A Guide to Purchasing and Installing Machine Tools

New machine tools may not be supplied with all the relevant equipment needed for your application. Additional equipment may be required or preferred in order to control risks to health and to promote best working practice.

It is the responsibility of the end user of machine tools and metalworking fluids (MWF) to risk assess their processes, this is particularly important when buying new equipment and if the risk assessment identifies a need for controls, suitable controls must be implemented.

When purchasing new machines you need to consider the following:

Extraction of mists: may be achieved by simple solutions like Local Exhaust Ventilation (LEV) systems to control operator exposure to mist. LEV will need to be commissioned as part of installation to ensure its effectiveness.

Remember adequate control of mist is a legal requirement.

Contaminant removal:

- **Tramp oil**: levels must be monitored and if contamination is too high, measures must be taken to remove the contamination. Monitors can be fitted to a machine permanently or could be portable. Skimmers or other equipment can be fitted to remove tramp oil.
- **Swarf and fines:** Filters can be fitted within the supply system, or to holding areas where swarf settles and can be scooped out.

MWF Monitoring: the MWF in a machine tool must be regularly sampled and tested to confirm its safety and quality. Access is needed to obtain samples, which may require pausing of machine programs to obtain fluid from the coolant delivery points, or provision of an access point where the operator is not at risk from moving parts where a sample can be obtained. Automated systems are also available for most elements of fluid monitoring and auto-dosing.

Fluid choice: there is a vast array of fluids available, all with various performance characteristics. Selecting the right fluid to match machining requirements for different materials and processes is essential. Ensuring optimal fluid choice will help maintain workpiece and fluid quality.

Lubricant suppliers can provide assistance or advice with meeting your obligations. For further information consult the Health and Safety Executive (HSE) COSHH Essentials MWF Sheets and the UKLA Good Practice Guide for Safe Handling and Disposal of Metalworking Fluids. https://www.ukla.org.uk/wp-content/uploads/UKLA-HSE-Good-Practice-Guide-for-Safe-Handling-and-Disposal-of-Metalworking-Fluids.pdf