

Trotec Speedy 100 Laser Cutter

Trotec Speedy 100	
	
Tool Type: Laser cutter	
Location: Microfluidics Lab	
Description: Laser cutter and engraver	
Manufacturer: Trotec	

About

The Trotec Laser Cutter uses a 30-60W CO2 laser to cut and engrave various materials. It utilizes CorelDraw as a 2D sketch manager, which is then imported into Trotec's specific cutting software. CorelDraw can be used to create the 2D sketch, however importing a DXF file or PDF into CorelDraw from Solidworks or other CAD packages is preferred due to the CAD packages integrated features and functions.

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](#)

From:

<https://microfluidics.cnsi.ucsb.edu/wiki/> - **Innovation Workshop Wiki**



Permanent link:

https://microfluidics.cnsi.ucsb.edu/wiki/doku.php?id=trotec_speedy&rev=1696963856

Last update: **2023/10/10 18:50**