

## ATOMSTACK P9 M50

# ATOMSTACK P9 M50 Laser Engraver Instruction Manual

Model: P9 M50

## 1. INTRODUCTION

The ATOMSTACK P9 M50 is a portable and professional laser engraver designed for various materials including wood, leather, metal, and more. This manual provides essential information for safe operation, setup, and maintenance of your device, ensuring optimal performance and longevity.

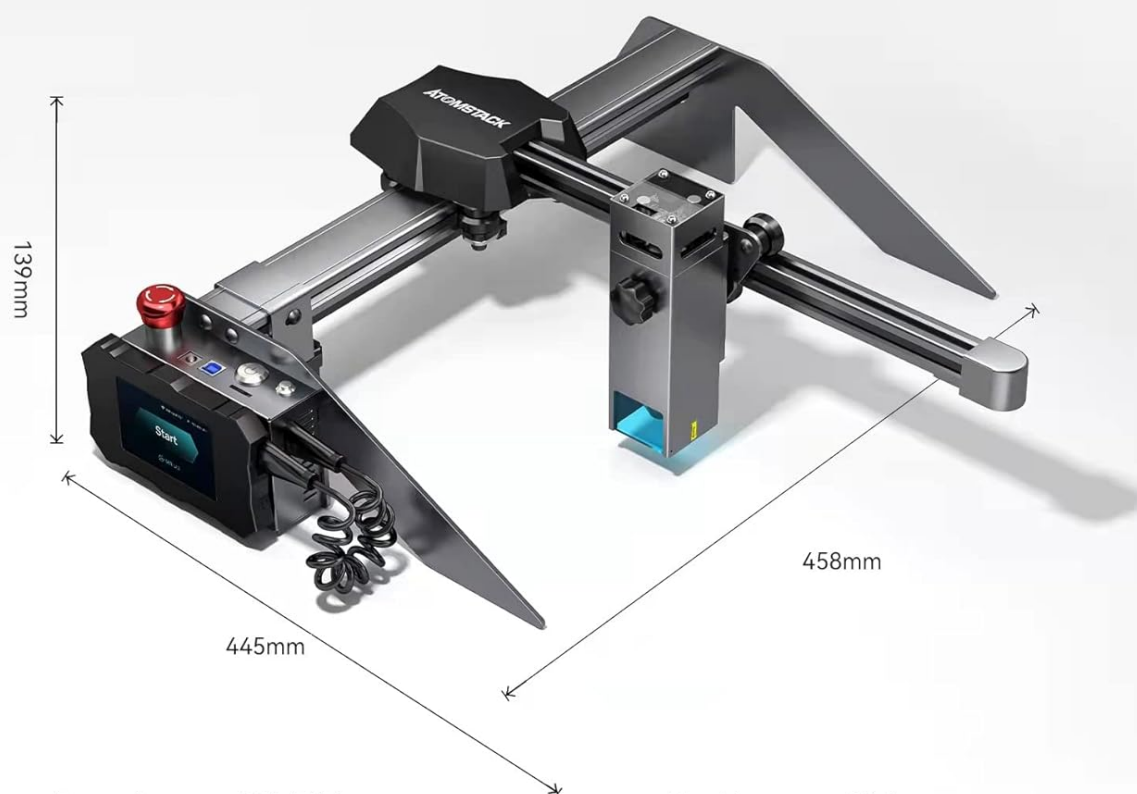
## 2. SAFETY INFORMATION

**WARNING:** Laser radiation can cause eye damage and skin burns. Always follow safety guidelines to prevent injury.

- **Eye Protection:** The laser module includes a protective cover. While this cover helps, it is highly recommended to wear additional laser safety goggles (not included) during operation to ensure maximum eye protection.
- **Emergency Stop:** Familiarize yourself with the emergency stop button. In case of any unexpected situation, press this button immediately to halt all machine operations. Rotate the button to disengage it before restarting.
- **Ventilation:** Operate the laser engraver in a well-ventilated area to dissipate fumes and smoke produced during engraving and cutting. Consider using an exhaust system.
- **Material Safety:** Do not engrave or cut unknown materials. Some materials can produce toxic fumes or catch fire. Always verify material compatibility and safety data.
- **Supervision:** Never leave the machine unattended during operation. Stay within close proximity to monitor the process.
- **Children and Pets:** Keep children and pets away from the operating area and the machine at all times.



