

The Leading Innovator of Handheld XRF...

Keeps on Moving



The World's Best Handheld Alloy Analyzer
Now with Optional Mg, Si, Al & P Analysis



Innovative XRF Technologies



NEW

ULTRA RUGGED WEATHERPROOF

Innov-X Handheld XRF with fully integrated, sealed controller.

Heavy-duty, ultra-ruggedized handheld XRF with industrial-grade touchscreen.

Totally Free of Radioactive Materials

Angled Display
provides easy viewing of test results

Bright, Color Display
easy to read in any light - even direct sunlight

Stylus

Touch Controls

Sealed Weatherproof Casing
impervious to water and dust

Rear Display

AC Power Input and PC Control

Waterproof Case

Element	Concentration (%)	Intensity	Match
Fe	54.19	0.50	OK - 73% Comparison
C	22.50	0.11	OK - 73% Comparison
Si	13.49	0.34	OK - 73% Comparison
Mn	3.50	0.01	OK - 73% Comparison
Al	3.00	2.24	OK - 73% Comparison
S	7.79	0.29	OK - 73% Comparison
P	1.74	0.04	OK - 73% Comparison



Introducing the Latest in Alloy Analysis Technology

Five years ago Innov-X Systems pioneered a new approach to handheld alloy analysis. We delivered the world's first handheld x-ray fluorescence (XRF) analyzer using miniature x-ray tube technology – a system totally free of radioactive isotopes. And it was engineered around PDA technology to provide a worldwide standard operating system and microelectronics. It used a revolutionary 6-position filter wheel yielding optimal performance across the broadest range of elements.

The Innov-X design provided unprecedented upgrade-ability as new analytical needs emerged. For the first time ever, analyzers could be updated for new applications, elements or calibrations added. Obsolescence Defied! There are now thousands of Innov-X handheld XRF systems used worldwide for alloy, environmental, mining and other materials analysis applications.

Innov-X now offers two analyzer configurations. One handheld XRF is a fully sealed, weatherproof XRF featuring a heavy-duty, ultra-rugged design that is impervious to moisture and dust. The second is our classic, popular handheld engineered around a removable PDA.

Either Innov-X Handheld XRF system is configured with a standard package of up to 25 elements including precious metals. They provide alloy chemistry and grade ID in seconds. Customers may specify additional or replacement elements at any time, provided they can be measured by handheld XRF.

28 Ni Nickel 58.6934	27 Co Cobalt 51.9415	73 Ta Tantalum 180.9479	42 Mo Molybdenum 35.4527	46 Pd Palladium 28.0855
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Classic PDA-based XRF

Innov-X Handheld XRF with removable PDA

World's first and still most portable tube-based handheld XRF



The Ultimate in Customer Choice

Innov-X customers choose the ideal alloy analyzer for their needs: The classic PDA-based model in a field-proven, rugged package. It offers the convenience of a removable PDA, instant data syncing to your computer, and all the features of an off-the-shelf device. Or do you need the ultra-rugged, sealed model with totally internal electronics. No PDA, just a tough, easy-to-use alloy analyzer with good ergonomic touch.

You can inexpensively convert PDA to Ultra-Rugged and vice versa anytime after purchase if you change your mind. Innov-X offers the most upgrade-able, flexible handheld XRF package available.

Feature	Removable PDA-Driven Controller	Integrated, Sealed Controller
Sealed to Moisture and Dust		✓
Use PDA display and user interface?	✓	
Removable PDA	✓	
Operator can use Multiple PDAs	✓	
Color Touchscreen	✓	✓



Alloy Chemistry and Grade ID for PMI, NDT and Quality Control

The Innov-X XRF has become the preferred analyzer for petrochemical, production/power and fabrication industries. It is widely accepted for alloy verification in nearly every major refinery, the nuclear power industry, and by leading alloy producers and fabricators.

Positive Materials Identification (PMI) & Power Plant, Petrochemical

- Removable handle to test through insulation ports, other hard-to-reach areas
- Engineered for in-service PMI, proven on surface temperatures up to 900°F
- Fast, precise analysis of difficult grade separations 304, 321, P91, many low-alloy steels
- Flow-accelerated Corrosion (FAC): the best handheld for low Cr measurements (down to 0.02% in carbon steels)

Metals Industries, Aerospace, Pharmaceutical and Biomedical Applications

- Fast alloy grade and chemistry verifications
- Multiple, fully editable grade library standards for fast comparisons to published specifications – UNS, SME, Mil Spec
- Simple, fast data download with confirmatory spectra
- Print Material Test Reports quickly and easily
- Original test data fully encrypted to avoid tampering
- Biomedical: Measure low Fe concentrations in cobalt alloys

NEW

Mg, Al, Si analysis now available, contact us for a data sheet or go to: www.innovxsys.com/metalalloy





Scrap Sorting and Processing

Innov-X pioneered the first x-ray tube-based handheld for scrap metal sorting. Many scrap processors preferred the Innov-X because of the wide variety of alloys they could test, responsive customer service, and the ease of isotope-free travel. Before your next purchase, consider a demonstration of either Innov-X handheld model—sealed or PDA-based – standard or LZV Vacuum.

