Portable Filtration Systems
Field Performance Report

Lubrication Technologies Inc.

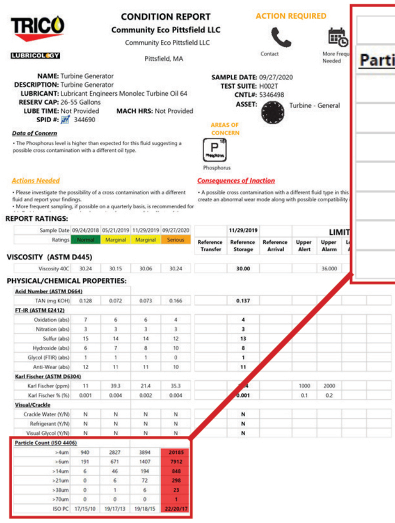
SEPARATING SURFACES SINCE '76

Harvard Corporation

$3,000+ SAVED

Area of Concern/Issue

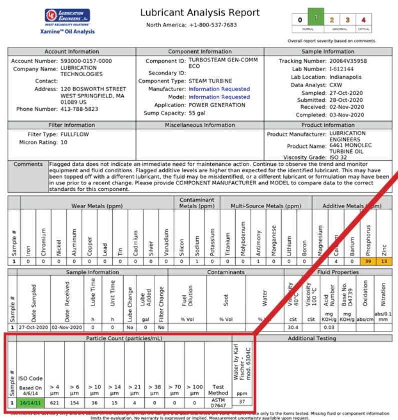
Turbosteam Generator has oil that does not comply with desired cleanliness level as indicated by routine oil analysis results



Sample Date	09/24/2018	05/21/2019	11/29/2019	09/27/2020
Particle Count (ISO 4406)				
>4um	940	2827	3894	20185
>6um	191	671	1407	7912
>14um	6	46	194	848
>21um	0	6	72	298
>38um	0	1	6	23
>70um	0	0	0	1
ISO PC	17/15/10	19/17/13	19/18/15	22/20/17

Solution

Use of Harvard Portable Filter Cart dramatically reduces particle count as evidenced by oil analysis results.



Sample #	ISO Code Based On 4/6/14	> 4 µm
1	16/14/11	621

In case you are not familiar, the 3 digit code represents the number of particles greater than 4/6/14 micron in every 100 ml of oil.

The cleanliness code went from 22/20/17 to 16/14/11. Every single digit reduction results in the number of particles being halved. You can see the actual reduction of the 4, 6 and 14 micron particles to the right of the code.

RESULTS:

Cleaner oil results in longer component as well as lubricant life. *Filtering the oil is a very critical, proactive maintenance step.* Installation of our LE Xport™ desiccant filter on the fill as well as QD couplers on both fill and drain ports, insure oil will maintain cleanliness.

Which would you prefer, assuming or knowing that the oil is truly clean? The oil filtration process positively impacts equipment performance.

With the expenses, complexities and increasing demands on equipment today, one must capitalize on every performance advantage possible.

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45 YEARS 1976-2021 LUBRICATION Technologies, Inc.
AN UNCOMMON TECHNICAL RESOURCE

PORTABLE FILTRATION SYSTEMS
FIELD PERFORMANCE REPORT

Harvard Corporation

CONSTANT CONTAMINATION CONTROL

The Filter Makes the Difference:
The Harvard filter is designed as a multiple element filter. The Harvard™ patented non-channeling seal forms a positive barrier to channeling. The flow of oil carries the contaminants into the depths of the filter media with no flow restrictions from surface loading. Each element will remove water from wet oils.

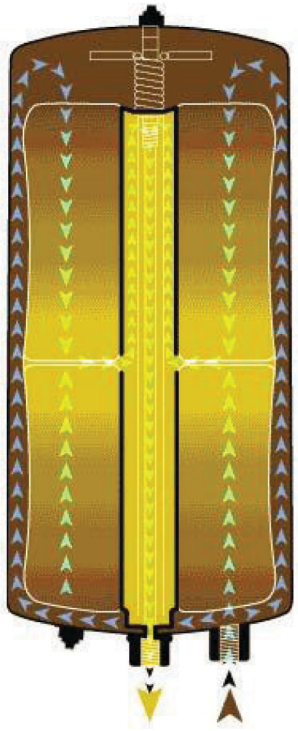
The hydraulic pressure of the oil compresses the layers of filter media against the pat-ented non-channeling seal and toward the center of the element creating a constant pressure to avoid channeling. This compression along with the pressure against the filtering surface of the element causes the elements to become more compact, trapping contaminants as small as one-micron. Oil flow travels through the layers of the elements and into the oil return tube of the filter housing.

Features
- Removes Contaminants as Low as 1-Micron
- Removes Water from Petroleum Base Fluids
- Moves Easily Site-to-Site
- Filters Most Synthetic and Oil Base Fluids
- Operation/Service Manual Included
- Contact Distributor for Additional Information

Increases
- Fluid Life
- Machine Life
- Equipment Life

Decreases
- Downtime
- Hazardous Waste Generated
- Replacement Fluid Costs
- Waste Disposal Costs

Typical Applications:
- Manufacturing
- Machine Shops
- Injection Molding
- OIL EDM Machines
- Gear Oils
- Diesel Fuel
- Hydraulic Oils
- Quench Oils
- Glycerols
- Heat Transfer Fluids
- Turbine Oil
- Compressors



HOW THE SYSTEM WORKS

Contaminants from 1 to 40 microns in size are common even in full-flow, filtered lubricants and coolants. Larger contaminants nest into areas around bearings, rings, pumps, etc. and damage component surfaces. Smaller contaminants that cannot be removed by full-flow filters wear the apparatus by a process called silting.

For many years, partial-flow filtration has been used to supplement full-flow filters to remove larger contaminants and control silting. Harvard Corporation did not invent partial-flow filtration, but we significantly improved it. Our patented, non-channeling seals improve partial-flow filtration by forcing oil through a wound, fiber-filter media so fluids cannot bypass the partial-flow filter.

Independent studies conducted by the Center for Hazardous Materials Research at the University of Pittsburgh demonstrated the effectiveness of Harvard Corporation non-channeling, partial-flow filter. The filter removes virtually all remaining 1 to 40 micron contaminants while also removing the vast majority of silting particles. In addition, the filter absorbs water, antifreeze and other extraneous particles.

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