



**Spectrolytic**  
Innovative Solutions in Spectroscopy

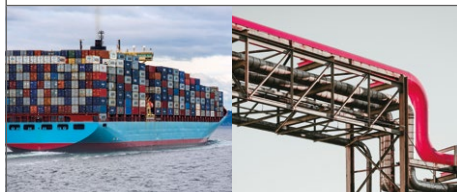
# FluidInspectIR® Oil Condition Monitoring

# Revolutionise your fluid monitoring: maximise cost savings and efficiency with FluidInspectIR®

Demand for a fully integrated Fluid Condition monitoring solution is being driven by the never-ending search for operational efficiency across every industry from Marine to Oil and Gas.

Many organisations see this process as a cornerstone of protecting long term profitability, sustainability and compliance.

Spectrolytic solutions manage support hundreds of businesses, managing thousands of assets and monitoring 10,000's of manhours to protect our customers operations, by creating a fully usable Data set that allows management to make the best proactive decisions in terms of maintenance and fluid usage, creating £millions of savings.



### Oil Condition Monitoring

Real-time monitoring for the Marine, Power Generation, Industrial Fluids and Steel & Aluminium Rolling industries.



### Cooling Fluids

Dynamically analysing cooling fluids for Data Centres and Metal Milling and Cutting.



### Fuel Analysis

Remotely monitor FAME levels in BioDiesel, Ethanol in Gasoline and Water content in Jet Fuel.



#### Extend Asset Life:

Early failure warnings prolong machinery lifespan.



#### Enhance Bottom Line:

Reduce oil usage and dependency on labs, saving money.



#### Operational Efficiency:

Minimise human involvement with fully automated systems.

# Next generation end-to-end solution for fluid monitoring

Actionable data from a true plug-and-play solution to increase user bottom line returns \$\$\$

## Oil Condition Monitoring

### Marine



### Turbomachinery



- Eliminate operational doubt in fluid management
- Maximize operations earnings
- Increase Bottom line returns

### Power Generation



### Steel & Aluminium Rolling



- Eliminate human-machine interface
- Create intent actions through real-time data
- Protect the bottom line of users

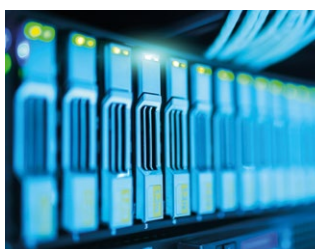
## Cooling Fluids

### Metal Working



- Eliminate human-machine interface
- Create intent actions through real time data
- Protect the bottom line of users

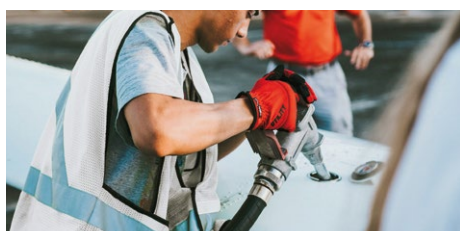
### Immersion Fluids (datacenters)



- Eliminate human-machine interface
- Deliver 24/7 total control on process fluids
- Protect process up time
- Deliver bottom line increase

## Fuel Analysis

### Ethanol In Gasoline



### FAME In Biodiesel



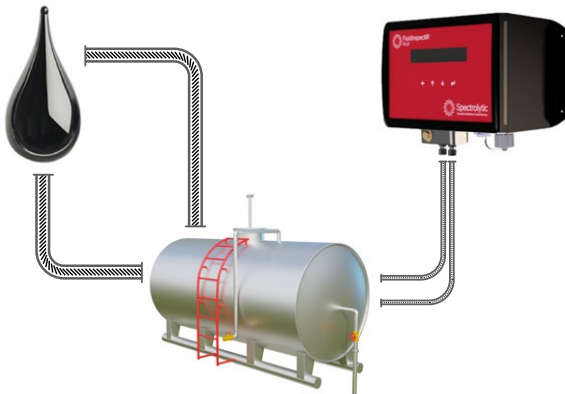
- Control Quality
- Remove human-machine interface
- Create bottom line increase

# Plug-and-play connection for easy installation

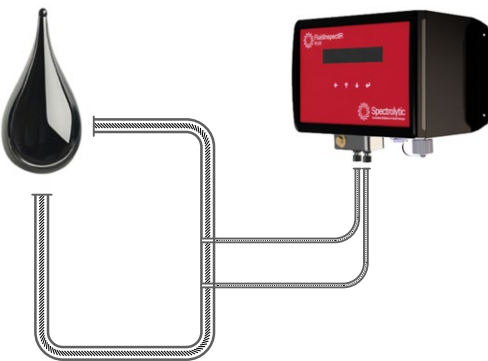
FluidInspectIR® offers multiple installation options, fitting seamlessly into various oil circuit locations, including direct attachment to the oil tank or integration via a bypass link.

