



## A PRESSING MATTER SOLVED BY HANDTE EM PROFI

**A** long established, north east based, manufacturer of process equipment is benefiting from Camfil APC's Handte EM Profi technology.

As part of on-going investment the company purchased a WIA L600 turning center with high pressure coolant capability.

During machining with the high pressure coolant, it became evident very quickly that there was a mist build up within the machining enclosure. Upon opening the door to undertake component checks mid-cycle, or at the end of the machining cycle, a visible plume of mist escaped into the factory environment. The company was aware that this presented a respiratory hazard for the operators and increased cycle times as the door to the machine remained closed until the mist had dissipated. Additionally, as the mist rises when it is warm it could impinge on the overhead crane rail and the associated electrics and, when it cooled and descended, it could be drawn into the electrical cabinets of neighbouring machines by cooling fans causing damage to computers, switchgear etc.

Camfil APC in Heywood, UK was approached by the company to recommend suitable mist extraction equipment with the proviso that it was easy to maintain. The Handte EM Profi model 1.8 with a capacity of 1800 m<sup>3</sup>/h was specified. The Handte EM Profi range of coolant mist control units incorporate a three-stage filtration system. Stages one and two are known as Demisters and are inserted at an angle to facilitate drainage of the collected coolant. The first Demister is a pre-filtration stage manufactured from stainless steel mesh and held in place by a robust 50mm header. The second Demister is a combination of stainless steel mesh and synthetic media held in place by a robust 100mm header. The combination of these two stages provides a very high degree of filtration efficiency.



# CASE STUDY

EMULSION MIST

## CONTINUED

The final post filter is either an F9 or HEPA, depending on the application and all three filter stages are held in place with positive clamping technology to prevent by-pass of the filters.

Filter gauges with 'filter full' indicators are fitted as standard and cover all three stages.

To meet the low maintenance requirement stipulated by the customer, the Handte EM Profi 1.8 was fitted with a unique, patented, automatic, in-situ Demister cleaning system which uses clean coolant or water. A spray nozzle is located in the inlet duct elbow, above the first Demister and activated by a signal to a solenoid valve. The valve opens, and the cleaning medium is sprayed into the Demisters for a set period of time, during normal operation, with the unit's fan running. This ensures there is no downtime which is associated with other manual filter cleaning methods. Any collected coolant and cleaning medium can be returned to the machine tool sump for re-use or to a container for disposal. On larger Handte EM Profi units a pump can be supplied to return the collected coolant to a point further away from the unit.

Filter life of up to five years for the Demister stages and one year for the post filter means that the unit can operate virtually maintenance free.



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