

DELTA Portable XRF for
Dynamic XRF



SCRAP PROCESSING & RECYCLING INDUSTRIES



Alloy/Metal Identification

High Speed Sorting

Light Element Analysis

Best Aluminum Analysis



THE DELTA LINE

A New Breed of Rugged, High Performance Handheld XRF

YOU CAN SEE AND FEEL THE DIFFERENCE at the outset – compact and robust from probe to trigger to display. On the inside, its remarkably sophisticated XRF technology is better, faster, and more responsive. From the initial boot-up to the final answer, the DELTA is a whole new breed.

The DELTA Line from Innov-X gives you the ultimate experience in field-portable handheld XRF analysis – super fast measurements with amazing accuracy, precision, detection limits and light element measurement capability built into a compact single-chassis frame wrapped in robust industrial-grade body casing.

TESTING TIMES THAT WERE ONCE 5-10 SECONDS WITH HANDHELD XRF NOW ONLY TAKE 1-2 SECONDS,

and with even better accuracy and precision. Scrap recyclers and metal processors can run hundreds more tests per day with complete confidence in the results, further increasing the quality and purity of resalable product, boosting customer confidence, and maximizing the overall value of your scrap asset.

Where Ruggedness and Performance Converge

A new ergonomically advanced, forward-looking design is backed up by the latest in electronics, components and software technology, resulting in Innov-X's highest performance analyzer line to date.

Tough on the Outside

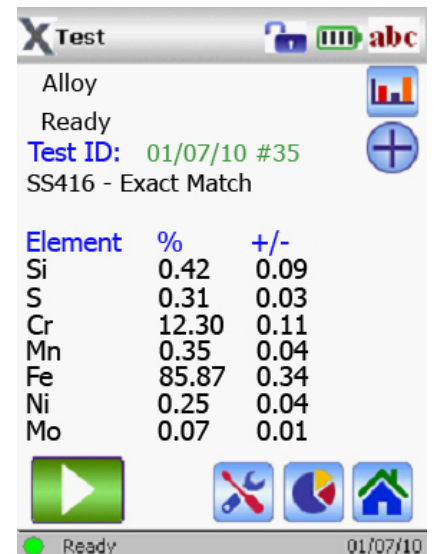
Ideally suited for the harsh scrap recycling environment, the DELTA is equipped with our trademark weatherproof, dustproof, protective housing.

- » Ruggedized casing to industrial standards - no PDA or movable screen - provides superior reliability
- » Ergonomic rubberized handle with enhanced grip for easy handling during all day use
- » Large rear-facing, crisp color, motion responsive touch screen for clear viewing during analysis
- » Signature yellow color for easy spotting in the yard or warehouse

Smart on the Inside

The DELTA is engineered with the most advanced technology, yet is so simple to use. Its intuitive user interface is easy to navigate and use by everyone, from non-technical to the most advanced operators.

- » Up to 4x improvement in light element analysis resulting from the DELTA's custom 4W, 200uA (max) x-ray tube
- » Up to 10x improvement in sorting speed and throughput due to state-of-the-art electronics, a floating point processor and redesigned analytical geometry
- » Time-saving, built in auto-calibration feature in our exclusive docking station – no need to stop testing for standardizations
- » Expanded alloy library of 380+ unique grades; user settable tramp limits facilitate accurate poison element analysis. Custom grades can be added on the fly



Within seconds, the DELTA provides an easy to interpret results screen that can be viewed in a customizable list or spectral format. Simple, fast data export is achieved via USB, wireless Bluetooth to Microsoft Excel spreadsheet, or directly printed via a wireless printer.

Superior Light Element Analysis, in Air or Vacuum

Once difficult for handheld XRF, the analysis of light elements – Mg, Al, Si, P, S, to separate many alloy grades, is now routine with the DELTA. With automatic filtering, there is no compromise – fast precise analysis of transition and heavy metals, and sensitive measurement of light element content.

- » Magnesium (Mg) detection down to 0.35% with the DELTA Premium, below 0.20% with the DELTA Premium Vacuum
- » Quickly and accurately quantify S content in stainless and low alloy steels. Confidently identify 303 and 416 grades
- » Measure Si and Al in stainless, bronzes and other alloys
- » Measure P in iron and copper alloys

DELTA Premium Vacuum

Unique integrated patent-pending vacuum technology for true, untethered portability



Ultimate Aluminum Analysis, in Air or Vacuum

Continuing to push the XRF application breadth, Innov-X's DELTA Premium and Premium Vacuum analyzers offer unmatched Al performance.

