

# Installation

In this section we will step you through site preparation, computer and software setup, and unpacking and assembling the VersaLASER. Follow the instructions in the order shown:

1. Establishing a Proper Operating Environment
2. Extracting Fumes and Particulates
3. Providing a Suitable Electrical Power Source
4. Software Installation and Operating System Requirements
5. Unpacking and Assembling the VersaLASER
6. Finalizing the Connections



**It is essential to follow the step-by-step installation procedure as described in this section. Improper installation of the laser system may cause undesired results in the engraving process or may even damage your laser system.**

## 1. Establishing a Proper Operating Environment

### Environment (user supplied)

- The device **MUST** be installed in an office-type or light duty manufacturing environment. Airborne pollutants can damage the device. Keep the device isolated from any sandblasting, sanding or machining equipment or any other machinery that produces airborne particles. Also, do not operate or store this device near sources of water, saltwater, or oil vapor.
- For best results, we recommend operating this air-cooled device in the ambient temperature range of 73°F (22°C) to 77°F (25° C).
- Avoid storing the device outside the temperature range of 50°F (10°C) to 95°F (35° C) as excessively cold or hot temperatures can damage the laser cartridge or reduce its lifetime.
- Ambient humidity levels must be non-condensing.
- A suitable working surface for all material processing.

## 2. Extracting Fumes and Particulates

### Exhaust System (user supplied)

Fumes, smoke, and particulates are a byproduct of the cutting and marking of materials in the VersaLASER and **MUST** be extracted (vacuumed) from the VersaLASER. You may choose to either exhaust them to the outside environment or filter them.

**External Exhaust (most common):** We recommend that you contact a local contractor to design and install an exhaust system that not only meets the minimum requirements of this device but also complies with local environmental laws.

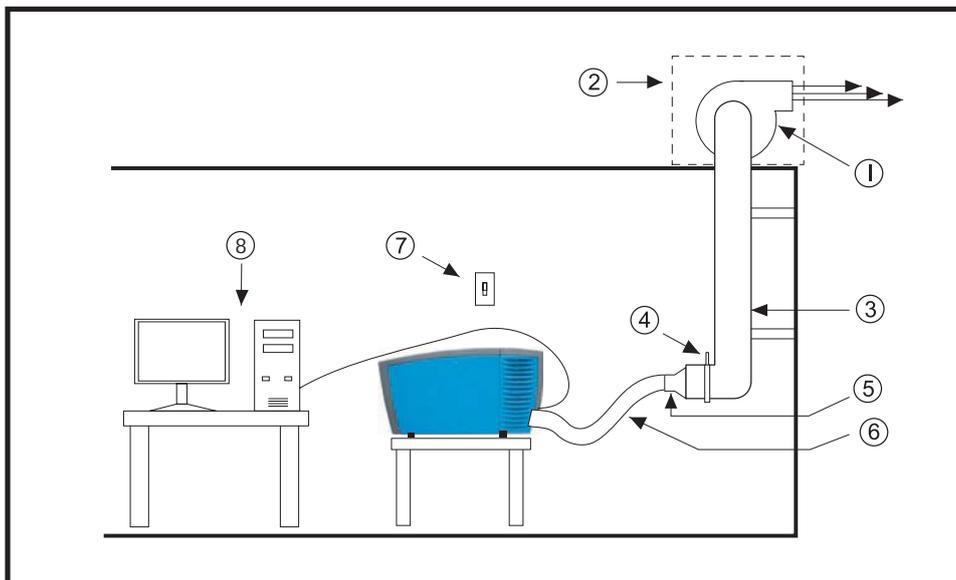
- The exhaust system **MUST** be capable of supplying a minimum of 150 CFM (cubic feet per minute) of airflow while under a load of 6 inches of static pressure (254 m3/hr at 1.5kPa). **DO NOT** install forward incline, backward incline, in-line, or ventilator fans because these types of air handlers are inadequate and inappropriate for this type of installation. A high-pressure blower **MUST** be used to meet minimum airflow requirements.
- For personal safety and noise control reasons, we recommend that the blower be mounted **OUTSIDE** the building.

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- Rigid tubing should be used for 90% of the distance traveled between the blower and the laser system. The tubing should be smooth walled and have as few 90 degree bends as possible.
- Install a gate to control airflow and to close off the exhaust from the outside environment when the laser is not in use. Place this gate within 5 – 10 feet from the laser system.
- Use a short piece of industrial grade, wire reinforced rubber tubing to connect the end of the gate to the laser system. This will provide mobility and will dampen blower vibrations.
- Have the blower electrically wired to a wall switch in the same room for easy ON/OFF control.

The following diagram shows a typical exhaust system layout. Use this as a guideline to proper exhaust system installation.

**NOTE:** Although this diagram just serves as an example, we recommend installation of the exhaust system by a local, licensed contractor to meet safety and local code requirements as well as being able to calculate the correct size blower required for your particular installation. Length of exhaust pipe, exhaust pipe diameter, number of 90-degree angles, and other restrictions must be calculated when determining the correct exhaust blower unit. Installing an undersized or oversized blower is not only unsafe, but it can also lead to premature and excessive wear and tear to the laser system as well as premature failure of the blower.



- 1) High Pressure Exhaust Blower
- 2) Weather-proof Cover
- 3) Rigid Ducting
- 4) Airflow Gate
- 5) Reducer
- 6) 3 inch Diameter, Industrial Grade Flexible Tubing
- 7) On/Off Switch
- 8) Computer (user supplied)

**Filtration System:** If you have chosen to purchase the optional Computer Controlled Air Cleaner (CCAC) accessory, exhausting to the outside environment is not required.