# Product Parameter



**Engraving area:** 220 \* 250mm

**Electric power:** 50W

**Laser output optical power:** 10-11W

**Laser wave:**  $455 \pm 5$  nm

**Engraving accuracy:** 0.01mm

**Net weight of equipment:** 3.5kg

**Data transmission type:** USB connection / SD card / WIFI

**Focusing type:** fixed focus laser, no focusing

**Operating software:** Laser GRBL, LightBurn, with Win XP / Win7 / Win 8 / Win10 / Win 11 and Mac system(LightBurn)

Figure 2.1: Emergency Stop Button and Control Panel. The red button is the emergency stop, the silver button is On/Off, and the small button is Reset.

## 3. PACKAGE CONTENTS

Verify that all components are present in the package:

- 1 x ATOMSTACK P9 M50 Laser Engraving Machine
- Parts for screw assembly (steps 2/3/4/5)
- 1 x Anti-dust cloth
- 1 x Tool set
- 1 x Fixed focus film
- 3 x Acrylic panels
- 3 x Wood chips
- 1 x Card reader



- 5 x Cable ties
- 1 x Accessory package
- 1 x Display assembly
- 1 x Display cable
- 1 x Power adapter
- 1 x Power cable
- 1 x Data cable
- 1 x Metal cutting support plate
- 1 x Manual
- 1 x Laser assembly
- 1 x X-axis assembly
- 1 x Y-axis assembly
- 2 x Support feet
- 4 x Mounting spacers

## 4. SETUP GUIDE

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The ATOMSTACK P9 M50 comes 85% pre-assembled, simplifying the setup process. Follow these steps to prepare your engraver for use:

1. **Unpacking:** Carefully remove all components from the packaging and place them on a clean, stable surface.
2. **Frame Assembly:** Connect the X-axis and Y-axis assemblies as per the included manual's diagrams. Secure them using the provided screws and tools. Ensure all connections are firm.
3. **Laser Module Installation:** Mount the laser assembly onto the X-axis carriage. Ensure it is securely fastened and the cables are properly connected.
4. **Support Feet:** Attach the two support feet to the base of the machine for stability.
5. **Control Terminal:** Connect the independent control terminal to the main unit using the display cable. The terminal features a magnetic adsorption design for easy attachment.
6. **Power Connection:** Connect the power adapter to the machine and then plug it into a suitable power outlet (100-240V AC, 50/60Hz).
7. **Data Connection:** For computer control, connect the machine to your computer using the provided USB data cable. Alternatively, you can use a TF card for offline operation.





Figure 4.1: Assembled ATOMSTACK P9 M50 Laser Engraver.





Figure 4.2: Independent Control Terminal connection.

## 5. OPERATING INSTRUCTIONS

### 5.1 Software Installation and Connection

The ATOMSTACK P9 M50 is compatible with popular laser engraving software:

- **LaserGRBL:** Supports Win XP/Win 7/Win 8/XP/Win 10.
- **LightBurn:** Supports Win XP/Win 7/Win 8/XP/Win 10 and Mac systems.

Download and install your preferred software from the official websites. Connect the engraver to your computer via USB. Follow the software's instructions to establish a connection and begin your projects.



# Support Multiple Systems And file Formats



Figure 5.1: Software Compatibility and Connection.

## 5.2 Offline Engraving

The P9 M50 supports offline engraving via its independent control terminal and TF card, allowing operation without a continuous computer connection.

1. Prepare your engraving file (NC, BMP, JPG, PNG, DXF) using your chosen software.
2. Save the file to a TF card.
3. Insert the TF card into the slot on the control terminal.
4. Use the terminal's interface to select and start your engraving project.





Figure 5.2: Independent Control Terminal for Offline Engraving.

### 5.3 Fixed Focus Laser

The P9 M50 features a fixed-focus laser, eliminating the need for manual focus adjustment. This design ensures consistent precision and high energy density for both engraving and cutting tasks.





Figure 5.3: Fixed Focus Laser Technology.

