flash Drive × 1

Hand Screw × 2

Smoke Exhaust Pipe × 1

Pipe Adapter × 1



Cutting Plate × 1

AC Power Cable × 1
AC Power Adapter × 1

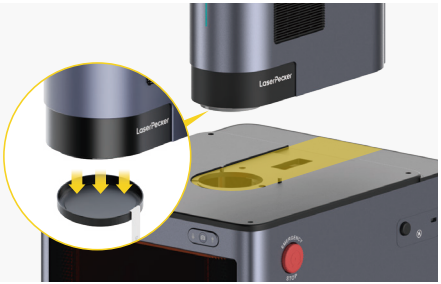
LP5 Laser Unit × 1

DC Power Cable × 1 USB-A to USB-A Cable × 2
USB-A to USB-C Cable (1.5m) × 1

L-shaped Positioner × 2

Quick Assembly (With LP5 Laser Unit)

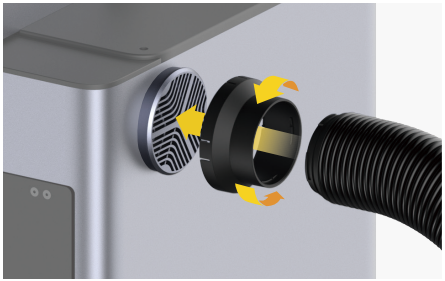
1 Remove the lens cover and place the laser unit into the slot in the correct direction.



2 Take out the two hand screws and tighten them clockwise, as illustrated in the image below.

3 Connect the two USB-A Adapter Cables and the DC power Adapter Cable as shown in the image below. If your machine has a security key, make sure to insert it.

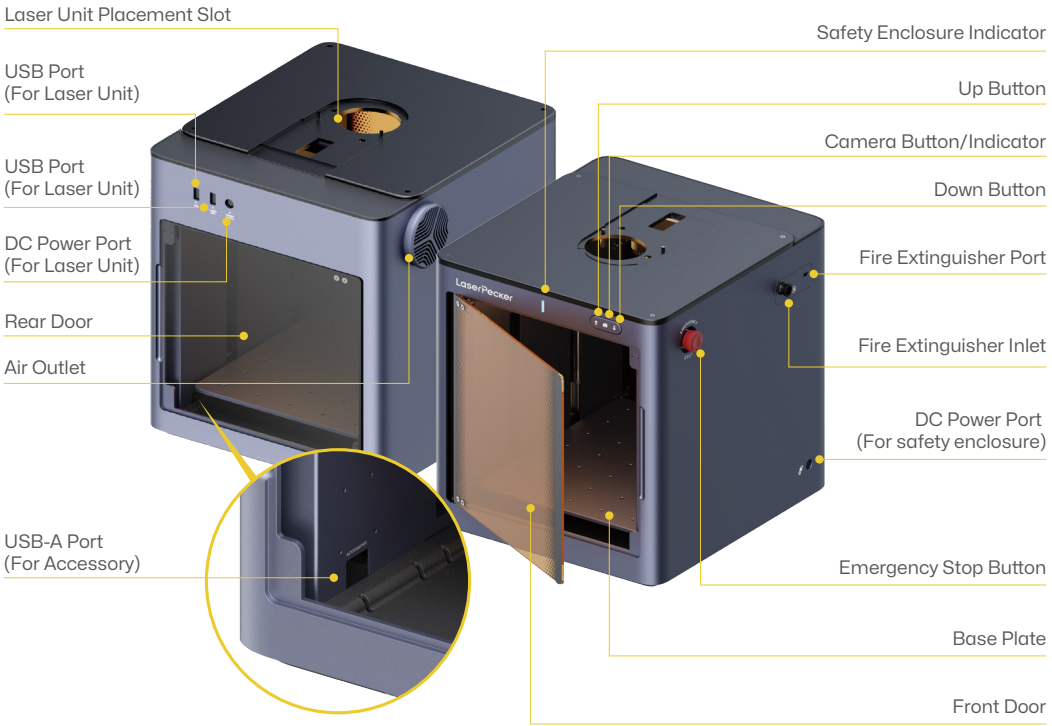
4 The Safety Enclosure has a built-in Exhaust Fan that can be connected to a Smoke Exhaust Pipe or used with LaserPecker Air Purifier.



5 Combine the AC power adapter and AC power cable, connect them to the Safety Enclosure, and then plug it into a power supply.

