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› [OMTech 60W CO2 Laser Engraver Instruction Manual](#)

OMTech 60W Autofocus

OMTech 60W CO2 Laser Engraver Instruction Manual

Model: 60W Autofocus

1. SAFETY INFORMATION

This OMTech 60W CO2 Laser Engraver is a Class 2 laser product with 0.827 mW output power. Always follow safety guidelines to prevent injury or damage. Read this manual completely before operation.

- **Eye Protection:** Never look directly into the laser beam. Always use appropriate laser safety glasses.
- **Ventilation:** Ensure adequate ventilation to remove smoke and fumes generated during operation. The built-in air assist helps, but an external exhaust system is crucial.
- **Fire Safety:** Do not leave the machine unattended during operation. Keep a fire extinguisher nearby. Engraving certain materials can cause flames.
- **Material Compatibility:** Only engrave or cut materials compatible with CO2 lasers. Avoid materials that produce toxic fumes or are highly flammable.
- **Emergency Stop:** Familiarize yourself with the emergency stop button location and function.
- **Supervision:** The widened viewing window is made from flame retardant material for safe observation of the engraving process.

2. PRODUCT OVERVIEW

The OMTech 60W CO2 Laser Engraver is designed for precision engraving and cutting on various non-metallic materials. It features a 20x28 inch (500x700 mm) work area, autofocus, and a 4-way pass-through for larger items.



Figure 2.1: Front view of the OMtech 60W CO2 Laser Engraver.

Key Features:

- **Laser Power:** 60W CO2 laser tube.
- **Work Area:** 20x28 inches (500x700 mm).
- **Autofocus:** Automatic focal distance adjustment.
- **Autolift Workbed:** Adjustable workbed height.
- **4-Way Pass-Through:** Accommodates larger and longer materials.
- **Air Assist:** Integrated air assist for smoke and dust removal.
- **Dual Workbeds:** Includes honeycomb and aluminum blade beds.
- **Software Compatibility:** Compatible with RDWorks, LightBurn, CoreIDRAW, and AutoCAD.

3. SETUP

3.1 Unboxing and Placement

Carefully unbox the laser engraver. Ensure the machine is placed on a stable, level surface in a well-ventilated area, away from flammable materials.

3.2 Connections

- **Power:** Connect the power cord to a grounded outlet.
- **USB/Ethernet:** Connect the machine to your computer using the provided USB or Ethernet cable.
- **Water Pump:** Connect the water pump and ensure the laser tube is properly cooled.
- **Air Assist:** The machine has built-in air assist. Ensure the air compressor (if external) is connected and functioning.
- **Exhaust System:** Connect the exhaust pipe to an external ventilation system to safely remove fumes.

LET YOUR IMAGINATION RUN WILD



Figure 3.1: Proper connection of the exhaust system is essential for safety and performance.

4. OPERATING INSTRUCTIONS

4.1 Software Installation and Configuration

Install the recommended laser software (e.g., LightBurn, RDWorks) from the provided USB flash drive or official website. Follow the software's instructions for machine connection and initial setup.

