Automotive Tier 1 Supplier:
Ensured Stable Quenching Production Rate in the Automotive Industry with QH FLUID INTELLIGENCE™ Solution

QH FLUIDMONITOR™ GL

The Challenge

A US based global Tier I supplier to the automotive industry utilizes Quaker Houghton aqueous quenchants for their induction hardening processes. Controlling the concentration is essential in aqueous quenchants to ensure the proper metallurgical properties of the heat treated part. Kinematic viscosity is the best method for controlling concentration, but the test isn't practical for the production environments. Customers therefore tend to use refractometers for measuring concentration. The refractometer reading is multiplied by a factor to determine the concentration. The refractometer requires manpower for checking the concentration of each induction hardening system and can be susceptible to contamination (oil, dirt, etc.).

The Solution

The QH FLUIDMONITOR™ GL is a self-contained measurement system which sets the new standard for continuous concentration monitoring of metalworking fluids, including aqueous quenchants for immersion and induction hardening applications. The sensor housing and integrated flow through adapter are detachable for easy cleaning and maintenance. Red, yellow, and green lights illuminate to indicate if fluid concentration is within specified programmable process parameters. The patented sensor is up to 1000 times more accurate than a typical handheld refractometer. Quaker Houghton worked with the Senior Engineer for Heat Treat at the Tier I supplier in evaluating the QH FLUIDMONITOR™ GL, and shipped one to the induction hardening OEM for testing and run-off.

The Benefits

- Real time confirmation of the quench concentrations to ensure a stable process
- Ability to integrate with the monitoring systems on the induction hardening machine to confirm each cycle processed at the correct quench concentration and is recordable
- Ensures AIAG CQI-9 conformance to the induction process
- Easy to set up and use

The Outcome

The QH FLUIDMONITOR™ GL worked successfully in measuring the concentration of the aqueous quenchant utilized in the induction hardening process. The induction hardening machine was then sent to the manufacturing facility.
The Tier I supplier eventually purchased 18 more QH FLUIDMONITOR™ GL units and have plans to purchase an additional 14 units.

QH FLUID INTELLIGENCE™

Digitally optimizing fluids and processes.
A fully digital and automated solution, QH FLUID INTELLIGENCE™ provides real-time monitoring and control of fluid performance and cost, giving you quick, accurate, and actionable insights. Customizable, scalable, and easily integrated into your manufacturing, it enhances production and sustainability by driving down waste, risk, and total cost of ownership. This is the intelligent future of fluids.

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