- ✓ Simple installation in minutes
- ✓ No operational inconvenience
- ✓ No pain for the customer

## Fitted to oil tank



## Fitted with bypass link



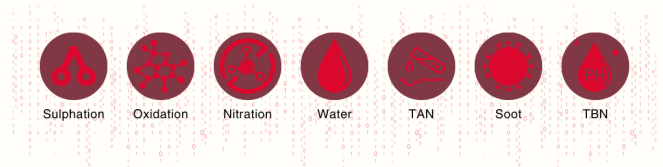
## After quick installation the system starts to measure:

- once every hour or less depending on the application,
- then converts the chemical information into actionable data from cloud based control charts with warning / fault alerts.

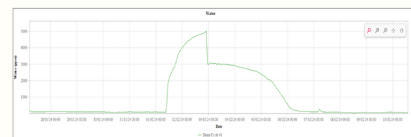
## DATA collected by our FluidInspectIR® device



## SORTED and analysed by our proprietary algorithms



## ARRANGED into clear visual formats



## PRESENTED VISUALLY on our cloud based dashboard



## EXPLAINED with actionable alerts tailored to your needs



# Product Portfolio

## MOVING VEHICLES



Mid-infrared sensor for oil analysis in moving vehicles

### Usage

- Mobile machinery
- Agricultural equipment
- Military

### Features

- Vibration and shock tested to Standard AECTP 400 – Method 401
- Accelerated lifetime testing of 2 x 20 years

### Dimensions

Ø x H / 75 X 69 mm

### Weight

1200 g

## MOVING VEHICLES



Mid-infrared sensor for oil analysis in moving vehicles

### Usage

- Mobile machinery
- Agricultural equipment
- Military

### Features

- Excellent temperature control for extreme environments
- Embedded Predictor for edge computing

### Dimensions

160mm x 70mm x 100mm

### Weight

2.5kg

## INLINE STATIONARY



Inline system for all inline stationary assets.

### Usage

- Inline stationary assets

Covers all lubricants types

### Features

- Contains Mid-Infrared sensor and Viscometer
- Pump or electric valve option
- Parametric data and error/fault display on panel
- LTE, Modbus, RS485

### Dimensions

322W\*232H\*137D mm

### Weight

6kg

## PORTABLE



### Portable system

#### Usage

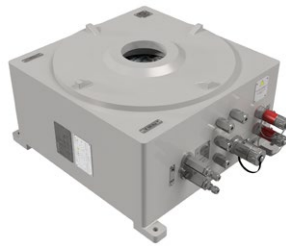
- OCM
- FAME analysis in Biodiesel
- Ethanol In Gasoline

Covers all lubricants types

#### Features

- Contains Mid-Infrared sensor
- Battery Powered
- Software provided for installation on PC or tablet

## ATEX



### Inline system for Explosive environments

#### Usage

- II 2 GD
- Ex db IIC T6 Gb
- Ex tb IIIC T85°C Db IP6

Covers all lubricants types

#### Features

- Contains Mid-Infrared sensor, Optical Particle Counter, Viscometer and integrated pump
- LTE, Modbus, RS485

#### Dimensions

447.5mm L x 517.5mm W x 280mm H

#### Weight

160kg SS & 80kg Alu.

## DEVELOPMENT



### Application Development platform

#### Features

- Contains Mid-Infrared sensor, Optical Particle Counter, Viscometer and integrated pump
- Additional Sensors like conductivity probes, pH meters can be integrated
- LTE, Modbus, RS485

# Monitor critical plant assets



## Gas Engine

Real-time monitoring of TAN, TBN, ipH, oxidation, nitration, sulphation, soot, water on natural gas, biogas and landfill gas engines.



