

User Manual



Model: FSL100 Laser Fume Extractor



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1. Product Overview

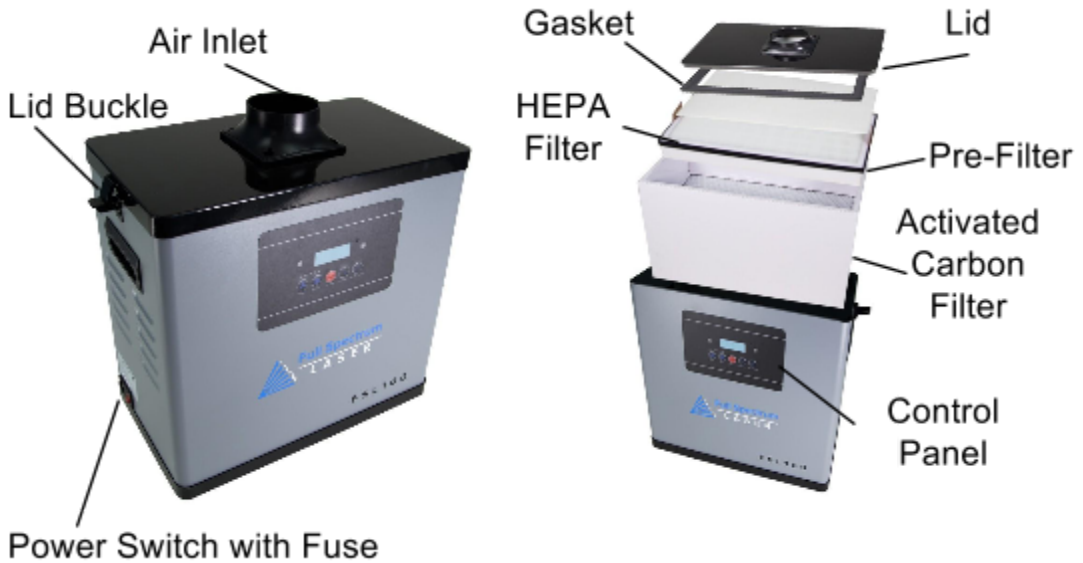
This high quality fume extractor is designed for capturing dust particles and removing odors when cutting or engraving with the Full Spectrum Laser line of laser cutters. Use only OEM replacement filters from Full Spectrum Laser in this machine to maintain top performance and warranty.

2. Unpacking Inspection

Please check carefully to ensure that the following listed parts are included. If there are any missing or damaged items, please contact customer service.

Name of Parts	Qty	Remarks
Main Unit	1	
Power Cord	1	
4" Hose	1	
Top Cotton Pre-Filter	5	One installed, 4 spares included.
HEPA Middle Filter	1	Installed in main unit
Activated Carbon Lower Filter	1	Installed in main unit

3. Unit Components



4. Specifications

Model FSL100 Specifications	
Air Inlet Size	<i>4" duct</i>
Input Voltage	<i>AC110V</i>
Maximum Power	<i>200W</i>
Noise	<i><60dB</i>
Typical Flow Rate	<i>210 CFM</i>
Dimensions	<i>17" x 10" x 16"</i>
Weight	<i>31 lbs</i>

5. Installation & Use Instructions

5.1 Filtering Core Installation

Open the top cover and correctly install the Activated Carbon filter, HEPA filter and Cotton pre-filter in that order. Press the two buckles to lock down the lid.

5.2 Suction Duct Hose Installation

Remove the hose from the package, and attach one end of the 4" duct flange on the top cover of the machine and the other end to your Full Spectrum Laser machine's outlet duct.



Do not introduce a bend radius of more than 10" on the hose.

5.3 Machine Operating Instructions

Plug in and check if the power plug is properly fit into the socket.
Turn on the power switch.



5.4 Control Panel Button Functions



On/Off Button

Pressing the On/Off button on the control panel should cause the machine to start running and the orange light on the machine control panel should turn ON. Pressing the power button again should cause the machine to stop running and the orange indicator light on the machine control panel should turn OFF.

Flow+ Button

Press this button when the machine is running to increase the fan speed, the number on digital display increases in multiples of 10, the maximum number is 100 which means the machine is running in full speed.

Flow- Button

Press this button when the machine is running, the number on digital display decreases in multiples of 10.

Proper Fan Speed

The fan speed should be set according to the actual requirements to remove all smoke without creating too much of a vacuum. During laser cutting, the laser machine should not fill up with smoke. If there is lingering smoke during cutting increase the fan speed. Too high a setting may cause the work piece to lift up and be pulled toward the vacuum created. In addition, too high a fan speed increases the power consumption as well as the noise level.

