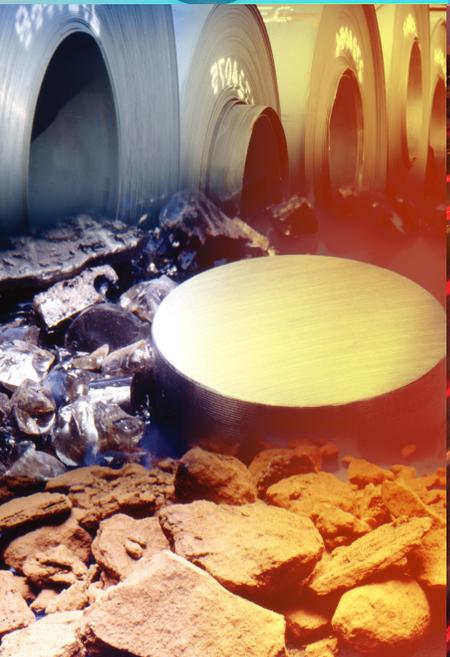




Thermo Scientific X-Ray Product Range



**For chemical and phase analysis of
solids, liquids and powders**

Metals • Cement • Mining • Petrochemicals • Environment
Electronics • Geology • Glass • Polymers • Forensics
Materials science • Raw materials

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Basic X-ray fluorescence analysis

When space and resources are limited or you are trying X-ray analysis for the first time, Thermo Scientific energy-dispersive and compact wavelength-dispersive X-ray fluorescence models offer the easiest route into the exciting world of rapid non-destructive elemental analysis.

Portable EDXRF Systems

Thermo Scientific Portable XRF Analyzers – Take the Lab to the Field

- A range of XRF analyzers from the handheld Niton® XL2 and Niton XL3t GOLDD+ Series analyzers to the portable Niton FXL field-x-ray lab
- Mg to U analysis in a variety of materials
- Rapid metal alloy identification, verification and chemistry
- In-situ elemental assay of soil, rock, ore for mining and exploration
- Testing consumer products, electronics, and environmental samples for Pb, Cd, and toxic metals to meet regulatory compliance
- Ruggedized with sealed construction; comes pre-calibrated and ready to use



Benchtop EDXRF Spectrometer

Thermo Scientific ARL QUANT'X – Flexibility for the Laboratory

- Analyze Na to U in samples of any shape, type or composition
- A cost-effective all-round and stand-alone XRF solution
- Popular with laboratories responsible for research, forensics, environmental analysis, regulatory compliance and quality control
- Large sample chamber for multi-point sample analysis and automated multi-sample handling
- Sample imaging and adjustable beam size bridge the gap between bulk and micro XRF without compromises
- Advanced solid-state technology means easy installation, no special site requirements and low cost of ownership
- Unrivalled precision in standard-less analysis of any sample with the exclusive Thermo Scientific UniQuant method



Sequential/simultaneous WDXRF Spectrometer

Thermo Scientific ARL OPTIM'X – Smart, Optimized WDXRF

- Analyze F to U in prepared solid, powder or liquid samples
- Wavelength dispersion offers high resolution and selectivity for consistent and reliable performance, regardless of matrix
- Best sensitivity in its class for F to Fe enables precise analysis of cement, slag, ceramics, glass, ores and minerals
- Ideal for routine applications in process control and general laboratories with moderate sample throughput
- Low power consumption and minimal site requirements
- Excellent compact inorganic analyzer which can reduce expenses, turn-around time and complement existing ICP capability



Advanced X-ray analysis

For critical process control and laboratory applications, we offer high-power Thermo Scientific wavelength dispersive X-ray fluorescence and X-ray diffraction instruments that are unmatched in speed, precision and reliability. You can even combine both XRF and XRD in the same instrument for truly comprehensive materials analysis from every angle.