## Metal working

Oil and water-based metal working fluids like cooling and cleaning agents in automotive lines, lubricant and rolling emulsions in steel and Aluminium milling. Measurement of key additives, contamination and oil degradation.



## Marine

Real-time Monitoring of TBN, water, sulphation, oxidation on diesel engine systems and water, TAN, oxidation on EAL (environmentally acceptable lubricants) on ship propulsion systems.



## Mobile machinery

Engines, gears, transmission and hydraulic systems in heavy machinery.



## Gear Oils

Real-time monitoring of TAN, oxidation, water and EP additives in gear systems like wind Turbines, steel plants etc.



## Turbine Oils

Monitoring of oxidation, Anti-oxidants on gas and steam turbines.

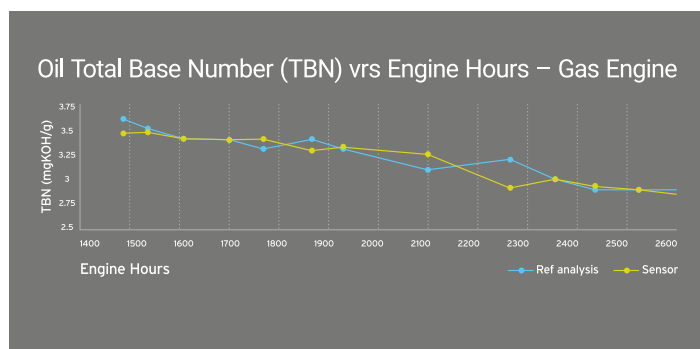
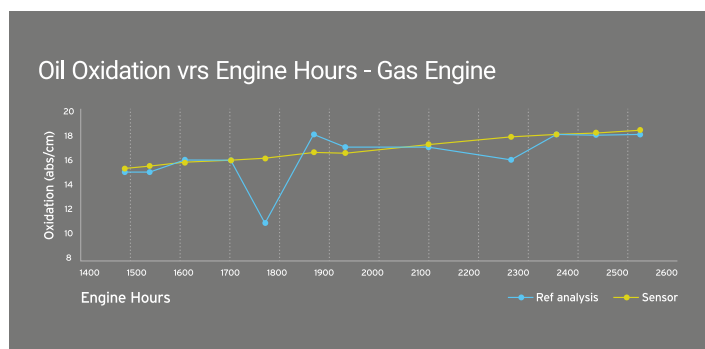


## Many More Applications

Hydraulic and transmission oils, compressors oils, EHC fluids. The technology platform can be configured for most fluid applications to solve most measurements problems. *Get in touch for application feasibility.*

## Lab accurate results without human error

The FluidInspectIR® Inline removes all human involvement from the oil analysis process resulting in lab accurate results, in the same units as oil lab reports that are easy for a Field Application Engineer to interpret.



No sample taking required



No shipment required



No human intervention

# Typical Application Parameter List

	FluidInspectIR® Inline
	FluidInspectIR® Portable
	Both
OPT	Optional for inline system ONLY

	Gas Engine (Landfill or LNG)	Turbomachinery	Hydraulic	Dielectric Oils	Aluminium Rolling	Gears and Rollers	Marine VLSFO / Diesel Engine	Diesel Engine	Marine Stem Tube / Thruster EAL	Metal-Working Fluids/Emulsions	FAME In Biodiesel	Ethanol In Gasoline	Oil In Water
Oxidation – abs/cm	✓	✓	✓	✓	✓		✓	✓	✓				
Nitration – abs/cm	✓												
Sulphation – abs/cm	✓						✓	✓					
ipH	✓												
Water – Low end (<1%)	✓	✓	✓	✓	✓		✓	✓	✓				
Water – Mid end (1-15%)					✓								
Water – High end (>15%)					✓								
TBN – mgKOH/g	✓						✓	✓					
TAN – mgKOH/g	✓	✓	✓	✓	✓		✓		✓				
KV100C – cSt (or mm/s2)	✓						✓	✓	✓				
KV40C – cSt (or mm/s2)		✓	✓	✓	✓	✓			✓				
Fuel Dilution							✓	✓					
Amine AO – %		✓											
Phenol AO – %		✓											
Solvancer (DECON) – %		✓											
Wyrol 2 – wt%						✓							
Wyrol 4 – wt%						✓							
Wyrol 6 – wt%						✓							
Wyrol 8 – wt%						✓							
Wyrol 46 – wt%						✓							
Total Concentrate – m/m%										✓			
Brix										✓			
Specialist Additive Packages – m/m%										✓			
FAME wt%											✓		
Ethanol wt%												✓	
TPH %													✓
OPC – ISO4/6/14	OPT	OPT	OPT	OPT	OPT	OPT	OPT	OPT	OPT	OPT			
Wear	OPT				OPT		OPT	OPT					
Conductivity pS or µS/m				OPT									

