

Genmitsu Kortek 5W

Genmitsu Kortek 5W Laser Engraver and Fume Extractor Instruction Manual

Model: Kortek 5W Laser Engraver, MD2 Fume Extractor

1. IMPORTANT SAFETY INFORMATION

Read all safety warnings and instructions carefully before operating the Genmitsu Kortek 5W Laser Engraver and Fume Extractor. Failure to follow these instructions may result in serious injury, fire, or property damage.

- **Laser Radiation:** This product contains a Class 1 laser. Avoid direct exposure to the laser beam. Always wear the provided laser safety goggles during operation.
- **Fire Hazard:** Laser engraving and cutting can generate heat and sparks, potentially causing fires. Never leave the machine unattended during operation. Keep a fire extinguisher nearby.
- **Ventilation:** Always use the fume extractor to remove smoke and harmful fumes produced during laser processing. Ensure adequate ventilation in your workspace.
- **Material Compatibility:** Only engrave or cut materials specified as safe for laser processing. Avoid materials that produce toxic fumes or are highly flammable (e.g., PVC, vinyl).
- **Children and Pets:** Keep children and pets away from the laser engraver and fume extractor during operation.
- **Power Supply:** Use only the power adapter supplied with the device. Ensure the power source matches the specified voltage.
- **Emergency Stop:** Familiarize yourself with the location of the power switch and be prepared to turn off the machine immediately in case of an emergency.
- **Protective Shield:** Ensure the protective laser shield is properly installed before operation. The machine features tilt induction for added safety, stopping operation if tilted.



**Class 1
Laser Safety**

Tilt Induction



**Protective
Laser Shield**

**Laser Goggles
Included**

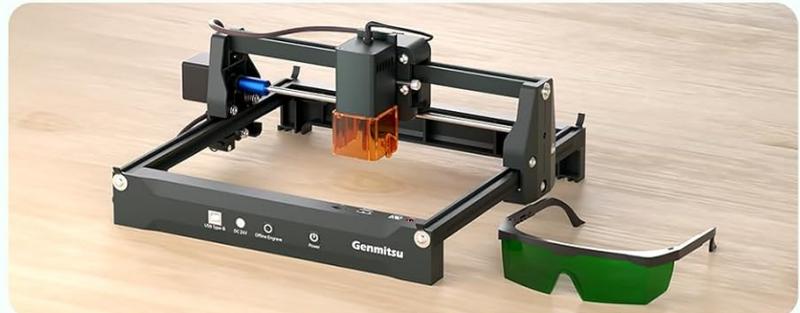


Figure 1: Safety features of the Genmitsu Kortek 5W Laser Engraver, including Class 1 laser safety, tilt induction, a protective laser shield, and included laser goggles for eye protection.

2. PRODUCT OVERVIEW

The Genmitsu Kortek 5W Laser Engraver and Portable Fume Extractor system provides a comprehensive solution for precision laser engraving and cutting, coupled with effective fume management for a clean and safe workspace.

2.1. Kortek 5W Laser Engraver

The Kortek 5W laser engraver is designed for both detail and cutting capability. It features 35mm stepper motors for high repeatability and a compact, portable design.

- **Precision:** Achieves ± 0.01 mm repeatability for consistent results.
- **Power:** 5W laser module suitable for engraving and cutting various materials.
- **Working Area:** 200x150 mm (7.9x5.9 inches).
- **Portability:** Weighs only 1.2 kg (2.65 lbs).
- **Control:** Operable via Genmitsu APP on phone or laptop.



Figure 2: The working area of the Kortek 5W Laser Engraver, measuring 200mm x 150mm.

35mm STEPPER MOTOR

±0.01mm repeatability - ultra-precise every time



Figure 3: The 35mm stepper motor ensures ultra-precise engraving with ± 0.01 mm repeatability.



Figure 4: The Kortek 5W Laser Engraver weighs only 1.2 kg (2.65 lbs), making it highly portable.

2.2. Portable Fume Extractor (MD2)

The portable fume extractor is designed to maintain a clean and safe working environment by filtering out smoke and odors generated during laser operations.

- **Filtration System:** Features a robust 5-layer filter system.
- **Speed Control:** Three adjustable speeds for customized airflow and filtration.
- **Function:** Captures fine particles and eliminates odors.

