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QUALITEST™

PORTABLE OIL ANALYZER - QUALICUBE™ 100S



STANDARDS

ASTM D2262

ASTM D4294

ASTM D6445

IP 336

IP 531

ISO 20847

ISO 8217

ISO 8754

MARPOL

APPLICATIONS

Portable Oil Analyzer - QualiCube™ 100S (for Measuring Sulphur Content of Marine Fuel Oil)

Portable Oil XRF Analyzer is a compact, plug-and-play X-Ray Fluorescence system for rapid, in-situ elemental analysis of oils, lubricants, and wear metals, including marine fuel oil sulfur content. It provides laboratory-grade precision for verifying sulfur

compliance, assessing contamination, and supporting predictive maintenance, usable on sea or land with minimal training.

Factory-calibrated to ISO 8754, the instrument provides highly accurate field measurements that correlate strongly with accredited laboratory results. With its rugged, lightweight build and high-resolution touchscreen interface, the analyzer serves as a reliable portable oil analyzer for marine engines, industrial plants, and fuel handling facilities.

Portable Oil Analyzer - QualiCube-100S

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Applications

1. Marine Fuel Compliance & Bunker Testing

- Verifying sulfur content of marine fuels during bunker delivery to comply with IMO MARPOL sulfur limits (0.10% SECA / 0.50% global)
- Preventing costly de-bunkering by identifying non-compliant fuel within minutes

2. Lubrication and Wear Metal Analysis

- Detecting metallic contaminants that signal abnormal wear conditions, including: Chromium, Copper, Iron, Lead, Nickel, Tin, Vanadium, Zinc, Molybdenum, Silver, Calcium, and others.
- Monitoring lube oil integrity and early indicators of mechanical failure

3. Predictive and Proactive Maintenance

- Condition monitoring for marine, oil & gas, energy generation, aviation, and industrial equipment
- Supporting intelligence-based maintenance strategies by providing actionable, real-time data

4. Portable, On-Site Elemental Screening

- Multi-element analysis for fuels, oils, and environmental samples

- Situations requiring a portable oil analyzer where lab access is limited

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Standards

1. MARPOL International Convention Annex VI : Regulation on the Prevention of Air Pollution from Ships
2. ISO 8217:2010 : quality requirements for marine fuel oils, including contaminants, stability, viscosity, and sulfur content.
3. ISO 20847 : Determination of sulfur content of automotive fuels measured by Energy-dispersive X-ray fluorescence spectrometry
4. IP 336 : Determination of sulfur in fuel oils by energy-dispersive XRF
5. IP 531 : Determination of trace metals in petroleum products by XRF
6. ISO 8754 : Determination of sulfur content on petroleum products using Energy-dispersive XRF spectrometry
7. ASTM D4294 : Standard Test Method for Sulfur in Petroleum and Petroleum Products by EDXRF
8. ASTM D6445 : Standard Test Method for Sulfur in Petroleum Products Using Wavelength Dispersive X-Ray Fluorescence Spectrometry
9. ASTM D2262: Standard Test Method for Vanadium in Heavy Residual Fuels by X-Ray

FEATURES

Portable Oil Analyzer - QualiCube™ 100S Key Features

Accurate, ISO-Calibrated Measurements

- This portable Oil XRF analyzer is factory-calibrated according to ISO 8754, ensuring highly reliable sulfur measurements that closely match laboratory XRF systems. Even users with no technical background can obtain precise, repeatable results.

Portable, Rugged Design for Marine and Industrial Use

- Engineered as a portable Oil XRF, the instrument is lightweight, fully self-contained, and built for harsh environments. Its durable design makes it ideal for on-board ship fuel testing, offshore platforms, container terminals, fuel depots, and industrial maintenance facilities.

Rapid Plug-and-Play Operation

- Unlike complex lab instruments, this portable Oil analyzer requires no external PC. Simply power on, load the sample, and start measuring. The high-resolution touchscreen provides a clean, intuitive interface that speeds up workflow for both experts and first-time users.

Non-Destructive Testing for Complete Sample Integrity

- The device performs analysis without altering the sample, allowing operators to keep the fuel or oil sample intact for additional verification or laboratory submission. This is a key advantage when performing compliance checks at sea or during inspections.

High Measurement Confidence and Error-Free Data

- The system eliminates manual interpretation by automatically calculating sulfur content and presenting it as a clear percentage value. This ensures consistent and compliant reporting, reducing operator error—one of the biggest challenges in field testing

Long-Term Data Storage and Compliance Reporting

- The portable Oil XRF analyzer can store measurement results for up to two years, with easy data export for regulatory audits, MARPOL documentation, and internal quality tracking. This feature is essential for shipping operators, fuel

suppliers, and environmental compliance officers.

Multi-Element Capability Beyond Sulfur

- In addition to sulfur testing, portable oil analyzer can detect a wide range of wear metals, contaminants, and elemental markers commonly found in marine fuel and lubricants. This capability helps diagnose engine wear, fuel contamination, and maintenance needs early.

Complete Consumables Pack Included

- A full set of accessories—sample cups, syringes, test mylar, a copper calibration target, and label reels—ensures that operators can begin using the portable Oil XRF analyzer immediately without purchasing additional consumables.

TECHNICAL SPECIFICATIONS

Portable Oil Analyzer - QualiCube™ 100S Technical Specifications

Model	QualiCube-100S
Measurement range	From P to U
Testing samples	Solid, liquid and powder
Content range	1ppm—99.99%
Testing method	EDXRF
Detector	SDD detector, the lowest resolution reach to 125eV
Working Temperature	-20°C~+50°C
Humidity	≤90%

Detection limit	20ppm for Sulfur in fuel oil
Operation	One key test
Testing time	30-130 Seconds
Size	212 × 258 × 258 mm
Weight	4.5 kg



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