

375% Reduction in Ferrous Hydraulic Contaminants at JBS

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**DANNY COUTURE (DCOUTURE@JAGERBUILDINGSYS.COM),
MAINTENANCE SUPERVISOR OF JAGER BUILDING SYSTEMS INC.,
CALGARY WOOD PRODUCTS**



Top: FilterMaster 2003 Y Strainer bottom: FilterMaster 800 attached to the oil filters on Jager's 6-ton Sellick forklifts

JAGER BUILDING SYSTEMS INC.

For over 50 years Jager Building Systems Inc. (JBS) has been an industry leader in manufacturing and distribution of engineered wood products for the construction industry in Canada and the US. Their engineered product standards demand that their equipment follow the strictest maintenance policies to maintain optimum production efficiency.

375% drop in Ferrous Hydraulic Contaminants under 10 microns

One Eye Industries, specializing in long-term industrial filtration solutions, partnered to support the efforts of Jager's plant maintenance program. Implementing a test study, JBS installed the FM4000 Scrubber on the feed side of plant hydraulic equipment before, and then after, their standard filtration systems to evaluate present filtration capabilities and effectiveness.

“I was amazed by what was on the magnet after the hydraulic oil went through the filter. In one location there was a piece of metal about 2 mm long that had worked its way through the standard paper filter. In every location we tested it, there were significant amounts of ferrous contamination trapped on the magnetic filters” said Danny Couture Maintenance Supervisor for JBS. He goes on to keenly point out that, **“about 2 months later our semi-annual oil analysis found that the particle count for 5-micron particles had dropped from 2975 to 794 ppm. A dramatic drop.”**



FilterMaster 4000 Scrubber in action (indicated by arrow)

A drop of 375% equates to substantial savings because improved hydraulic filtration has one of the highest returns on investment and shortest payback periods of most industrial filtration applications. Standard filtration does not address the most serious contamination that causes chain wear- hard iron and steel particles less than 10 microns in size. Traditional filters at the 2, 5, 10 and 25 micron level are unable to remove wear metal. It either flows right through the filter or “channels” or “worm holes” its way through paper and glass filters just like the 2 mm fragment trapped by the FM4000 scrubber. OEI’s patented magnetic technology creates the field strength necessary to effectively remove ferrous contamination to the sub-micron level, even in high flow applications and with operating temperatures up to 300° F.

Y-Not Strain It

“I was shocked to see the amount of miniscule iron rust particles that were removed from the air lines,” noted.

Couture after installing a FM2003 Y-strainer on a steel airline. Pneumatic systems produce very fine particles (less than 10 microns in size) due to erosion caused by air moving under pressure. Rust and slag are also produced in pressured air environments and cause seals and air tools to wear much faster or plug up completely. JBS’ preventative maintenance program has raised the bar by delivering greater uptime levels.

Padded Forklifts

JBS also installed FilterMaster pads on the existing fuel, oil, coolant and hydraulic filters on their 6-ton Sellick forklifts running Perkins diesel engines. Removing the wear metals stops chain erosion and extends the life of all of the components. After running for 250 hours Couture, “cut the filters open to find a black substance on the spots where the magnetic were installed.” These spots are large collections of ferrous contaminants in the system and are usually between 1 and 10 microns in size.

It is a commonly known fact that ferrous contaminants in this size range cause the most wear and tear on all lubrication and hydraulic systems with specific damage to bearings, valves and seals. Ferrous particles are absorbed into the oil film and travel to high-pressure areas causing plowing, gouging and spalling. Removing these particles is difficult as standard filtration is not able to effectively remove contamination of this type. One Eye’s powerful, rare-earth magnets create the field strength necessary to effectively remove ferrous contamination down to sub-micron level.

Bottom Line

Successful testing of One Eye’s technology is leading JBS to integrate the ADD-Vantage 9000, the world’s most advanced fluid filtration technology for hydraulics and lube oils; as well as more FilterMaster scrubbers, rods and pads into their plant maintenance program.

Customer at a Glance



company: Jager Building Systems Inc.
industry: Manufactured & engineered wood products
location: Calgary, Alberta

- FM 4000 Scrubber – feed side of hydraulic fluid reservoirs
- FM 2003 Y Strainer – in air lines
- FM 800 & 900 reusable magnetic filter pads – on existing oil, fuel and transmission filters



Challenge	Solution	Results
PLANT EQUIPMENT		
<ul style="list-style-type: none"> • Reduce wear and protect critical plant equipment. • Increase overall plant and equipment uptime. • Reduce maintenance costs. 	<ul style="list-style-type: none"> • Testing of FM4000 Scrubber on the feed side of hydraulic lines – both before and after existing filtration. 	<ul style="list-style-type: none"> • 375% drop in 5-micron particle count – from 2,975 to 794. • A 2 mm metallic shard captured by magnetic rod after “worming” its way through existing standard filtration. • Increased system up time. • Increased life of critical plant equipment. • Extended filter life. • Reduced filter disposal costs.
AIR LINES		
<ul style="list-style-type: none"> • Prevent air lines from plugging and carrying contaminants to equipment. 	<ul style="list-style-type: none"> • Installation of FM 2003 Y-Strainer (with magnetic rod inside) inline. 	<ul style="list-style-type: none"> • Capturing an “amazing amount of rust particles stopped from going into the filters” and air tools. • No plugging of air lines or air tools.
FORKLIFTS		
<ul style="list-style-type: none"> • Extend maintenance cycles and life of forklifts. 	<ul style="list-style-type: none"> • FM500 and FM900 pads on existing hydraulics, fuel and oil filters. 	<ul style="list-style-type: none"> • After 250 hours traditional filters were cut open to show extensive ferrous contaminants retained against filter wall adjacent to magnets. • Reduction of wear metals and slowing of the wear cycle in critical systems.

For more information on how to get One Eye Industries working for you please contact your local retailer, visit www.OneEyeIndustries.com, or call 1-877-888-TRAP

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