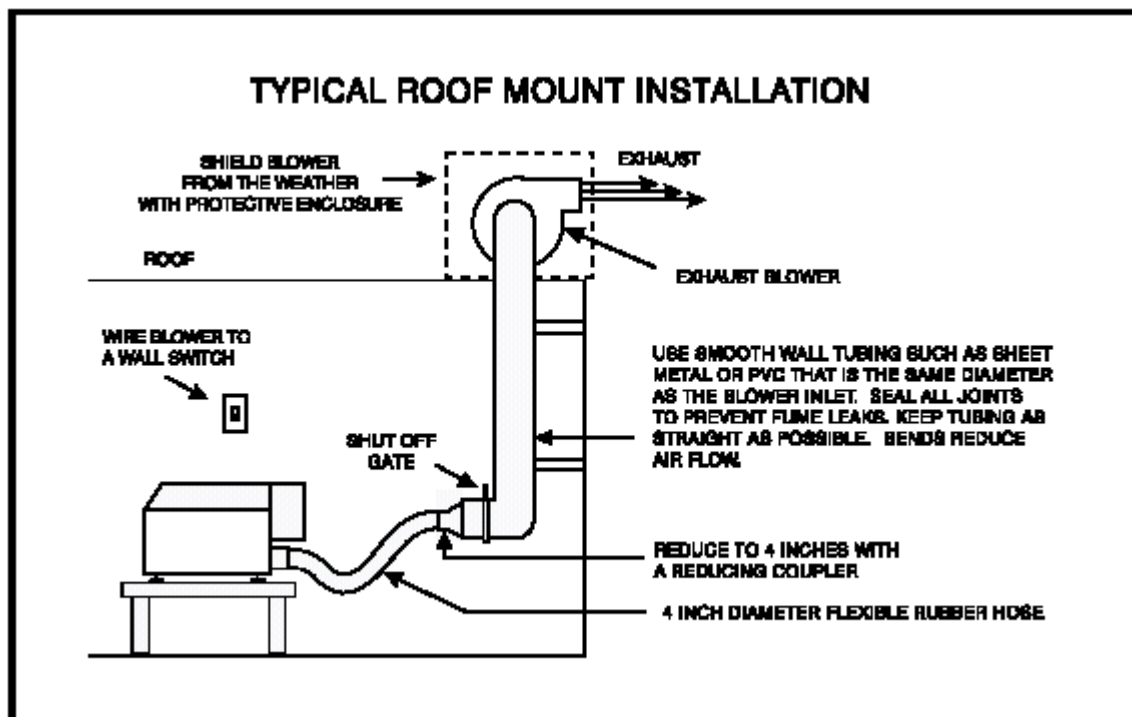


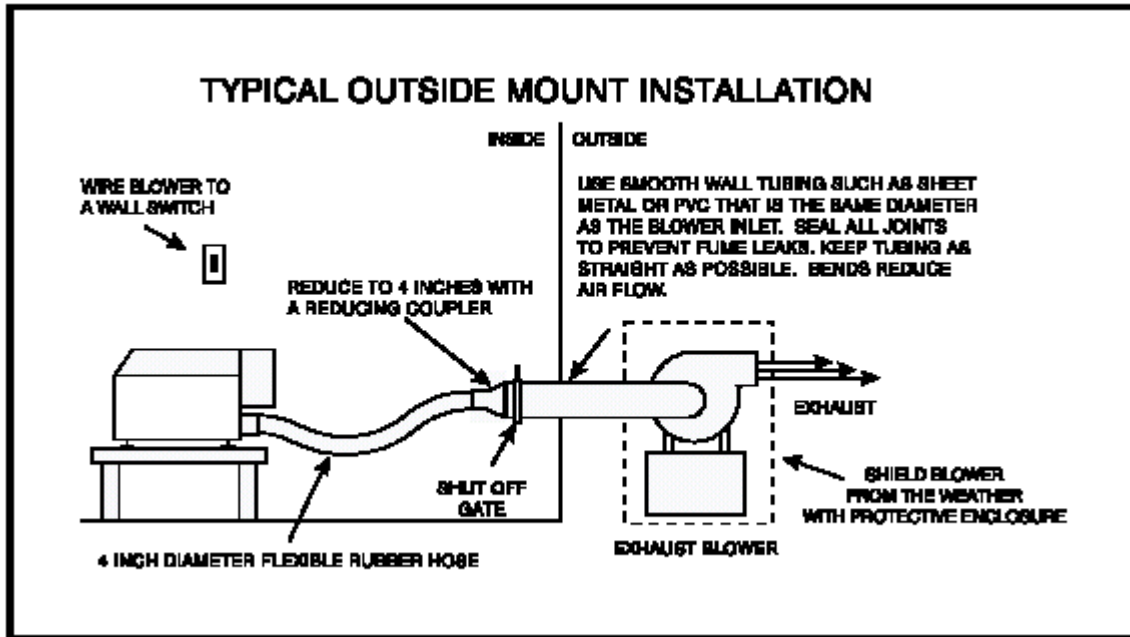


GRAVOGRAPH NEW HERMES

Laser Exhaust Requirements

1. To properly exhaust fumes and smoke from the laser engraving system during operation, it is necessary to provide an exhaust unit moving a minimum of 200 CFM (cubic feet per minute) at 6 inches of static pressure (inches of water). Please refer to the sample diagram.





- The blower **MUST** be mounted on the **OUTSIDE** of the building either on the roof or on a cement pad next to the building possibly mounted on vibration dampeners. Rigid tubing should be used for 90% of the distance traveled. The tubing should be smooth walled and have as few 90 degree bends as possible. Two 45 degree bends have better airflow than one 90 degree bend. Use tubing with a diameter that matches the blower unit (usually 6 inches/1524 mm) and use a reducer to couple the tubing down to fit the exhaust tubing on the laser within a few feet from the laser system. Also consider installing a gate to control airflow and to close off the exhaust from the outside environment when the laser is not in use. This is especially useful in colder climates where it can be damaging to the laser system to have cold air coming into it from the outside. Do not connect the rigid tubing directly to the laser system. Use a short piece of industrial grade, wire reinforced rubber tubing to connect the end of the gate, or rigid tubing, to the laser system. This will provide mobility and will dampen blower vibrations. Use only a few feet because it's spiral construction reduces airflow. Install a hose clamp (if possible) on both ends of the hose to prevent leaks and to prevent the hose from slipping off. Have the blower wired to a wall switch in the same room. The chart below is based on the measured distance from the outlet of the laser system to the inlet of the exhaust blower. It assumes that you will. It is important to purchase a high pressure blower that meets or exceeds these requirements.

Measured Distance Blower Required

Measured Distance	Blower Required
up to 25 feet / 8 meters	200 CFM @ 6 inches / 1524 mm static pressure
26 - 50 feet / 8 - 15 meters	300 CFM @ 6 inches / 1524 mm static pressure
51 - 75 feet / 15 - 23 meters	400 CFM @ 6 inches / 1524 mm static pressure
76 - 100 feet / 23 - 30 meters	500 CFM @ 6 inches / 1524 mm static pressure

3. **Never operate the laser engraving system without a properly installed and operating exhaust system.** Some materials when cut or engraved can produce fumes that are hazardous in concentrated amounts.
4. Although the diagrams just serve as an example, we recommend installation of the exhaust system by a licensed contractor to meet safety and local code requirements. Please contact a local air quality control specialist.