Sequential WDXRF Spectrometers

Thermo Scientific ARL PERFORM'X – Where Performance Meets Versatility

- Analyze Be to U in liquids, powders, fused beads or solids
- Wide dynamic range allowing for concentration analysis from sub ppm to 100%
- Unique fully digital optical mechanics using Moiré fringes creating a new standard in precision and accuracy
- Small spot capability down to 0.5 mm bridges gap between bulk and micro investigation and quantification analysis
- Advanced sample mapping feature for complete elemental visualization and quantification of non-homogenous surfaces, inclusion and contamination research with 0.1 mm steps
- Unrivaled precision in standard-less analysis of any sample with the exclusive UniQuant analysis software

– Special Version for Routine Application in the Cement and Slag Industries

- Analyze F to Fe in pressed pellets or fused beads
- Unique fully digital optical mechanics using Moiré fringes creating a new standard in precision and accuracy
- Field upgradable to a fully featured high power instrument



Simultaneous WDXRF and full XRD System

Thermo Scientific ARL 9900 – Complete X-ray Analysis WorkStation

- Analyze B to U in solid, powder, fused or pressed samples
- Obtain elemental and phase information in one report from an exclusive integrated XRF-XRD design
- Unbeatable speed, precision and light-element sensitivity with up to 32 dedicated detectors, one for each element
- Configurable for any application with choice of goniometers, monochromators and several power options
- The only solution for critical process control applications when every second counts
- Hundreds of units have been integrated into plant automation systems throughout the world



Powder Diffraction System

Thermo Scientific ARL X'TRA – Powder Diffraction at its Best

- XRD provides structural and phase information
- State-of-the-art design with world's best low angle performance
- Theta-theta configuration facilitates sample handling
- Precision goniometer for enhanced accuracy and reliability
- Electrically-cooled solid-state detector offers superior resolution and peak to background ratio
- Choice of options available for high to low temperature experiments or texture evaluation
- Ideal for earth sciences and mining, pharmaceuticals, universities and materials research applications



Thermo Scientific X-ray automation systems

Analysis automation improves sample throughput, repeatability and allows you to meet tighter product specifications and time pressures without increasing overhead costs. All automation solutions are customized to meet your specific requirements.

Simple Automation for Simultaneous and/or Sequential XRF

- Circular Omega magazine or large XY magazine for sample handling
- Oxide and metals/oxide versions, fully unattended operation
- Control of sample preparation
- Built-in automated procedures for spectrometer performance verification and fine-tuning
- Easy introduction of manual samples via the instrument magazine

The Thermo Scientific ARL SMS-2000/2500 and SMS-3500 Robotized Systems

- Ultimate sample handling flexibility and speed for the automated Thermo Scientific ARL 9900 X-ray spectrometer with ARL SMS-2000/2500
- Two X-ray or an X-ray and an OES instruments can be automated with the ARL SMS-3500 Series, including one or two sample preparation machines

For unattended on-site analyses, these systems can be supplied in a standard container: the Thermo Scientific ARL QuantoShelter, also called “the lab in a box”.



ARL OPTIM'X XRF with SMS-Omega



ARL PERFORM'X XRF with SMS-PFX



ARL 9900 XRF with SMS-XY



ARL 9900 XRF with SMS-2500

What can X-rays do for you?

X-rays have been used to analyze and study materials since their discovery in 1895. Most people are familiar with applications of X-rays in imaging and medicine, but X-rays can also be used for chemical analysis. In fact, X-ray spectrometry is a proven, rapidly-growing technique for quantitative and qualitative elemental analysis of many types of materials. The ability of X-rays to penetrate matter enables non-destructive, non-contact analysis of solid and liquid samples with minimal sample preparation, high repeatability, and little operator training. For this reason, Thermo Scientific X-ray fluorescence and diffraction instruments are used in every field and industry, including mining and metals, construction, pharmaceuticals, consumer and food safety, environmental compliance, high-tech electronics, materials research, forensic, geology, archaeology and even art preservation.

Have you thought about using X-rays to solve your materials analysis problems?

Let the specialists at Thermo Fisher Scientific show you the way forward with the largest selection of innovative and reliable Thermo Scientific X-ray spectrometers for any budget and application. We can help you choose between the versatility of portable and benchtop EDXRF, the precision and speed of WDXRF and the unique structural insight of XRD.

To know more on our X-ray product portfolio, visit www.thermoscientific.com/xray



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