



## Thermo Scientific Niton Portable XRF Analyzers



**Rapid, precise metal alloy identification**  
for maximum performance and productivity

**Thermo**  
SCIENTIFIC

## Superior accuracy. Comprehensive analysis.

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Purpose-built for the most rugged conditions, Thermo Scientific™ Niton™ XRF analyzers are easy to use and offer superior detection limits and exceptionally fast measurement times to ensure confident decision making. Get lab-quality results in the field or factory in virtually any weather conditions. Samples always remain intact and undamaged by testing.



Analyze nearly every element of interest in virtually all types of metal alloys, from tramp elements to pure metals, and everything in between. With point-and-shoot simplicity, you can view the alloy grade and chemistry on the built-in, color, touch-screen display.

WiFi, Bluetooth™ wireless and USB communications enhance data management and let you set user permissions, print certificates of analysis to document results, or operate the analyzer from your PC.

Our patented Engine Guard™ protects the detector, tube and other internal components from sharp objects that can cause damage and result in costly repairs.

This all adds up to maximum performance and increased productivity.



# Which analyzer is best for your application?

**Niton XRF analyzers are built for rugged use and return rapid lab-quality results**



	XL2	XL2 GOLDD	XL3t	XL3t GOLDD+	XL5
<b>Market</b>					
<b>Scrap Metal Recycling</b>	✓	✓		✓	✓
<b>Positive Material ID (PMI)</b>			✓	✓	✓
<b>Fabrication-Mfg/ QA&amp;QC</b>	✓	✓	✓	✓	✓
<b>Description</b>	<ul style="list-style-type: none"> <li>• Ideal for asset recovery and traceability</li> <li>• Analyzes up to 25 elements</li> <li>• Verifies incoming, in-stock or in-service material</li> </ul>	<ul style="list-style-type: none"> <li>• Improved sorting speeds</li> <li>• Rapid results for tramp/trace element analysis</li> <li>• High performance and light element analysis (Mg-S) for Al and specialty alloys without helium purge or vacuum</li> </ul>	<ul style="list-style-type: none"> <li>• Extended element range</li> <li>• Optional CCD camera and WeldSpot small spot feature for comprehensive weld analysis and component inspection</li> </ul>	<ul style="list-style-type: none"> <li>• Detects and measures trace elements for FAC modeling (Cr, Cu, Mo)</li> <li>• Analyzes component for residual elements in HF alkylation (API RP-578) and low Si sulfidation (API RP-939-C) systems</li> </ul>	<ul style="list-style-type: none"> <li>• Fastest, lightest, most powerful Niton XRF analyzer</li> <li>• Closer x-ray source and detector enable lower limits of detection</li> <li>• Provides expanded use in measuring scale, sludge, oil, powders and slurries</li> <li>• Enables testing in tight spots</li> <li>• Extended field use with hot, swappable battery</li> <li>• Swiping functionality</li> </ul>
<b>Weight</b>	3.5 lb (1.6 kg)	3.5 lb (1.6 kg)	3.5 lb (1.6 kg)	3.5 lb (1.6 kg)	2.8 lb (1.3 kg)
<b>X-Ray Tube Power</b> <small>Heavy element detection (Ba, Sb, Pb, Sn, Cd)</small>	45kV – 2W	45kV – 2W	50kV – 2W	50kV – 2W	50kV – 5W
<b>Detector Technology</b> <small>Improving light element analysis (Mg-S) / overall performance</small>	Si-PIN	SDD	Si-PIN	SDD Ultra SDD	SDD
<b>Communication</b>	BT, USB	BT, USB	BT, USB	BT, USB	WiFi, BT, USB
<b>Design/Features</b> <small>Tilt-screen display, hot swap, GPS, SW</small>			Tilt screen, GPS	Tilt screen, GPS	Tilt screen, GPS, Hot swap battery
<b>Camera/Display</b> <small>Identify textures, store image with analytical results, macro camera</small>	Micro	Micro	Micro	Micro	Micro + Macro
<b>Small Spot Sample Positioning</b> <small>Isolate welds and very small samples</small>	Weld mask	Weld mask	3mm collimator	3mm collimator	3mm collimator

