

# XRF- 3000/3000R

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## RoHS analyzer, RoHS tester



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**Analytical Technologies Limited**

An ISO 9001 Certified Company

[www.analyticalgroup.net](http://www.analyticalgroup.net)

The handheld XRF RoHS analyzer can be used to screen consumer products such as children's toys, textiles, leather goods, and electronic device (As), mercury (Hg), chromium (Cr), and other toxic metals to determine whether these products comply with RoHS regulations.

This includes:

- RoHS (Restriction of Hazardous Substances Directive) compliance testing: Pb,Hg,Cr, Br, and Cd;
- Lead-free compliance testing for circuit boards, cables, connectors, and solder;
- Compliance testing for toxic and hazardous elements in batteries, paints, fertilizers, and plastics;
- Compliance testing for hazardous elements in automotive seats, leather, fibers, trim, cushions, etc.;
- Compliance testing for hazardous elements in wood, paper, cardboard, packaging materials, etc.;
- Halogen testing .



## Main advantages:

### System Design Science

The proprietary ULS optical path system effectively reduces interference, improves photon detection efficiency and performance, and its excellent stability and repeatability.

### High hardware and software configuration

Equipped with a new generation of low-power, high-performance multi-core processor and low-noise,high-stability signal processing spectral data calculations and improve detection accuracy.It has built-in dedicated alloy analysis software and advanced X-ray fluorescence spectroscopy integrated touch screen design provides a user-friendly interface and convenient operation.

### Safe and reliable

It displays the X-ray status in real time and has multiple protection functions, including automatically sensing the distance to the object being measured.

The advanced radiation shielding structure module can effectively shield stray X-rays and avoid the risk of radiation exposure for operators.

### Good detection performance

The instrument uses proprietary iX technology, which can effectively improve peak-to-background ratio and resolution while achieving a high photo XRF algorithm, it can achieve high accuracy, stability and repeatability.

### Application areas



### Technical parameters

|                           |  |
|---------------------------|--|
| Measured element range    | From Mg to U   |
| Measurement content range | ppm ~ 99.99%   |
| Instrument size           | 480mm×450mm×305mm  |
| Instrument weight         | 23Kg   |
| Operating temperature     | -10°C to 50°C  |
| X-ray source              | 50KV/1mA   |
| detector                  | Si-pin detector  |
| Filter                    | A programmable 6-bit filter combination that can automatically switch.                             |
| Computer System           | Low-power dual-core, quad-thread processor with a clock speed of 2.3GHz, 4GB of RAM, and a 10.1-in |
| operating system          | Windows 10   |
| Application software      | dedicated RoHS analysis software   |
| Data Interface            | USB 3  |
| Network interface         | RJ45 x 1   |
| powered by                | 220VAC   |
| Safety protection         | X-ray status display, X-ray emergency stop design, radiation shielding design                      |

## XRF-3000



### Application Field:

X-rays refer to electromagnetic radiation with wavelengths ranging from 0.01 to 10 nm, and each element's atom has its own characteristic X-ray spectral line. In an XRF analyzer, a controlled X-ray source emits X-rays to irradiate the object being measured. A portion of the shell electrons of the atoms generate stimulated radiation, releasing X-ray fluorescent photons that characterize the characteristics of the element. The X-ray fluorescent photons are captured by the detector to generate electrical signals, which are amplified, filtered, AD converted, and digitally processed to form spectral information. The spectral information is processed by a specific algorithm to calculate the concentration of the element.



Composition analysis of alloy materials  
RoHS compliance testing



Material Reliability Identification (PMI)



Metal recycling and precious metal analysis

### Working Principle:

XRF alloy analyzer can be widely used in iron and steel smelting, machinery manufacturing, equipment manufacturing, aero-space industry, shipbuilding and automobile manufacturing, metal resource recovery, precious metal production and processing and other fields, and can conduct rapid nondestructive testing of metal material composition.

This product can also be used for RoHS compliance testing to analyze toxic and harmful elements in raw materials.

### Product Advantage:

#### Scientific system design

Ultra short X-ray optical path, effectively reducing interference photon detection  
Improving efficiency and performance

## Strong software and hardware

Ultra short X-ray optical path, effectively reducing interference photon detection  
 Improving efficiency and performance

## Good detection performance

The instrument adopts independent IX technology, which can effectively improve peak to back ratio and resolution while achieving high photon counting rate. Coupled with Elemtrack's XRF algorithm, it can achieve high accuracy stability and repeatability

## Safe and reliable

It can display the X-ray status in real-time automatically sense the distance of the tested object, automatically turn off X-ray excitation, and other multiple protective functions, Adapting advanced radiation protection design can effectively shield stray X-rays and avoid the risk of radiation exposure for operators

## Specifications:

|                        |   |
|------------------------|---|
| Analysis Element Range | From Mg (Ti) to (The detection range varies depending on the configuration) |
| Test content range     | ppm~99.99%  |
| Size                   | 480cm×450cm ×305cm  |
| Weight                 | 25Kg  |
| Working temperature    | -10°C -50°C   |
| X-ray source           | 50KV/1mA. 50%   |
| Detector               | Si-Pin/Fast SDD   |
| Filter                 | Programmed control of 6 filters, capable of automatic switching             |
| Computing system       | Dual core processor, main frequency 2.3GHz, memory: 4G. 10. 1-inch          |
|                        | touch screen  |
| Sample camera          | HD camera   |
| Data interface         | 3 USB ports   |
| Network interface      | RJ45  |
| Application software   | Elemtrack dedicated ALLOY analysis software                                 |
| Safety                 | X-ray status display, emergency stop design, radiation shielding design     |

**Please note that only one mode, either RoHS Mode or Alloy Mode, is provided as a part of the standard configuration.**

**If both modes are required in a single system, the requirement must be specified prior to manufacturing. In such cases, additional hardware/software configuration and corresponding extra charges will be applicable accordingly.\***

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Maldi TOF



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Chromatograph



Flash  
Chromatograph



DAC  
Column



GCMS  
3068



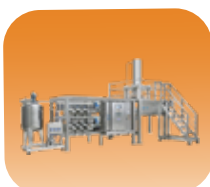
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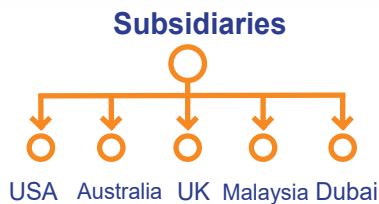
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