

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

TO BE A WORLD-LEADING ANALYTICAL TESTING SOLUTIONS PROVIDER !

Spectroscopy

Chromatography

Mass Spectrometry

**A new generation
the leader of handheld XRF**
EXPLORER 5000 Handheld alloy analyser



Rapid| Accurate| Non-destructive



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Test data in this manual, if not noted, is our company's test data.
All information in this manual is for reference only, which is subject to any change without notice.

Version number:TRVH 150407 B22



115 countries®ions are using Skyray Instrument up to now



A new generation, the leader of handheld XRF

The EXPLORER 5000 Handheld alloy analyser

Sporting an intelligent alloy database with over 500 alloys

The Explorer 5000 can make accurate and nondestructive detection on a variety of precious metal alloys, low alloy steel, stainless steel, tool steel, chrome / molybdenum steel, nickel alloys, cobalt alloys, nickel / cobalt-resistant alloys, titanium, copper alloy, bronze, zinc alloy, tungsten alloy etc. Knowing the materials composition and alloy grade in two seconds. Rapid detection on aluminium and magnesium alloy grades is possible. The Explorer 5000 enables reliable identification and confirmation of the material (PMI) and giving precise control over a materials quality.

EXPLORER 5000

Rapid and accurate on-site analysis of alloy kinds and elements

Based on 10 years of research and development in handheld x-ray fluorescence, the Explorer handheld XRF sees the materialisation of many Independent Property Rights, incorporating the latest developments in photoelectron systems, microelectronics, semiconductor technology capable of delivering results in less than 2 seconds. The Explorer 5000 handheld alloy analyser is the first to use a large high-resolution LCD screen and incorporates the new digital signal processor with minimum detection limits making its performance as good as the desktop machine. With its small size and light weight, the Explorer 5000 truly is the ultimate portable alloy analyser for use on the factory floor, laboratory or in the field.

» Application field

- Precious metal alloy
- Iron and steel smelting
- Waste metal recycling
- Machine manufacturing and processing
- Boiler pressure vessel
- Aerospace industry
- Shipbuilding
- Fabrication
- ...



Raw materials testing

Reliable identification of materials

In the process of alloy material production, processing and machinery manufacturing it is essential to rapidly and accurately identify materials. The Explorer 5000 nondestructive detection can effectively prevent the mix of raw material and avoid unnecessary loss.



Quality assurance and control

Quality control in industrial production

The Explorer 5000 with its rapid nondestructive detection is widely used in quality control and management in the manufacturing process of aerospace, steel smelting, boiler industry and other high-temperature and high-pressure industries to ensure material the highest quality and safety.

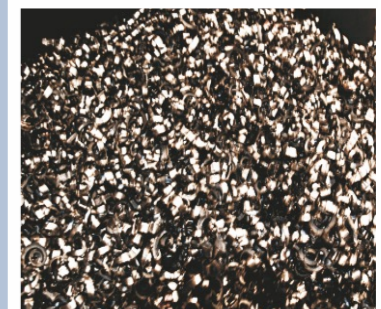


Quality control on industrial products



Waste metals recycling and reuse

The EXPLORER 5000 is a powerful tool enabling fast and clear identification of material in the waste metal recycling industry.



Waste and old metals recycling

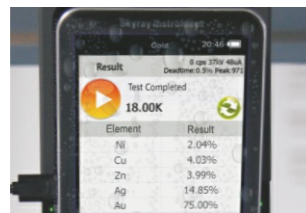
A new generation, the leader of handheld XRF EXPLORER 5000

» Six advantages

Easier Operation



Exclusive instrument bumper



Water proof and dust proof



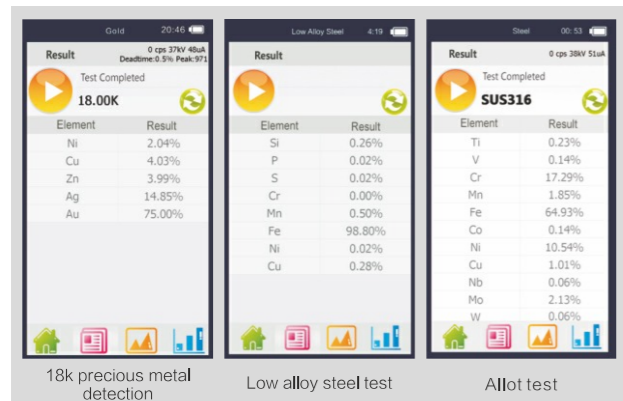
360° rotatable high-definition screen



Portable test bench

- Small, lightweight, more ergonomic design for more comfortable and balanced easier operation and a heavy duty instrument case for ensures safe transportation of the instrument.
- 5 inch high-definition screen with 360 degree rotation, clearly easily displays results in low visibility conditions.
- Waterproof and dust-proof design the for use in harsh environments.
- No need for sample preparation; the surface of samples can be tested directly. The instrument can be used in both handheld mode to quickly test a sample or be clipped into the desktop test-stand for more routine testing.

