

Bruker Elemental



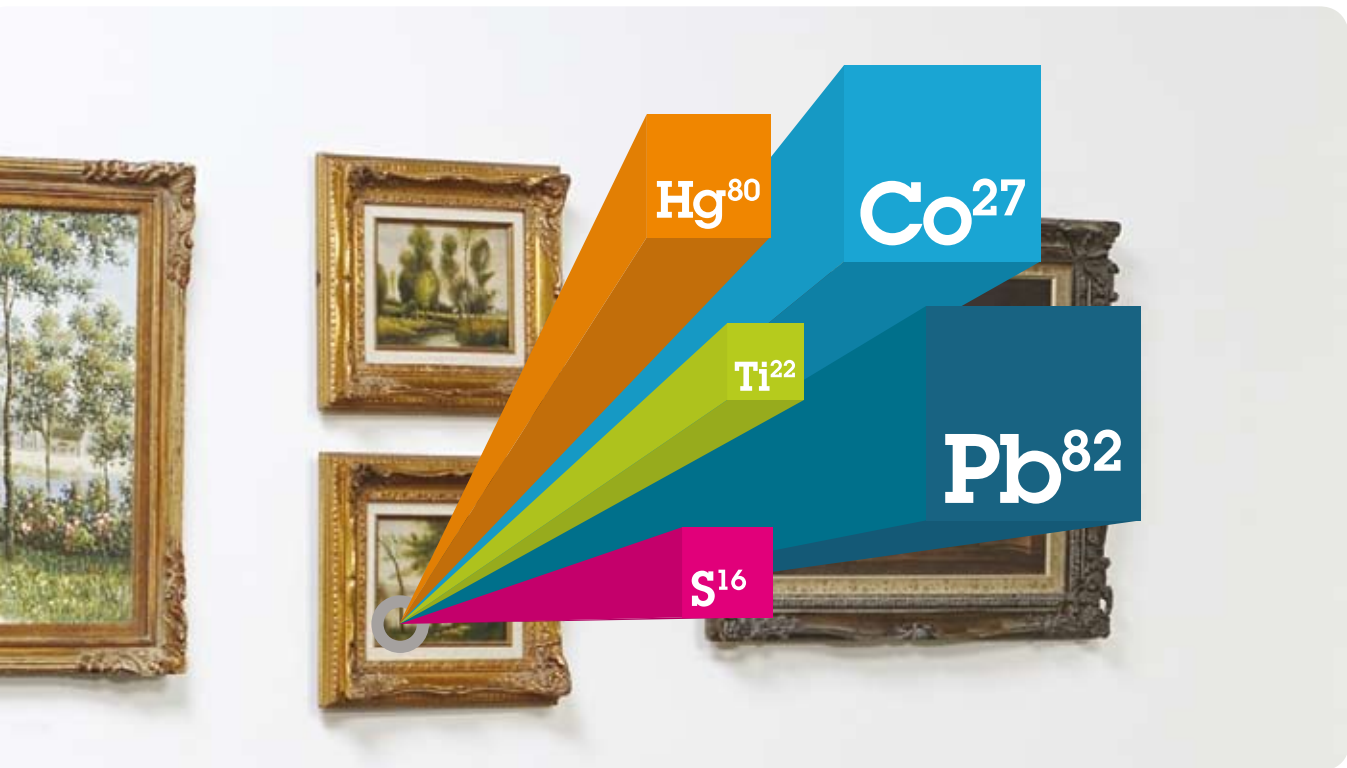
## Tracer III-V

- Technology you can trust

think forward

HANDHELD XRF

# Welcome to the innovators in handheld XRF



Tracer has become the instrument of choice for art and conservation applications, thanks to its capacity for completely non-destructive elemental identification. This lends itself to a wide variety of uses, such as determining the provenance of a valued object, or obtaining elemental data for geochemical survey – often a critical tool in supporting authentication.

Restoration work can be achieved reliably and sensitively, by ensuring a close match of pigments and other materials. Safe repatriation of cultural artifacts is also made possible by the ability to detect trace toxic preservatives, in a way that is fully compliant with organizations such as NAGPRA.