## 5.4 Supported Materials

The ATOMSTACK P9 M50 can engrave and cut a wide range of materials:

### Engraving Materials:

- Wood
- Bamboo
- Cardboard
- Plastic
- Leather
- PCB
- Aluminum oxide
- Non-reflective electroplated and painted metal
- 304 mirror stainless steel
- Glass
- Ceramic



- Cotton
- Slate

### Cutting Materials:

- Cardboard
- Non-woven fabric
- Wood board (up to 15mm)
- Acrylic (black, up to 15mm)
- Some thin plastic sheets
- Sponge

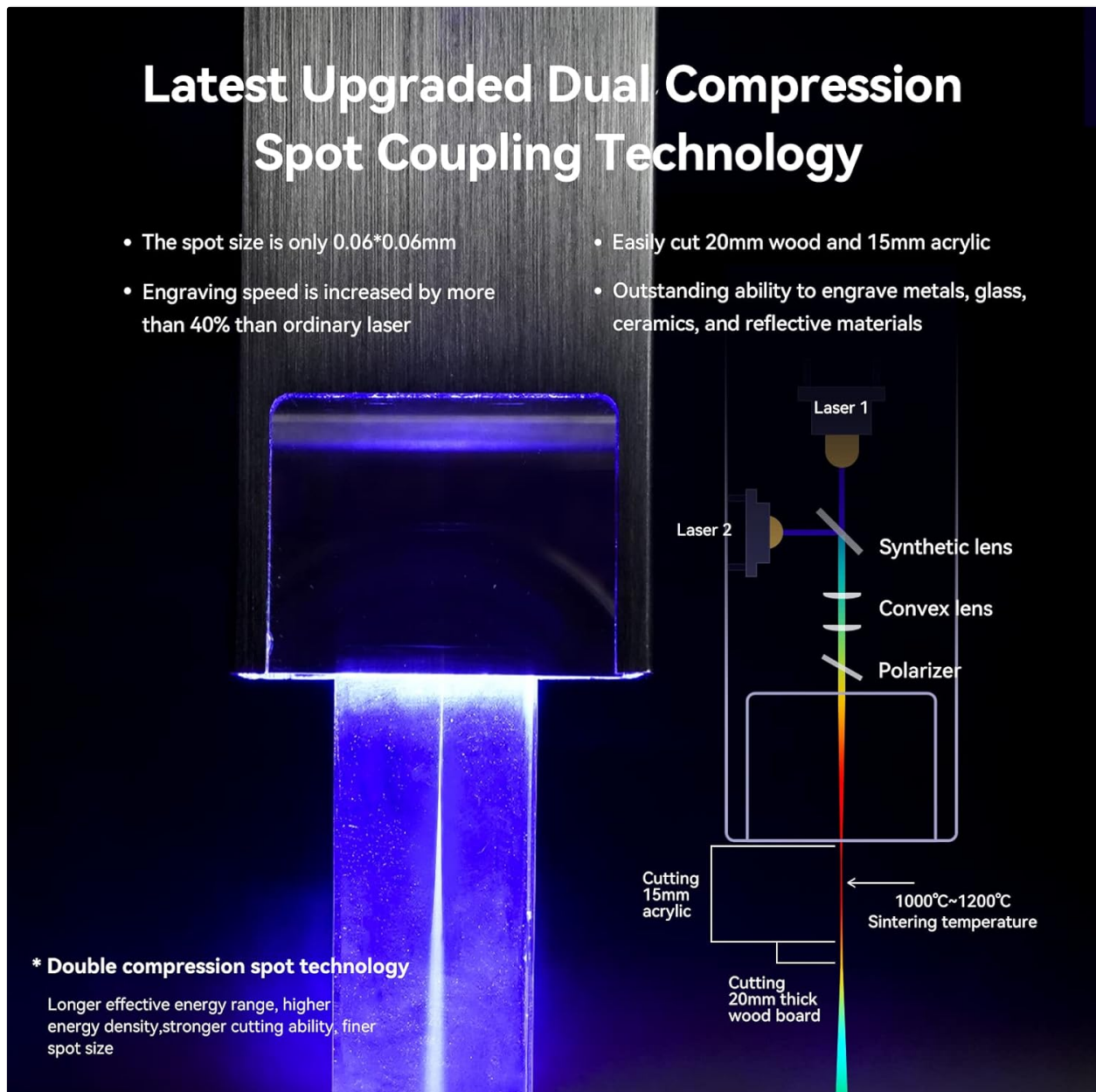


Figure 5.4: Dual Compression Spot Coupling Technology for Cutting.