6 Before use, please release the emergency stop button by turning it clockwise.

Meet the Safety Enclosure



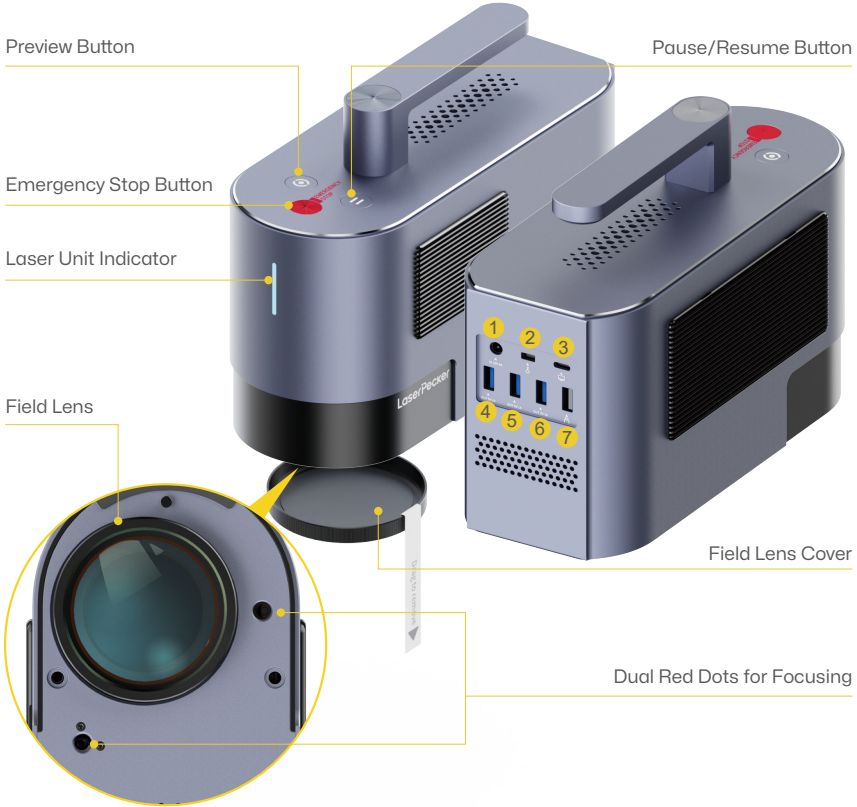
Safety Enclosure Indicator

- Blinking Blue: Successfully powering on
- Solid Blue: Connected to laser unit
- Blinking Red & Blue: Firmware updating

Camera Indicator

- Slow Blinking White:
  Camera not connected to the network
- Solid White:
  Camera is connected to the network
- Fast Blinking White:
  Camera malfunction

Meet the LP5 Laser Unit



1. DC Power Port
2. Security Key Port
3. USB-C Port for Computer Connection
4. USB Port (for Accessory)
5. USB Port (for Electric Stand)
6. USB Port (for Conical Protective Cover)
7. USB Port for Flash Drive

Laser Unit Indicator

- Solid Yellow: Powering on
- Blinking White: Not connected to the network
- Solid White: Connecting to the network
- Blinking Blue: Connected to the network
- Solid Blue: Connected to the software
- Blinking Green: File in transit
- Solid Green: Engraving in progress
- Solid Red: Emergency stopped and disconnected
- Blinking Red & Blue: Firmware updating

Using The Product

Emergency Stop (LP5)

If errors or machine faults occur during material processing, press the emergency stop button to disconnect and stop the processing.

Operation Access Control

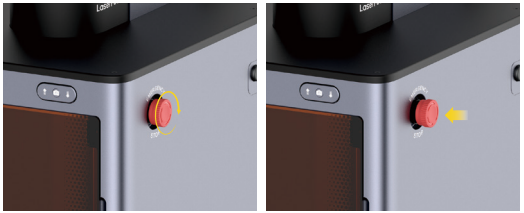
To prevent others from using the machine, remove the security key to lock the processing and related functions. Insert the key to unlock the processing and related functions.

Safety Enclosure Button Functions

Up Button ⇧: Single press raises the base plate by 0.5 mm; long press 2 secs for continuous raising. **Down Button** ⇩: Single press lowers the base plate by 0.5 mm; long press 2 secs for continuous lowering. **Camera Button** 📷: Long press for 3 secs to reconfigure the network; double press to restart the camera.

Emergency Stop (Safety Enclosure)

If errors or machine faults are found during processing, the Emergency Stop Button can be pressed to power off the machine and stop processing. Turn the Emergency Stop Button clockwise to reset.



