

Introducing
SPECTROCUBE
ED-XRF SPECTROMETER
FOR FUEL & LUBE OIL ANALYSIS



Easy, accurate, reliable
analysis at twice the speed

Advanced elemental analysis that's optimized for fuel and lube oil testing

SPECTROCUBE

Refineries, lubrication oil blending plants, independent testing laboratories, and regulatory agencies worldwide demand fast, easy, accurate, affordable analysis for petroleum refining and petrochemical products. The new SPECTROCUBE benchtop XRF analyzer fulfills all these requirements, and more.

For example, users must swiftly verify that gas, diesel, or other fuels meet specified limits for sulfur (S) content. SPECTROCUBE minimizes delays — ensuring the fastest possible turnaround times from sample taking to analysis results. It can analyze a sample in half the time of other spectrometers, with comparable precision! Or with longer measurement intervals, it offers the best detection limits in its class.

In lube oil testing, SPECTROCUBE provides exceptional ease of use — even for inexperienced users — using a single simple method for the analysis of various oil types. And it easily analyzes trace elements in used oils.

It also furnishes advanced performance for a host of other petrochemical applications. For instance, it efficiently tests crude oils for concentrations of sulfur (S), nickel (Ni), vanadium (V), and iron (Fe).

THE NEWEST SPECTROMETER FROM SPECTRO — A GLOBAL LEADER IN ANALYTICAL INSTRUMENTATION.

SPECTROCUBE employs improved technologies for *energy dispersive X-ray fluorescence (ED-XRF)* elemental measurement. It adapts the performance and reliability that make SPECTRO instruments the benchmarks for *XRF* and *optical emission spectrometry (OES)* analysis.



SPECTROCUBE ED-XRF ANALYZER FOR REFINING AND PETROCHEMICALS

The compact new SPECTROCUBE spectrometer incorporates the latest developments in XRF detector technology, including exceptionally high resolution and count rate. These innovations help make it the ideal benchtop solution for petrochemical applications.

UNPARALLELED EASE OF USE

Intuitive, user-tested XRF Analyzer Pro software presents relevant information on a single screen. And simplicity is built in. Example: for lube oil analysis, regardless of oil type, only a single testing method is required. So SPECTROCUBE enables a fast, smooth workflow even for minimally trained operators. Analyze each sample in three easy steps: 1) Center the prepared sample cup over the measurement window on the cabinet floor (or on the optional sample changer). 2) Close the lid. 3) Click the PC screen or hit the unit's "start" button.

EXCEPTIONAL SPEED & PERFORMANCE

SPECTROCUBE provides excellent precision for a wide range of concentration levels. Users can choose to simply match other spectrometers' best detection limits — but get the shortest possible measurement times: 2x faster than other analyzers in its class! Or users can elect to merely equal other instruments' speed — and achieve detection limits they can't reach. The analyzer is ideal for high-throughput operations. In most cases, no user calibrations or decisions are required.

COMPREHENSIVE COMPLIANCE

SPECTROCUBE is designed to meet all relevant refining and petrochemical analysis standards. Its sulfur content testing of fuel oils complies with test methods including ISO 13032, ASTM D7220, ASTM D4294, ISO 20847, and ISO 8754. And it enables precise analysis of lube oil as per ASTM D7751 as well as analysis of chlorine as per ASTM D4929 Part C.

SPECTROCUBE

Exceptional results for the widest range of elements

The SPECTROCUBE analyzer meets or beats the lowest detection limits with the best precision in its class. Given the simplicity of its analytical technique, operators at all levels can have the highest confidence in its results.

Users also get the advantage of one of the industry's broadest elemental selections. The analyzer is optimized for testing of element concentrations in the range from sodium (Na) to uranium (U). Its lube oil method, for instance, covers 24 elements. Choose SPECTROCUBE for all your petrochemical analysis needs!