## 6. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your ATOMSTACK P9 M50. Perform these tasks periodically:



- **Clean the Laser Lens:** Periodically clean the laser lens with a soft, lint-free cloth and a specialized lens cleaning solution to maintain engraving precision and laser power.
- **Clean the Work Area:** Remove debris, dust, and residue from the engraving area after each use to prevent interference with the laser path and machine movement.
- **Lubricate Moving Parts:** Apply a small amount of appropriate lubricant to the guide rails and lead screws as needed to ensure smooth and precise operation of the machine's axes.
- **Inspect Cables:** Regularly check all power and data cables for signs of wear, fraying, or damage. Replace any damaged cables immediately to prevent electrical hazards.

## 7. TROUBLESHOOTING

This section addresses common issues you might encounter with your ATOMSTACK P9 M50.

Problem	Possible Cause	Solution
Machine does not power on	Power cable loose; power adapter faulty; emergency stop engaged	Check all power connections; ensure the emergency stop button is disengaged (rotate to unlock). Test power adapter if possible.
Laser not firing	Laser module not connected; software settings incorrect; material too reflective	Check laser module connection; verify software power settings (e.g., 100% power); ensure material is suitable for laser engraving/cutting.
Engraving is blurry or weak	Dirty laser lens; incorrect material settings; material not flat or properly positioned	Clean the laser lens; adjust power/speed settings in software for the specific material; ensure material is flat and secure on the work surface.
Machine not connecting to computer	USB cable faulty; driver issues; incorrect port selection in software	Try a different USB cable or port; reinstall necessary drivers for the engraver; select the correct COM port in your engraving software.

## 8. SPECIFICATIONS

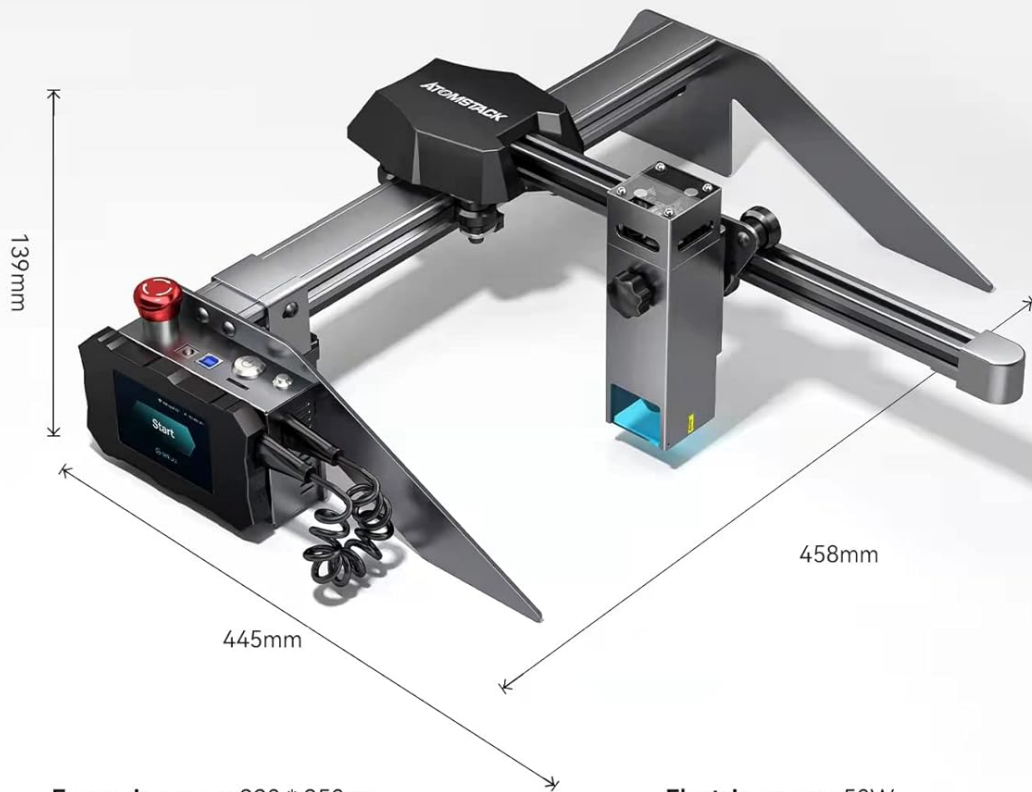
Detailed technical specifications for the ATOMSTACK P9 M50 Laser Engraver:

