

Case Study

Rosedale Products filter out Carbon Deposits to Protect Machine for Precision Engineering Company

Rosedale Products Europe Ltd were approached by a precision engineering company in the Wirral who machine specialist components for the high performance automotive and aerospace industries from carbon fibre.

After requesting a site visit to recommend a filtration system on a new Hurco machining centre to help protect the machine and remove carbon fibre contaminates from the machine, Rosedale's Technical Sales Manager, Martin King, found that the machining coolant was applied to the work piece through the centre of the machine tool head spindle. After discussions with the workshop supervisor, it was found the machine was suffering a number of blockages through the centre feed causing excessive tool wear and the quality on the finished component.

The second part of the problem was the bed wash, which when operated was washing all the machined carbon fibre fines into the sump causing a sludge to build up.



Rosedale Products Europe Ltd is based in Wakefield and offered a two pronged approach to solving the problem. After the initial meeting and subsequent testing of the coolant to determine the particle sizes, a quotation was submitted. Rosedale Products were awarded the order to proceed and the first thing was to arrange a convenient time and date with the customer for the Rosedale Service Engineer install an inline filter from the machine main pump to the spindle feed so all coolant flowing to the machine head was filtered prior to being used on the component. This was reached by fitting a Rosedale model 4-12 carbon steel filter housing with a 10 micron Polypropylene filter bag inside the housing, piped direct into the main feed line fitted with differential pressure gauges to enable the operator to easily identify when the filter was blocking.

The second application was to fit an off line larger model 8-30 filter housing fitted with a 25 Micron Polypropylene filter bag fed directly from the main machine sump via a centrifugal pump acting like a dialysis type filter. Once again this was fitted with differential gauges to enable operators to identify when the filter was becoming blocked and in need of replacement.

The system has now been in operation over 6 months with the customer reporting excellent results. The filters are out performing all expectations by improving tooling and coolant life whilst giving extra protection to the machine spindle. , This also keeps the machine coolant tank cleaner by removing the particles of carbon fibre in the tank so they are unable to bind together creating the sludge problem.

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