Portable XRF for

Positive Material Identification (PMI)

in the Energy, Power, Manufacturing & Fabrication Industries

Alloy/Metal Identification
Quality Control / Quality Assurance
Safety & Maintenance
Superior Light Element & Aluminum Analysis
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 TAKES 1–2 SECONDS and with even better accuracy and precision. This means PMI inspectors and QC personnel can run hundreds more tests per day with complete confidence in the results, further increasing productivity, boosting customer confidence, and maximizing their bottom line.

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 manufacturing, the DELTA is equipped with our trademark weatherproof, dustproof, protective housing.

» Ruggedized casing to industrial standards - no PDA or movable screen - provides superior reliability

» Superior field use ergonomics with rubberized grip for easy handling during all day use

» Large rear-facing, motion responsive, transflective touch screen for clear viewing - automatically brightens in sunlight

» External heat sink engineered for extreme temperature and high power use

» Time-saving hot swappable batteries - replace rechargeable battery without turning unit off or re-standardizing

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.

VERSATILITY: The DELTA controlled by a Laptop
Superior Light Element Analysis

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

Ultimate Aluminum Analysis, in Air or Vacuum

Easily and directly sort and grade Aluminum and Aluminum containing materials. The Innov-X DELTA Premium and DELTA Premium Vacuum offer unmatched Al performance.

- 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

Outstanding Results

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 or wireless Bluetooth to Microsoft Excel spreadsheet or directly printed via a wireless printer.

DELTA can be set up in its optional transportable XRF Workstation on PC with full analysis and reporting capability.
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 μA 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 boot-up & 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

USB Connector Port

Power and Battery Indicator Lights

Connect to a PC for Data Management
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 analysis tool to provide ultra-fast, accurate Positive Material Identification, turn to the DELTA. From turnings, shavings, rods and wires to small parts and components to more sizeable material or structures, the DELTA provides anywhere, anytime testing with faster, more accurate results than ever before.

Enjoy a long term relationship with your DELTA. Innov-X is the only handheld XRF manufacturer to offer a truly upgradeable platform. As 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.