

HOW TO TAKE A FLUID SAMPLE



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Thank you for choosing Finning Fluid and Condition Monitoring services where we are proud to be one of the largest and most sophisticated laboratories in the UK, serving customers from around the globe.

Every year we are trusted to test over 215,000 fluid samples from all makes and models of machinery, employed in mission critical applications across a wide range of markets.

HOW TO TAKE YOUR SAMPLE:

There are two types of preferred sampling methods – live oil sampling and vacuum extraction sampling.

Here are five easy, step-by-step instructions on how to take your sample:

LIVE OIL SAMPLING

1. Set machine to low idle.
2. Use a new piece of tube for each sample and remove dust cap from valve to be sampled. Wipe valve with a clean cloth and insert probe into valve.
3. Discard 100ml of oil into waste container. Insert probe into valve again and fill sample bottom to fill line.
4. Cap bottle and shake. Now discard oil to remove possible contaminants. Repeat previous step to take the actual sample. Fill to fill line. Remove probe from valve and cap sample bottle.
5. Complete sample label, ensuring all details are filled in and post sample to lab.

VACUUM EXTRACTION SAMPLING

1. Run machine and ensure all compartments are at operating temperature. Turn off engine.
2. Cut sample tube to the length of the dipstick (if fitted). If no dipstick, cut sample tube so it reaches half way into the oil depth. Insert tube through head of pump and tighten retaining nut. Tubing should extend 4cm (1.5in) past the base of the pump head.
3. Install new sample bottle onto pump and insert end of tube into oil. Pump the vacuum pump handle and fill sample bottle to fill line. Cap bottle and shake.
4. Now discard oil to remove possible contaminants. Repeat previous step to take the actual sample. Fill to fill line. Hold the pump upright so the oil does not contaminate the pump. If the pump is contaminated, disassemble and clean before use.
5. Complete sample label, ensuring all details are filled in and post sample to lab.



THE SCIENCE BIT

Your sample will now undergo thorough testing in our state of the art laboratory where a highly trained team of diagnosticians will evaluate the results and deliver practical advice and recommendations straight back to you.

This information can help identify any potential problems at an early stage, enabling you to prevent a minor problem from becoming a costly repair.

All samples undergo visual checks by the laboratory followed by in-depth testing:

ICP (Inductively Coupled Plasma Spectrophotometer)

This uses the very latest in analytical equipment and checks for the presence of elements such as chrome, tin and iron. Abnormal levels of these may indicate problems such as over-wearing of certain parts.

Particle Count

On systems and samples where cleanliness is critical to the correct operation, we carry out a particle count. The sample is passed through an optical counter where a laser quantifies any material present between 4 and 68 microns in size. The result is reported as an ISO standard particle count code.

Fuel Contamination in Engine Oil

Fuel contamination in an engine can cause the viscosity of the oil to drop sharply. This dilution will prevent the oil from lubricating the engine properly and can lead to catastrophic failure. This test is carried out on any engine oil sample that displays any possible symptoms of fuel dilution. The result is reported as Fuel (% wt).

Analysis in Action

Finning's industry leading online reporting system, Infotrak, allows you to view up-to-the-minute information and historical data - at any time of the day or night, from anywhere in the world.

As soon as any sample has been analysed and the report compiled, the results are emailed directly to you, and posted online.

Fluid Viscosity

Viscosity is the most important physical property regarding lubrication and directly relates to the fluid's ability to hold two wear surfaces apart. Viscosity is measured in Centistokes and is carried out at 40°C but can also be carried out at 100°C (if required).

Ferrous Debris

This test uses a Particle Quantifier, which measures all ferrous (Iron and Steel) materials in the sample regardless of particle size. The result is reported as a unitless PQ Index Number.

The Infra-Red Oil Analyser

This checks for the presence of soot, oxidation, nitration, sulphation, water, fuel and antifreeze, all of which can lead to problems for your machine.

Bacterial/Fungal Testing

This test measures microbial activity which at certain levels can cause the build up of sludge and slime; leading to problems such as filters clogging.





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