

Testing advantage

- Fast nondestructive testing. Fast alloy analysis in 1-2 seconds. Testing for 10 seconds can get the similar precision tested in the lab.
- Professional alloy analysis software. Hundreds of built-in common alloy number. Free switch of interface between Chinese and English. It is easy to be operated for common people.
- Have many alloy analysis modes, including "quantitative analysis mode (ppm)", "qualitative mode" etc. Built-in multi-calibration methods can calibrate deviation caused by different geometric states.
- Unique adjustable basic parameterized technology. Customers can build more and more precise alloy analysis modes.
- Has the dynamic matching information function. It displays testing results, sample number, and matching information on the interface simultaneously. And it can switch between each other.

Technology specification

Model	The 4 th generation EDX analyzer-Genius XRF series
Measurable range	Mg to U
Processor and RAM	CUP: 667MHz RAM:256M Maximum expanded storage: 32G Standard configuration: 2G , for storage of large amounts of data.
Content range	ppm~99.99%
Testing time	3-30 seconds
GPS、WIFI	Built-in system of GPS & WIFI
Battery time	Chargeable lithium battery, with capacity of 7800mAH, continuously providing 8 working hours ; Equip with wide voltage (110V-220V) general adapter
Testing object	Solid, liquid , powder
Detector	25mm ² 0.3mil,SDD detector
Detector resolution	Minimum resolution:139eV
Excitation source	Target: Ag High voltage: 5-40kv Tube current: 1-100 uA
Collimator and filter	Collimator kinds: 2 (4.0 mm and 2.0mm diameter) Filter types: 6 Automatic switch: YES
Video system	HD CMOS camera
Screen	TFT-LCD touch screen resolution 640*480
Detection limit	Detection limit: ppm level
Safety	Self-contained password manager mode
Gas charging system	Optional: Helium charging at ordinary pressure
Operational environment	Humidity ≤90% Temperature -20℃ ~+50℃
Size	234×306×82mm (L×H×W)
Weight	Net weight:1.6kg Battery weight: 0.3kg

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Test data in this manual, if not noted, is our company's test data.
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Rapid | Accurate | Non-destructive

Up to now , there are 99 countries and regions choosing Skyray Instrument

Genius 5000 XRF

Handheld Alloy & Stainless Steel Analyzer



Super small,light,beautiful, safe, convenient,long standby time, waterproof, precise and fast

The ISO 9001:2008 international quality certification system is adopted by our company

www.skyray-instrument.com



Genius 5000 XRF

Handheld Alloy & Stainless Steel Analyzer

The new generational Genius 5000XRF series are designed according to the applications of on-site X-ray analysis in the wild, featuring small and light body, which can be held in hands by common people when measuring. It is super small, super light, super beautiful, super safe, super convenient, super long standby time, super waterproof, super precise and super fast. Digital multi-channel technology make the instrument have better detection limit, better stability, and wider application fields.

This series of products has passed strict testing and inspection, and all index are accorded with the related technological requirements, reaching the international advanced level.

Performance Advantage

01 Perfect performance as desktop

Introducing three core technology of small power window integrated miniature X-ray tube, large dimension beryllium window electric-cooling SDD detector(the best detector in the world), and miniature digital signal multi-channel processor, they greatly reduce the testing time and test deviation, and improve the detection precision, which make it have the similar performance as the desktop.

02 Small body, easy to carry and operate

Small body. Easy to carry. Convenient for wild work. Can operate on-site and in-situ analysis at anytime or anywhere.

03 Nondestructive detection

No destruction to samples

04 Fast detection

Instrument not only can operate fast detection with handheld type within 1-2 seconds, but also can operate longtime precise detection with desktop type(plus a pedestal).Test for 10 seconds, it will have the similar precision tested in lab.

05 Newly added light elements detection function

Compared to handheld X-ray fluorescence analyzer of the third generation ,it is added the gas charging system, which can charge helium at ordinary pressure .Thus it can detect the elements from Mg, greatly expanded the detecting range of elements, satisfying the requirements of customers for light elements detection.

06 HD camera, more accurate testing

Built-in HD camera, can observe the testing position at any time.

07 Direct testing

It can detect the objects directly, no need of samples. It can analyze various kinds of samples, including electronic products, alloy, geology and mining, soil, rock, residues, small solid particles, liquid sediments etc.

08 Easy for calibration of deviation

Multi-testing modes and free adding of infinite modes, coordinated with automatic testing mode matching functions, it achieves the easy test with one key pressing. Built-in intensify calibration methods, it can calibrate the deviation caused by different geometry shapes and inhomogeneous structure density.

09 Professional software, easy to operate

Professional software of alloy analyzer. Brand new software interface and core, combined FP with EC software, it has wider application fields.

10 The collimator filter, improving 3 times of efficiency

On the basis of the combination of collimator with filter, the instrument increase them from 4 groups to 12 groups, thus increasing 3 times of efficiency.

11 Faster data transmission

Embedded Window CE system, HD touch screen (resolution 640*480), digital multi-channel technology, and SPI data transmission, effectively improve the data transmission ability and counting ability, mastering testing data in every environment.