Connecting the LP5 (Via the LDS App)

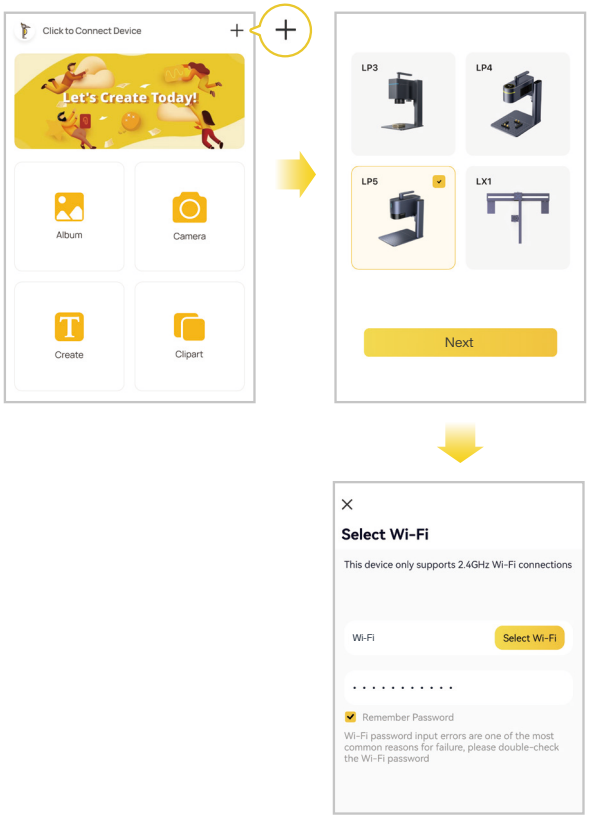
Connect to App through Wi-Fi (First time WiFi setup or changing the network)

Open the LaserPecker Design Space App, click the " + " in the upper right corner, select the machine model " LP5 " and follow the instructions to configure the WiFi network for the machine.

Note: Both the machine and the phone must be under the same 2.4GHz WiFi network.

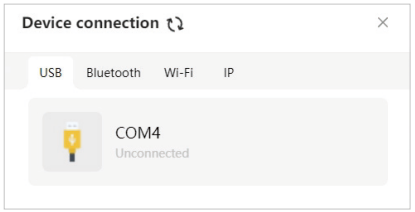
The Laser Unit indicator is in solid blue if the connection is successful.

- Blinking White: Not connected to the network
- Solid White: Connecting to the network
- Blinking Blue: Connected to the network
- Solid Blue: Connected to the App



Connecting the LP5 (Via the LDS PC Software)

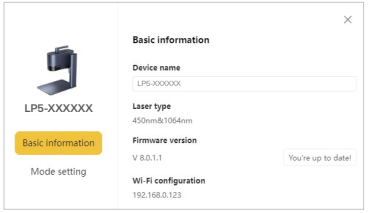
Option 1: Connect directly via the 1.5m USB cable

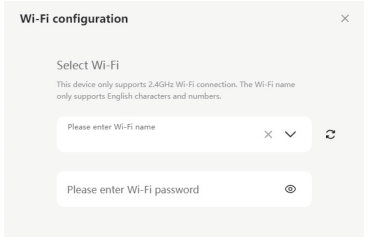


Option 2: Connect to PC Software through Wi-Fi (First-time Wi-Fi setup or changing the network)

1. Before setting up the wireless connection, you must first connect the machine to a computer using a USB cable. This USB connection allows you to configure the Wi-Fi settings on the machine.

2. After connected, entering the machine setting page on the upper right corner in the software. Select "Wi-Fi setting" and follow the instructions to configure the Wi-Fi network for the machine.



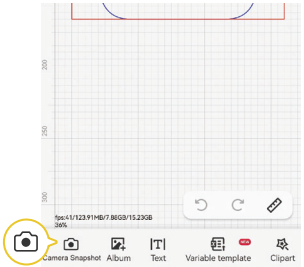


Both the machine and the computer must be under the same 2.4GHz Wi-Fi network.

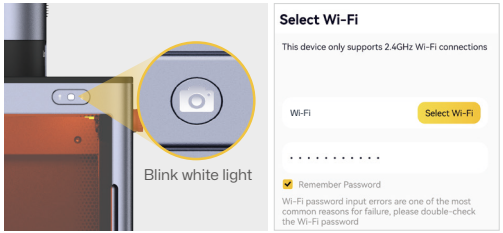
Camera Network Configuration (Via LDS App)

Note: Please ensure your LDS app and machine's firmware are both updated to the latest version.

