TORONTECH

XRF AND XRD ANALYZERS

Torontech XRF and XRD Analyzers support elemental, structural, and material analysis across laboratory, field, and production environments. The range includes handheld XRF analyzers, portable XRF systems, RoHS analyzers, X-ray diffractometers, TXRF spectrometers, Raman spectrometers, LIBS analyzers, coating thickness analyzers, and online monitoring solutions.

XRF analysis helps identify and quantify elemental composition in metals, minerals, coatings, polymers, petroleum materials, recycled goods, consumer products, and environmental samples. XRD analysis supports crystal structure evaluation, phase identification, mineral analysis, and materials research where structural data matters.

These analyzers support QC teams, laboratories, materials engineers, production facilities, and inspection workflows across recycling, mining, metallurgy, cement, petroleum, electronics, coatings, consumer product safety, and environmental testing. Common applications include alloy verification, RoHS screening, coating thickness measurement, contamination checks, phase analysis, and incoming material inspection.

Use the comparison table below to review analyzer options by format, primary purpose, application fit, decision driver, and selection guidance.

Compare XRF, XRD, and Related Analyzer Options

Side-by-side overview grouped by instrument category to help you select the right analyzer faster.

Handheld and Portable Field Analyzers

Feature	TrueX Handheld XRF Series	PeDX Portable XRF Series	ScopeX RoHS Analyzer	LIBS Analyzer	Gold Precious M Analyzer

Primary purpose	On-site elemental screening with handheld XRF	Portable XRF for field analysis and inspection workflows	Compliance screening for RoHS-style checks	Fast material identification using LIBS technique	Precious metal verification and t use cases
Format	Handheld	Portable / field-ready	Portable / inspection-oriented	Portable / field-ready	Portable / applica focused
Best for	Recycling, environmental checks, QA screening, site inspection	Field operations needing portable elemental analysis	Consumer product safety checks and compliance workflows	Rapid sorting and identification workflows (method dependent)	Jewelry, pawn, refining support, precious metal c
Decision driver	Need handheld convenience for quick screening	Need portable setup for field workflows	Need compliance screening focus	Need rapid ID technique alternative to XRF	Need dedicated precious metal workflow
Selection tip	Choose when you want handheld XRF for broad on-site screening	Choose when portability and field deployment is the priority	Choose when your goal is RoHS-style compliance checks	Choose when LIBS technique better matches your sorting needs	Choose when pre metal verification the main use-cas

Benchtop and Laboratory Systems

Feature	ScopeX CS Desktop Spectrometer Family	XRD Analyzers (X-ray Diffractometers)	TXRF Spectrometer (TTX3000S)	Coating Thickness Analyzer

Primary purpose	Desktop spectrometer workflows (family options)	Phase/crystal structure analysis using XRD	Total reflection XRF for trace-level style workflows (system dependent)	Measure coating thickn for QC and inspection
Format	Desktop / benchtop (family)	Laboratory system	Laboratory system	Analyzer (application-focused)
Best for	Lab-based analysis workflows needing a desktop system	Materials science, R&D, mineral and phase analysis	Lab workflows requiring TXRF technique	Manufacturing QC, plating/coating validat inspection labs
Decision driver	Need a desktop system with family model options	Need XRD technique for structural/phase information	Need TXRF technique and lab setup	Need dedicated coatin thickness measureme
Selection tip	Choose when you want a desktop spectrometer workflow in-lab	Choose when XRD is required for your material characterization	Choose when TXRF technique matches your lab method	Choose when coating thickness is the key QC metric

Related Technologies and Monitoring

Feature	Raman Spectrometers	Online Monitor
Primary purpose	Non-destructive chemical identification using Raman spectroscopy	Continuous or in-line monitoring workflows (system dependent)
Best for	Material ID, verification through packaging, fast lab/field checks	Process monitoring and continuous measurement environments

Feature	Raman Spectrometers	Online Monitor
Decision driver	Need molecular “fingerprint” identification beyond elemental analysis	Need ongoing monitoring rather than spot checks
Selection tip	Choose when Raman is the right method for your identification workflow	Choose when continuous monitoring is required for yo process

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