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QUALITEST™

RDE-OES ELEMENTAL ANALYZER



RDE-OES Elemental Analyzer

RDE-OES analyzers help maintenance teams and industrial laboratories identify wear metals, contaminants, and additive elements in working fluids with fast turnaround. The QualiRDE™ series is built for direct oil analysis, short test cycles, and dependable multi-element screening across used oils, hydraulic fluids, fuels, greases, antifreeze, water-based samples, and steam turbine condensate.

This product family covers multiple workflow levels, from standard routine oil screening to precision arc analysis, compact integrated systems, dual-optic configurations, and ultra-compact platforms. Across the range, the series supports ASTM D6595 and ASTM D6728 workflows, sub-ppm detection capability, direct sample testing without extensive pretreatment, and rapid analysis in 30 seconds or less.

General Description

The QualiRDE™ family is a line of RDE-OES elemental analyzers developed for oil condition monitoring, predictive maintenance, and contamination screening. These systems use rotating disc electrode optical emission spectrometry to measure metallic elements in lubricants and related fluids, helping laboratories detect wear trends, contamination events, and additive depletion before they develop into larger maintenance issues.

The lineup includes the QualiRDE™ 800, 800H, 1000, 2000, and 3000. Each model is designed for direct testing from the sample cup with no dilution, no added chemical reagents, and no need for auxiliary gases during routine operation. This helps shorten preparation time and makes the series practical for both central laboratories and field-support testing environments.

Applications

Used Oil Analysis

The series is well suited for used lubricating oil analysis to identify abnormal wear, metallic contamination, and additive depletion. This supports preventive and predictive maintenance programs in industries that rely on engines, gearboxes, hydraulic circuits, turbines, and heavy rotating equipment.

Hydraulic Fluid Monitoring

Hydraulic systems benefit from quick elemental screening because rising metal levels or contamination can indicate component wear, fluid degradation, or cleanliness issues. The QualiRDE™ family helps maintenance teams respond earlier to pump, valve, and system problems.

Fuel Contamination Screening

Selected models in the range support screening for contaminants and corrosion-related materials in gas turbine and diesel fuel workflows aligned with ASTM D6728. This is useful for identifying metallic contamination that may affect equipment health or fuel performance.

Broad Industrial Fluid Monitoring

The broader lineup extends beyond lubricating oils to hydraulic oils, gasoline, diesel, heavy fuels, greases, antifreeze, industrial water, domestic water, and steam turbine condensate. That makes the category relevant for transportation, marine, mining, aerospace, power generation, defense, and commercial testing labs.

Standards

The category aligns with internationally recognized ASTM methods referenced throughout the product family.

- ASTM D6595 - Determination of wear metals and contaminants in used lubricating oils or used hydraulic fluids by rotating disc electrode atomic emission spectrometry
- ASTM D6728 - Determination of contaminants in gas turbine and diesel engine fuel by rotating disc electrode atomic emission spectrometry

Comparison Table

Model	Positioning	Key Strength	Typical Fit
QualiRDE™ 800	Standard Elemental Analyzer	Holographic grating optics, rapid routine screening	General maintenance and oil analysis labs
QualiRDE™ 800H	Precision Arc Elemental Analyzer	CCD full-spectrum analysis, ±10% repeatability, expandable elements	Labs needing stronger precision and repeatability
QualiRDE™ 1000	Integrated Elemental Analyzer	Compact all-in-one design, built-in communication tools	Small labs, remote sites, marine use
QualiRDE™ 2000	Dual Optic Elemental Analyzer	Dual optical path, trend analysis, broader workflow flexibility	Advanced reliability and contamination programs
QualiRDE™ 3000	Ultra Compact Elemental Analyzer	Small footprint with fast elemental screening	Space-limited labs needing compact performance

Key Category Features

- Multi-element wear, contamination, and additive analysis
- 24 elements standard on advanced models, expandable to 32 on selected systems
- Direct oil testing from the sample cup
- No argon, oxygen, or routine reagent support required
- Detection limit below 1 ppm
- Fast testing with results in 30 seconds or less
- Built-in grinder on integrated and compact configurations
- Software support for calibration, statistics, reporting, and prediction
- Options ranging from standard bench systems to dual-optic and ultra-compact designs

Why Choose the QualiRDE™ Series

The QualiRDE™ series is built for laboratories that want fast elemental data without a complicated workflow. Across the family, the systems support analysis times of 30 seconds or less, detection limits below 1 ppm, and software tools for reporting, statistics, calibration support, and trend analysis.

Several models also add configuration advantages for different lab needs. The 800 offers a strong standard platform with holographic grating optics and high-speed data acquisition. The 800H adds precision arc performance, CCD full-spectrum capability, and repeatability within $\pm 10\%$. The 1000 uses an integrated benchtop format with built-in grinder and communication functions, while the 2000 and 3000 provide dual-optic or ultra-compact designs for higher flexibility and smaller footprints.

Common Series Advantages

- Direct sample testing without routine pretreatment
- Fast multi-element analysis in 30 seconds or less
- Detection limits below 1 ppm
- ASTM D6595 and ASTM D6728 alignment
- Software support for statistics, reporting, and trend evaluation
- Models available for standard, precision, integrated, dual-optic, and ultra-compact workflows



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Contact our **QualiTeam** today to find out how we can help your organization **select the most suitable testing solution** for your application, requirements, and budget.

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