- Fast, fast sorting of high-temps, stainless, red metals, some common aluminum grades
- Performs well on tough separations: Ni/Co superalloys, 97-3 & Ta, exotics alloys
- Add precious metals analysis at any time, no new modes, same easy operation
- Sort common aluminum grades 6061, 2024, 7050, 7075, 3003 and others. Ideal for sorting mixed aluminum alloy into MLC loads
- Low alloy steels? The Innov-X XRF offers excellent sensitivity to low concentrations of Cr, Ni, Mo, V for many low-alloy applications
- Use for non-metals as well: precious metals testing of catalysts, electronics scrap
- Excellent performance on turnings

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Mg, Al, Si analysis now available, contact us for a data sheet or go to: www.innovxsys.com/metalalloy

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Introducing the Innov-X LZX

Alloy Analysis with Revolutionary Internal Vacuum Technology (patent pending)

NOW

12 Mg Magnesium 24.3050	13 Al Aluminum 2.70	14 Si Silicon 28.0855	15 P Phosphorus 30.973762
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Measure Mg, Al, Si, P and 20+ other elements simultaneously in alloys, powders, ores and more:

How it Works

An atmosphere-free zone is created between the sample and detector, uniquely designed for fast, repeatable measurements of the low-energy x-rays from these elements. The operation is simple:

- Just connect the miniature, battery-operated pump for 20 seconds, disconnect and begin testing.
- Internal vacuum is maintained for hours, no need to carry a pump!
- On-screen monitor alerts you when pump is needed.

The LZX offers numerous advantages. There are no tanks of compressed He gas to lug around. Attached vacuum pumps are a thing of the past. Our internal vacuum chamber is engineered to handle daily alloy analysis and maintain vacuum for up to 6 hours. A small pump is standard to recharge the vacuum as needed.

Upgrade-ability and Back-compatibility

Do you really need the vacuum option? As with all Innov-X XRF products, existing customers may add the LZX option at any time. Not sure? Start with the standard system, and add LZX at a later date, usually for just the price difference. LZX option is available with either the Sealed or Classic PDA model.

Do you need LZX Option?

Feature	Add LZX Vacuum
Verify or sort common wrought Al series like 2024, 3003, 6061/6063, 7050, 7075.	NOT NEEDED
Sort Al alloys into mixed low-copper loads	NOT NEEDED
Measure % of Al, Si, Mg, P in variety of alloys including red metals, Al, Ti and cast alloys, high-temp alloys, others.	✓
Definitively sort 4000, 5000 wrought series with Si or Mg measurement, or Si in cast alloys.	✓
Measure Al, Si, Mg and P in a variety of ores and powders	✓



Valve for External Pump





Why should your next Handheld XRF Purchase be an Innov-X?

Relentless Innovation

Innov-X drives the advancement of portability and performance in XRF instrumentation, proven by our history of solutions:

- Handheld XRF with removable PDA: World's first and still most portable tube-based handheld XRF
- Ultra-rugged model with fully integrated, sealed electronics
- LZX Vacuum Option— delivering Al, Si, Mg analysis in a handheld XRF without compressed helium gas
- X-50 Mobile Analyzer: Benchtop power and performance in the world's first mobile package
- Innov-X/Maersk SEA-Mate™: the world's first on-board oil and fuels XRF analyzer for the marine shipping industry

You're buying more than an alloy analyzer. You're buying a company that routinely delivers the next innovation in elemental analysis – a company with a proven record of delivering state-of-the-art XRF solutions, and customer-friendly upgrades and trade-in options.

Ergonomic Superiority

- The lightest weight, smallest, and best-balanced handheld XRF
- Bright, color display that is easy to read in any lighting conditions - even direct sunlight
- Touch trigger. No uncomfortable triggers to squeeze and hold. Comfortable "deadman" trigger also
- Dual display: Angled front display plus rear display for easy viewing of test results

Customer Appreciation

We don't take your business for granted after you've purchased an analyzer. When you call you talk to a person. You'll receive rapid response and regular updates to your requests. We offer extensive full service sites worldwide. In virtually every location on the planet you can be assured of well-trained service and application support.

Totally Free of Radioactive Materials

Why deal with radioactive materials? Regulations are increasing, the liability is a headache, and travel restrictions are becoming ever more onerous. Our pioneering tube technology eliminates the risk and headaches of controlling radioactive materials:

- Reduce regulatory baggage – no wipe tests, minimal travel restrictions, easy to transport
- Eliminates the liability of isotope control, improper use, theft and disposal

The Innov-X Family of XRF Products

Innov-X Systems manufactures the most diverse, high performance line of XRF analyzers in the world. From the smallest, toughest handheld XRF in the world, to XRFs for the marine and oil/gas industries, to continuous high throughput sorting systems, Innov-X is the one company that can provide a solution for virtually any elemental analysis requirement.