Machine Power	50 W
Laser Optical Power	10-11 W
Laser Wavelength	455 ± 5 nm
Engraving Accuracy	0.01 mm
Focusing Method	Fixed focus
Engraving Area	220 x 250 mm
Data Transfer	USB connection / TF card



<b>Operating Software</b>	LaserGRBL, LightBurn
<b>Supported OS</b>	Win XP/7/8/10, Mac (LightBurn)
<b>Supported File Formats</b>	NC, BMP, JPG, PNG, DXF
<b>Power Input</b>	100-240 V AC, 50/60 Hz
<b>Power Output</b>	12 V 5 A
<b>Net Weight</b>	3.5 kg
<b>Certifications</b>	CE, FCC, RoHS, FDA, PSE

# Product Parameter



<b>Engraving area:</b> 220 * 250mm	<b>Electric power:</b> 50W
<b>Laser output optical power:</b> 10-11W	<b>Laser wave:</b> 455 ± 5 nm
<b>Engraving accuracy:</b> 0.01mm	<b>Net weight of equipment:</b> 3.5kg
<b>Data transmission type:</b> USB connection / SD card / WIFI	
<b>Focusing type:</b> fixed focus laser, no focusing	
<b>Operating software:</b> Laser GRBL, LightBurn, with Win XP / Win7 / Win 8 / Win10 / Win 11 and Mac system(LightBurn)	

Figure 8.1: Product dimensions and key specifications.





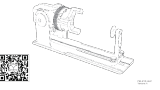



## 9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official ATOMSTACK website or contact your retailer. Keep your purchase receipt as proof of purchase.

### Online Resources:

- Visit the official ATOMSTACK store on Amazon: [ATOMSTACK Official Store](#)
- For software support, visit the official websites of [LaserGRBL](#) and [LightBurn](#).

### Related Documents - P9 M50

	<a href="#">ATOMSTACK Air Assist Kit User Manual</a> User manual for the ATOMSTACK Air Assist Kit, providing installation, usage, and precautions for ATOMSTACK laser engraving machines.
	<a href="#">ATOMSTACK A5 Pro Laser Engraving Machine Manual</a> Comprehensive user manual for the ATOMSTACK A5 Pro laser engraving machine, covering safety, software installation (LaserGRBL and LightBurn), operation, and troubleshooting.
	<a href="#">ATOMSTACK MAKER R1 Rotary Chuck User Manual and Installation Guide</a> This comprehensive guide details the installation, connection, and operation of the ATOMSTACK MAKER R1 Rotary Chuck for laser engraving machines. It covers packing contents, setup procedures, software configuration with LightBurn, and essential notes for engraving cylindrical, spherical, and other shaped objects.
	<a href="#">AtomStack APP User Manual: Connecting and Operating Your Laser Engraver</a> A comprehensive user manual for the AtomStack APP, guiding users through software download, device connection, network setup, functional descriptions, creation and engraving processes, software and firmware updates, camera integration, video recording, password management, and camera reset procedures for AtomStack laser engravers.
	<a href="#">AtomStack M50 Laser Module Installation Manual</a> Comprehensive installation manual for the AtomStack M50 Laser Module, detailing safety precautions, disclaimers, component descriptions, installation steps, and maintenance guidelines for laser engravers.
	<a href="#">ATOMSTACK P1 User Manual - Laser Engraver</a> Comprehensive user manual for the ATOMSTACK P1 laser engraver, covering safety precautions, packing list, device features, operation, software resources, FAQs, and maintenance.





