Bruker AXS Handheld

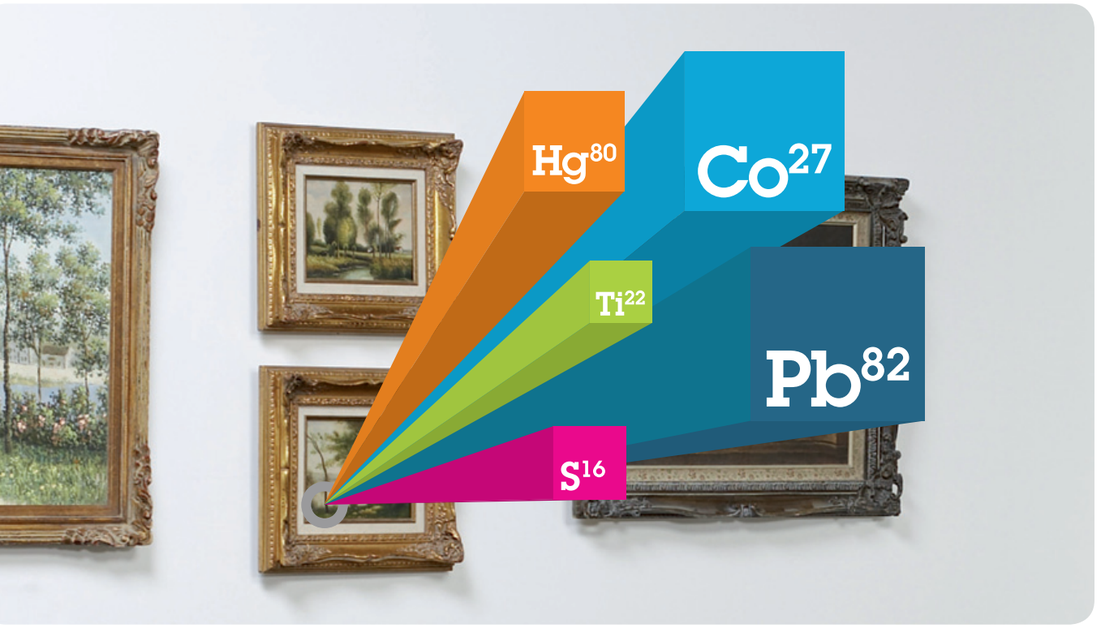
Tracer III-V/III-SD

- 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.

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
- Proprietary X-Flash® SDD technology (Tracer III-SD only) allows measurement of light elements without vacuum or helium
- 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 to either the Tracer III-V or the Tracer III-SD will substantially improve the detection limits of light elements from Mg to Mn. 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. The use of the vacuum pump is essential for light element analysis on the Tracer III-V and while not required will provide the best sensitivity available for light elements on a Tracer III-SD.

Tripod

A tripod is supplied in the standard Tracer III systems. This tripod which supports the analyzer is articulated in all three dimensions 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.

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.

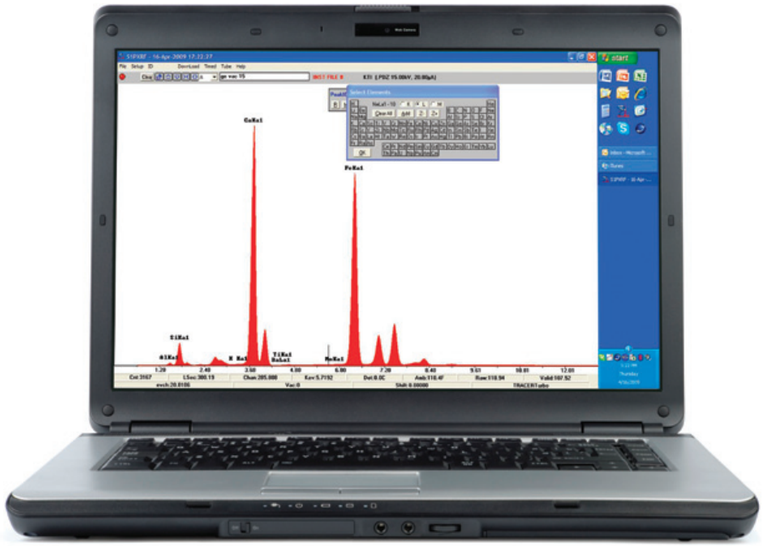
Tracer III-SD

This is the first ever handheld instrument to use Bruker's proprietary X-Flash® SDD technology – something which has previously only been available in large laboratory analyzers. The dramatically enhanced speed and sensitivity are a result of the very high count rate and typical resolution of 145eV at 100,000 cps.

Radiation safety

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

Professional Support and Service

Support

Brukers' 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 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.

Get in touch

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

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