

## 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	

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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.