

New Generation

XRF Handheld Spectrometer for Minerals

Model : TM-EXP7000



TM-EXP7000 XRF Spectrometer for Minerals. Mineral Ore Analyser



Rapid | Accurate | Non-destructive

TM-EXP7000 Handheld XRF Spectrometer

TM-EXP7000 Handheld XRF Spectrometer introduces digital multi-channel technology, lower detection limits, better stability, wider application range, and comparable performance with bench top; small and convertible size for all kinds of geological ore prospecting, multi elemental detection and analysis in exploration, refining slag, gives full play to the role of the analysis, makes the prospecting work more simple and easier.

Application advantage of Geology and mineral resources:

1. Personalized customization work mode

Selections of various Ore- sample- models and free to add unlimited- number- models, the work model can be customized by customer's demand.

2. The accurate definition of mining boundary

The built-in GPS function helps to receive signals from satellite anytime at anywhere, and can records the measurements of altitude, latitude and longitude during anytime of testing period, which determine the geographic location information of sampling points, and save as test reports automatically. It can draw the ore distribution picture by obtained coordinate analysis data, then rapidly screen large area range and accurately grasp the lode mine, then define the mining boundary,

in order to prior to find rich mining area to improve the production efficiency.

A built in Bluetooth function, which can recognize the key mining areas on site if collocate with a Bluetooth printer.

3. Fully discover the mines value

HD camera, can observe the detected vein or point position more intuitive, can better manage and control the process of mining exploitation, and can detect the grade of ore at any time.

Quick and accurate analysis of raw ore, concentrate and tailings during ore dressing provides the value judgment basis for the determination of ore grade, mineral trade, processing and recycling.

4. Environmental monitoring

To monitor and detect the heavy metals in the soil around the mine, evaluation of mine repair environment, to maximize monitoring the environment surrounding by good mine.

5. More intelligent software

Handheld XRF Spectrometer EXPLORER 7000 ore analyzer is equipped with professional application software, specifically for ore industry; the feature is intelligent, high sensitivity, fast testing time, and easy operation.

6. Stronger Battery

Large lithium battery at 27000mAh could be as a selected configuration; the battery duration working time is up to three days, and it equipped with communicator and car charger to ensure power supply.

A Built-in memory battery can continue replace the battery power.

7. Easier Operating

Light weight, small size, display clearly at any lights, waterproof and dustproof(IP64), can measure the surface of the rocks or minerals directly without sample preparation.

8. Rapid Non-destructive detection and quick measurement by aiming, report results within one second, can detect the light elements directly.

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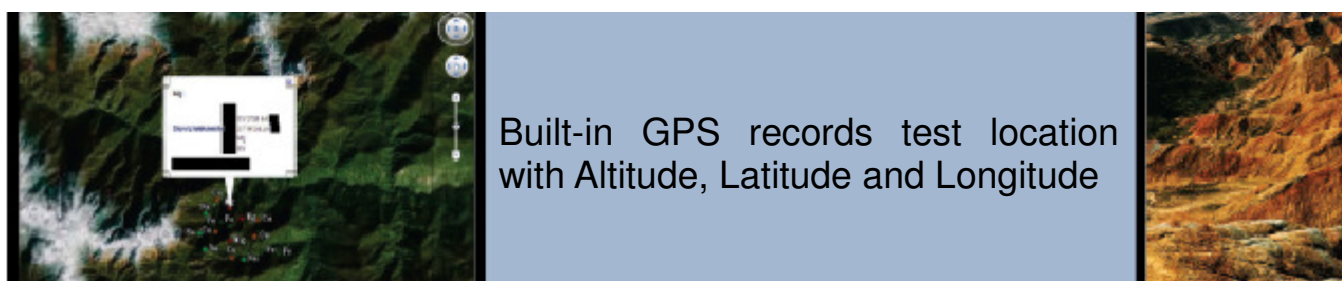
www.instrumentsgroup.co.za





Based on ten-year research and development experience in Handheld X-Ray Fluorescence, our 5th generation EXPLORER handheld XRF adopts photoelectron, microelectronics and semiconductor technology to deliver results in less than 2 seconds. TM-EXP5000 handheld mineral analyzer is the first to use large high-resolution LCD and the new digital signal processor. The minimum detection limits make its performance equal to Desktop XRF. Small and lightweight, TM-EXP7000 can analyze any sample large or small, in the lab or in the field.

The lab is in your hands with instant on-site results



Built-in GPS records test location with Altitude, Latitude and Longitude

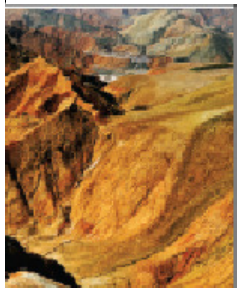


TM-EXP7000 Handheld Mineral Ore Analyzer

Make accurate and non-destructive analysis anywhere on a variety of minerals and raw ore with the new TM-EXP7000. Reliable and Effortless Geological mine prospecting while obtaining results as fast as 2 seconds. Monitor the mines surroundings for heavy metals in the soil to evaluate mine environment and potential.