Better Performance



18k precious metal detection

Low alloy steel test

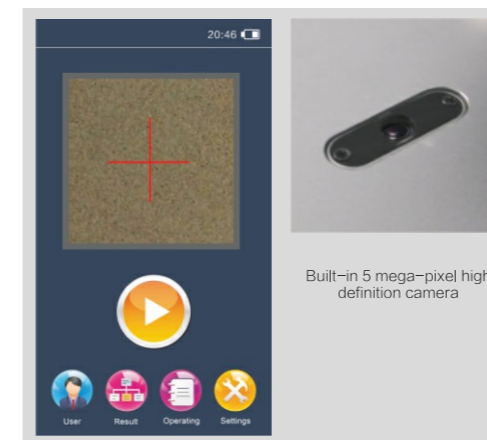
Allot test

- Rapid nondestructive detection and measurement with quick point and click operation giving results within two seconds and a performance comparable to that of a desktop machine.
- Simultaneous detection of Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, Zr, Nb, Mo, Ru, Rh, Pd, Ag, In, Sn, Sb, Hf, Ta, W, Re, Pt, Au, Pb, Bi, Mg, Al, Si, P and; further elements can be added to meet the customer's requirements.
- Detection of light elements without helium gas due to the new optical path configuration.

Long Battery Life

- Rechargeable 9000 mAh lithium battery with up to 12 hours work time on a single charge.
- Optional large 27,000 mAh lithium battery giving up to 3 days operating time. Equipped with power adapter/charger and 12V car charger to ensure the analyser can be powered no matter where you are.

Higher Configuration



Built-in 5 mega-pixel high definition camera

- The four core components, which include the Miniature X-ray tube, SDD or optional Fast-SDD detector (the World's best detector), digital signal processor and micro multi-channel intelligent analysis module enable an accuracy comparable to a desktop machine to be achieved.
- Skyray patented digital multi-channel technology ensures up to 500k cps (spectral counts per second).
- Automatic collimator and filter system make the Explorer able to meet wide ranging testing requirements and applications.
- A built-in 5M pixel high-definition camera clearly displays the test point on the sample position increasing accuracy in results.

Safer Protection



- Intelligent 3 colour early warning system lets the user know the status of the instrument: Green to indicate power on, flashing red to indicate testing and flashing yellow for fault indication.
- Triple safety protection:
 - a: Sample detection. X-ray tube shuts off if no sample is detected.
 - b: Thicker wall structure preventing radiation leakage and scatter.
 - c: Safety protection cover to prevent radiation scatter/back scatter.
- Security link locking device as a final safeguard if the software is unable to control switching off the instrument.

More intelligent software

- The Explorer 5000 alloy analyser is equipped with a professional application software specifically designed for the alloy industry featuring an intelligent intuitive software interface for easier and quicker operation.
- Software featuring two operator modes 'user' and 'expert':
 - User mode for quick one step day-to-day testing by inexperienced staff.
 - Expert mode for experienced users wanting more detailed analysis and advanced parameters.
- Improved algorithms include an internal intensity correction method to correct deviations caused by uneven samples with different geometries, densities and structures.



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» Performance technical data

Analytical Method	Energy dispersive X ray fluorescence analytical Method
Elements Measuring Range	Atomic number from 12 to 92 [elements from magnesium(Mg) to uranium (U)] can be measured
Simultaneous detector elements	Simultaneous analysis 40 elements
Microcomputer system	Customized system; CPU: 1G ; system memory: 1G ; extended stored maximum support 32G ; standard 4G for mass storage data
The content range	ppm~99.99%
The detection time	1 ~ 60 seconds (a second report results)
A built-in system	GPS, WIFI, Bluetooth
Power Supply	Rechargeable lithium battery, standard is 9000mAh, sustainable work up to 12 hours; optional is 27000mAh superbattery with wide voltage 110V ~ 220V universal adapter for recharging power supply
Detection Objective	Solid, liquid, powder
Detector	SDD detector or Fast-SDD detector (optional)
Detector resolution	Minimum can reach 128eV
The excitation source	50KV/200uA- silver target end window integrated miniature X ray tube and high voltage power supply
Collimator and filter	Collimator diameters are 4.0mm and 2.0mm, 6 kinds of filters with automatic switching functions
Video system	5M pixel high resolution camera
Display screen	Brand new 5 inch transfective LCD touch screen, with resolution 1080x720
Detection limit	The minimum detection limits at 1 ~ 500 ppm
Safety	Multiple safety protection, no tests, no radiation, radiation levels at work are far below the international safety standards, and has no sample telemetry, automatic shut X light tube function. Standard radiation shields, thickened wall alloy test instrument
Specialty	Ore special edition analysis software, using intelligent one key test
Convenience of application	Key intelligent matching the best curve that no need to select curve
Data transmission	Digital multi-channel technology, SPI data transmission, quick analysis, the high count rate; waterproof mini USB, and can be connected with a desktop computer
Operating ambient humidity	≤90%
Operating environmental temperature	-20 ~+50
Instrument dimension	244mm(Length) x 90mm(Width) x 330mm(Height)
Instrument weight	1.7Kg
Intelligent warning Signal Indicator system	Green light means power on, red flashing means testing and yellow flashing indicates a fault
Accessories	Military grade sturdy lockable protective case; waterproof and shock absorption. Universal charger and car charger, 4G SD memory card and card reader Two lithium battery and charger, PDA accessories, radiation shield. Optional accessories: the large battery, desktop test-stand.

» Exclusive accessories

Battery and desktop charger:
Battery capacity of 27,000 mAh
prolonging test time 3 times.

On-site printing via portable
optional Bluetooth printer.

4-into-1 12V car charger
and 12V power adapter
for power in the field.

Optional Desktop
test-stand.

Heavy duty high-strength protective box,
for good moisture-proof and shockproof
protection.