

## Coolants in the production process:

# From a factor of some uncertainty to a stable component

Modern metal-machining industries have long considered more than just functional tools and machinery as the fundamental components of the production process. Coolants are also an important factor in ensuring successful production. The challenge associated with this: In order to deliver maximum process reliability and optimum performance, fluids need to remain in flawless condition over a prolonged period.

## Continuous coolant control is an absolute must

The best way to ensure coolants remain functional long term is to directly and permanently monitor a number of key parameters. If these key parameters of coolants are not monitored, or deviations from the ideal state are detected too late, this is guaranteed to have negative consequences, such as reduced work-piece quality or, in the worst-case scenario, even complete failures. Despite being aware of these problems, not all companies have discovered the benefits of continuous coolant control and have to contend with a massive degree of uncertainty in their machining process as a result of inadequate control mechanisms.

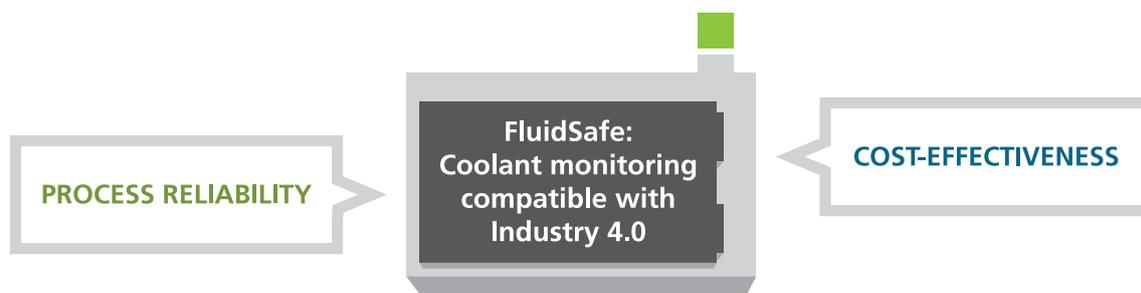


Bacterial load in particular has a significant impact on whether a coolant can deliver its full level of performance or whether quality will be negatively impacted. In order to provide information on the bacterial load, the dip slide measurement is commonly used. However, the disadvantages of this method affect the performance of the coolant. Firstly, the results themselves are quite imprecise; secondly, the relatively long time frames required to evaluate the results can themselves be problematic (it often takes up to 48 hours for the data to be received). Both of these factors make it difficult to initiate countermeasures and corrective actions in good time to ensure the coolant is kept in the best condition or to prevent the coolant from failing altogether—the worst-case scenario that must absolutely be prevented at all costs.

### Effectively eliminating risks when using coolants

With the FluidSafe LubControlSystem from Rhenus Lub, customers from the metal-machining industry such as automotive suppliers can rely on a system that makes it possible to actively manage coolants in real time—and turn coolants from being a factor of some uncertainty into a constant, stable component that can be planned for at all times. Installed directly on the central system, the innovative device not only checks the bacterial level of the emulsion in use—an important factor—but also clearly displays the current concentration value, pH value and conductivity value—parameters that play a crucial role in the quality and stability of the coolant.

The measurement is performed automatically without delay and allows corrections to be made immediately—a key requirement to eliminate coolants as being the cause of a fault in the overall machining process and to make production not



only more reliable, but above all more economical. The measurement data is displayed directly on the machine connected to the central system, and is also transferred to the working computer—fully in keeping with the principles of Industry 4.0. This set-up enables customers to evaluate results in a flexible manner independent of location and improves the overall fluid process controlled by the central system.

#### The FluidSafe moment

*“For responsible machine operators, FluidSafe makes it possible to immediately see even the smallest fluctuations with the coolant, and to respond to them straight away.”*

“We call that the “FluidSafe moment”—the knowledge that you no longer need to worry about nasty surprises. However, this reliability isn’t the only advantage. In specific terms, FluidSafe helps the coolant to work in tighter tolerance ranges. This saves costs, as coolant consumption is reduced by up to ten percent, fewer additives and suspending agents are required, service lives are increased and waste is reduced to a minimum”, says Meinhard Kiehl, Director of Marketing and Product Management.



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