Whatever the application, powerful desktop software provides a complete live spectral display to give you an instant insight into the specimen under observation. This can be customized to allow a basic test for the presence or absence of a particular element, or a complete analysis to provide concentration data.

## ● The Tracer



### Introducing Tracer

There are many reasons why the Tracer has become the defacto standard for leading conservation scientists around the world. It combines the power and flexibility you would expect from a bench-top instrument with the convenience of a handheld – thanks to some pioneering, user-oriented innovations.

These include the same vacuum technology that we originally developed in partnership with NASA for the space shuttle program. The instrument also comes with powerful laptop-based analytical software, live-time spectral display, and customizable filters and secondary targets, designed to optimize your analysis to fit the application.

This is a technology that continues to work wonders for a broad range of clients – we are happy to supply confidential references on request.

### The benefits at a glance

- The capabilities of a bench-top instrument, with the convenience of a handheld
- Powerful laptop-based analytical software
- Customizable filters and secondary targets to optimize analysis
- Live-time spectral display
- State of the art SiPIN detector when combined with the vacuum capability allows the detection of light elements such as Mg, Al, Si, S, P and Cl
- Vacuum technology developed in partnership with NASA provides ultimate light element sensitivity
- Knowledgeable and helpful support staff

# Art and Conservation



## Vacuum Environment

Adding the portable battery operated vacuum pump allows the detection of light elements from Mg to Cl and will improve the detection limits for elements from K to Fe. This pump will easily achieve a vacuum of a few torr which eliminates the atmosphere between the sample and detector. This will increase the count rate by a factor of 10 for Mg and a factor of 2 for P.

## Tripod

A tripod is supplied in the standard Tracer III systems. This tripod which supports the analyzer is articulated in all three axis and provides precision adjustments so that the analyzer can be located less than a millimeter away from the sample without touching it. The tripod makes it very easy to take multiple measurements of exactly the same spot on an artifact without the need and inaccuracy of holding the analyzer in your hand.

- Application

## Product Range



### Tracer III-V

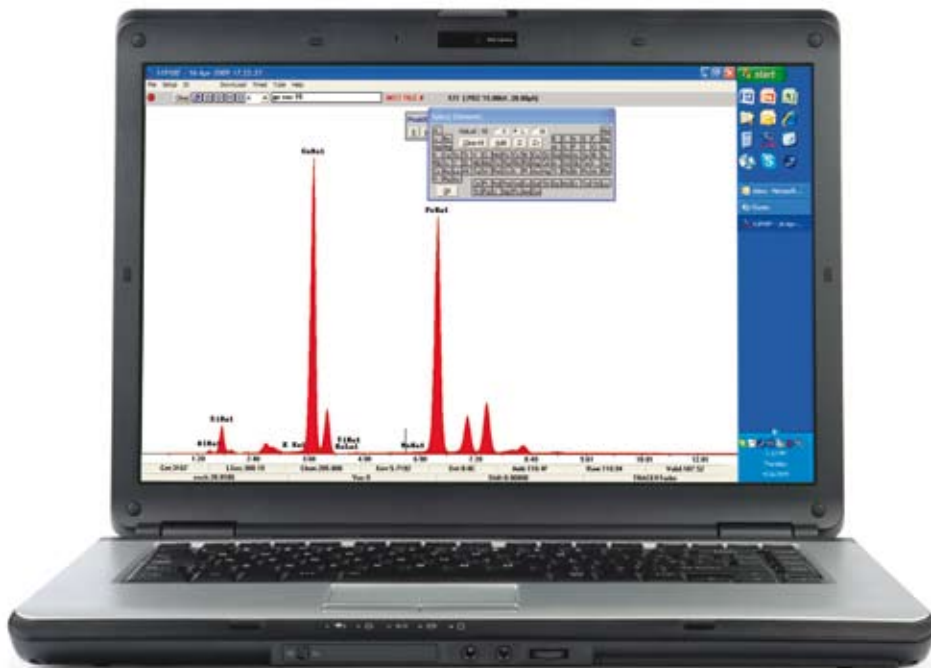
Tracer III-V based on SiPIN detector provides laboratory-level technology in an easily portable handheld device. It enables quick and easy analysis for elements as low as magnesium, as well as full spectral analysis, using Microsoft based analytical software. The use of vacuum technology developed in partnership with NASA enables the analysis of a much wider range of elements than was previously possible in a handheld device.