5-STAGE MULTI-FILTRATION SYSTEM

Fibre Cotton:

1-5 um particle filtration efficiency 95%

Composite Carbon A:

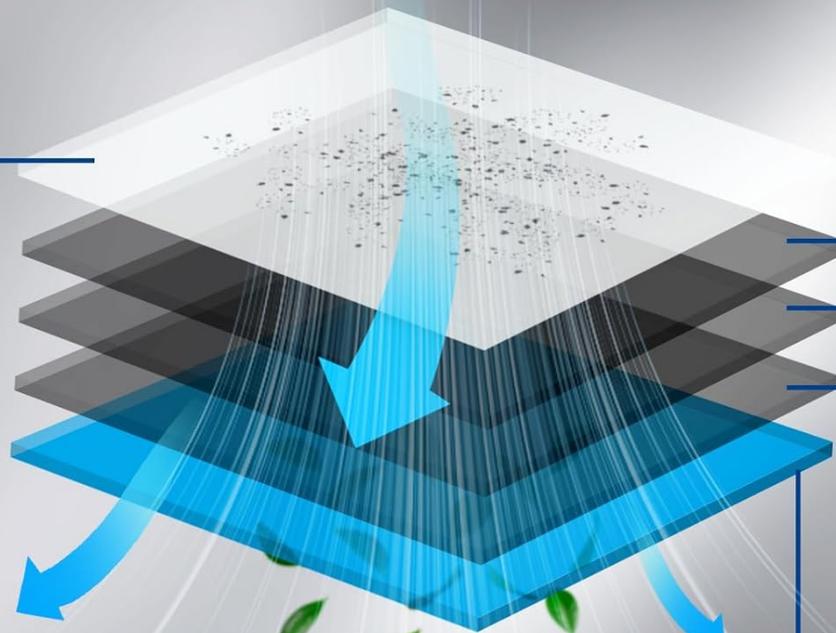
First removes harmful fumes and odors

Composite Carbon B:

Deeply removes harmful fumes and odors

Composite Carbon C:

Targeted odor removal and air regeneration



Ultra-high efficiency HEPA cartridge:

99.95% filtration efficiency for 0.3UM particles

Figure 5: The 5-stage multi-filtration system of the fume extractor for comprehensive air purification.

COMPACT SIZE FOR SMALL LASER MACHINES



Figure 6: Compact design and control panel of the portable fume extractor.

