Orono Spectral Solutions, Inc.
A Full Spectrum Innovator.

OSS Oil and Grease Extractor

QUICK, GREEN & EASY

Infrared Analysis of Oil and Grease in Water Matrices

Oil and grease is one of the five conventional pollutants covered by the 1974 Clean Water Act. The measurement of oil and grease is included in all of the National Pollution Discharge Elimination Systems (NPDES) permits, all pre-treatment permits, and all Industrial Effluent Guidelines. As a result of the Montreal Protocol, which entered into force in 1989, EPA was required to move from a Freon extraction infrared-based determination method to a n-Hexane extraction mass-based determination method, creating four new issues: 1) a flammable liquid is required, 2) n-Hexane is a known neurotoxin in addition to other known health concerns, such as potential harm to fertility, 3) the analytical time is significantly increased, and 4) we are left with a large amount of n-Hexane for disposal. An estimated 1.1 million liters of n-Hexane is used each year for EPA Method 1664A analyses.

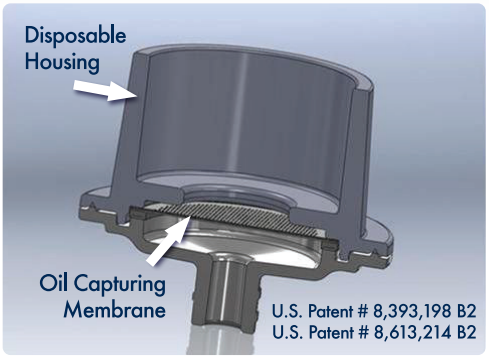
OSS has introduced a next-generation solution to oil in water and related analyses. Our environmentally friendly, optical based apparatus replaces solvent liquid-liquid extraction techniques. It advances the state of the art and eliminates current method shortfalls by providing a solventless, economical, and accurate measurement of hydrocarbons in processed and waste water at concentrations in the ppm range. The associated method "ASTM D7575 – Standard Method for Solvent-Free Membrane Recoverable Oil and Grease by Infrared Determination" will remedy the four issues listed above by removing the use of hexane or any other solvent from the analysis or cleanup. Easy adoption of this methodhas been demonstrated in both field and laboratory settings.

ADVANTAGES

- Economical
- Solventless
- High Sample Throughput
- Adheres to EPA Green Principles
- Rapid Calibration with Solid State Standards
- Easy to Adopt
- Produces Equivalent Results to EPA 1664

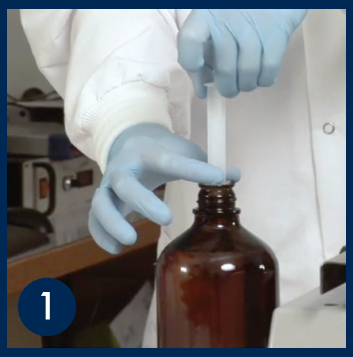
THE OSS SYSTEM

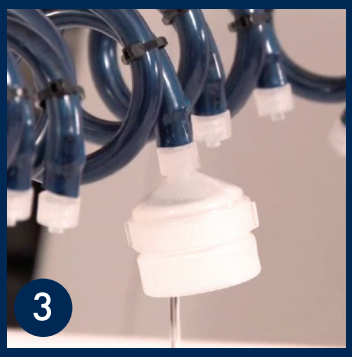
The OSS Oil and Grease Extractor system delivers accurate measurement in a fraction of the time of current methods, allowing for high sample throughput and greatly reduced operator time.

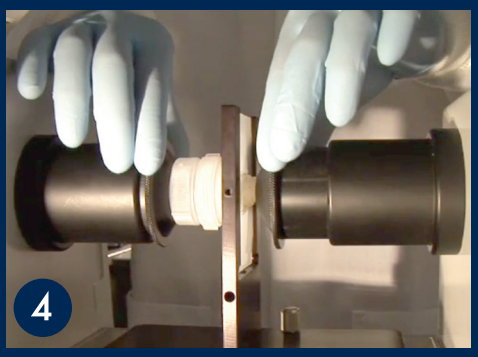


THE PROCESS

1. Draw sample into syringe
2. Process sample through extractor
3. Dry using compressed air
4. Analyze OSS Extractor using FTIR



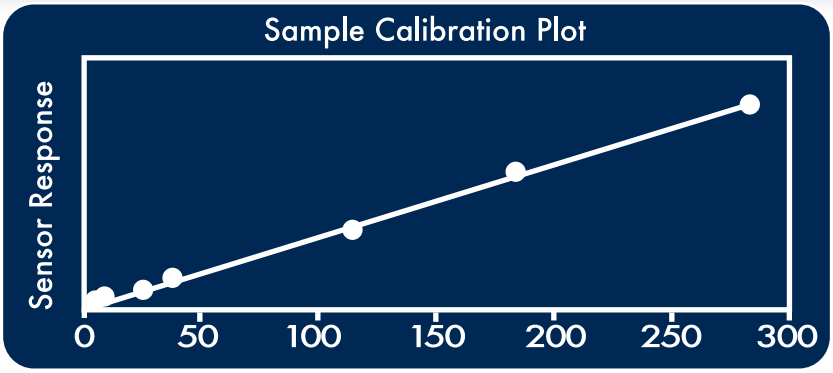




PERFORMANCE

Specs:

- Detection Limit: < 1 ppm
- Lower Quantification Limit: < 5 ppm
- Linear Reporting Range: 5 – 200 ppm
- Time Required Per Sample: 15 minutes
- A Single Operator can perform up to 20 measurements in one hour.



OSS

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