CASE STUDY

Enhancing Aerospace Machining with Automated Fluid Monitoring

QH FLUIDMONITOR™ GL & QH FLUIDMONITOR™ RM

The Challenge

A major French aerospace and defense manufacturer specializing in advanced military aircraft and business jets was experiencing instability in coolant concentration across four CNC machines.

The plant manufactures high-precision components using complex machining operations on materials including aluminum and titanium. In this type of environment, tight control of process fluids is critical to maintaining dimensional accuracy and overall process consistency.

At this site, coolant concentration management relied on routine manual checks and top up adjustments. This manual methods require regular operator intervention and make it difficult to maintain consistent concentration levels throughout production cycles. The customer was looking for a more controlled, data-driven approach to coolant management to:

- Improve coolant stability
- Enhance machining
- Reduce variability and operational costs

The Solution

Quaker Houghton's work with similar Aerospace customers has shown that continuous automated monitoring and controlling of process fluids using QH FLUID INTELLIGENCE™ technology is key to maintaining a stable fluid concentration.

After fully evaluating the customer's challenges, QH FLUIDMONITOR™ GL and a QH FLUIDMONITOR™ RM hardware were installed including a QH FLUIDMIX™ & QH FLUIDTOP UP™ to monitor the top up concentration levels of HOCUT™ 4260 used in their aluminum machining applications.

By transitioning from manual checks to automated, real-time monitoring, the customer gained improved visibility and control over coolant conditions.

The collected data demonstrated a clear improvement in fluid stability compared to the previous manual check methods.

The Benefits

- 10% reduction of fluid costs annually
- Eliminates manual sampling and top ups,
- Freeing operator time for higher value tasks
- Improved concentration consistency
- Enhanced reliability from continuous monitoring and reduce manpower on manual sampling
- Reduced fluid waste
- Improved tool life

The System



HOCUT™ 4260

QH FLUIDMONITOR™ GL
QH FLUIDMONITOR™ RM

QH FLUIDTREND™

The Product

The QH FLUIDMONITOR™ GL is an inline device that continuously measures fluid concentration of water-dilutable fluids. The QH FLUIDMONITOR™ GL reduces costs, extends tool life, and reduces worker exposure from manual sampling of fluids.

The QH FLUIDMONITOR™ RM provides real-time monitoring of water and lubricant flow rates and dilution volumes. It features two flow meters which are easily plumed into existing water and lubricant supply lines.

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