Mobil℠ Cylinder Condition Monitoring

The collaboration between ExxonMobil Marine and XOS—two leaders in their respective industries—delivers a seamless solution for marine cylinder liner condition monitoring. Mobil℠ Cylinder Condition Monitoring helps you protect critical assets, boost performance, and simplify fleet management with fast, reliable insights wherever your vessels operate.

APPLICATIONS

- Onboard cylinder condition monitoring for low-speed two-stroke marine engines
- Cold corrosion identification and wear trend monitoring
- Scrapedown oil analysis to monitor cylinder wear, lubrication performance, and fuel sulfur
- Support for cylinder oil feed rate optimization and engine condition assessment

FEATURES AND BENEFITS

- Measures key cylinder condition parameters, including Iron (Fe), Chromium (Cr), Vanadium (V), Calcium (Ca), Sulfur (S), and Total Base Number (TBN)
- Low maintenance design with no reagents or consumable chemicals required for routine operation
- Simple sample preparation using disposable sample cups and onboard analysis eliminates the need for routine laboratory testing and associated shipping delays
- USB and Ethernet connectivity for software updates, data transfer, and network integration
- Secure data storage with comprehensive reporting and trend visualization
- Three configurable operating modes (Lubes, Fuel, and Other) support dedicated analytical workflows for cylinder scrapedown oil, marine fuels, and custom fluid analysis

MOBIL℠ CCM ANALYZER – LUBES MODE

Analytical Measurement Capabilities

Element / Parameter	LOD (ppm)	Included in Standard Report
TBN (Total Base Number)	—	✓
Fe (Iron)	0.06	✓
S (Sulfur)	3.50	✓
Ca (Calcium)	0.07	✓
Cr (Chromium)	0.02	✓
V (Vanadium)	0.07	✓
K (Potassium)	0.03	—
Cl (Chlorine)	2.00	—
Na (Sodium)	0.03	—
Si (Silicon)	0.05	—
Al (Aluminum)	0.04	—
Ni (Nickel)	0.08	—
P (Phosphorus)	0.09	—
Zn (Zinc)	0.07	—

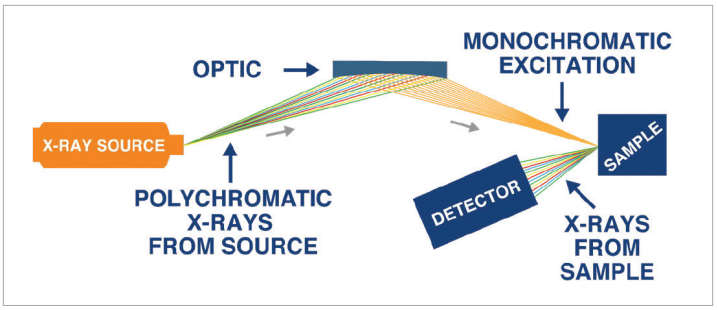
Standard Mobil CCM reports include: TBN, Fe, S, Ca, Cr, and V.

Additional elements are available for advanced diagnostics and future reporting capabilities.

LODs determined based on 600 second measurement.

ADVANCED ANALYSIS

Mobil℠ Cylinder Condition Monitoring is powered by XOS EDXRF technology and uses onboard X-ray fluorescence (XRF) to provide rapid, multi-element analysis of cylinder lubrication oil. The system incorporates technology from X-ray Optical Systems (XOS) and their Energy Dispersive X-ray Fluorescence (EDXRF) device as a key analytical component, enabling high-performance analysis in a rugged, shipboard-ready platform.



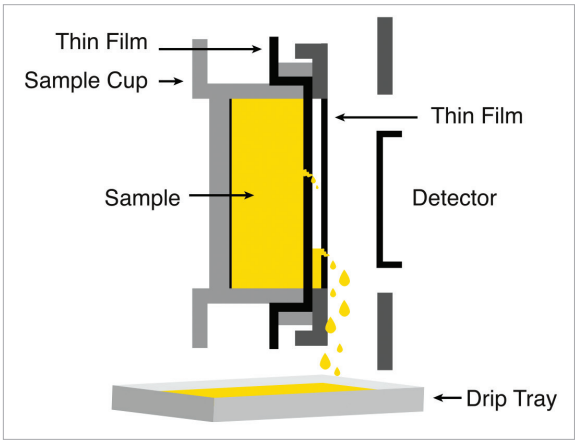
ADVANCED SAMPLE INTRODUCTION

Protecting Valuable Components

Vessel crews and ship owners depend on reliable, robust analytical solutions for their fast-paced environment. Mobil℠ CCM was designed to meet these needs with an innovative sample introduction system that directs accidental spills to a drip tray and away from valuable components.

Mobil℠ CCM Sample Chamber with Drip Tray

A sample is placed into the sample chamber, and when closed, it is turned on its side. This innovative design ensures that any accidental sample leaks are directed to a drip tray – to be easily removed and disposed.



PRODUCT SPECIFICATIONS

Model	Mobil℠ Cylinder Condition Monitoring
Testing	TBN, Wear Elements, Total Sulfur %
Dimensions	6 in (h) x 14.5 in (w) x 16.5 in (d) 15 cm (h) x 37 cm (w) x 42 cm (d)
Ambient Temperature Requirements	5-40°C (40-104°F)
Sample Bottle Size	31 mm OD
Sample Bottle Volume	40 ml

**All qualification herein are subject to user guide specifications. If you have further questions, reach out to our team of experts at support@xos.com.*