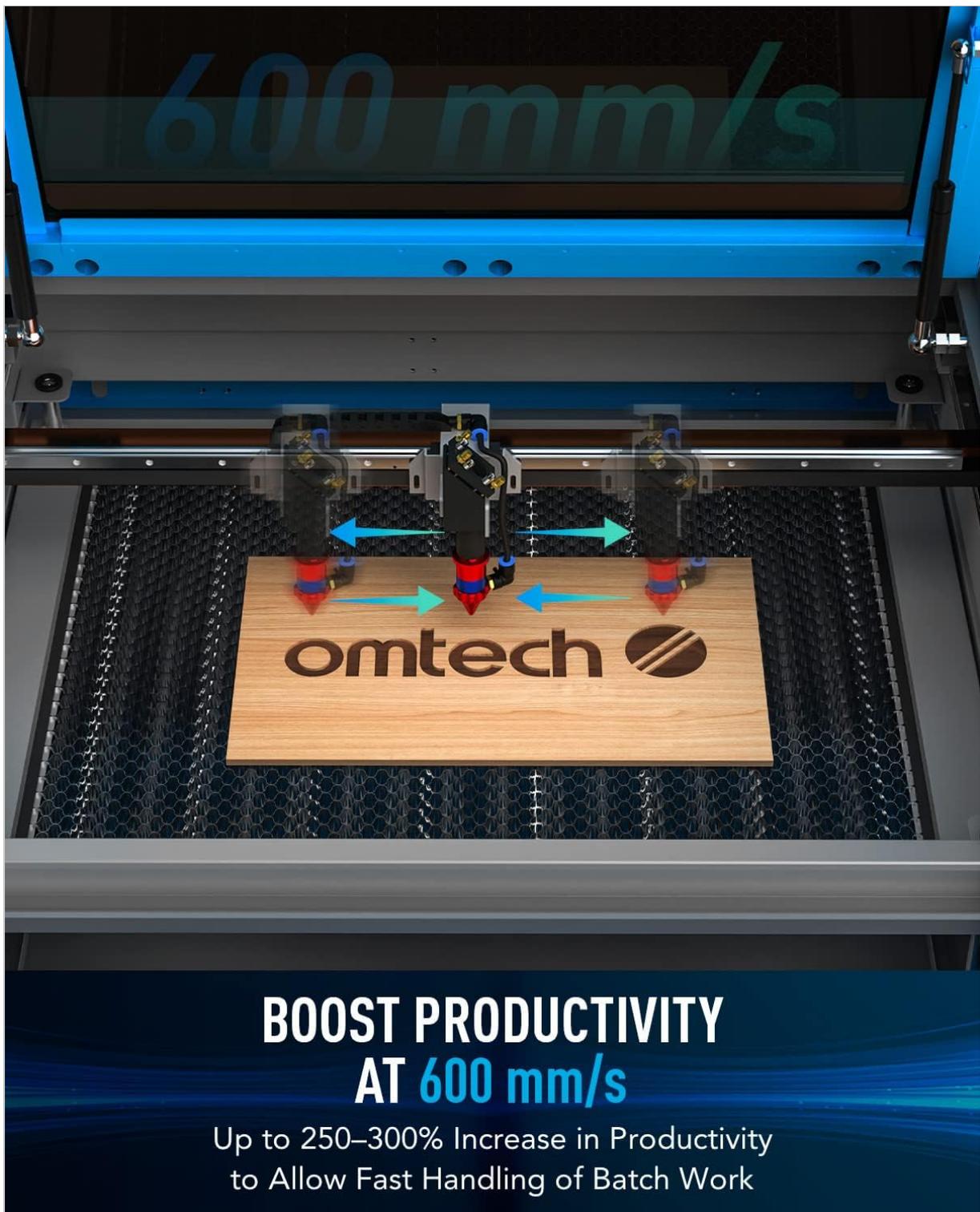


Figure 4.1: Digital control panel and compatible software interfaces.

4.2 Material Loading and Focusing

- **Load Material:** Place your material flat on the workbed. For acrylic mirror, load with the non-reflective side facing up for engraving.
- **Autofocus:** Use the autofocus function to automatically set the correct focal distance. This eliminates manual adjustments and ensures precise results.

