Major Automotive Company Generates Over $60,000 of Annual Savings

In an effort to reduce operating costs, a major automotive company generated over $60,000 of annual savings, and a Return on Investment (ROI) in less than three months on their filter purchase. The idea was to discard the OEM-equipped replaceable media filters with the NEW Ronningen-Petter® self-cleaning magnetically coupled filter.

Portage, MI (PRWEB) May 16, 2005 -- The process in question was a group of three machining centers that machine aluminum transmission parts. The fluid to be filtered--machine tool coolant--is designed to lubricate, cool, and flush contaminants away from the part and tool. The fluid is collected under the machining operation where it is routed through a set of weirs to separate out the large particulate. A pump then sends the fluid to a housing containing three large 75-micron cartridge filters.

The filters needed to be replaced three times per week, generating a tremendous amount of annual costs to the automotive company. An in-house filtration audit highlighted the recurring high costs of the cartridges cost of disposal labor for change out machining down time. Other costs and inconveniences include tool life concerns, the inability to separate harmful chips from the fluid, all resulting in borderline product quality and safety concerns.

In their search for a solution for the costly and recurring problem, the customer selected a Ronningen-Petter Magnetically Coupled Filter (MCF), which features a permanent self-cleaning slotted filter media, which effectively removes the harmful aluminum chips and fines from the coolant. The automotive company chose the Ronningen-Petter MCF filter for its spring-loaded cleaning disc design that continuously regenerates the open area of the filter media.

The engineers responsible for the machining centers requested tighter filtration, 50 micron, upon installation as a potential opportunity to increase tool life. The new Ronningen-Petter MCF filter was installed seamlessly into the existing space of the removed cartridge filter.

The new Ronningen-Petter MCF permanent self-cleaning filtration equipment positively affected the machining centers with its ability to more efficiently manage the full coolant flow and chip loading. The more efficient cleaning cycle and purge frequency were adjusted to meet the customer's needs. Extending the cycle times greatly increased the life of the moving parts, and allowed for a greater concentration of chips to be discharged. The purge, or concentrated chip stream, was rerouted three weeks into the installation back to a large paper band filter for recycling purposes.

The quality of the filtrate under the Ronningen-Petter MCF filter was evaluated every shift for the first few weeks to ensure the quality of the machined parts. Full evaluation of the economic impact of the MCF installation was completed following three months of continuous operation. The final review determined that the Ronningen-Petter MCF paid for itself within that three-month evaluation period.

How the MCF Works
Machining fluids enter the filter at the top inlet connection and flow into the 316L stainless-steel filter element. As the liquid passes from the inside to the outside of the filter element, unwanted particles are retained on the inside of the slotted screen. Filtered coolant passes thru the outlet connection to the downstream requirement.

With the Ronningen-Petter MCF filter, the collected debris is automatically wiped from the filter media by a cleaning disc that deposits the solids in the lower chamber of the housing, out of the flow path. An adjustable timer sets the cleaning disc stroke frequency.

Periodically, the collected debris gathered by the cleaning disc is purged from the lower chamber in less than a second, using system pressure. Like the stroke frequency, an adjustable timer presets the purge timer.

With shrinking budgets, increased production and reduction of labor forces, mechanically cleaned filtration such as the Ronningen-Petter MCF filter offers a tremendous advantage over replaceable media.

by Ask Filter Man

For questions about industrial filtration, please visit the Ask Filter Man at http://www.Ronningen-Petter.com/Ask-Filter-Man-Blog.asp

If you would like to discuss this filtration solution with one of Ronningen-Petter's highly-trained Applications Specialists, please contact us at http://www.Ronningen-Petter.com/ContactUs/Contact-Us.asp

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