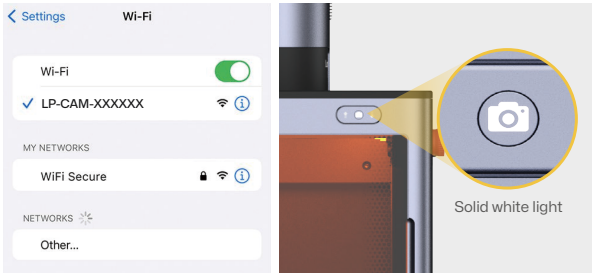
1 Please ensure that the LP5 is connected to the LDS. Click "Create" on the main page, then click "Camera Snapshot" in the selection bar below to add a camera.



2 Press and hold the camera button on the Safety Enclosure for 3 seconds until the indicator light blinks slowly to enter network configuration mode. Click "Next" and connect to the Wi-Fi network used by the LP5.

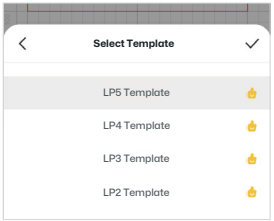


3 Click "Open Wi-Fi Settings" and connect to the LP-CAM-**** hotspot. Wait until the camera indicator light turns solid white to complete the configuration. Then return to the LDS app.



4 Reconnect the laser unit and click "Camera Snapshot" to select the appropriate template. It is recommended to calibrate the camera before first use to ensure accuracy.

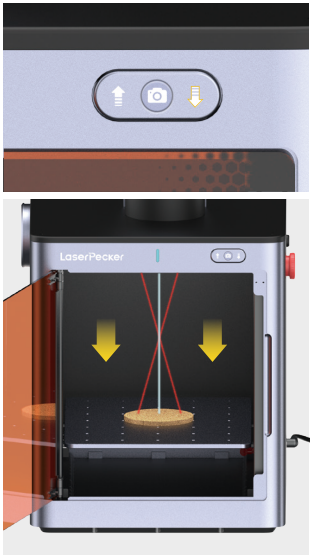
Scan the QR code below to learn how to calibrate and use the camera.



Focusing Methods

Vertical Focusing

Use the up and down buttons to move the Base Plate vertically. Focus is successful when the red dots coincide.



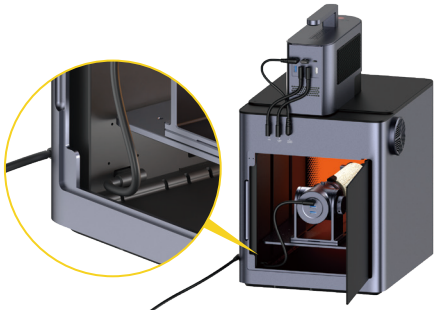
Automatic Focusing

Measure the material thickness and enter it into the software to complete the auto-focus process.

Using Accessories

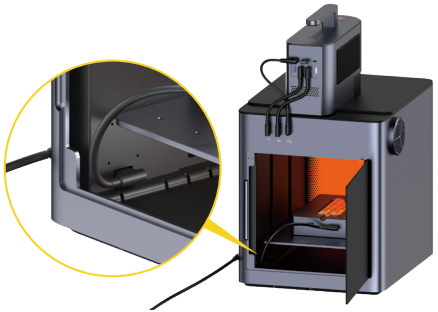
Rotary Extension

Using the LP5 model as an example, please open the rear door to connect and place the rotary extension as shown in the image.



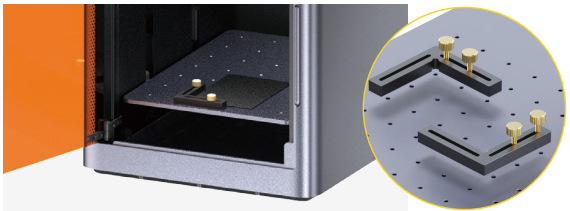
Versatile Electric Roller

Using the LP5 model as an example, please open the rear door to connect and place the versatile electric roller as shown in the image.



L-shaped Positioner

Secure the positioner according to the size of the object for repeated batch engraving.



More Information

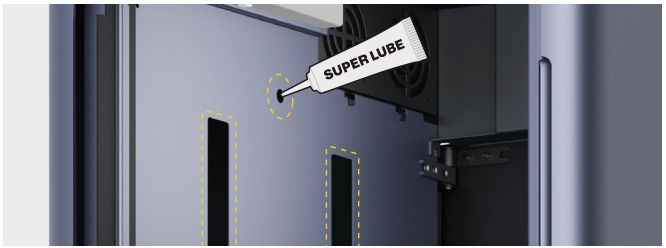
For more information on cable connection between different machine models and the accessory, please visit support.laserpecker.net

Maintenance

Note: Please perform maintenance and care while the device is powered off.

