



# Fume Extractor

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# Technical Brochure



## Fume Extractor for Laser Marking

**Required for both safety and clarity**

CMT offers an industrial fume extractor for laser marking. Laser marking is a burning process, and the smoke contains particulate matter that is not healthy for the operator to breathe. The smoke and particulate also impede the laser beam and reduce the clarity and depth of the mark. A powerful fume extractor system is recommended to assure safety of the operator and the clarity of the mark.

The CMT Fume Extractor is contained in a brushed stainless steel floor style cabinet with casters. The 3-stage filter system is pre-piped and wired to laser enclosure system. The complete package includes hoses, and suction nozzle mounting. CMT recommends this essential component to provide longevity to laser unit investment.

### Compatible Systems

- CMT Eclipse LE16 Compact
- CMT Eclipse LE16HD Robot Station
- CMT Eclipse LE24 Round
- CMT Eclipse LE48 Large Bed
- CMT Eclipse LER Rotary Turn Table
- CMT Eclipse Tunnel Automated Conveyor

### LASERFA2- Fume extraction system features

- Brushed stainless steel floor style cabinet with rolling casters. (39.0" floor ht.)
- 210cfm centrifugal direct drive brushless motor\*
- Dims 23" X 17" X 35"
- 20,000+ MTBF duty rated for 24hr operation.
- 3-stage filter system including: Large capacity pre filter (1.0um) , HEPA filter .3um, and activated carbon absorbent cell gas filter.
- Pre-piped and wired to laser enclosure system as complete package. Includes hoses, nozzle mounting.

\*Smaller (FA1) and larger (FA5) fume extraction systems also available.







## **CMT Fume Extractor can help reduce laser downtime**

### **Dirty laser lens, proximity sensors and mirrors.**

Cause: Insufficient extraction causes contaminants to settle onto laser components which then require cleaning. The result is the loss of valuable production time. Contact with dust particles from the process can also cause the expensive laser lens to fracture.

Solution: CMT FA2 ensures that a suitable extraction system is supplied. Only by using the correct machine specification, extraction point position, nozzle and pipework system can this be achieved.

### **Mark or code quality is fading or becoming blurred as production is increased.**

Cause: Insufficient extraction leads to a build up of dust and fume between the laser and the product. This deflects the laser beam and leads to blurred or faded marks and in turn, to increased reject rates.

Solution: Vacuum flow rates on CMT fume extractors systems range from 200 to 5000m<sup>3</sup>/hr. This means a suitable machine is available for most processes. Many systems are also upgradeable if production increases.

### **Contaminated products.**

Cause: Dust from the laser marking process can settle onto the product if inadequate vacuum is created by the extraction system. This can be a major problem leading to increased reject rates, especially in the food and pharmaceutical industries where stringent hygiene is essential.

Solution: CMT fume extractors systems utilize high pressure pumps to generate the vacuum required to keep products clear of contamination.

### **Fume extraction level dropping over time.**

Cause: As a filter becomes blocked, the extraction level falls. This leads to a build up of contaminants around the product, causing the laser to fail.

Solution: CMT fume extractors systems feature "Flow Control", microprocessor controlled, high pressure pumps. As a filter becomes blocked, power to the pump is automatically increased so that the extraction rate remains constant.



## Employee issues.

Staff complaining about dust and fumes, sick leave increasing or compensation claims possible.

Cause: Inadequate extraction allows contaminants to escape into the workplace which can lead to an increase in sick leave, potential compensation claims and poor employee relations. These fumes can cause serious medical conditions such as occupational asthma and cancer.

