

OMTech USB-AIR2-US

OMTech Air Assist Module USB-AIR2-US User Manual

Model: USB-AIR2-US

1. INTRODUCTION

The OMTech Air Assist Module (Model: USB-AIR2-US) is designed to enhance the performance of CO2 laser engravers and cutters by providing controlled airflow. This module automatically adjusts between high-pressure and low-pressure modes to optimize results for various materials and tasks, reducing charring and improving cut quality. It is compatible with most OMTech CO2 laser engravers and cutters, with the exception of K40 and Polar models.

2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the OMTech Air Assist Module. Failure to follow these instructions may result in injury or damage to the equipment.

- Ensure the laser engraver/cutter is powered off and disconnected from the power source before installation or maintenance.
- An external air compressor is required for operation. Ensure the compressor meets the specified requirements ($\geq 80\text{L/min}$ flow, $\geq 30\text{L}$ tank capacity, $\leq 1\text{MPa}$ pressure).
- Always wear appropriate personal protective equipment (PPE) when operating laser equipment, including eye protection.
- Do not operate the module in wet conditions or near flammable materials.
- Keep children and unauthorized personnel away from the operating area.
- Regularly inspect air lines and connections for leaks or damage.

3. PACKAGE CONTENTS

Verify that all components are present and undamaged upon unpacking:

- OMTech Air Assist Module (USB-AIR2-US)
- Power Cable

- Air Hoses and Connectors
- Signal Cable
- User Manual (this document)

4. PRODUCT OVERVIEW

The OMTech Air Assist Module features intuitive controls and connection points for seamless integration with your laser system.

Double the Speed

Cut Through the Same Materials 1.5X to 2X Faster

OMTech Air Assist

2X

No Air Assist



*External Compressor Required

Figure 1: A close-up view of the OMTech Air Assist Module. Key components include the Drain Port, Power Switch, Power Output, Air Input, Air Output, Signal Port, Low-Pressure Gauge, Low-Pressure Regulator, High-Pressure Gauge, and High-Pressure Regulator.

5. SETUP AND INSTALLATION

Follow these steps to properly install your Air Assist Module:

1. **Prepare the Workspace:** Ensure your laser engraver/cutter is turned off and unplugged. Place the Air Assist

Module on a stable, level surface near your laser machine.

2. **Connect Air Compressor:** Connect your external air compressor to the "Air Input" port on the Air Assist Module using the provided air hose. Ensure a secure connection.
3. **Connect to Laser Machine:** Connect the "Air Output" port of the module to the air assist inlet on your laser engraver's nozzle using the appropriate air hose.
4. **Connect Signal Cable:** Connect the signal cable from your laser machine's air assist control port to the "Signal Port" on the Air Assist Module. Refer to your laser machine's manual for the specific port location.
5. **Power Connection:** Connect the power cable to the power input on the module and then plug it into a suitable power outlet.
6. **External Compressor Requirement:** An external air compressor is mandatory for the operation of this module. The compressor should provide a minimum flow of 80L/min, have a tank capacity of at least 30L, and operate at a pressure of 1MPa or less.



Figure 2: The OMTech Air Assist Module. An external air compressor (not pictured) is required for operation.

6. OPERATION

The Air Assist Module provides automatic pressure switching for optimal laser processing.

