Thunder Laser Nova 35 100W Laser Cutter

Nova35 100W

Tool Type: Laser cutter
Location: Elings 3430
Description: Laser cutter and engraver
Manufacturer: ThunderLaser USA

About

The Nova35 is a 100 Watt CO2 laser cutter with a 60cm x 90cm (23.6” x 35.4”) bed. It requires training to use, as well as an FBS reservation. Three different cutting heads are available for use: The standard 2” head for most applications, a 4” head for cutting materials thicker than 10mm (0.4”), and a high resolution head for cutting & engraving the finest features. More info about laser cutter head selection and installation here.

This laser cutter uses a software package called Lightburn for both layout and cutting. Through this software, you can control almost every aspect of the laser cutter. These instructions will help you perform a basic cut or engraving. For additional information, please look through the Official Lightburn Documentation.

Safety Concerns

This laser engraving system contains a class 4 carbon dioxide (CO2) laser that emits intensive and invisible laser radiation. Without safety precautions the direct radiation or even diffuse reflected radiation is dangerous!

- Always wear safety glasses when using the machine.
- Always work with the machine cover closed.
- NEVER leave the laser machine alone when running a job. If you do need to leave, make sure there is someone else nearby who is aware that it is on and cutting.
- The machine door must be left open while you are away.
- Do not store any flammable materials in the inside of the device or in the immediate vicinity of the device.

- Remove leftovers of previously produced materials before running a job.
- A fire extinguisher/fire blanket must always be handy as the laser beam can ignite flammable materials.
- Metals, particularly un-coated aluminum, copper in particular, silver and gold, cannot be processed with the laser and lead to high reflections of the laser beam. If needed, metals can be coated with a paint/tape which chemically bonds to the surface when engraved.
- Before processing materials the user must verify whether harmful materials can be generated and whether the filter equipment of the exhaust system is suitable for the harmful materials.
- PVC (polyvinyl chloride) must under no circumstances be processed with the laser.
- Looking directly into the laser can cause retinal damage.
- Confirm that the fume collection system is running whenever the laser is cutting or engraving.
- Whenever heat is a concern, please use the nitrogen air assist. This includes cutting features with high surface density, or cutting materials that like to melt, such as delrin.

Training Documentation

Laser Cutter Training SOP

Detailed Specifications

- Working area (W x D): 24 x 12 in
- Max. height of workpiece : 5.2 in
- Loading area (W x D): 27 in x 17 in
- Overall dimensions (W x D x H): 40 x 31 x 40 in
- Max. processing speed: 1.8 m/s
- Max. acceleration: 1,969 ips²
- Technology motion system: Brushless DC servo motors
- Laser power CO2: 30 - 60W
- Laser class:2
- Weight: 150 kg
- Power consumption: 1 ~ AC 110-230V 50/60Hz, 1.3 kW (60 watts)

Reference Documentation

Marking Tape/Paint

Atmos Compact Operation Manual

Service Manual

Plastic Processing Guide

Job Control Software Manual

Bonding Acrylic with Methylene Chloride

Laser cutting data