

Benefits of Continuous Fluid Clarification

by:

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Fastener manufacturers are finding that this method reduces machine downtime and maintenance as well as improves the quality of their parts.

Process optimization is important to manufacturers of fasteners and an area of major potential for process optimization in the fastener industry is fluid clarification. Effective and continuous fluid clarification provides significant operational and financial benefits.

In the fastener manufacturing environment, machine downtime, preventative maintenance and part quality are significantly affected by:

- Plugging of main bearing oil lines.
- Wearing of parts from small fines abrasion.
- Solids accumulation at die vent channels.
- Die shoulder erosion and breakage.
- Increased oil viscosity from accumulated solids.
- Increased oil operating temperature.
- Oil and filter changes.

Proper Equipment Specification & Integration

Classically, fluids have been clarified by gravity in settling tanks or forced through filtration barriers that require continuous replacement and disposal. While filtration or centrifugation provides quantifiable benefits, the manner in which these devices are integrated into the fastener forming or machining operation will have a profound impact on their utility, effectiveness, operating cost and benefit.

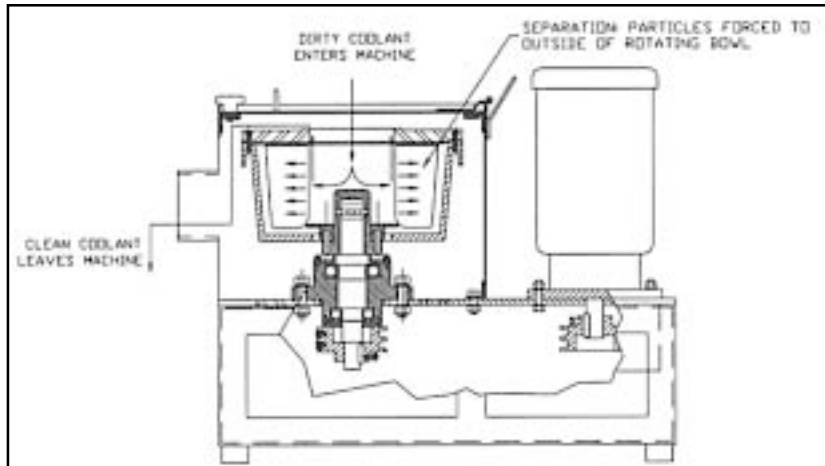
Properly integrated, any method chosen should have the ability to continuously clarify the oil without regard to machine operating cycle. Further, an effective installation should dramatically extend, if not eliminate, routine clean out of the oil reservoirs. Any device that removes dirt, but does not satisfy the other criteria mentioned above, is not providing sufficient benefit to justify its installation.

Proper specification and integration of clarification equipment is essential for measurable performance improvements in the following areas:

- Oil and fluid life.
- Oil acquisition and disposal costs.
- Filter changes and solid waste disposal costs.
- Preventative maintenance labor.
- Machine uptime
- Tool and die life.
- Machine productivity and profitability.

Continuous & Easy Fluid Clarification System Aimed at the Fastener Industry

Microseparator® centrifuges from Bazell Technologies Corporation are effective on all types of process liquids for removing solids that have a specific gravity greater than that of



With the Microseparator®, dirty fluid is continuously pumped to the top center of the rotor. Particles heavier than the process liquid are forced to the rotor's perimeter. Liquid overflows the rotor and returns to the reservoir. With a self-draining option, remaining liquid drains from the bottom of rotor. The solids are then easily removed from the rotor.



The FTK series Microseparator® is a self-contained oil processing system.

the process liquid.

Special versions of these centrifuge systems can be engineered by the company to provide efficient and reliable operation in serving the special requirements of fastener applications including:

- Cold heading machine lubrication.
- Die lubrication.
- Heat-treat quench oils.
- Screw machine oil.



The unique rotor design minimizes foaming of oil and drains automatically when stopped.



Sludge removed by the Microseparator® centrifuge from a cold header oil tank.

- Thread and rolling oil.
- Wire drawing lubricants.
- Parts washing fluids.
- Vibratory finishing and deburring oils.
- Machining/grinding coolants and oils.
- Wastewater treatment systems.
- Pre-filter for coalescers, UF membranes and polish filters.

Additionally, the removal of solids from Microseparator® centrifuges is easy because rather than requiring the operator to scrape out the contents of the rotor from a fixed position within the centrifuge, the entire rotor assembly lifts off the drive shaft allowing the solids to be removed in a position convenient to the operator. A self-draining rotor assembly option also ensures that as the rotor comes to a complete stop, any residual liquid drains out the bottom of the rotor and back into the reservoir. Rotors without self-draining feature include a removable rubber liner.

A high degree of Microseparator® system customization is available to suit specific application or plant requirements. Tanks, structural platforms, pumps, control packages and systems engineering are but a few of the specialty options and services available.

Bazell is a Tier One supplier to the automotive industry specializing in the manufacture of cellular and central fluid processing systems incorporating the company's fully automated, self-cleaning Microseparator® centrifuges. These centrifuges can clean themselves many times per hour without operator intervention and are an ideal addition to existing centralized oil, coolant or process water systems suffering fines accumulation problems. The company has worked closely with the wire and cable industry since 1983, solving difficult fluid clarification problems in aluminum, steel and copper wire drawing applications.

To learn more about fluid clarification technology, contact Bazell Technologies Corporation.



Company Profile...

Founded in 1983, Bazell Technologies pioneered the application of fully automated basket centrifuges in a wide variety of industrial applications. Today the company operates internationally, solving complex fluid clarification problems through the manufacture of advanced industrial fluid clarification systems.

A Continuous Fluid Clarification Case Study From the Fastener Industry

A USA-based automotive fastener manufacturer had been trying to solve the same problem for years—how to clean the lube and die side oil from its headers without using large volumes of consumable filters. The company discovered measurable improvements to oil life, product quality and machine uptime by continuously cleaning the oil with the Microseparator® system.

Working closely with the plant maintenance and engineering staff, a plan was put into action to install the Microseparator® centrifuge to gain the maximum benefit from the capabilities of this technology.

Close cooperation between the automotive fastener company and Bazell staff allowed the customer to save considerable installation time and money by providing the equipment in just the right configuration to suit the specific plant requirements, specifications and standards.

Next, continuous fluid clarification technology will be applied to the fastener manufacturer's quench oil for additional financial and operational benefits to the company's plants.

According to the Plant Engineer at this automotive fastener manufacturing company:

"Machinery or process improvements that produce a return on investment in months, as opposed to years, are hard to find. However, we saved US\$7550 in filter and labor costs in 12 months on our first Microseparator®. Now we are installing Microseparators® on every header in our plant.

"Additionally, with the Microseparator® our oil change interval has been extended tenfold and is still rising. Also, our operators are a happier crew."