### Radiation safety

It's worth noting that Tracer contains zero radioactive material, which means much easier licensing requirements, safe transportation, no disposal restrictions<sup>1</sup> and no need for a wipe test every six months. For extra security, the system also comes in a lockable case and is password protected. A sample sensor checks that the sample is correctly in place before x-rays are generated and a cover is supplied to minimize x-ray exposure when measuring small parts.



1. No restrictions related to radioactive material disposal, however, local WEEE restrictions may apply



PC operation of the TRACER III allows the user complete control over the operation and live viewing of the data as it is acquired. The spectral identification feature assists the user in determining what elements are present within the sample. Using the software supplied allows the user to completely control all measurement parameters to achieve the maximum sensitivity for your objects. The Software provided includes:

### **PXRF**

A spectral display program which provides live spectral data for observation during data acquisition as well as peak identification and quantification. This program can also be used to format spectra for inclusion in reports. Spectra collected in the field using the PDA can be viewed on a PC using this program.

### **X-RAY OPS**

The control program which allows the user to control current and voltage of the X-ray tube. This combined with the unique ability to design and use specific filters for specific applications allows the complete control of the excitation parameters of the experiment.

### **CalProcess**

The software necessary to prepare unique calibrations based on your standards. This allows the user to achieve quantitative analysis of the chemistry of your unique samples.

## ● Specifications

Module	TRACER III-V
<b>Weight</b>	2 kg (4.49 lbs) with batteries, 1.77kg (3.9 lbs) base weight
<b>Dimensions</b>	30cm(L) x 10cm(W) x 28cm(H)
<b>Detector</b>	SiPIN Detector
<b>Excitation Source</b>	X-ray tube Rh target standard; Ag optional; Max Voltage 40 kV
<b>Filter</b>	Manual filter for optimal flexibility
<b>Environmental Range</b>	-10C to 50C
<b>Operating Software</b>	Microsoft® Windows Mobile™ 5.0 for Pocket PC Bruker AXS proprietary software
<b>Power</b>	Two (2) Li-ion batteries, 6 hour operating time; AC adapter included
<b>Testing Modes</b>	PXRF software on PC; Empirical calibrations
<b>Security</b>	Sample Present Interlock, No sample (backscatter) shutoff
<b>PDA Display</b>	240 x 320; 65,536 colors; back lit; touch screen
<b>Standard Alloy Calibrations</b>	Low Alloy Steel, Tool Steel, Stainless Steel, Copper/Brass/Bronze FP Calibration including precious metals
<b>Data Storage</b>	512MB Memory Card allows for storage of thousands of spectra and millions of results; larger memory cards available
<b>Data Transfer</b>	ActiveSync via USB or wireless Bluetooth; Memory card
<b>Certification</b>	CE; cTUVus; IEC 61010-1:2002 by TUV Rheinland of North America

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## Professional Support and Service

### Support

Bruker's applications staff has many years of experience working with our customers in the fields of art, conservation and archeology. They will work with you every step of the way beginning with their first visit – they will work with you to determine the best configuration and settings to analyze your artifacts. When the system is installed a member of the application staff will come to your facility to train you and your staff to operate and calibrate the analyzer so that you can extend the use of your analyzer to additional artifacts. If you need help in preparing new calibrations of making particularly difficult measurements our staff is only a call or e-mail away.

### Service

Bruker has been in this business for many years and we understand the critical importance of post-sales service and support to our clients. That's why we not only design our products with maximum up time in mind – we offer a full year warranty. Loaners are available worldwide, delivered right to your door within a matter of days – depending mainly on the speed of the local express carrier. We will provide exceptional service on your instrument from a service center close to you.

We are also a company with global scale and presence. Our support staff are based in offices throughout the world, so knowledgeable and comprehensive service is always close at hand.

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## ● Get in touch

For more details on any of our products, contact your local office.

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