6.1 Powering On and Initial Settings

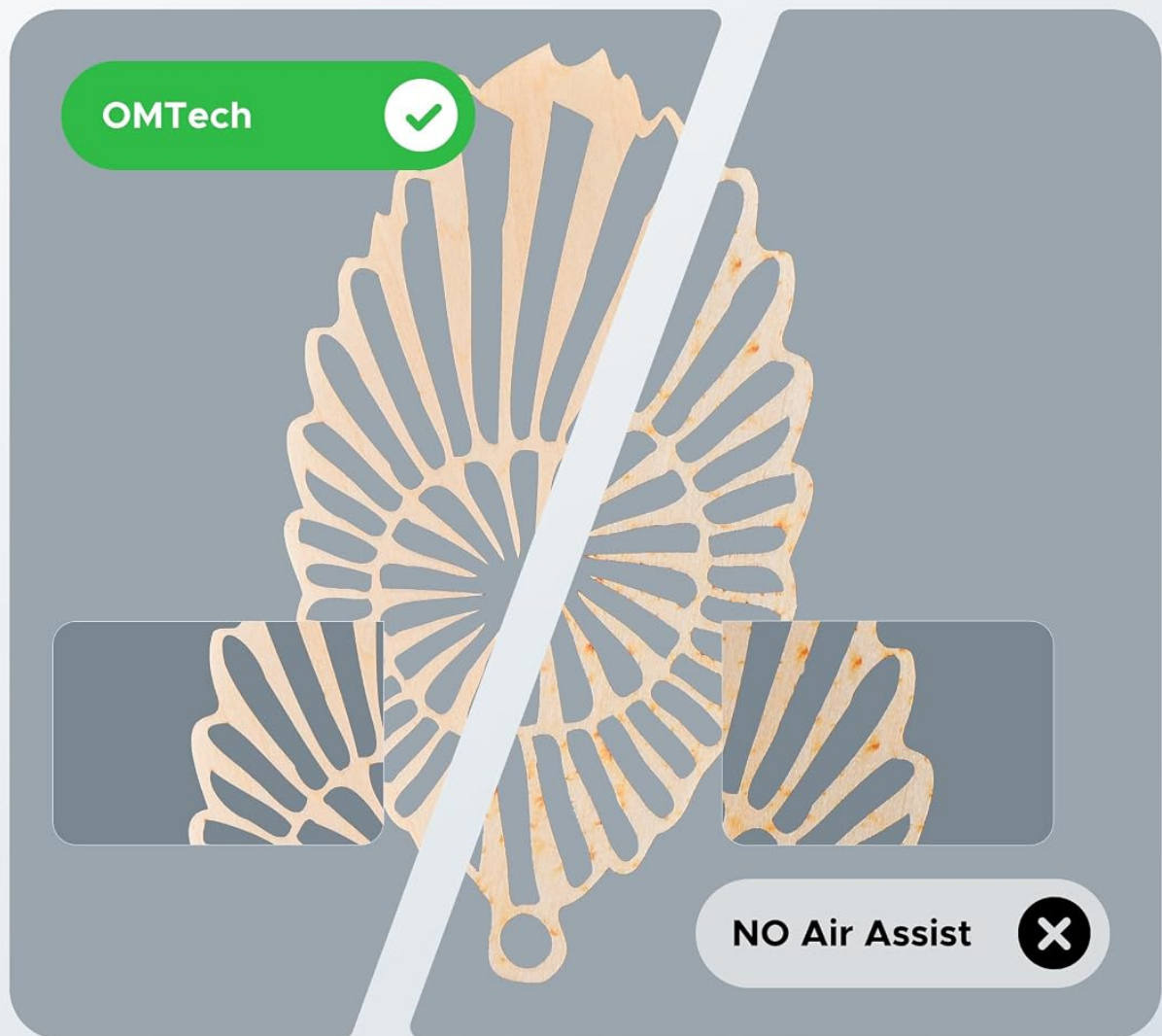
1. Turn on your external air compressor.
2. Flip the "Power Switch" on the Air Assist Module to the ON position.
3. Adjust the "Low-Pressure Regulator" and "High-Pressure Regulator" knobs to set your desired air pressure for engraving and cutting, respectively. The gauges will display the current pressure.
4. Turn on your laser engraver/cutter. The module will now communicate with your laser system.

6.2 Automatic Pressure Switching

The module automatically switches between the set low-pressure and high-pressure modes based on the operation commanded by your laser software (e.g., engraving vs. cutting). This ensures the correct airflow for each task, leading to cleaner results and improved efficiency. Using the air assist can increase cutting depth by 15-20% and boost cutting speeds by 1.5 to 2 times on identical materials, while also producing smoother edges with minimal charring.

Smoother & Cleaner Cuts

Get Laser-Cut Wood with Polished Edges
and Almost No Charring



*External Compressor Required

Figure 3: A laser head operating with air assist, demonstrating the airflow directed at the material surface during processing.

7. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your Air Assist Module.

- **Drain Moisture:** Periodically check and drain any accumulated moisture from the "Drain Port" to prevent water from entering your laser system.

- **Inspect Air Lines:** Regularly inspect all air hoses and connections for kinks, cracks, or leaks. Replace damaged components immediately.
- **Clean Exterior:** Keep the exterior of the module clean and free of dust and debris using a soft, dry cloth.
- **Compressor Maintenance:** Follow the maintenance schedule for your external air compressor as recommended by its manufacturer.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No airflow from nozzle.	Module not powered on. Air compressor off or not connected. Air hoses kinked or disconnected. Signal cable not connected or faulty.	Ensure power switch is ON. Check compressor power and air input connection. Inspect air hoses for obstructions or disconnections. Verify signal cable connection to both module and laser machine.
Air pressure not changing.	Signal cable issue. Regulator knobs incorrectly set. Laser software not sending correct signal.	Check signal cable connection. Adjust Low-Pressure and High-Pressure Regulator knobs. Consult your laser software manual for air assist settings.
Excessive moisture in air line.	Moisture not drained from module. Compressor not equipped with a dryer or filter.	Regularly drain moisture from the Drain Port. Consider adding an air dryer or filter to your compressor setup.

9. SPECIFICATIONS

Feature	Detail
Model Number	USB-AIR2-US
Airflow Rate	80 L/min (minimum required from compressor)
External Compressor Requirement	≥80L/min flow, ≥30L tank capacity, ≤1MPa pressure
Compatibility	Most OMTech CO2 laser engravers and cutters (excluding K40 and Polar models)
Product Dimensions	23.6 x 12 x 22.4 inches
Manufacturer	OMTech

10. WARRANTY AND SUPPORT

OMTech provides comprehensive support for its products.

- **Warranty:** The product comes with 2 years of comprehensive service.
- **Technical Support:** A 24/7 global support team is available for expert assistance and technical guidance.
- **Contact Information:** For support, please visit the official OMTech website or refer to the contact details provided

with your purchase documentation.

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Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question