

thermo scientific



Thermo Scientific Niton XL5

Handheld XRF Analyzer

Powerful. Fast. Light.

ThermoFisher
SCIENTIFIC



Discover the future of handheld XRF

Introducing the Thermo Scientific™ Niton™ XL5 analyzer - the lightest, smallest, most powerful handheld XRF analyzer available for elemental determination.¹ Part of the industry leading Niton family of products, the Niton XL5 offers unmatched speed, performance and portability never seen in a handheld analyzer, ***until now.***



Niton XL5 Quick Glance



Designed to perform

When versatility, low limits of detection (LODs) and high sample throughput are critical, industrial businesses rely on the Niton XL5 handheld XRF analyzer. Providing customers with solutions designed to meet their most demanding applications, the Niton XL5 maximizes performance and productivity.

Advanced analytical performance

Powered by a proprietary 5W x-ray tube, the Niton XL5 generates fast and accurate results. Designed to work just as hard as you do, a dynamic current adjustment ensures optimum sensitivity for each measurement. By optimizing the space between the x-ray detector and sample, the Niton XL5 guarantees the lowest limits of detection - especially for light elements - ensuring that you receive lab quality results every time. With the Niton XL5, operators have the ability to measure various types of materials. Liquids, powders, scale, sludge and slurries are just some of the materials the Niton XL5 is able to analyze.

Ele	%	±2σ
Al	92.498	0.164
Si	6.998	0.081
Mg	0.349	0.158
Fe	0.155	0.016

Expanded field use

Small but mighty, and weighing an industry leading 2.8 pounds (1.3 kilograms), the Niton XL5 is the lightest and smallest handheld XRF analyzer available for elemental determination. A featherweight design reduces operator fatigue, while boosting productivity. Tight spots also become no match for the Niton XL5. Operators can expect to achieve expanded field use due to an improved design with compact geometry. A miniaturized nose enables the reach of corners, joints, awkward and tight welds for critical measurements.

Increased productivity

Vivid new icons and an application interface ease navigation and configuration. Utilize swipe and touchscreen functionality, even with a gloved hand. The Niton XL5's optional directional keys provide added usability. In a snap, you'll experience better record keeping too. The Niton XL5 comes equipped with micro and macro cameras designed to support sample positioning and collect full-scale sample imagery. An optional 3mm small-spot collimator provides a zoomed in analysis for small areas. Using the Niton XL5, various analytical needs are solved using one versatile instrument.



Smart technology

Intuitive, simplified software with customizable workflow solutions create a unique user experience engineered to meet your needs. The Niton XL5 offers unmatched flexibility with custom data field sets and user profiles. Define specific data captures, or create operator permission sets. The Niton XL5 enables easy access to sample readings via wireless transfer to your network share. Using NitonConnect, control your device from the comfort of your computer, or opt to download sample readings. The Niton XL5 features a tilting, color touchscreen to empower viewing from multiple angles. A streamlined interface eases access to scanning (Analyze), reviewing data (Data) and modifying device settings (Settings).



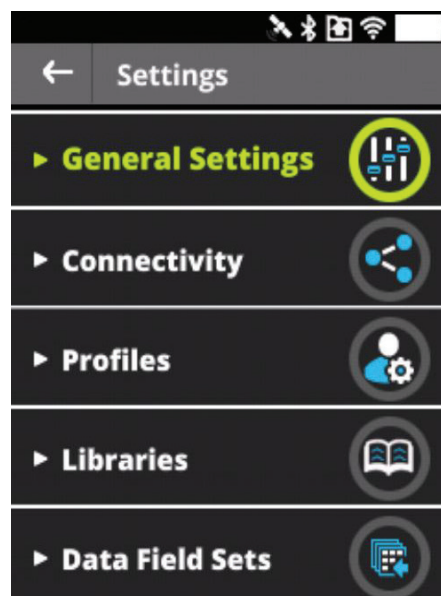
Main Low Light

SS-309 0.95
Excellent

Ele	%	$\pm 2\sigma$
Fe	61.700	0.685
Cr	22.754	0.413
Ni	12.556	0.505
Mn	1.657	0.303
LEC	0.498	0.000
Mo	0.493	0.027
Nb	0.093	0.012

Below LOD $\pm 3\sigma$

Data scan results screen



Settings screen



Unmatched versatility

General metals mode

From analyzing pipes in an oil refinery, to sorting metal in a scrap yard, utilize general metals mode to determine alloy grade and chemistry in seconds. Designed to enhance workflow efficiency, the Niton XL5 delivers accurate metal analysis while conquering your toughest environments. Now more than ever, quality and safety standards around the world encourage manufacturers to implement programs for material verification. Using the Niton XL5, petrochemical refiners, metal fabricators and aerospace/automotive manufacturers are able to obtain peace of mind knowing that critical-use alloys are not subject to premature or catastrophic failure.



Coatings mode

Coatings are typically applied to metals, alloys and plastics to increase corrosion resistance and/or for decorative purposes. In order to ensure correct component properties, coat weight and thickness must be controlled in industries such as metal finishing, fabrication, automotive and aerospace. The Niton XL5 non-destructively measures coating weight and plating thickness at the manufacturing line. Use coatings mode to determine coat thickness or weight for up to four (4) layers over a substrate. Users have the ability to measure layers consisting of pure metals, alloys and compounds, while defining substrates consisting of pure metals, alloys, plastics and wood.