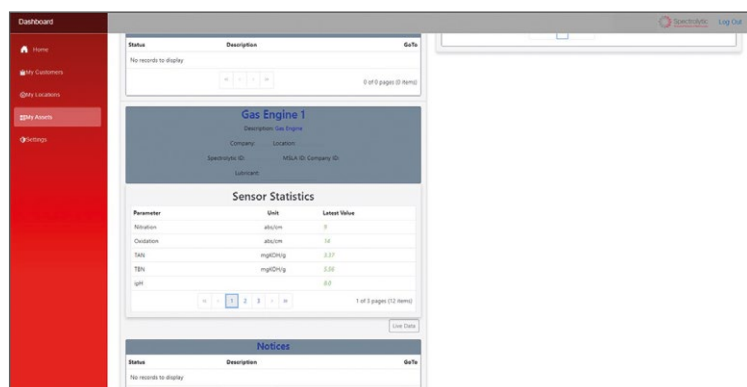
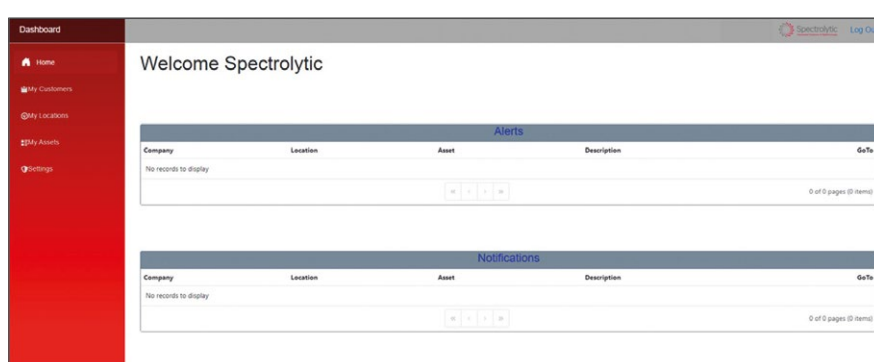
Non-standard parameters available on request

# In-depth data analytics



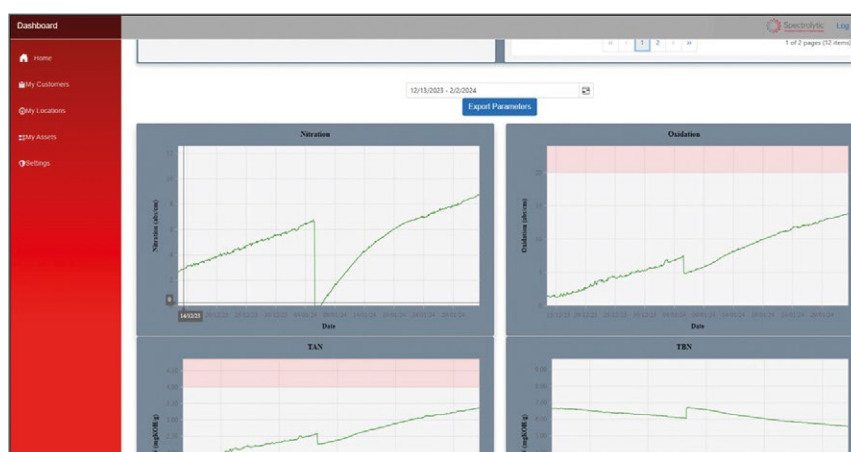
DataInspectIR is Spectrolytic's data analysis hub. We provide cloud data services and in-depth data analytics based on our inline, real-time sensor data – this will give our customers an enhanced level of understanding on their equipment and allow them to efficiently manage lube cycles, reduce emissions, save costs and increase asset uptime.

