FILTERMIST FAQ

FREQUENTLY ASKED QUESTIONS

- **What does the HSE require based on recent articles of airborne contaminants in the workplace in particular weld fume? Does this apply to oil mist?**

Yes, the HSE requires employers to minimise exposure to all forms of metalworking fluid – both liquid and mist, in order to comply with COSHH (Control of Substances Hazardous to Health) Regulations. There is currently no Workplace Exposure Limit (WEL) for oil mist particles – the previous TWA (time weighted average) limit of 5mg/m3 was withdrawn in 2005 following an outbreak of respiratory illness at an automotive plant with airborne oil mist under this limit. Employers are currently required to minimise oil mist levels to 'as low as reasonably practicable' (ALARP).

- **How do you know how many air changes are required for a specific application?**

The number of 'air changes' refers to the number of times the air is cleared in the machine enclosure per minute. Reasons for a lower number of air changes (i.e. 1 to 3) could be because the machine cycle is longer than average which means it isn't necessary to change the air so frequently. In all cases, the unit should achieve a negative pressure within the machine enclosure which prevents any oil mist egressing from the cabinet.

- **Why do I need to implement a time delay before opening the cabinet doors? Surely if the extraction is fit for purpose this should not be necessary?**

The extraction unit will always take a period of time to clear the cabinet, no matter what the air flow is. You can introduce more air changes to reduce the delay time, however there is a limit. Over extraction creates its own set of issues which can include poor filter life and filter bypass which can be costly and inefficient.
Accurate clearance times will vary depending on the application and can be established using a smoke test.

- **Why do I need an Afterfilter?**

Afterfilters provide a final filtration stage to capture any smaller particles which may not be filtered out in the initial filtration stage. This can include oil smoke and submicron oil mist particles.

- **What is the difference between the AFA and an AFB after filter?**

AFB afterfilters have a higher efficiency rating than AFA afterfilters. AFA afterfilters are classified as F8. The F8 rating in EN779:2012 means filters are 90-95% efficient at removing particulate matter with diameters of 0.4 µm (micron) or less. Filtermist's AFA afterfilters have been proven to remove more than 92% of particles with diameters of 0.4 µm (micron) or less. AFB afterfilters are rated to H13 which means they are classed as a HEPA filter. To be rated as a 'HEPA' (High Efficiency Particulate Arrester) Filter, the filter must remove at least 99.95% of particles with a diameter of 0.3 µm (micron) or less.

- **Why do I need an F Monitor or Airflow Indicator?**

In the UK one of the requirements of COSHH (Control of Substances Hazardous to Health) Regulations is that employees should report any defects in an extraction system 'forthwith'. Using an F Monitor or airflow indicator allows machine operators to easily identify if there are any issues with the extraction system, for example a blockage in the ducting, or filters that need replacing.

- **Why is S Fusion and FX Fusion for Neat Oil?**

Applications involving high pressure, high spindle speeds and heavy cuts can atomise neat oil and soluble coolant into thousands of submicron particles which can quickly block up traditional filter cartridges, causing unnecessary down-time. S Fusion and FX Fusion combine a hi-tech synthetic self-draining media filter with Filtermist's proven centrifugal technology - offering an effective alternative to other products on the market.

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- **What is the Pre-Filter for on my grinding machine and how does it work?**

The nature of grinding applications means there are often larger swarf and dust particles that enter the extraction system. The pre-filter arrests these particles preventing them entering the Filtermist unit. This protects the internal workings of the unit, extends filter life, and reduces service intervals.
A Filtermist cyclone can be attached to the inlet of the Filtermist unit and the contaminated air will pass through it. The low-pressure area within the separator encourages the heavier particles to fall to its base where they can be easily removed.

- **What power supply do I require, and can it be taken from the machine panel or does it require an individual isolated supply?**

Filtermist units are dual voltage/dual frequency and can be run on 200V or 415V/50Hz or 60Hz. In most cases customers bring a protected supply close to the machine for our Installation Engineers to make the final connection. On selected machines, Filtermist engineers are trained to take a supply from the machine electrical panel.

- **What is the DustTrak particle load test for and what does it indicate as the result?**

Filtermist uses DustTrak Direct Reading Aerosol Monitors (DRAMS) to take indicative readings of the volume of different sized particulate matter at various test points around machine tools. The results are intended to be used as an indicator of whether the machine tool has sufficient extraction fitted. If the particle loading at certain points is high, it is likely that control measures need implementing or existing controls need reviewing. The readings can also be used to help determine what type of extraction is required as the particulate size and the volume of particles both have a bearing on the most suitable type of filtration for that specific application.

- **What is the current Workplace Exposure Limit (WEL) for oil mist?**

There is currently no Workplace Exposure Limit (WEL) for oil mist particles – the previous TWA (time weighted average) limit of 5mg/m3 was withdrawn in 2005 following an outbreak of respiratory illness at an automotive plant with airborne oil mist under this limit. Employers are required to minimise oil mist levels to 'as low as reasonably practicable' (ALARP) through the use of effective control measures.

- **Can Filtermist Units take away smells or odours?**

Filtermist oil mist filters can be supplied with a carbon wrap to help remove unwanted odours. Selected Absolent units can be fitted with an activated carbon filter cassette or independent activated carbon cell.

- **Can a Filtermist Unit extract from more than one machine tool?**

Yes, one Filtermist unit can be used to extract from multiple machines dependent on air flow and ducting requirements.

- **How do you decide on the type of unit you need depending on the type of coolant you use?**

Different types of coolant will generate different types of mist particles. For example, applications using neat oil tend to generate large volumes of submicron particles which require a higher filtration efficiency than particles generated in applications using soluble coolant.