12 Radiation protection, care for health

Triple safety protection function, automatic sensation, automatically shut-down of X light pipe within 2 seconds with no sample in testing; The radiation level is far lower than the international safety standard when working, with no radiation leakage; accompanied with test safety cover.

13 Strong power, convenient to charge

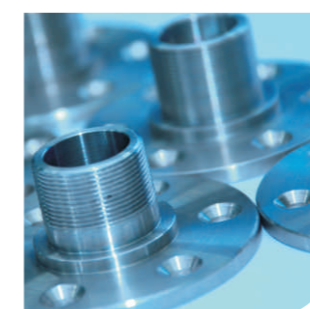
Lithium battery, with maximum capacity of 7800mAH, can continuously work for 8 hours, whose endurance are 2 times longer compared to last three generations .And equip with wide voltage ac charger or vehicular charger ,which ensure the test at any place or any time.

14 Warning instructions prevent for mistaken operation

Equipped with warning instruction system, green light flashes when the power is on and the yellow light flashed when testing, which prevent for mistaken operation.

15 Multiple protection and durable

The instrument has waterproof and dustproof function and can continuously work under high temperature and humidity. Its protection boxes are manufactured with high strength military material, which enjoy with well moistureproof, shockproof, and pressure resistant functions.



Application Field

Genius 5000XRF can be widely used for various kinds of alloy analysis. The analytical precision is 2 to 3 times more precise than common alloy analyzer. The sample can be solid, debris, or other tangible alloy objects.

It can accurately analyze all kinds of high and low alloy steel, stainless steel, tool steel, chromium/ molybdenum steel, nickel alloy, cobalt alloy, nickel/cobalt heat resistant alloy, titanium alloy, copper alloy , bronze, zinc alloy, tungsten alloy etc. Through determination of other alloy elements, it also can determine the light alloy such as Al, Mg and can be use for reliable identification and confirmation of material. It can be applied for incoming material determination in iron and steel smelting, boiler and other high-temperature and high-pressure industries, to ensure the quality of the material. It also can be used for alloy content analysis in shipbuilding, aerospace and other high-tech industries, to ensure the quality and safety of the product. It can be applied in power plant and other national economy and people's livelihood industries for components determination and safety of the devices.

While according to scrap metals recycling and utilization industries, it can quickly analyze and categorize a large number of scrap metals, offering the necessary information for both sides in purchasing and selling. It is the powerful weapon for metal and steel identification in renewable and reusage of scrap metals resources industry, which greatly contributes to the development of resource recycling industry. It also can be applied for recovery of steel backlogged in warehouse, classification of various metals in salvage station, and cutting of turnery and debris.

Application Case

• Reliability Analysis:

Simply trigger the instrument; you will know the material content. Now you do not need the material reports, the only need that is to have our fourth generational handheld Genius5000. With 10 seconds of nondestructive testing to the sample, you can know the quality and quantity of the material, which can prevent the cheat from the material provider.

• Quality Guarantee/Quality Control

During the process of alloy material production and machinery equipment manufacturing, material identification and element testing is indivisible. To prevent the lost caused by the mixture of raw material, the fourth generational Genius5000 provides professional nondestructive testing, which effectively prevent the lost from mixture of raw material.

• Recovery of Scrap Metal

The fourth generational Genius5000 provides the immediate nondestructive testing from titanium alloy to nickel alloy, widely applied for classification of various kinds of alloy material.

Core Application Field:

Iron and steel / Recovery of scrap metal / Machinery manufacture and process / Boiler pressure vessel

Analytical precision

Measuring precision of main elements in stainless steel 304 testing for 10 seconds

	Cr	Mn	Ni	Cu	Mo
Average value	18.232	0.926	8.072	1.236	0.288
Standard deviation	0.072	0.055	0.086	0.043	0.008
Relative standard deviation (%)	0.395	5.936	1.067	3.506	2.693

Amplified Figure of Ni Content as 0.108% in Stainless Steel

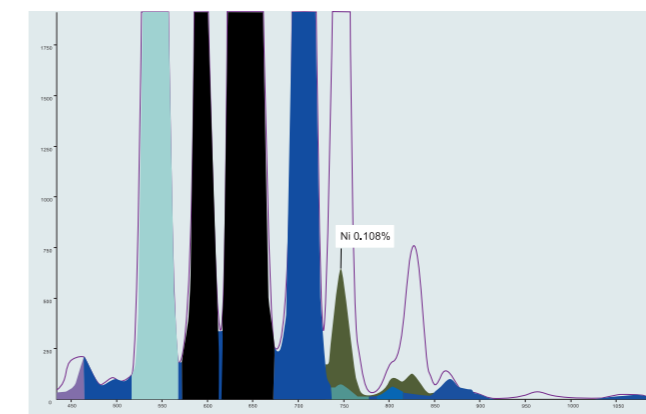


Figure of Stainless Steel Sample Whose Alloy Number Is 316

