Local Exhaust Ventilation Systems

Local exhaust ventilation (LEV)

The definition of an LEV is; an engineering control system to reduce exposures to airborne contaminants such as dust, mist, fume, vapour or gas in the workplace. Simply put it is something that sucks an airborne contaminant out of the workplace.

Most systems consist of the following:

- Hood – where the contaminant enters the LEV
- Ducting - to transport the contaminant and air
- Fan – To power the system
- Discharge – To release extracted air to a safe place
- Air cleaner or arrestor – to filter or clean the extracted air (not all systems have this type)

Types of LEV System

There is a huge variety of LEV systems that differ in shape and size.

The main types of system are as follows:

Total Enclosure – the process is totally enclosed and the air extracted from the enclosure e.g. glove boxes/blasting cabinets/ CNC machines

Partial Enclosure – the process is not totally enclosed and the operator can access the process. Air is pulled passed the operator and into the enclosure e.g. spray booths and milling machines

Capture Hoods – the process is not enclosed by the system; the contaminant is pulled into the system e.g. ventilated bench, down draft table, welding extract, solder tip extraction, low level room extraction for liquid nitrogen areas or solvent stores, integrated extraction on equipment such as saws and sanders

Receiving Hoods – the process is not enclosed by the system; the process provides the energy to deliver the contaminant to the hood e.g. canopy hoods over furnace or oven.

*Please note this is not a complete list; if you're unsure please contact me

Here are some photos of different systems that need to be registered with Estates

Total Enclosures:

Partial Enclosure

Capture Hoods

Receiving Hoods