

# Guide for Safe and Efficient Operations

INFOGRAPHIC

## Introduction

- Laser cutting machines are practical tools for cutting and drilling wood, plastics, and metal.
- They are economical, efficient, and easy to automate.
- Proper use and maintenance are vital to avoid accidents.

## Laser Cutting Machine Hazards

- Fire: High-density laser beams can ignite flammable materials.
- Toxic Fumes and Gases: Cutting certain materials can produce harmful fumes and dust.
- Eye Injury: Intense light from the machine can harm the eyes.
- Burn: High-power lasers can cause skin burns.
- Electrical Hazards: Improper handling or maintenance can result in electric shock.

## Laser Cutter Set Up

- Choose the appropriate machine considering material type, thickness, working area size, power requirement, and budget.
- Install the machine in a well-ventilated area with sufficient space.
- Align the laser for accurate and effective cutting.
- Test the machine on sample material.
- Learn to operate the software for design input, material setting adjustment, and operation monitoring.

## Tips for Using Laser Cutting Machine

- Before Use: Train operators on potential risks, operation procedures, and safety precautions. Check the filter, ensure awareness of potential risks, wear protective equipment, and install a fire extinguisher near the machine.
- During Use: Follow manufacturer's specifications, use approved materials, ensure all covers are correctly positioned, leave material on the cutting bed until cool, stop operation if air filter or exhaust system fails, keep a usage diary, and never leave the machine unsupervised.
- After Use: Clean debris and flammable materials from the machine, regularly vacuum debris from the cutting head and inside of the machine to avoid fire hazards.

## Do's and Don'ts

- Don't modify or limit any safety function of the laser systems or directly observe through the optical equipment.
- Do check the machine visually before use, keep a first aid kit available, and display warning signs about exposure risks.

## FAQs

- Protection from Laser Fumes: Install an extracting system, select safe cutting materials, and wear face masks with filters.
- Safety Precautions: Wear protective glasses, avoid direct contact with lasers, use proper air ventilation system, maintain and check the machine regularly, and obey operation rules.
- Ideal Laser Cutting Parameters: Depends on the types and thickness of the materials.
- Machine Failure: Close the device, check the manual guidebook, or contact the manufacturer for support.
- Peak Performance: Regularly maintain and clean the machine, including cleaning the laser lens, checking and adjusting the laser's aligning, and replacing used materials.

## Conclusion

- Laser cutting machines are convenient but come with potential risks.
- Strictly obey safety regulations and master practical operation techniques.
- Regular maintenance and correct installation are key to safe and efficient operation.