

Application Advantages for Heavy Metals

- Applied for soil pollution testing caused by mercury, cadmium, lead, arsenic, copper, zinc, nickel, cobalt, and vanadium
- Detecting and mapping pollution areas
- Rapid discovering and solving abnormal conditions
- Rapid tracing of abnormal pollution and effectively searching and circling pollution areas
- Rapid on-site & in-situ testing of heavy metals in soil
- Rapid classifying various kinds of residential lands, commercial lands and industrial lands into 3 levels, named level 1, level 2 and level 3
- Connection of PDA to GIS system for drawing maps
- Equipped with digital multi-channel technology, it operates more rapid qualitative and quantitative analysis. Designed with high statistical counting rate, it greatly improves the stability of the instrument which is much more important for heavy metals testing, because of the low content of heavy metals in soil.
- Outstanding resolution greatly reduces the interference of arsenic and iron to lead and nickel. Its extremely low detection limit perfectly fits to heavy metals detection for environmental protection.

Performance index

Measuring 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
Analytical range	ppm~99.99%
Testing time	3-30 seconds
GPS, WIFI	Built-in GPS & WIFI system
Battery	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 ,SDC
Detector resolution	Minimum resolution:139eV
Excitation source	Target: Ag High voltage: 5-40kv Tube current: 1-100 μ A
Collimator and filter	Collimator kinds: 2 (4.0 mm and 2.0mm diameter) Filter types: 6 Automatic switch: YES
Video system	CMOS HD camera
Screen	Semi-transmission & semi-reflection LCD touch screen, resolution 640*480
Detection limit	Detection limit: ppm level
Safety	Self-contained password administration
Testing window	ϕ 12mm
Gas charging system	Optional Helium charging system
Operational environment	Humidity < 90% Temperature: -20 $^{\circ}$ C~+50 $^{\circ}$ C
Size	234*308*82mm(L*H*W)
Weight	Net weight:1.6kg Battery : 0.3kg

Rapid | Accurate | Non-destructive

Genius 9000 XRF

Heavy Metals in Soil Handheld Analyzer



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Genius 9000 XRF

Heavy Metals in Soil Handheld Analyzer

Performance Advantage

Perfect performance

Small power integral end-window miniature X-ray tube, large dimensional beryllium window Silicon Drift Detector (SDD), the best detector in the world, and miniature digital signal multi-channel processor, greatly reduce the testing time and testing deviation, and improve the testing precision.

Rapid & nondestructive detection

1-2secs for rapid detection. More than 10secs for precise detection, whose results are similar to the results gotten in lab. No destruction to samples.

Detection of light elements

Helium-charging system (optional) greatly expands measurable range (analyze elements from Mg), satisfying the requirements of customers for light elements detection.

HD camera for convenient observation

Observation of testing position at any time.

Direct testing

directly analyze on the surface of the analytes, without needing of preparing samples.

Professional software for easy operation

equipped with professional soil analysis software. Combining FP with EC software, it is easy for operation and acquiring wider application fields.

Simple deviation calibration

Built-in intensify calibration method ensures simple deviation calibration caused by different geometry shapes and inhomogeneous structure density.

Faster data transmission

Built-in system, HD touch screen (resolution 640*480), digital multi-channel technology, and SPI data transmission technology, effectively accelerate the data transmission and improves the counting ability.

Simultaneously testing elements

It can detect the elements such as Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Cd, Sb, Hg, Pb. And it can detect more elements according to the customers' requirements.

Multiple safety protection,

Automatically shut-down of X-ray light tube within 2 seconds with no sample in testing; the radiation level is far lower than the international safety standard; compliment away test safety cover.

| Accurate | Rapid | Non-destructive |

Application Cases:

1. Heavy metals detection in soil

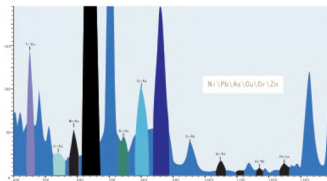
Simply trigger the instrument, and you will know the trace metal elements in soil.

2. Emergency treatment after heavy metal pollution

Can quickly on-site trace the pollution and circle the polluted boundary.

3. Screening of heavy metals polluted samples in large amounts

The fourth generational handheld Genius9000 can circle the key pollution areas in very short time, for key management. Can rapidly distinguish the polluted areas and non-polluted areas. It improves the screening and productive rate integrally, and greatly reduces the cost of chemical examination and transportation.



The figure of sample testing for 30 seconds

Sample	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Sb	Hg	Pb	Cd
07425_1	3811	73	52	566	2.95	10	26	25	63	6	0	1	0	26	0
07425_2	4056	72	54	541	2.95	9	28	18	72	5	0	0	0	28	0
07425_3	3724	68	45	555	2.92	11	28	25	69	8	0	1	0	20	0
07425_4	3980	51	65	602	2.94	12	29	27	70	7	0	0	0	26	0
07425_5	4036	62	51	580	2.95	10	28	29	75	5	0	0	0	27	0
07425_6	4044	75	55	564	2.95	14	25	16	64	5	0	0	0	25	0
07425_7	3794	63	58	575	2.97	14	30	26	70	5	0	0	0	24	0
Average value	3939	65	55	570	3	12	28	24	70	6	0	0	0	25	0
Standard deviation	144	9	7	21	0	2	2	5	4	1	0	0	0	3	0
RSD/%	3.64	13.14	12.28	3.72	0.51	17.71	5.98	22.32	5.19	22.79	0.00	244.95	0.00	11.31	0.00