Element	%	+/-
Mg	0.45	0.05
Al	91.23	0.18
Si	7.35	0.06
Ti	0.19	0.05
Cr	0.04	0.01
Fe	0.16	0.02
Cu	0.08	0.01

Alloy Ready
Test ID: 01/07/10 #14
AL 356-7 - Exact Match

Ready 01/07/10

Delta Alloy Results Screen

- » Aluminum alloys
 - » Accurately measure Mg content in 5000 series alloys, confidently separate Mg-containing alloys. Sort 3003 and 3004; 1100 and 6063; 2014 and 2024
- » Titanium Alloys
 - » Confidently determine Al content in Ti alloys, including CP Ti cut with Al
- » Red Metals
 - » Accurately classify Al and Si bronzes
- » Cast Stainless, High-Temp
 - » Measure Al in high-temp, Ni/Co superalloys



INCORPORATING EVERYTHING YOU NEED in handheld XRF with state-of-the-art innovations and a brand new design – The DELTA Line from Innov-X.



4W x-ray tube, 200 uA current (max), plus optimized beam settings

Tight geometry for exceptional LODs and high analysis throughput

Large-Area SDD option plus customized x-ray tube provides exceptional light element sensitivity

Unique integrated vacuum technology (patent pending)

Patent-pending automatic barometric pressure correction adjusts calibration as needed

Lightning fast bootup & data acquisition:
Faster Testing, More Results

Floating Point Processor: more calculations in less time leverages more advanced calibration algorithms

Integrated Bluetooth for data input and output

Ergonomic rubberized handle for enhanced grip

Analysis indicator lights visible from 360°

Responsive, bright color touch screen display

Accelerometer technology puts unit to sleep when unused to conserve power, logs impacts for tool management

USB interface port for high speed data download and seamless PC control

Hot Swap: replace rechargeable battery without turning unit off or re-standardizing

Docking Station with Automatic Charging and Calibration Check



Additional Battery Charger

DC Outlet

Power and Battery Indicator Lights

Connect to a PC for Data Management

USB Connector Port

The DELTA Knows Metal & Alloys

Configured with a standard package of 25+ elements, the DELTA provides alloy chemistry and grade ID in seconds. From simple sorting to challenging grade separations, the DELTA provides highly specific material chemistry to rapidly and accurately identify pure metals and alloy grades, including, but not limited to:



- » Aluminum alloys
- » Chromium-Molybdenum steels
- » Cobalt alloys
- » Copper alloys
- » Exotic alloys
- » Magnesium alloys
- » Nickel alloys
- » Nickel/Cobalt alloys
- » Precious Metals
- » Stainless steels
- » Tool steels
- » Titanium alloys
- » Wrought Aluminum alloys
- » Zinc alloys
- » Zirconium alloys

When you need a reliable sorting tool to provide maximum recovery and the highest value for your scrap material, turn to the DELTA. From turnings, shavings, rods and wires to more sizeable material or structures, the DELTA provides anywhere, anytime testing with faster, more accurate results than ever before.

High Volume Sorting & Separation



REDWAVE X-STREAM

Innov-X has made it a priority to understand what recyclers and metal processors need to increase the value of their scrap asset and keep a competitive edge. To complement our handheld XRF, we also offer unique high volume XRF systems that sort and separate mixed scrap material by highly specific material chemistry. Solutions are available for a wide variety of recyclable materials, including ferrous, non-ferrous, glass, plastics, electronic waste and wood.

Enjoy a long term relationship with your DELTA. Innov-X is the only handheld XRF manufacturer to offer a truly upgradeable platform. As your scrap business grows and/or your analysis needs change, the performance features of your existing DELTA can be incrementally increased as well.

DELTA PREMIUM VACUUM *Ruggedized handheld optimized for ultimate light element analysis and Al alloy sorting (even with very low Mg concentrations), with a patent-pending, convenient, and portable un-tethered vacuum feature.*

DELTA PREMIUM *The ideal solution for ultra quick and analytically demanding applications. The large area SDD and 4W, application optimized anode, x-ray tube combine for tremendous speed and superior LE analysis in air for maximized throughput and sensitivity for tramp element measurements.*

DELTA STANDARD *Silicon Drift Detector provides excellent speed and LODs, as well as some light element analysis capabilities. The new standard in handheld XRF.*

DELTA CLASSIC *Our classic DELTA analyzer; equipped with a Si PIN detector. A high tech, flexible analyzer for typical XRF analysis sorting of stainless steels, nickel alloys, and more.*