Engine oils



Marine oils



Industrial oils



Transmission oils



Additive packages



Kerosene



Residual oils



Used oils



Crude oils



Gasoline



Diesel fuels



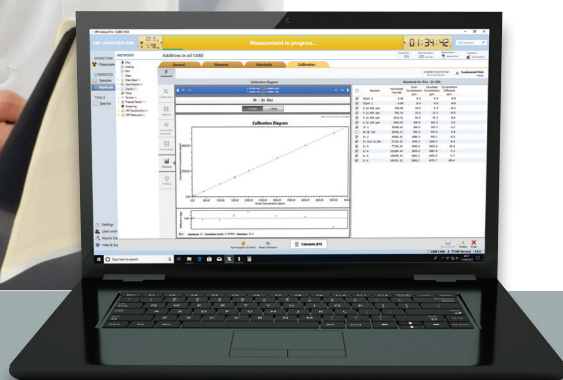
Jet fuels



Naphtha



Hydraulic oils



With the latest high-resolution silicon drift detector (SDD) and an ultra-high count rate, SPECTROCUBE handles most trace elements with ease. (Some specialized trace elements may require analysis by the top-of-the-line SPECTRO XEPOS ED-XRF spectrometer.)



ENSURED AFFORDABILITY

SPECTROCUBE provides dependable, high-throughput, cost-effective analysis. Its competitive pricing and optimized cost/performance ratio make it affordable for refineries, testing laboratories, and government authorities at all levels. Finally, its high-reliability components and design keep maintenance expenses low.

COMPACT, RELIABLE DESIGN

The analyzer's rightsized, ruggedly built cabinet fits tight benchtop spaces. Its bottom-up design locates detection, excitation, and processing components below the chamber floor. Thus users can run high numbers of samples simply, quickly, and conveniently. Also, those parts are guarded by a sample window, with the detector further shielded by a shutter open only during measurement. Most components have been time-tested by use in the high-end SPECTRO XEPOS analyzer. Results: high-reliability SPECTROCUBE components are securely protected against contamination, damage — and unneeded downtime. So the analyzer can provide trouble-free performance over a long service life.



SPECTROCUBE

ED-XRF SPECTROMETER FOR REFINING AND PETROCHEMICAL TESTING



Detector	Silicon Drift Detector (SDD)	
Excitation	40 W X-ray tube, palladium (Pd) anode, 50 kV max.	
Dimensions	Height	380 mm (15 in)
	Width	520 mm (20.5 in)
	Depth	540 mm (21.3 in)
	Weight	ca. 56 kg (~ 124 lbs)
Sample Chamber	HxWxD: 155 x 400 x 320 mm (6.1 x 15.7 x 12.8 in)	
Power Supply	Optional sample changer with up to 12 sample positions	
Evaluation System	Operating voltage 95-120 V / 200-240 V, 50/60 Hz	
Software	Power consumption of spectrometer: 145 W	
Analyses	External computer; Windows operating system; keyboard, mouse, monitor, printer	
	Menu-based software for control of spectrometer functions and evaluation of data	
	Calibration for analysis of sulfur (S) in oil and fuel.	
	Calibration for 24 elements in lube oil.	
	Fundamental Parameters program FP+ for elemental analysis.	

FULL FAMILY OF ANALYZERS

SPECTRO provides one of the industry's most comprehensive suites of advanced elemental instrumentation. For refining and petrochemical use, the SPECTROCUBE analyzer handles most routine applications with speed, precision, accuracy, and affordability.

For especially demanding tasks, the top-of-the-line, benchtop SPECTRO XEPOS ED-XRF analytical spectrometer provides exceptional analysis of trace elements and/or materials such as biofuels.

Whatever the product, SPECTRO's more than 40 years of experience in elemental analysis, plus its unparalleled record of technological innovation, ensure the best results in the business.

GLOBAL SUPPORT

Petrochemical testing depends on fast, accurate analysis for productivity — and profitability. To ensure that reliable SPECTROCUBE analyzers keep up the pace, SPECTRO offers the AMECARE Performance Services program.

Customers report unmatched levels of coverage, application knowledge, and uptime. More than 200 AMECARE service engineers in 50 countries help ensure peak performance and extended life for every SPECTROCUBE instrument. AMECARE's high-value, customized services include proactive maintenance programs; application solutions; access to specialists; and instrument-specific training.



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