



A Donaldson Company

A WORLD LEADER IN FUME
EXTRACTION TECHNOLOGY

BENEFITS OF HAVING LASER FUME EXTRACTION

A QUICK GUIDE FOR END USERS

Laser

Electronics

Printing
& 3D Printing

Mechanical
Engineering

Dental

Pharmaceutical
& Medical

Beauty



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When lasers are used, materials are released
into the atmosphere.

WHERE DO YOU THINK THEY END UP?

Neglecting your duties to control fumes can have
serious consequences.

DON'T LEAVE IT TO CHANCE.

Cutting, coding and marking, engraving, welding...whatever the laser process, some form of contaminant is generated which can become airborne. They may be solid particles, gas or vapour. Most are invisible to the naked eye. **All must be treated as hazardous.**

**FAILURE TO TAKE APPROPRIATE ACTION
CAN HAVE SERIOUS CONSEQUENCES**

**Whether you're running machinery in a school or a large scale factory,
all airborne substances must be considered as potentially harmful:**

To your equipment – uncontrolled fumes can negatively impact laser efficiency and increase the risk of product contamination

To the users – the effects caused by inhalation or reaction to the particulate material can be long lasting and even life-threatening

To the environment – responsible manufacturing needs responsible practices. We all need to look after the world we live in.

DID YOU KNOW?

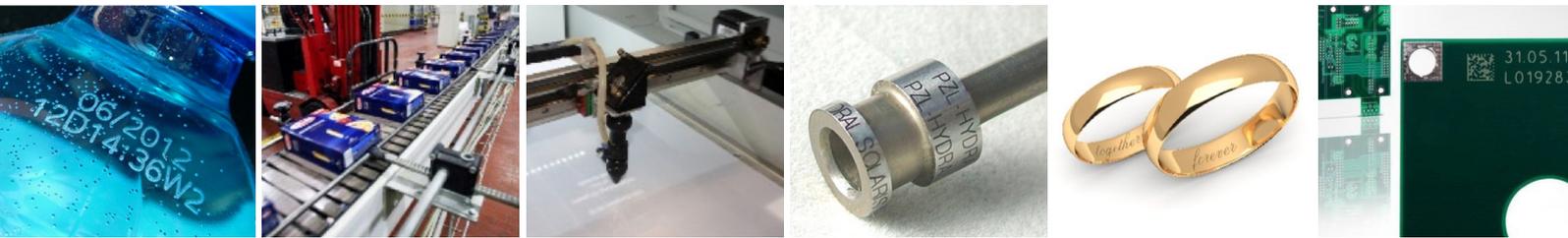
Lasers generate a much higher proportion of particles in the 1-5 micron range than other thermal processes. The most harmful particle sizes are 1-3 microns. Particles less than 30 microns are not visible to the naked eye.



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Protect equipment and processes



Particles and droplets can enter equipment through process or during mechanical intervention. The optical system of the laser is susceptible to damage from particulate getting burnt on or building up on the lens, **compromising the efficiency** of the laser and the **quality of the output**. With no extraction in place, there's no control over which direction those contaminants travel, and **the machine's performance and reliability can very quickly become compromised**. If left, over time, some contaminants can cause irreversible and very costly damage.

Minimising or eliminating contaminants is essential to ensuring optimum machine performance and reducing the amount of maintenance and cleaning requirements and reducing the risk of loss of product.

Help your laser perform better and for longer. A small investment in the right fume extraction can save unnecessary expense having to repair or replace essential equipment.

DID YOU KNOW?

Toxic gases can cause 'acute inhalation injury' ranging from minor respiratory discomfort to acute lung and airway injury and, in extreme cases, even fatality.

DON'T LEAVE FUME EXTRACTION TO CHANCE



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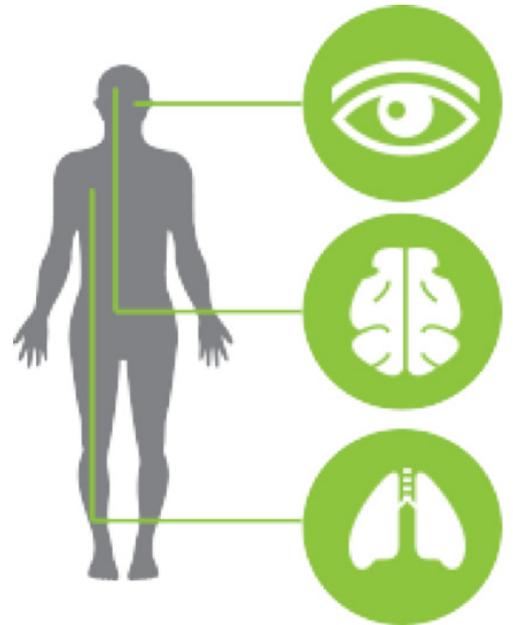
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The impact of fumes and particulate.

PROTECT WORKERS

Exposure to hazardous substances can affect the body in many ways and can cause problems for anyone who comes into contact with airborne particles. Skin contact, inhalation and ingestion can cause damage and the effects often build up over time.

Air purification is vital for health protection to reduce the long-lasting and sometimes fatal impact of uncontrolled fumes. Personal protective equipment should not be considered a substitute for proper fume control. Simply venting unfiltered fumes through a window or wall does not provide adequate local exhaust ventilation (LEV) and is likely not to be compliant.



THE ENVIRONMENT

The quality of our environment has a direct impact on our well-being. Capturing fumes and particulates and keeping them as contained is the only way to ensure the environment is protected.

This extends beyond the immediate work environment as the deposition of airborne particles can have a negative and long-lasting impact on the natural and man-made environment, causing physical and chemical degradation of materials.

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What you can do.

Have your processes changed since you last considered fume extraction? Are you using new materials? Have you replaced your laser but not upgraded your fume extraction to match? Have regulations changed recently?

It's never too late to review your fume extraction needs.

Production downtime, new equipment, HR issues and compliance breaches can be a very costly, but a very real, threat if practical steps are not taken by the employer to reduce the level of risk created by uncontrolled contaminants.

Extracting fume safely and efficiently from the working environment is a key priority to protect the operator's safety as well as preserve the laser and nearby equipment.

Whether you are working with light duty laser applications, small scale industrial processes or high-performance systems, make sure you choose an extraction solution that is fit for purpose, ensuring efficient filtration and safe removal of the contaminant.

Contact BOFA to find out what works best with your lasers and ensure you are looking after your staff, your equipment and our world.

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