Precious metals mode

Small uncertainties in the knowledge of precious metal content may result in significant financial losses for your business. Precious metals mode was designed to deliver outstanding accuracy for the determination of gold, platinum, silver and palladium - and their alloying elements. By using our patented AuDIT feature, you'll be alerted to gold plating and characteristics of adulterated materials. Use precious metals mode to preserve the profitability of each transaction, ranging from manufacturing and trading, to recycling and refining.



Mining mode

With substantial capital investments at stake, successful mining companies are those that are able to quickly identify and recover the most economically viable resources. Utilize mining mode to gather accurate, real-time geochemical data and maximize overall productivity. Mining mode enables users to determine the concentration of elements from Mg to U in various types of geochemical materials. Reduce overhead by implementing the Niton XL5 for cost effective oil and gas exploration, mineral discovery and mining operations. Bring your lab to the field and discover the difference of the Niton XL5.



Soil mode

The detection and remediation of environmental contaminants from industrial and mining operations is a global challenge. Collecting and analyzing thousands of samples on-site is a requirement for screening, risk assessment and hazardous site modeling. The Niton XL5's high sensitivity rapidly analyzes soil samples in situ while providing information on heavy metal contaminants. Using soil mode, users can easily detect RCRA metals, priority pollutants and U.S. EPA target analytes with instant and legally-defensible results. Fast decision making means you'll also achieve results at a fraction of the time and cost of off-site laboratory testing.



Consumer goods modes

The presence of hazardous substances is strictly regulated in consumer goods. Products such as toys, electronics, jewelry, apparel and more require manufacturers to conduct due diligence programs. By using plastic or electronic alloy mode, operators can screen products for heavy metals and halogens to prevent them from reaching store shelves. Ease of use is further enhanced with our patented TestAll™ technology, enabling non-technical personnel to analyze various materials with confidence. The Niton XL5 tests for all organic and inorganic materials, including metals, ceramics, glass, plastics, wood, fabrics and solders.



...And many more applications

The analytical capabilities of the Niton XL5 are not limited to factory enabled calibrations. Our unique algorithms facilitate the analysis of every element from Mg to U for solids and liquids. By identifying samples using their unique spectral fingerprint, the Niton XL5 unlocks the potential to differentiate similar materials with high selectivity. Industries such as archaeometry, counterfeit uncover operations and pigment identification (in addition to many more) can benefit greatly. The reach for potential applications using the Niton XL5 is seemingly limitless.



Product Specifications

Weight	2.8 lbs with battery (1.3 kg)
Dimensions	9.54 x 8.19 x 2.67 in (24.23 x 20.8 x 6.78 cm)
X-Ray Source	X-Ray Tube: Ag anode (6-50kV, 0-500uA, 5W max) Dynamically adjustable current for optimal sensitivity on every analysis
Detector	Proprietary large area drift detector
Spot Size	Standard: 8mm collimation Optional: 3mm small-spot collimation
Analytical Range	Mg-U (ultra low light element detection)
Calibration Modes	General Metals, Precious Metals, Coatings, Mining, Soils, Electronic Alloys, Plastics, Industrial Lead in Paint, Spectral Fingerprint, TestAll™
Libraries	Default alloy libraries based on SAE, AISI, ASTM, AA, DIN, GB standards Users may create, clone and edit libraries
System Check	Built-in standardization via automatic system check
IP Rating	IP54 (splash and dust proof)
Operating Environment	Temperature: 0°C to 50°C (external fan recommended when ambient temperature is greater than 33°C) Humidity: 10% to 90% relative humidity non-condensing
Display	Tilting, color, resistive touchscreen display
Power	12V lithium-ion battery, or 12V DC, 3A, 3.6W power supply
Macro Camera	Integrated CCD macro camera for capturing overview images of parts and tagging measurement locations
Micro Camera	Integrated CCD micro camera for locating and recording measurement positions
Global Positioning System	Internal GPS and optional external GPS (via Bluetooth) GPS data included with sample information
Bluetooth	Supports print functionality, external GPS connectivity and barcode reader
Memory / Data Storage	512 MB internal system memory / 16 GB industrial grade storage Stores approximately 130,000 readings with spectra (fewer if macro and micro images are saved)
Data Entry	Touchscreen keyboard User customizable data entry Optional wireless remote barcode reader
Data Transfer	WiFi, USB
Operating System	Linux
Support Software	NitonConnect PC software
Security	Password-protected user security
Languages	English, Chinese, Spanish, Portuguese, Russian, Japanese, German, Korean, French, Turkish, Italian
Standard Accessories	Locking shielded carrying case Two (2) lithium-ion battery packs One (1) 110/220 VAC battery charger/ AC adaptor Check samples Safety lanyard PC connection cable (USB)
Optional Accessories	Thermo Scientific™ portable test stand Thermo Scientific™ mini test stand Thermo Scientific™ backscatter shield Thermo Scientific™ hotwork stand off Thermo Scientific™ soil guard Belt holster
Compliance	Compliance CE, RoHS, FCC, Industry Canada, Safety to IEC 61010-1:2010
Licensing / Registration	Varies by region. Contact your local distributor.

1. The Thermo Scientific™ Niton™ XL5 XRF analyzer weighs 2.8lbs (1.3 kg). The Niton XL5 is the smallest and lightest handheld XRF analyzer leveraging x-ray tube technology.

Learn more at thermofisher.com/XL5

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