Time Set Button

While the machine is running, press the Timer Set button, the digital display will show HXXX. Then press the Flow+/Flow- buttons to adjust the shutdown timing. XXX represents the timer countdown in hours with a maximum of 300 hours and minimum of 1 hour. After you are satisfied with the setting, press the Timer Set button again and the digital display will show HXXX and start the countdown timer. For example, H005 represents that the machine will shut down automatically in 5 hours. This function is useful at the end of the day when you turn the laser off but still want to keep cleaning any smell residues that may remain inside the machine.

Ok/Setting Button

If the machine is in alarm status and buzzer sounds, press the Ok/Setting button to turn OFF the alarm. If the machine is not in alarm status, press the Confirm/Set button to check the total working hours of the machine.

6. Troubleshooting



Make sure the power is switched off and unplugged before inspecting or repairing the machine!

- Problem 1:** The machine still works, but the air flow is very weak and suction power is greatly reduced.
- Cause:** Air Inlet is blocked or foreign body exists inside the duct. The filter becomes saturated and hence gets blocked and gives an alarm. Usually only the pre-filter gets clogged quickly with large particles and needs to be vacuumed or replaced.
- Solution:** Turn off the power and open the top cover. Check if there is any foreign objects blocking the air inlet. Then check if the air vent is blocked or not. If the suction power of the empty-loaded machine is normal, it means the filter needs to be replaced.
- Problem 2:** The machine shuts down automatically after it is just started. Even if you restart the machine, the same problem happens again.
- Cause:** The air flow through the machine is obstructed. As a result, the starting current of the fan becomes very high, hence the machine shuts down automatically for self protection.
- Solution:** Turn off the power and open the top cover. Check if there is any obstructions in the air inlet or replace filters.
- Problem 3:** Power switch is ON, but machine does not run and the power indicator does not light up.
- Cause:** The fuse might be bad.
- Solution:** The fuse needs to be replaced. Pop the fuse out from the power socket using a flat head screwdriver and replace.



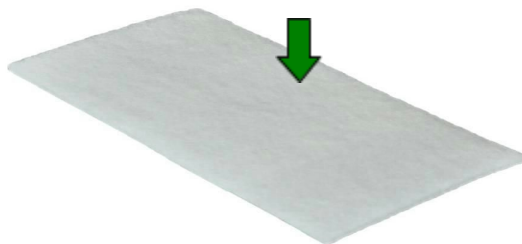
If the problem remains after these inspections and maintenance are performed, please contact customer service.

7. Filter Use & Maintenance

This product uses disposable filtering elements. When these elements have been used to a certain extent, they need to be cleaned or replaced in order to guarantee the good purifying effect of the machine.

1. Cotton Pre-filter

Air Flow Direction



Place the Pre-filter on top of Middle HEPA Filter. The front side (rough side) is facing upwards (air inlet direction). When the accumulated dust on the Pre-filter is over 70% coverage and cannot be cleaned anymore, it must be replaced with a new one.

2. Middle HEPA Filter

Air Flow Direction



With the handle side facing up, put the Middle HEPA Filter on top of the the Lower Activated Carbon Filter. It should be immediately cleaned off by vacuuming when any accumulated dust affects the suction power. When cleaning does not help replace the Middle HEPA Filter with a new one.




3. Lower Activated Carbon Main Filter

Air Flow Direction



With the handle side facing up, place the Lower Activated Carbon Filter at the bottom inside the machine. This filter is responsible for removing smells. If there is good airflow but the odors are not removed, the Activated Carbon Filter is consumed and must be replaced.

8. Replacement Parts

Name	Remarks	Pictures
Top Cotton Pre-filter	Mainly filtering large particles. Replace or clean weekly.	
Middle HEPA Filter	Used for filtering small particles.	
Activated Carbon Lower Filter	Removes odors.	

9. Important Use Considerations



While using the machine, the ambient temperature range of the gas and the dust which is sucked into the air inlet should be within the range 15-60°C. Never use the machine when the temperature is higher or lower than this temperature range.



When using the machine, the humidity of the gas and the dust sucked into the air inlet should be between the range of 40%-80%. If the humidity is excessively high, the activated carbon filter element will become rapidly saturated with water and consumed.



Do not use this machine without all filter elements because the fumes or the dust particles may be sucked into the air blower and the control system causing damage. Any operation without all filter elements installed is not covered under warranty. Use only OEM replacement filter elements from Full Spectrum Laser.



Do not continue to use the machine when the HEPA filter element or the Cotton pre-filter is clogged as this will increase motor wear and shorten the service life of the machine. Please clean and/or replace the filter elements regularly to ensure proper machine operation.

The warranty will not cover any losses or damage that may be incurred by the user if instructions are not followed.

10. Contact Information

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