

Test Bench Cleanliness Standards Challenge Traditional Hydraulic Filtration



“As a hydraulic service company, we are well aware of the damage that ferrous contamination between the <1 to 10 micron range does, especially with the very high tolerances on new equipment. Removing it from our own system gives us the confidence that this is the best test facility anywhere.”

DON FANDRICK, MANAGER OF KINECOR INC.

KINECOR INC.

When you strive to be the industrial components company of choice in the bearing, hydraulic and process equipment industry you need to walk your talk. Pristine equipment with contaminate free test benches and extended machine up-time are areas where you need to be a leader by example. Kinecor Inc., and their 56 branches across Canada, is a leader by example in the industrial components industry and the company of choice for many.

Kinecor offers their customers a hydraulic testing facility to ensure that serviced equipment is functioning properly. It is powered by an 8V92, 470 horsepower, Detroit Engine and has a 300 gallon hydraulic reservoir. A 2-micron filter is installed at each of the two hydraulic returns to protect the \$250,000 test system from older equipment which typically has high levels of ferrous contamination. The filters also ensure new equipment being tested does not become cross contaminated by any wear particles in the test system.

To further ensure the overall cleanliness of the test bench, the hydraulic reservoir tank was refinished, micro-vacuumed and filled with brand new fluid. A 3 foot FilterMaster 3000 magnetic rod was then inserted into the hydraulic reservoir. At the same time, a FM 900 reusable magnetic pad was also attached to each of the 2-micron filters on the fluid return.



upper left: Kinecor's hydraulic test bench lower left & right: FilterMaster magnetic rod with trapped ferrous contamination (indicated by arrows)



“Our team was totally astonished at the amount of contamination that the FM3000 rod removed.” noted Don Fandrick, Calgary Branch Manager, after the magnetic rod was removed for inspection after only 1 month of operation. “We just had the tank re-vacuumed before it was filled and considered the entire system absolutely clean. The amount of contamination the FM3000 removed is amazing. And most of it is less than 10 microns in size.”

Extracting ferrous contaminants from both the new hydraulic fluid and from the operating test bench ensures greater system life. There is now very little chance that the test bench will become contaminated from older machines or cross-contamination of new machines will occur.

Success at the test bench has led Kinecor to add Filter-Master technology to their customer’s oil & gas vacuum trucks, which are now being equipped with FM 3000 rods in their hydraulic reservoir tanks. After a pump fails the FM 3000 (about \$300 with a useful life of 10 years) removes the associated ferrous contaminants saving a fluid change (about \$650). The FM 3000 rods now extend periods between failures and reduce the costs associated with failures.

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Customer at a Glance



company: Kinecor Inc.
industry: Bearing, power transmission, hydraulics & process equipment
location: Calgary, Alberta

Technology Highlights

- FM 3000 magnetic rod, 3” – in hydraulic reservoir
- FM 900 reusable magnetic filter pads – on filters rated at 2 microns

Challenge	Solution	Results
INTERNAL		
<ul style="list-style-type: none"> • Protect a \$250,000 hydraulic test bench and 2 \$40,000 pumps from: <ul style="list-style-type: none"> • contamination entering the system from old equipment being tested. • cross-contamination of new equipment. • Ensure absolute cleanliness of the 300 gallon hydraulic reservoir. 	<ul style="list-style-type: none"> • Placement of a 3 foot FM 3000 magnetic rod into the hydraulic reservoir. • 2 x FM 900 magnetic pads – one pad on each of the 2 micron filters on the hydraulic return lines. 	<ul style="list-style-type: none"> • Removal of ferrous contamination from new hydraulic oil (see photo on page 1) • Increased system up time. • Increased life of critical components (valves, pumps, motors etc). • Reduced erosion. • Reduced wear. • Extended filter life. • Reduced filter disposal costs.
EXTERNAL		
<ul style="list-style-type: none"> • Increase protection of the critical hydraulic system on large vacuum trucks used in the oil & gas industry. 	<ul style="list-style-type: none"> • Adding a FilterMaster 3000 Magnetic Rod in the hydraulic reservoir tanks of vacuum trucks. 	<ul style="list-style-type: none"> • Peace of mind knowing your capital equipment has a reduced wear cycle. • No fluid change needed after a pump failure.

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