Lubrication

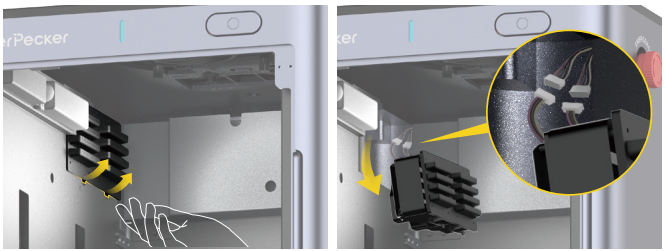
When the movement of the base plate up and down is obstructed or not smooth, apply lube oil to the lead screws and guide rails on both sides of the safety enclosure.



Exhaust Fan Cleaning

When smoke is detected leaking from the safety enclosure. Please remove the fan for cleaning to ensure proper smoke exhaust.

*If necessary, disconnect the wiring and take out the fan for cleaning.



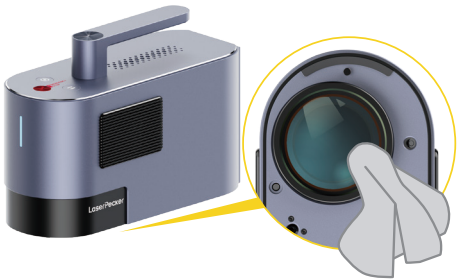
Dust Filter Cleaning

Remove the cover on the left side of the Laser Unit to clean the dust filter if there is dust buildup.

*The filter on the right side of the Laser Unit is an air intake filter and cannot be removed.

Field Lens Maintenance

If laser power attenuation occurs, for example, engraved patterns are shallow or uneven, the Field Lens may get dirty. Clean it with the lint-free cloth moistened with alcohol.



Technical Specifications (LP5 Laser Unit)

Size	Laser Unit: 255 x 98 x 183 mm
Net Weight	Laser Unit: 3.36 kg
Laser Source & Power	20W 450nm Blue Diode Laser 20W 1064nm Fiber Laser
Working Area	120 x 160 mm (Ellipse) 100 x 100 mm (Square)
Exterior Material	Aluminum Alloy
Preview Mode	Rectangle Preview / Outline Preview / Center Point Preview
Supported File Formats	PC Software: G-code / JPG / PNG / BMP / SVG / DXF etc. Mobile App: G-code / JPG / PNG / SVG
Connectivity	USB, Wi-Fi
Supported OS	Support iOS 9.0+, Android 7.0+, MacOS 10+, Windows 10+, Compatible with LightBurn
Input Power	DC (24V, 7.5A) AC (100-240V, 50-60Hz) 180W
Environmental Temperature	Temperature Range: 10°C - 35°C Humidity Range: 10% - 95%RH (Non-condensing)
Cooling System	Semiconductor Cooling + Air Cooling
Safety Certification	CE / ROHS / FCC / FDA / NCC / KC / UKCA / TELEC / SRRC

Technical Specifications

Size	310 x 350 x 345 mm
Net weight	8.9 kg
Load capacity	5 kg
Compatibility	Compatible with LP5 and LP4 (different top covers are required for compatibility)
Harmful light filtration efficiency	450nm 99.99% 1064nm 99.99%
Exterior material	Aluminum alloy, ABS, PC
Maximum engraving diameter for the rotary extension	118 mm
Maximum engraving height for the versatile electric roller	90 mm

Statements

Disclaimer

Thank you for choosing LaserPecker! This manual relates to your safety, legal responsibilities and rights. Please read and get familiar with all safety precautions and procedures before using the product. 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., LaserPecker (Hingin Technology Co., Ltd.) shall bear no responsibility for any loss resulting therefrom.

Given the conditions and methods of use of this product are beyond the control of LaserPecker, LaserPecker shall not be liable for any of the following consequences, which shall be borne by the user:

- Personal injury, property loss, and product damage caused by improper operation, failure to follow the manual or other uncertainties.
- The work that user created using the LaserPecker product infringes intellectual property rights of the third party or violates relevant laws and regulations.
- Personal injury, property loss, and product damage that may arise during the installation, transportation, storage, use, maintenance, and disposal of this product.
- All official LaserPecker materials have undergone safety testing and are compatible with this product. LaserPecker shall not be liable for material safety or engraving quality if the user uses non-LaserPecker official materials.

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