### [ATOMSTACK Air Assist Kit User Manual](#)

User manual for the ATOMSTACK Air Assist Kit, providing installation, usage, and precautions for ATOMSTACK laser engraving machines.

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### [\[pdf\] User Manual Installation Guide Parts List Guide Accessories](#)

AtomStack Air Assist Kit User Manual User Guides Set para accesorios de máquina cortadora grabado láser F30 drive google file d 1z2vteiBeu1I6bFYJgcbG2XYmUSpfCHMo view |||

ATOMSTACK Air Assist Kit User Manual Note: The picture is for reference only, the actual product sh ... AtomStack P9 M40 Atomstack X7 Pro AtomStack A10 PRO Atomstack A5 M50 Atomstack S10 Pro AtomStack **P9 M50** Atomstack X7 Installation of Air Guide Hood for Eight Models 11 1. Remove the set screw fr...

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

### [\[pdf\] User Manual Installation Guide Parts List Guide Accessories](#)

ATOMSTACK Air Assist Kit User Manual Torden Install the combination matches your model mount air guide hood and glass at same time If is AtomStack A5 Pro or P7 M40 you rukovodstvo na vozdušnyj kompressor atomstack f30 angl srsltid AfmBOoohnu2UJnXpiB3o97AqUsBXXXq2 Db depdFx2bKpEBGFJbJFJe torden ru 2024 06 TordenATOMSTACK TordenInstall you Install you torden depdFx2bKpEBGFJbJFJetorden AfmBOOq2du6IMk vVEtWfTKB2CjJw2r8S 4uakwCLir8Yq4posG6sAW2 you Manufacturer Shenzhen Technologies Co Ltd Address 17th Floor Building 3A Phase II Intelligent Park No 76 Baohe Avenue Baolong Street torden 4uakwCLir8Yq4posG6sAW2torden AfmBOooLOGTUQWJd7QPaHUK5Tt5GhBgIqxQtFkToZfgNmLtX9GggLQ34 If you need to choose one of following 2 combinations support Page 6 Equipment torden AfmBOooLOGTUQWJd7QPaHUK5Tt5GhBgIqxQtFkToZfgNmLtX9GggLQ34torden AfmBOoo677Klar4Av 7Y4R2Ts8Cs9RGLMz2NVY1gz74B CrW4cbO2KTK Equipment Install CrW4cbO2KTKtorden AfmBOoo2Q81eavA6u0RJd bjY4JySk DtnVI5pO9pYqqEWEhKYH43FPV you Wenn Ihr Modell oder ist müssen Sie eine der folgenden Kombinationen auswählen um zu unterstützen 14 torden DtnVI5pO9pYqqEWEhKYH43FPVtorden AfmBOOqV4tL0jDGMdP Y3bnnbMqi66jfV22HSAsLB0EYnjiGLcoegEj 14 Install Y3bnnbMqi66jfV22HSAsLB0EYnjiGLcoegEjtorden AfmBOork5o34hh0SL4K ez8ydO07aodyH5FcwoZi3UzeeJySwiDVcMn2 ez8ydO07aodyH5FcwoZi3UzeeJySwiDVcMn2torden AfmBOOq GeHfBJ2fsABaDdkJz 7Vpcob2pVthKwVlxKOZ2g6ZTvbQXU 7Vpcob2pVthKwVlxKOZ2g6ZTvbQXutorden AfmBOor0mH5O19SAje6 HPrL8kt423hVZT2crZ0NhuDE4YQ 5Vps1Uvy so1yTE2rWH1RHZZvV8AQR83zGlijrZnn6NojltoqQyaXGAZZ2torden AfmBOOp3LLYbsgTEJunSZ0skGN2cCLUWR247c2mFiRWiB11GYFP85IDDtorden 5Vps1Uvytorden AfmBOOr6JTMuVxs6lUsrbI4yJ0OmQw2I27sZm7oHXUVKqTVbBfKLazKt AfmBOOp0vIxQi3a33dZ2J99TJC9 cNAQ6oNuJpTWj7jcuUqz6ubDohcCtorden AfmBOoolsSw9PmiSINL5Yr6InG17Hz1VjYa66AtelbQ lKqwwgNXOb8Utorden ||| ||| ATOMSTACK Air Assist Kit User Manual Note: The picture is for reference only, the actual product shall prevail. For more information, please scan the QR code English Deutsche Franais F03-0046-0AA1 Version:C Parts List This is parts collecti ||| ATOMSTACK Air Assist Kit User Manual Note: The picture is for reference only, the actual product shall prevail. For more information, please scan the QR code English Deutsche Franais F03-0046-0AA1 Version:C Parts List This is parts collecti ||| ATOMSTACK Air Assist Kit User Manual Note: The picture is for reference only, the actual product shall prevail. For more information, please scan the QR code English Deutsche Franais F03-0046-0AA1 Version:C Parts List This is parts collecti |||