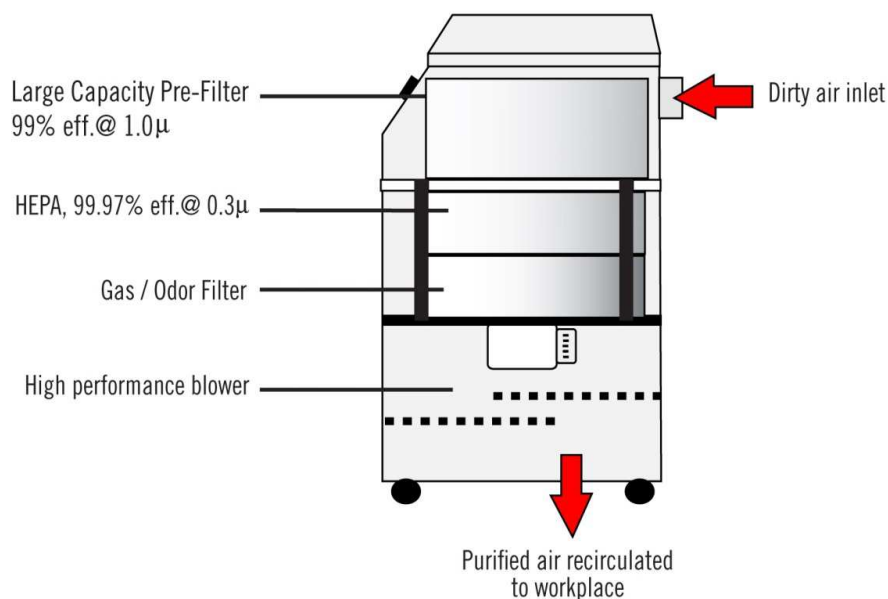
Solution: CMT fume extractors systems ensure that contaminants do not escape into the workplace. They ensure compliance with International Health and Safety Law and also employ constant monitoring devices which alert the operator should a problem occur.

## Changing filters.

Cause: Regularly stopping production to change filters can be a time consuming and expensive process. Filter life depends on the ability of the filter media to capture particles and the level of vacuum. Filters become blocked more quickly in low pressure extraction systems due to their limited ability to sustain adequate airflow through a partially blocked filter.

Solution: CMT fume extractors systems filters are easily accessible and can be changed (independently), in seconds without the use of any tools.

## CMT-FA2 Unit Filter View



# Marking Machines



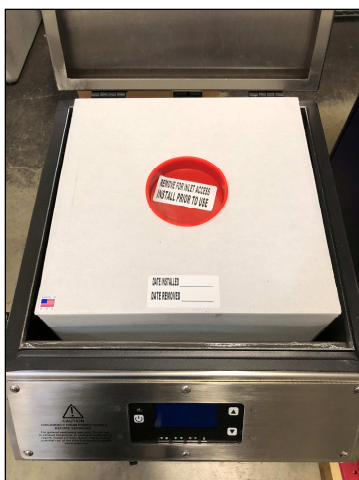
## Spare Parts

### FA2 - Filter Kit

All three filters for the LaserFA2 fume extraction system

Part # LASERFA2KIT

- **Pre-filter**
- **Hepa Filter**
- **Gas/Oder Filter**



### FA2 – Pre-filter

The CMT LASERFA2PF Replacement Filter

Part # LASERFA2-PF

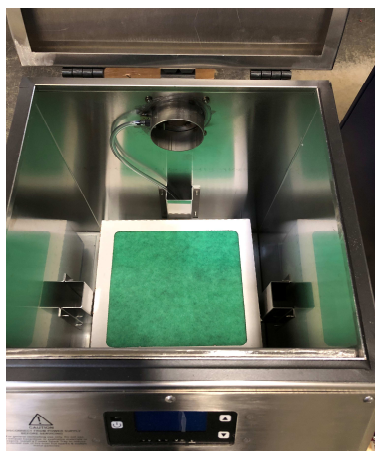
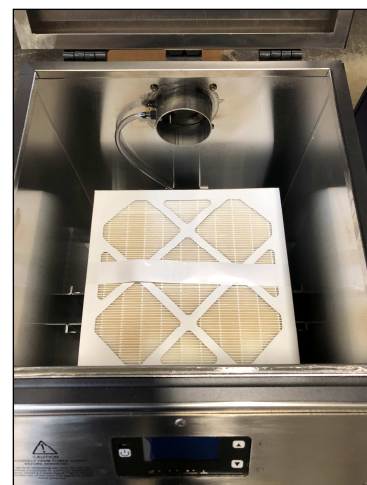
- **Application:** Particulate
- **Filter Type:** Pre-Filter
- **Efficiency:** 99% efficient at 0.1  $\mu\text{m}$

### FA2 HEPA Filter

The 12" x 12" x 5.75" CMT LASERFA2HF Replacement Filter

Part #LASERFA2-HF

- **Application:** High efficiency particulate
- **Filter Type:** HEPA filter
- **Efficiency:** 99.97% efficient at 0.3  $\mu\text{m}$



### FA2 Gas/odor Filter

The 12" x 12" x 6" CMT LASERFA2GOF Replacement Filter

Part # LASERFA2-GOF

- **Application:** Gas / Odor
- **Filter Type:** Bonded carbon technology
- **Efficiency:** N/A