

OFFLINE FILTRATION SERVICE

Unlike many other filtration services, Precise Lubrication offers filtration which will:

- Improve cleanliness levels
- Reduce moisture content
- Remove harmful by-products of oxidation such as sludge and varnish
- Filter oils up to 1600 cSt

Filter carts and hand held units are available to hire or buy and can be used for a variety of purposes.



This photo shows a filter-cart being used to filter contamination from a hydraulic oil tank on a loader in situ.

Keeping oil clean

- prolongs equipment life
- avoids unplanned production downtime
- reduces the overall cost of maintenance.

This photo shows a hand held filter unit being used to filter oil as it goes into the bulk oil tank on a machine.

New oil has a level of cleanliness which rarely meets the requirements of modern machinery. Filtering the oil prior to use ensures that the oil is clean and dry to a prescribed level.

Once in the machine the oil can be kept clean with proper filtration and lubrication management regimes.



Electric or pneumatic drum pump filtration units are available to suit oil drums.

This allows the client to filter the oil immediately before the oil enters the reservoir or storage facilities.

Studies have shown that the cleanliness of lubricants is directly related to the reliability of your equipment.

Wear particles and contaminants accelerate overall wear. Equipment life can be extended by:

- ensuring your oil is clean to the required standard.
- provide filtration (offline or online)
- quality reservoir breathers which keep moisture and airborne particles out
- Constant level oilers ensuring that proper oil levels are maintained.

PROOF OF PERFORMANCE – INJECTION MOULDING MACHINE

Offline Filter used to remove moisture ingress

Problem

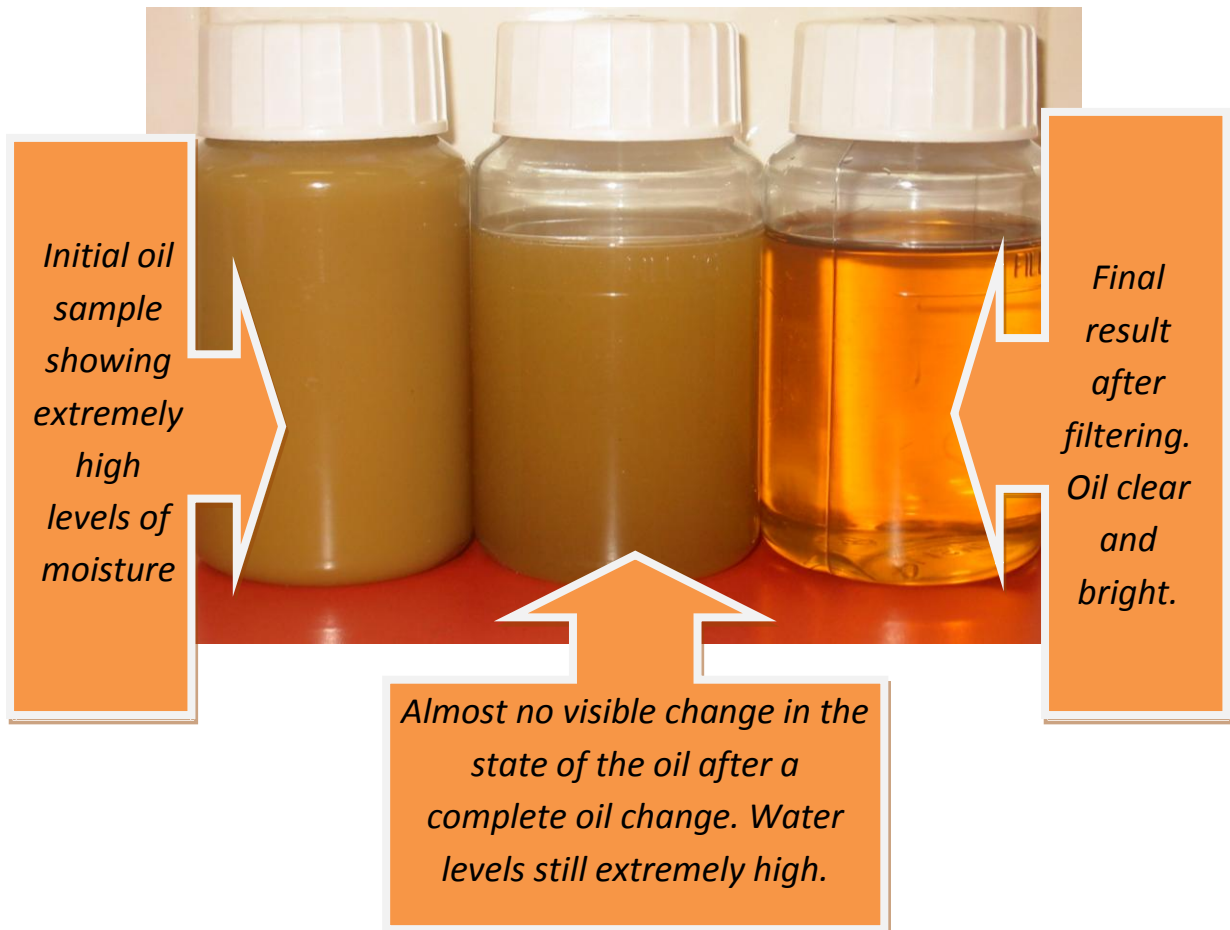
- Regular oil analysis detected high levels of moisture ingress resulting from a defective heat exchanger, a regular occurrence on any injection moulding machine.
- An immediate oil change was performed to remove water and the increasing ferrous wear debris levels. This oil change did very little to improve the entrained water nor the wear debris levels in the fresh oil charge.
- Precise Lubrication was contacted for a suitable solution to allow production to continue on this important injection moulding machine.