# Scrap

## Identify and sort recycled metals quickly and with accuracy

Incorrect material sorting results in lost time and disrupts daily operations. Thermo Scientific™ Niton™ XRF analyzers are engineered to provide the industry with faster sorting and more accurate results. Testing time is almost instantaneous for routine scrap, and just a few seconds longer to obtain lab-quality chemistry. Our smart and ever-evolving alloy grade library sorts alloys with improved accuracy. Rugged with sealed construction, analyzers are dust- and waterproof for worry-free use virtually anywhere. Niton XRF analyzers are the perfect fit for metal recycling companies.



# Fabrication and Manufacturing

## Take control of material verification and accuracy

The verification of metal alloys for manufacturing quality assurance and quality control has never been more important to satisfy product reliability and safety standards. From metal production to service centers and distributors, component fabrication to final product assembly, the potential for material mix-ups is very real, and the need for traceability is a top priority. Niton XRF analyzers deliver fast, accurate elemental analysis and positive identification for manufacturing requirements:



- Components
- Wire strands as fine as 1 mm
- Rods
- Finished welds
- Bolts, rivets, and other fasteners
- Complete fabricated assemblies

# Positive Material Identification

## Verify the integrity of your process systems

For oil and gas refineries, petrochemical plants, and power generation industries, the emphasis on safety and accident prevention is critical. Positive identification ensures the integrity of your materials and systems throughout your enterprise:



- Rods and wire strands
- Finished welds and weld beads
- Bolts, rivets, and other fasteners
- Valves and flanges
- Complete reaction vessels

**Rely on Niton XRF analyzers to ensure operational safety and maintain regulatory compliance.**

**Families of alloys that can be accurately analyzed with a Niton XL2 Series or XL3t Series include:**

- Stainless steels
- Nickel (Ni) alloys
- Cobalt (Co) alloys
- Ni/Co alloys
- Tool steels
- Chromium-molybdenum (Cr-Mo) steels
- Exotic alloys of most types (alloys of tantalum, hafnium and tungsten)
- Copper (Cu) alloys
- Titanium (Ti) alloys
- Wrought aluminum (Al) alloys
- Low alloy steels
- Zirconium (Zr) alloys

**In addition, the Niton XL5 XRF analyzer provides improved limits of detection for light element analysis:**

- Silicon
- Aluminum
- Sulfur
- Magnesium
- Phosphorous



**Thermo Scientific™ GOLDD™ technology brings true lab-quality performance to handheld XRF analyzers. Delivering up to 10x faster measurement times than conventional technologies, it also provides the highest sensitivity and measurement accuracy, plus the capability of measuring light elements without helium purge or vacuum.**

## **Thermo Scientific Niton XL5 Portable XRF Analyzer**

Introducing Niton XL5. At 2.8 lbs. (1.3 kg.), Niton XL5 is the lightest XRF metals analyzer available. Light weight reduces operator fatigue in verifying alloy composition and grade. A macro-camera captures a simple image. A micro-camera ensures precise sample analysis location.



**The Future is in Your Hands**

# Outstanding Service and Support

## Superior XRF analysis solutions, backed by our worldwide sales and service

Thermo Scientific is recognized as the leader in XRF analysis technology, serving companies in more than 75 countries on six continents. We serve our customers through corporate resources and a dedicated network of more than 70 distributors and 30 factory-trained service centers around the world to provide the most effective customer service possible. Our global reach and resources not only ensure worry-free product support, we also offer comprehensive services including application consulting and training anywhere you need them.



[www.thermoscientific.com/portableID](http://www.thermoscientific.com/portableID)

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