Quickly and accurately identify the location of ore deposits

Analyze for light elements without any helium



Multiple calibration modes for different mining environments



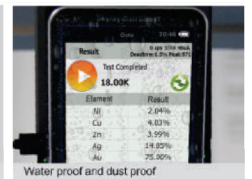
Advantages.

Easy Operation.

- Lightweight and ergonomic design is more convenient to use in the field, heavy duty travel case ensures safe transportation of the instrument.
- 5 inch high-definition screen with 360 degree rotation displays results clearly at low visibility conditions.
- Avoid sample preparation and directly measure raw materials in the field or in the lab with Portable table stand.
- Waterproof and dustproof design, Explorer XRF can be used in harsh environments.



Exclusive instrument bumper



Water proof and dust proof



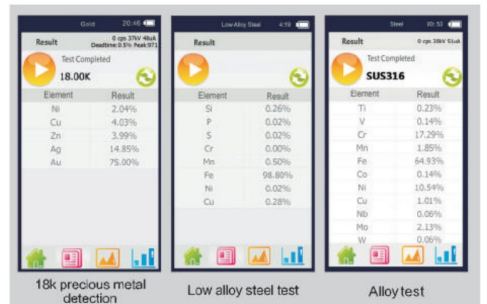
360° rotatable high-definition screen



Portable test bench

Best Performance.

- Rapid non-destructive detection and quick measurement with results within two seconds. With performance similar to most bench-top XRF Models, Explorer XRF sets a new standard for Handheld XRF Analyzers.
- Fast analysis 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, S. Other elements can be easily added as per customers application.
- Detect the light elements without helium gas.



18k precious metal detection

Low alloy steel test

Alloy test

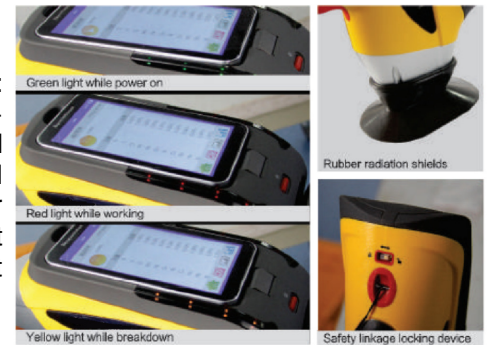
Extended Battery Life.

- Rechargeable 9000mAh lithium battery with up to 12 hours work time on a single charge
- Optional 27000mAh lithium battery with up to 3 days work time on a single charge



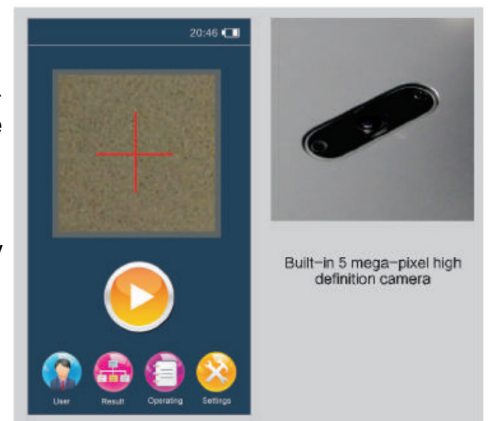
Higher Configuration

- Bench-top XRF accuracy is possible thanks to four core components: Miniature X-ray tube, SDD or optional Fast-SDD detector, digital signal processor and multichannel intelligent analysis module patented digital multi-channel technology features up to 500K CPS (spectral counts per second) Automatic collimators and filters make Explorer able to analyze different applications and ensure Explorer can meet many testing requirements Users can observe samples position at any time thanks to built-in 5 mega-pixels HD camera



User Protection

- Multi-colour warning system lets the user know the status of the instrument: Green light for power on/stand by, red flashing LED while testing, yellow flashing in case of malfunction.
- Multiple safety protection features:
 - X-Ray tube shuts off automatically without sample
 - Thick Steel Structure with heavy Lead coating prevents any X-Ray leaking
 - Rubber Shield prevents X-Ray scattering
- Manual Security Interlock blocks software control of the instrument



Intelligent Software

- EXPLORER XRF analyzer comes with our newest software which simplifies user training and operation. Unlike other Handheld XRF Spectrometers, Explorers easy-to-use interface allows anyone to operate the instrument.
- The software features two user modes:
 - Operator mode-simplifies operation with one step testing for quick day-to-day testing by inexperienced staff.
 - Expert mode – for experienced users looking for in-depth analysis and advanced features



Accessories.



Specifications:

Model	TM-EXP7000 Handheld XRF Spectrometer
Analytical Method	Energy dispersive X-Ray fluorescence analytical Method
Elements Measuring Range	Atomic number from 12 to 92 [elements from Mg (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 super battery 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 125eV
The excitation source	50KV/200uA- Rh 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	500W pixel high resolution camera
Display screen	Brand new 5 inch transfective LCD touch screen, the resolution is 1080*720.
The limit of detection	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°C ~ +50°C
Instrument dimension	244mm (Length) x 90mm (Width) x 330mm (Height)
Instrument weight	1.7Kg
Intelligent warning signals Indicator system	Green light means power on, red flushing means testing and yellow flushing means the problems.
Accessories	3 Military Protection Box for compression, 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, seat type test support, Bluetooth printer, mill, manual pressure machine, and other options can to choose.