Solution

With the initial change of oil unable to remove all of the moisture that remained within the hydraulic system, Precise Lubrication offered an offline filter to remove remaining levels of moisture.

Result

- Remaining moisture eliminated.
- Cleanliness levels improved
- Ferrous wear debris removed.
- Minimised unscheduled downtime.
- Due to high moisture holding capacity of filter elements, only one set of elements was required.



SUMMARY

Regular oil analysis detected the moisture ingress but increased frequency would have provided an earlier warning to impending failure.

Precise Lubrication offers:

- off-line filtration as a cost effective method of removing water and/or wear debris from oil without the need to halt production.
- a complete lubrication management package designed to address issues before they become problems.

PROOF OF PERFORMANCE –BLOW MOULDING MACHINE

FM504 Offline Filter used to avoid unscheduled oil changes.

Problem

A very large Australian manufacturer and distributor of air conditioning products and components was faced with the prospect of unscheduled oil changes on their 3 blow-moulding machines due to increasing levels of contamination and rising TAN levels .

With each hydraulic system containing approximately 1800 litres, Precise Lubrication was consulted as to whether there was a solution which allowed production to continue.

Solution

Precise Lubrication, offered an offline filtration solution to tackle the increasing levels of contamination. Over a period of 4 days each of the 3 blow-moulders was filtered using the FM504 hire unit.

Result

- Contamination levels decreased
- TAN levels decreased.
- No unscheduled oil changes.
- No unscheduled downtime.
- Only one set of elements was required due to their high dirt holding capacity.
- Cost savings in excess of \$3000.00 in oil alone.

Blow Moulder # 1: Results

	BEFORE	AFTER	RESULT
Oil cleanliness ISO 4406:99	22/18/13	19/15/11	Much Cleaner
SAE AS4059D	12	10	
≥4µm (c)	28924	4460	85% reduction
≥6µm (c)	2318	232	90% reduction
≥10µm (c)	159	29	82% reduction
≥14µm (c)	62	10	84% reduction
≥21µm (c)	29	4	87% reduction
≥38µm (c)	4	1	75% reduction
≥70µm (c)	0	0	
PQ Index	0	0	
Viscosity @ 40°C	68.51	67.83	
Water	<1,000	57ppm	
Oxidation	1	1	
Nitration	3	4	
Total Acid Number	0.52	0.39	
Calcium	37	36	
Magnesium	5	5	
Phosphorus	258	254	

Zinc	306	288	
Aluminium	<1	<1	
Iron	5	4	
Chromium	<1	<1	
Copper	83	80	
Lead	7	1	
Tin	<1	<1	
Silicon	3	1	
Sodium	19	11	
Boron	6	<1	

Removing the debris by offline filtration had many benefits:

- Production continued
- Reduced chances of clogged valves
- Reduced chances of damage to valve spools, cylinders, pumps, bearings
- Reduced maintenance costs
- Reduced unscheduled down time
- Additive levels maintained

A longer term solution would be to install a small offline kidney loop filtration system to each machine. Precise Lubrication can do this for you.