P9 M50 Engraving parameter table						
Material	Engraving					Case illustration
	Quality	Speed	S-Max	Whether to black out	perform multiple passes	
Basswood	8	3000	300	NO	1	
Hardwood	8	3000	400	NO	1	
Bamboo	8	3000	400	NO	1	
Acrylic	8	3000	300	NO	1	

[\[pdf\]](#) User Manual Specifications

Administrator LaserGRBL Engraving Parameter Table Atomstack P9 M50 50W Laser Engraver Portable Dual Cutter 150W CO<sub>2</sub> Effect Machine Please the user manual settings installation specification Sheet under supports page or Download User Manual Cutting v 1650693320 cdn shopify s files 1 0579 9906 5226 |||

**P9 M50** Engraving parameter table Material Quality Engraving Speed S-Max Whether to black out perform multiple passes Case illustration Basswood 8 3000 300 NO 1 Hardwood 8 3000 400 NO 1 Bamboo 8 3000 400 NO 1 Acrylic 8 3000 300 NO 1 Kraft Paper 8 3000 150 NO 1 Mirrors ...

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P9 M50 Engraving parameter table							
Material	Engraving					Case illustration	
	Line Interval	Speed	MaxPower	Shape Mode	Whether to black out		
Basswood	0.1	3000	25%	Jarvis	NO	1	
Hardwood	0.1	3000	25%	Jarvis	NO	1	
Bamboo	0.1	3000	30%	Threshold	NO	1	
Acrylic	0.1	3000	25%	Threshold	NO	1	

[\[pdf\]](#) User Manual Specifications

Administrator LightBurn Engraving Parameter Table Atomstack P9 M50 50W Laser Engraver Portable Dual Cutter 150W CO<sub>2</sub> Effect Machine Please the user manual settings installation specification Sheet under supports page or Download User Manual LaserGRBL Lightburn Cutting v 1650693320 cdn shopify s files 1 0579 9906 5226 |||

**P9 M50** Engraving parameter table Material Line Interval Image Speed Max-Power Mode Engraving Whether to black out Number of passes Case illustration Basswood 0.1 3000 25 Jarvis NO 1 Hardwood 0.1 3000 25 Jarvis NO 1 Bamboo 0.1 3000 30 Threshold NO 1 Acrylic 0.1 3000 2...

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## Section 2.911(d)(5)(ii) Certification – Applicant (Covered List

**2.911(d)(5)(ii) Applicant filing**

Jason LI

Date: 2024-08-12

<sup>10</sup> "Covered List" is the List of Equipment and Services Covered By Section 2 of The Secure Networks Act, available at <https://www.fcc.gov/supply-chain/coveredlist>

### References

2011 (4/5/11) Appendix A-Attachment v. 3

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## Section 2.911(d)(5)(i) Certification – Equipment Type

2.911(d)(5)(i) Equipment Type

Jason LI

Date: 2024-08-12

NOTE 1  
"Covered List" is the List of Equipment and Services Covered By Section 2 of The Secure Networks Act, available at <https://www.fcc.gov/supplychain/coveredlist>

## References:

### Agent Authorization

**Product Description:** Laser Engraver

Signature: Jason LI Date: 2024-8-12

Name: Jason Li

<b>Title:</b>	CEO
<b>Company:</b>	Shenzhen AtomStack Technologies Co., Ltd.

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*I hereby declare that I am entitled to sign on behalf of the applicant and that the information supplied is correct and complete.*

lang:en score:17 filesize: 1.52 M page\_count: 3 document date: 2022-04-12