Data is sent to Spectrolytic's cloud. Option to view/download data via a dashboard.

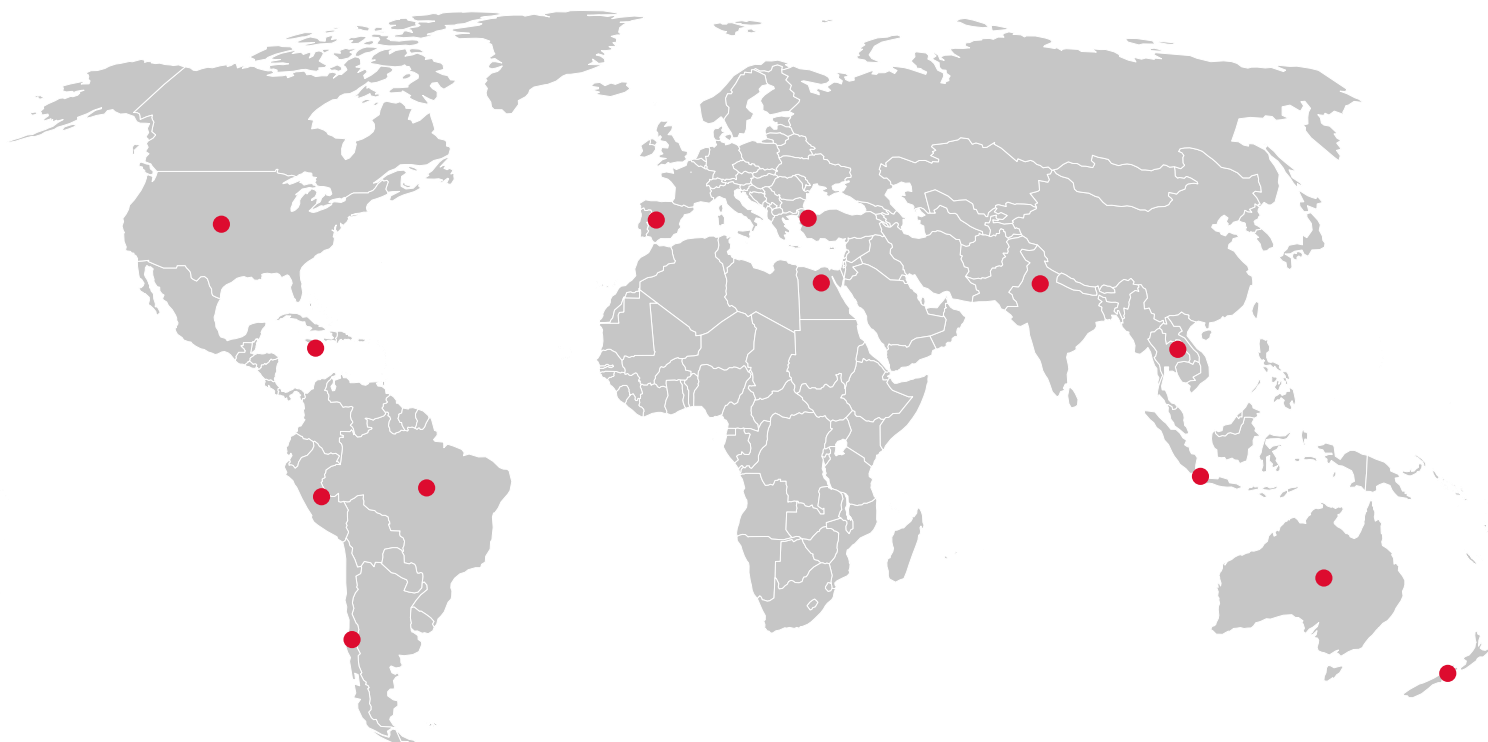


We support customer's cloud (Azure, AWS) via MQTT or Web API protocols.

Direct integration available with on-site controller systems.



# Global sales and distributors



## GLOBAL

ATEX ParticleCounting Company



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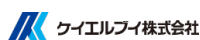
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## Partners





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Innovative Solutions in Spectroscopy

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