

a giant leap forward with the new generation of portable XRF analyzers: the handheld Thermo Scientific NITON XL3t. Building on the success of the award-winning NITON XLt series, the NITON XL3t x-ray tube-based XRF analyzer continues to lead the market through excellence in innovation.

Thermo Scientific NITON® XL3t



A History of Innovation

In 2002, NITON, now a part of Thermo Fisher Scientific, pioneered the use of miniaturized x-ray tubes in handheld x-ray fluorescence (XRF) analyzers. The performance and features of NITON instruments have improved continuously since that time. Now we introduce a groundbreaking new generation of portable XRF analyzers, combining advanced electronics and materials technology with the most powerful x-ray tubes ever used in a handheld XRF instrument: presenting the XL3t. Featuring a high performance thermoelectrically cooled detector, 80 MHz real-time digital signal processing, and dual state-of-the-art embedded processors for computation, data storage, communication and other functions, the XL3t incorporates a host of new features directly benefiting the customer. From the integrated tilting color touch-screen display to the customizable menus for ease of use, the ergonomic new XL3t series analyzers are both the lightest weight and most ruggedly constructed x-ray tube sourced portable XRF analyzers ever made. XL3t instruments can be used

for many nondestructive testing applications, including analysis of metal alloys, screening of electronics for prohibited substances, mining exploration and grade control, and a host of other analytical applications. The NITON XL3t 800 series is the definitive tool for scrap metal recycling, casting & fabrication, manufacturing and Positive Material Identification (PMI). Alloy grade ID and QC testing typically take 1 to 2 seconds, with accurate alloy chemistry in as little as 3 to 5 seconds. Similarly, compliance testing for Restriction of Hazardous Substances (RoHS) and other regulations is faster than ever before with the XL3t 700 Series, including screening of incoming materials, stocks and outgoing finished goods. Detection limits for all banned substances are improved – especially for cadmium – with the XL3t's 50 kV x-ray tube sample excitation system.

The XL3t's analytical power alone puts it in a field by itself; with its many standard features and available options, the XL3t stands far above the competition. Integrated USB and Bluetooth™ communications provide direct data transfer to the user's PC or networked storage device, eliminating

NITON XL3t Series analyzers provide many distinct advantages:

- Very easy to use – even by non-technical personnel
- Lab-quality performance in a handheld instrument
- Improved cycle time for high sample throughput



Instant in-field results.

NITON XL3t Specifications



PMI for critical applications.

cumbersome data syncing procedures required by PDA-based XRF analyzers. A clip-on weld mask and folding test stand help users safely analyze difficult to measure samples, while the optional heat shield extends the hot-surface testing capability from 600 °F (315 °C) to 1,000 °F (538 °C), protecting both the XL3t and the operator's hand from these elevated temperatures. Add the optional integrated sample imaging system to locate areas of interest in a sample, then store the image of each sample analyzed along with measurement results; or chose the Helium Purge Light Element Analysis Package for direct analysis of Mg, Al, Si, P, and S. Use NITON's standard NDT® PC software suite to customize the instrument, set user permissions, generate custom reports and print certificates of analysis, or to remotely monitor and operate the instrument hands-free. Whether you need an analyzer for metal alloy analysis, RoHS or other regulatory compliance testing, mining or mineral exploration, art conservation or archeometric analysis, the Thermo Scientific NITON XL3t combines the analytical performance of lab-grade instrumentation with the high-speed performance, ease of use and cutting-edge technology customers have come to expect from their NITON analyzers.

Thermo Scientific NITON XL3t analyzers are just one of Thermo Fisher's Portable NITON Analyzer Solutions which include analysis tools for metal alloy identification, lead-based paint testing, RCRA metals in soil, RoHS and WEEE compliance screening and a host of other analysis needs.

Weight	< 3.0 lbs (< 1.3 kg)
Dimensions	9.60 x 9.05 x 3.75 in (244 x 230 x 95.5mm)
Tube	Au anode 50 kV maximum, 40 uA maximum Ag anode with optional light element analysis package
Detector	High-performance Si PIN diode
System Electronics	533 MHz ARM 11 CPU 300 MHz Dedicated DSP 80 MHz ASICS DSP for Signal Processing 4096 Channel MCA 32Mb Internal System Memory/ 128Mb Internal User Storage
Batteries	Two 4 (or optional 6) Cell Lithium-ion Battery Packs
Display	Adjustable angle VGA color touch-screen display
Standard Analytical Range	>25 elements from Ti to U
Optional Light Elements	Additional elements Mg, Al, Si, P and S via Helium Purge
Data Storage	Internal >10,000 readings with spectra
Data Transfer	USB, Bluetooth and Serial Communication RS-232
Security	Password-protected user security
Mode (Varies by Application)	Compton Normalization (CN) Bulk Sample Analysis Fundamental Parameters (FP) Bulk Sample Analysis Thin Sample Analysis Empirical calibration and Combined FP plus empirical calibration analysis Pass/Fail Testing Signature Match and SuperChem™ Analysis
Data Entry	Touch-Screen Keyboard User-Programmable Pick Lists Optional Remote Barcode Reader
Standard Accessories	Locking shielded carrying case RFID Reader/Encoder Shielded belt holster Spare battery pack 110/220 VAC battery charger/ AC adaptor PC connection cable NDT (NITON data transfer) PC software Safety lanyard Check Samples/Standards
Optional Accessories	Portable test stand, Stationary test stand, Tripod stand Extension pole Welding mask HotFoot™ hot surface adapter Soil testing guard
Licensing/Registration	Varies by region. Contact your local distributor.
Compliance	CE, RoHS

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