UPGRADE YOUR LASER EXPERIENCE

MD2 provides you with a safe, efficient,
and clean working environment

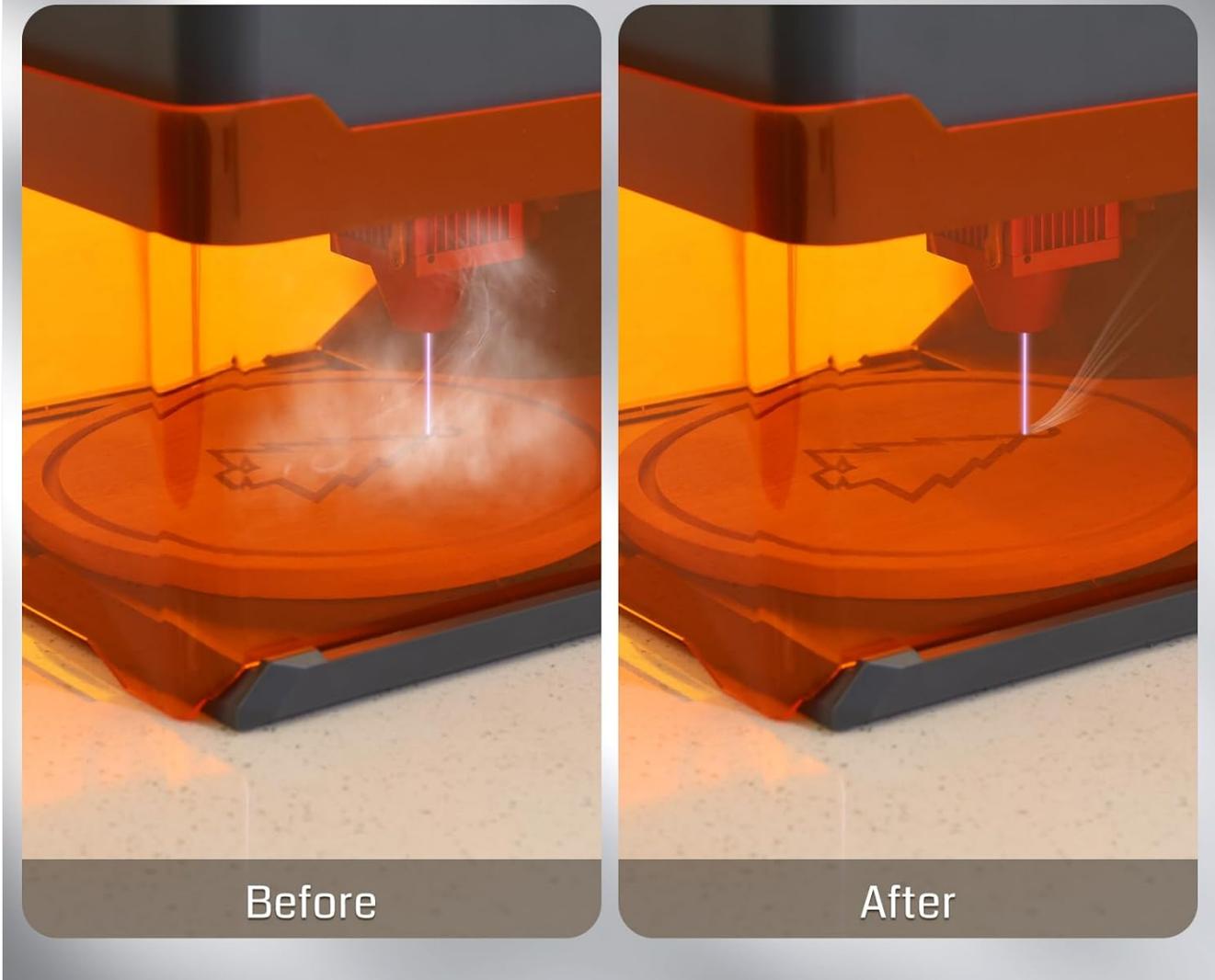


Figure 7: Visual comparison demonstrating the effectiveness of the fume extractor in clearing smoke during laser operation.

3. SETUP INSTRUCTIONS

Follow these steps to set up your Genmitsu Kortek 5W Laser Engraver and Fume Extractor.

3.1. Unpacking and Inspection

1. Carefully remove all components from the packaging.
2. Verify that all parts listed in the packing list are present and undamaged. Contact customer support immediately if any parts are missing or damaged.
3. Keep the original packaging for future storage or transport.

3.2. Laser Engraver Assembly (if required)

The Kortek 5W laser engraver typically comes pre-assembled. If minor assembly is required, refer to the quick start guide included in the box for specific instructions on attaching the laser module or gantry components.

- Ensure all screws are tightened securely.

- Confirm the laser module is correctly seated and connected.
- Install the protective laser shield.

3.3. Fume Extractor Setup

1. Place the fume extractor on a stable surface near the laser engraver.
2. Connect the hose from the laser engraver's enclosure (if applicable) or position the extractor's intake near the engraving area to the "Smoking Outlet" on the fume extractor.
3. Ensure the filter layers are correctly installed inside the fume extractor. Refer to the filter replacement section for details on filter orientation.

3.4. Power Connection

1. Connect the power adapter to the laser engraver's DC 24V input.
2. Connect the power adapter to the fume extractor's DV 12V Power Connector.
3. Plug both power adapters into a suitable power outlet.

3.5. Software Installation and Connection

1. Download the Genmitsu APP from the official website or your device's app store.
2. Install the application on your phone or laptop.
3. Follow the in-app instructions to connect your device to the KorteK 5W laser engraver via USB or wireless connection (if supported).

4. OPERATING INSTRUCTIONS

This section outlines the basic steps for operating your laser engraver and fume extractor.

4.1. Preparing for Engraving/Cutting

1. **Workspace Preparation:** Ensure your workspace is clean, well-ventilated, and free of flammable materials.
2. **Material Placement:** Place the material to be engraved or cut securely on the working platform. Ensure it is flat and within the 200x150 mm working area.
3. **Focus Adjustment:** Adjust the laser focus according to the material thickness. Refer to the quick start guide for specific focusing procedures.
4. **Safety Gear:** Always wear the provided laser safety goggles before starting any operation.