Handheld

Innov-X manufactures the leading handheld XRF for analysis of alloys, RoHS compliance, environmental applications and many general materials analysis. It is the most portable, rugged handheld XRF available with nearly 5,000 installed worldwide. It is available with a removable PDA, or for ultra rugged applications totally sealed internal electronics. The system may be optionally equipped with internal vacuum (Model LZX to include Al, Si, Mg analysis)

QXR High Volume Material Sorting Systems

For high throughput, automated sorting, Innov-X offers the conveyor-based QXR sorting and extracting systems. These systems can operate at <5 to >150 TPH depending upon material, and are designed for continuous, high feed rate material identification and sorting. Dedicated systems for ferrous, non-ferrous, glass, plastics, electronics, and wood





X-50 Mobile XRF Analysis

Our newest analyzer, the X-50 offers the performance of a benchtop XRF and true portability. Weighing in at about 9 kg, the system is readily portable. It provides superior performance for alloys, environmental and mining applications, oil and fluids analysis. It is also a closed-beam system.



FOX-IQ Factory Online XRF Analyzers

Innov-X offers a complete line of XRF-based process analyzers. Applications include continuous or discrete analysis of alloy tubing, liquid and slurry streams via our patent-pending flow cell technology.



SEA-Mate™ Oil Analyzer

In partnership with the world's largest shipping company A. P. Moller-Maersk, Innov-X has designed and manufactured the SEA-Mate™ line of XRF analyzers for analysis of oils, fuels and lubricants. These analyzers are designed for the marine and other heavy transportation industries and have been rigorously tested on board numerous Maersk vessels.

Come take an INNOQUEST for yourself
www.innovxsys.com/innnoquest

BASIC SPECIFICATIONS

- Weight:** 3 lbs. 4 oz. (1.6 kg)
- Excitation Source:** X-ray tube, Ag, W, Ta or Mo anode, 5-40 kV, 10-100 μ A, up to 6 filter positions
- SmartBeam:** Delivers industry-leading detection limits on critical elements Cr, V, Ti
- Detector:** Si PIN diode detector, < 220 eV FWHM at 5.95 keV Mn K-alpha line. LZX model, resolution < 200 eV
- Temperature Range:** -10C to +50C
- Operation:** Trigger or Start/Stop Icon. One-touch trigger or "deadman" trigger option. Optional control from external PC.
- Power:** Li-ion batteries, rechargeable (charger included). Powers analyzer, PDA (IPDA model), charges batteries simultaneously. AC Adapter optional.
- Battery life:** 8 hours (typical duty cycle), 3 hrs continuous (tube on) operation.
- No. of Elements:** Standard package includes 20-25 elements depending upon application. Customer may specify additional elements, or use multiple suites of 25 elements each. Extra charge may be added depending upon elements and total additions. LZX Option includes Al, Si, Mg, P. Others possible.
- Display Screen:** Color, high resolution touchscreen. Variable brightness provides easy viewing in all ambient lighting conditions.
- Data Display:** Concentrations in ppm, spectra and/or peak intensities (count rate) or user-specified units, depending on software mode selected.
- Data storage:** Minimum 20,000 test results with spectra, upgradeable to >100,000 test results with upgrade to 1 Gb flash card. 128 Mb standard memory.
- Processor:** Intel 400 MHz StrongArm processor or equivalent for sealed unit.
- Operating System:** Microsoft Windows CE (portable system) or Windows (PC-based).
- Software Modes:** Alloy Analytical, Fast Verification, Pass/Fail. Optional RoHS, Process, Soil, Lead paint, others available.
- Vacuum Life:** 4-6 hours typical. Pump down requires 20 sec.



Innovative XRF Technologies

Worldwide Operations

Innov-X USA (World Headquarters)

Innov-X Systems
100 Sylvan Road
Woburn, MA 01801
1-781-938-5005
866-446-6689 (4-innovx) toll free
Sales@innovxsys.com

Innov-X Canada

Unit 37 Suite 100
1100 Central Parkway West
Mississauga, Ontario L5C 4E5

Innov-X Europe

Helftheuvelpassage 20
5224 AP's-Hertogenbosch
The Netherlands
info@innovx-europe.com
Tel: +31 (0)73 62 72 590
Fax: +31 (0)73 62 72 599

Innov-X Asia

19 /F Silver Tech Tower
26 Cheung Lee Street
Chai Wan, Hong Kong
Tel: + 852 2515 0999
info@innovx-asia.com

Innov-X Middle East

Jebel Ali (Dubai)
United Arab Emirates
info@Innovx-mideast.com
Tel: +971(0)50 933 7093

Innov-X Africa

9 Hendrik Avenue
Highway Gardens 1609
Johannesburg
RSA
info@Innovx-africa.com
Tel: +27 (0)82 88 13 152