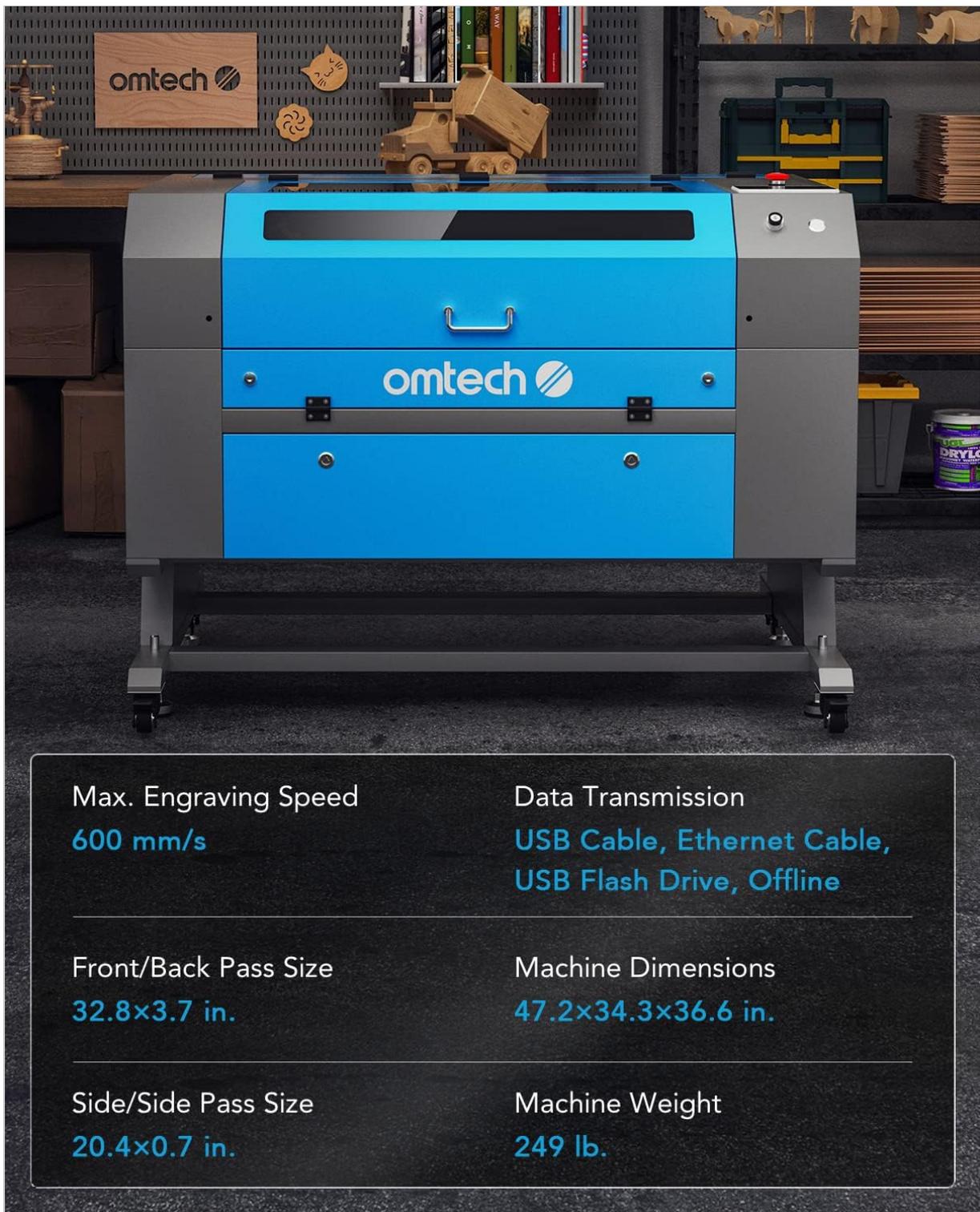


Figure 4.2: The autofocus feature automatically adjusts the laser head to the optimal focal distance.

4.3 Engraving and Cutting Process

Prepare your design in the software. Set appropriate power and speed settings for your material. Initiate the engraving or cutting process. Monitor the operation through the flame-retardant viewing window.

Video 4.1: Demonstration of laser engraving and cutting on acrylic mirror. This video illustrates material preparation, software settings, and post-processing for acrylic mirror projects.

Video 4.2: Guide on how to laser engrave a photo using a CO2 laser engraver. This video covers image preparation and specific settings for achieving detailed photo engravings.

5. MAINTENANCE

- **Cleaning:** Regularly clean the work area, lenses, and mirrors to ensure optimal performance and longevity.
- **Laser Tube Care:** The high-performance DC tube delivers 60W of power for up to 1000 hours of usage and doubles its lifespan when consistently used at lower settings. Ensure proper water cooling is maintained.
- **Air Assist Nozzle:** Keep the air assist nozzle clear of debris to maintain efficient smoke and dust removal.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Laser not firing	Power supply issue, laser tube fault, software error	Check power connections, inspect laser tube, restart software/machine
Poor engraving quality	Incorrect focus, wrong power/speed settings, dirty optics	Perform autofocus, adjust settings, clean lenses and mirrors
Machine not connecting to computer	USB/Ethernet cable issue, driver problem, software configuration	Check cable, reinstall drivers, verify software settings
Excessive smoke/fumes	Ineffective exhaust, clogged air assist	Ensure exhaust system is powerful and clear, clean air assist nozzle

7. SPECIFICATIONS

- **Product Dimensions:** 47.2 x 34.3 x 36.6 inches
- **Item Weight:** 249 pounds
- **Max. Engraving Speed:** 600 mm/s
- **Front/Back Pass Size:** 32.8 x 3.7 inches
- **Side/Side Pass Size:** 20.4 x 0.7 inches
- **Data Transmission:** USB Cable, Ethernet Cable, USB Flash Drive, Offline

8. WHAT'S IN THE BOX

- 1x 60W CO2 Laser Engraver
- 1x User Manual
- 1x Power Cord
- 1x USB Flash Drive
- 1x USB Cable
- 1x Ethernet Cable
- 1x Double-Sided Tape
- 1x Wrench Set
- 1x Tube of Silicone Insulation
- 1x Ceramic Resistor
- 1x Exhaust Pipe
- 1x Pipe Clamp
- 1x Water Pump
- 1x Water Pipe
- 1x Wire Set
- 6x Keys

9. WARRANTY AND SUPPORT

This OMTech 60W CO2 Laser Engraver comes with a two-year support warranty. For technical assistance, please contact our U.S.-based technical support team. 24/7 online customer service is also available.