Cut 7mm Pine Wood in One Pass

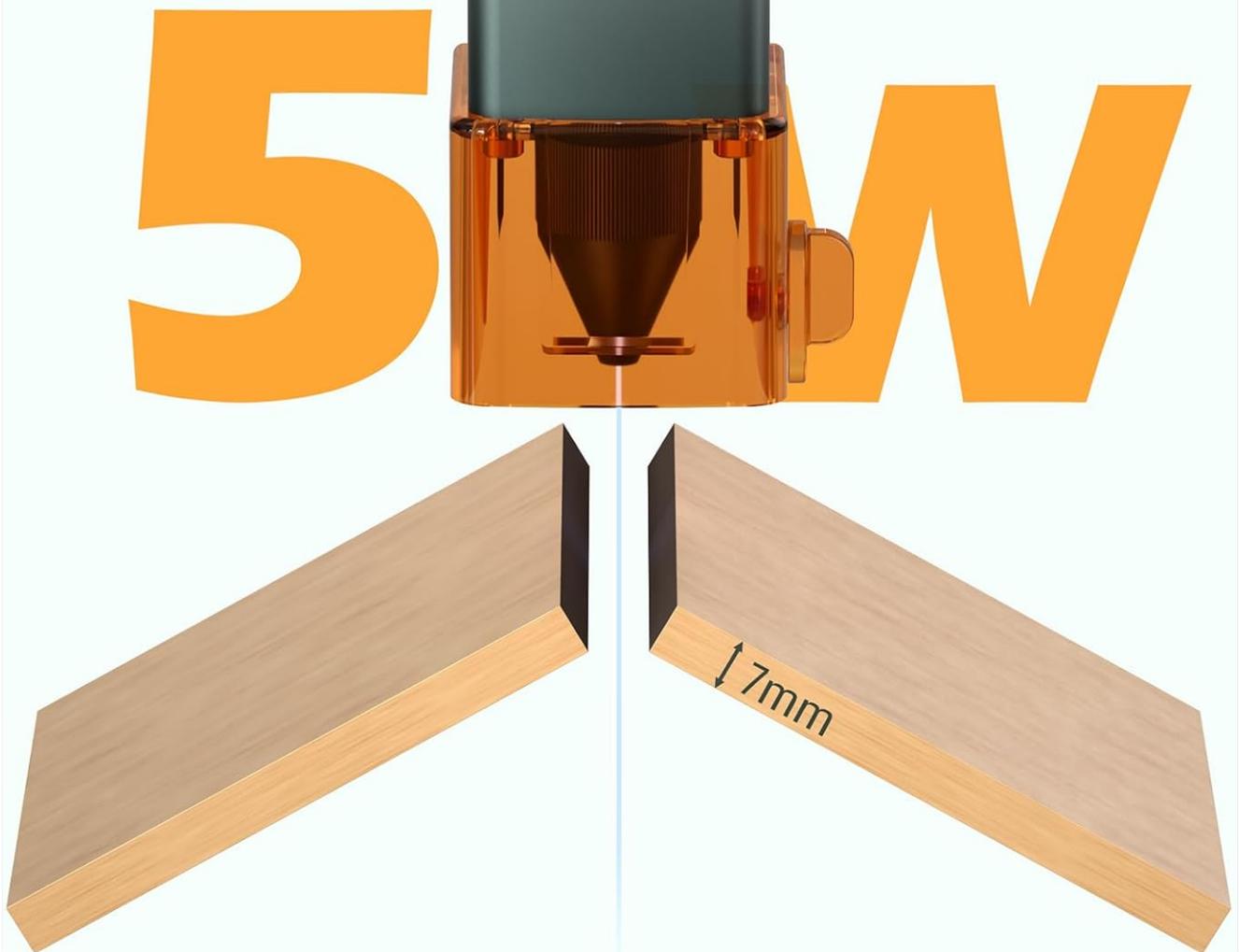


Figure 8: The 5W laser module is capable of cutting materials like 7mm pine wood in one pass.

4.2. Operating the Fume Extractor

1. Press the Power Switch on the fume extractor to turn it on.
2. Use the Speed Indicator button to cycle through the three adjustable speeds (low, medium, high) to match the intensity of fumes produced.
3. Ensure the fume extractor is running before initiating any laser operation.

4.3. Operating the Laser Engraver

1. Open the Genmitsu APP on your connected device.
2. Import or create your design within the software.
3. Adjust laser parameters (power, speed, passes) according to the material and desired effect. Start with lower settings for new materials and gradually increase as needed.

4. Initiate the engraving or cutting process from the software.
5. Monitor the process closely. If any issues arise (e.g., fire, excessive smoke), immediately press the emergency stop button or power off the machine.
6. Once the process is complete, wait for the laser to cool down and for all fumes to be extracted before removing the material.

5. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your equipment.

5.1. Laser Engraver Maintenance

- **Cleaning the Lens:** Periodically clean the laser lens with a specialized lens cleaning solution and cloth to maintain laser performance.
- **Cleaning the Machine:** Keep the working platform and gantry free of debris and dust. Use a soft, dry cloth for cleaning.
- **Lubrication:** Apply a small amount of lubricant to the guide rails as recommended in the detailed product manual (if applicable) to ensure smooth movement.

5.2. Fume Extractor Filter Replacement

The 5-layer filtration system requires periodic filter replacement to maintain efficiency. The frequency depends on usage and the types of materials processed.

1. **Power Off:** Disconnect the fume extractor from the power source before performing any maintenance.
2. **Access Filters:** Open the filter compartment (refer to the specific product diagram for access points).
3. **Remove Old Filters:** Carefully remove the used filter layers. Dispose of them according to local regulations.
4. **Install New Filters:** Install new filters in the correct order:
 - Fibre Cotton (1-5 um particle filtration)
 - Composite Carbon A (removes harmful fumes and odors)
 - Composite Carbon B (deeply removes harmful fumes and odors)
 - Composite Carbon C (targeted odor removal and air regeneration)
 - Ultra-high efficiency HEPA cartridge (99.95% filtration efficiency for 0.3UM particles)
5. **Secure Compartment:** Close and secure the filter compartment.

6. TROUBLESHOOTING

This section addresses common issues you might encounter and their potential solutions.

Problem	Possible Cause	Solution
Laser engraver does not power on.	Power cable disconnected; faulty power adapter; power outlet issue.	Check power connections; try a different outlet; contact support if adapter is faulty.
Laser not firing or weak output.	Incorrect focus; dirty lens; incorrect software settings; laser module issue.	Adjust focus; clean the laser lens; verify power/speed settings in software; contact support.

Problem	Possible Cause	Solution
Fume extractor not working or low airflow.	Power cable disconnected; clogged filters; fan obstruction.	Check power; replace filters; inspect fan for obstructions.
Excessive smoke or odor during operation.	Fume extractor off or on low speed; clogged filters; improper material.	Turn on/increase speed of fume extractor; replace filters; ensure material is laser-safe.
Engraving results are inconsistent.	Loose belts/components; incorrect material settings; unstable work surface.	Check for loose parts and tighten; calibrate settings; ensure stable surface.

If you encounter problems not listed here or if the suggested solutions do not resolve the issue, please contact Genmitsu customer support for further assistance.

7. TECHNICAL SPECIFICATIONS

7.1. Kortek 5W Laser Engraver

- **Laser Power:** 5W
- **Repeatability:** ± 0.01 mm
- **Working Area:** 200 x 150 mm (7.9 x 5.9 inches)
- **Motor Type:** 35mm Stepper Motors
- **Weight:** 1.2 kg (2.65 lbs)
- **Control Method:** Genmitsu APP (Phone/Laptop)
- **Safety Features:** Class 1 Laser Safety, Tilt Induction, Protective Laser Shield, Laser Goggles Included
- **Compatible Materials (Engraving):** Frosted glass, ceramic, stainless steel, wood, opaque acrylic, felt, etc.
- **Compatible Materials (Cutting):** Wood, opaque acrylic, felt, etc.

7.2. Portable Fume Extractor (MD2)

- **Filtration System:** 5-Layer (Fibre Cotton, Composite Carbon A/B/C, HEPA)
- **Filtration Efficiency:** 95% for 1-5 um particles (Fibre Cotton), 99.95% for 0.3UM particles (HEPA)
- **Speed Control:** 3 adjustable speeds
- **Weight:** 1.2 kg (approximate, based on image)
- **Dimensions:** 128mm (W) x 190mm (D) x 157mm (H) (approximate, based on image)

8. WARRANTY AND SUPPORT

Genmitsu products are designed for quality and reliability. For detailed warranty information, please refer to the warranty card included with your product or visit the official Genmitsu website.

Customer Support:

- For technical assistance, troubleshooting, or spare parts, please contact Genmitsu customer support.
- Provide your product model number (Kortek 5W) and ASIN (B0FXGHJF8S) when contacting support for faster service.

- **Website:** www.sainsmart.com/pages/genmitsu (Example link, please verify official support channels)