



## Technical parameters and specifications

Weight	1.5Kg
Dimensions	254 x 79 x 280 mm (L x W x H) .
Excitation source	Up to 50KV/200μA, tube pressure and tube flow can be adjusted freely, Target Ag (standard), Au(optional), W(optional), Rh(optional).
Detector	BOOST Si-PIN detector for TrueX 900. SDD detector for TrueX 960.
Range of detection	All elements between Mg and U.
Display system	Industrial resistive touch screen with screen size of 4.3". Professional operating system and software. Multiple languages including English and Chinese. And it automatically adjusts display brightness according to the environment brightness.
Data processing	32GB memory. USB, Bluetooth, wifi can connect the device to the Internet, repair and setup can be done remotely. Data can be exported as EXCEL or PDF. Users can customize the reports by adding their company logos, addresses, test results, spectrum and others (such as product description, origin and batch number).
Heat dissipation	Equipped with a dedicated T-shaped radiator to dissipate the heat; no need to wait for cooling of detector.
Safety	Built-in double beam technology can automatically sense whether there is a sample at the measurement window. This is also a safety and protection feature. Waterproof, dust-proof and shockproof suitcase. LANScientific Safety Band.
Power supply system	Intelligent battery with MSBUS bus, real-time monitoring battery, spare battery can directly check the remaining capacity of the battery, the battery complies with air dangerous goods transport regulations. A single battery can work for about 8 hours..



**TrueX 900/960**  
HANDHELD MINERAL ANALYZER





## Application and Usage

### Analysis of ore types

- Iron ore (hematite, titanium, iron, etc.)
- Copper (chalcopyrite, cuprite, malachite etc.)
- Chromium (chromium spinel, chromite, chrombismite etc.)
- Molybdenum (copper molybdenum, molybdenum, tungsten and molybdenum ore etc.)
- Tungsten (tin tungsten scheelite, wolframite, etc.)
- Tantalum ore (tantalite columbite, pyrochlore, etc.)
- Lead-zinc ore (galena, sphalerite, cerussite etc.)
- nickel laterite ore, copper nickel sulphide etc.
- Gold in ore or alluvial gold detection

Exact grade evaluation for high grade and beneficiated ores, then provide value foundation for ore trade, processing and recycling.

The relict ore element analysis in slag and tails to rejudge the value.

Conduct QC in ore mining, boring, grinding, concentration and smelting, then confirm grade, make analysis to filter weld pool, storage pool and steel tank liquor.

Quick census for superlarge range mine area to determine zone mode, draw mine map and timely prospect effectively.

Site quickly trace mineralized abnormality, seek hotspot zone and delineate ore boarder effectively.

Accurate analysis for millhead, concentrated ore and slag to build high efficiency mining and gathering process.

Through site analysis, mine field and grade control on material delivery, ore concentrate and slags, you can confirm or track the procedure validity of refining or concentration.

By time analysis several samples on the spot, you can guide exploration plan then manage excavation and explosion effectively.

Determine the geological composition of soil, sediment or drilling sample locally to control prospecting cost.

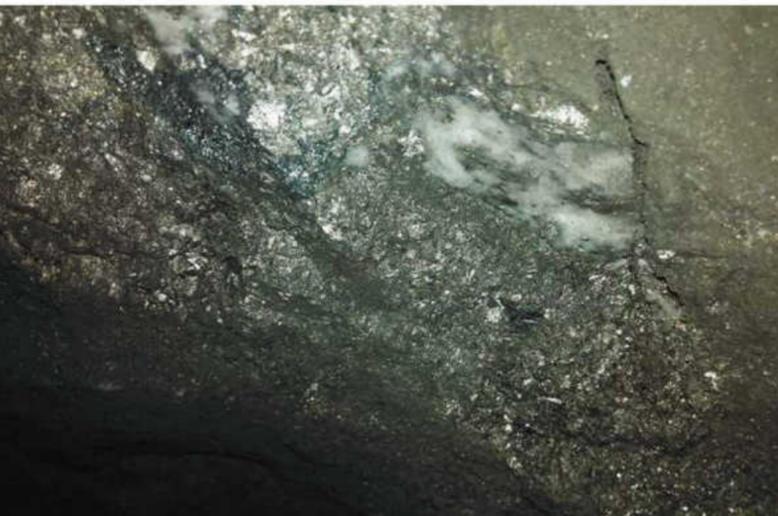
Apply with GIS/GPS to make detailed decision then can save much time and labor cost.

Multi-elements site fast analysis can be used in procedures in census and sift, then track mineral content abnormality and expand survey range. It can decrease samples amount sending to lab then save transportation and analysis cost.

Judge ore vein trend and mineral boundary then manage and control mining to detect mineral grade at any time.

Analyze rock core and other drilling samples quickly, then establish mine 3D graph to analyze composition, which can enhance site decision efficiency largely.

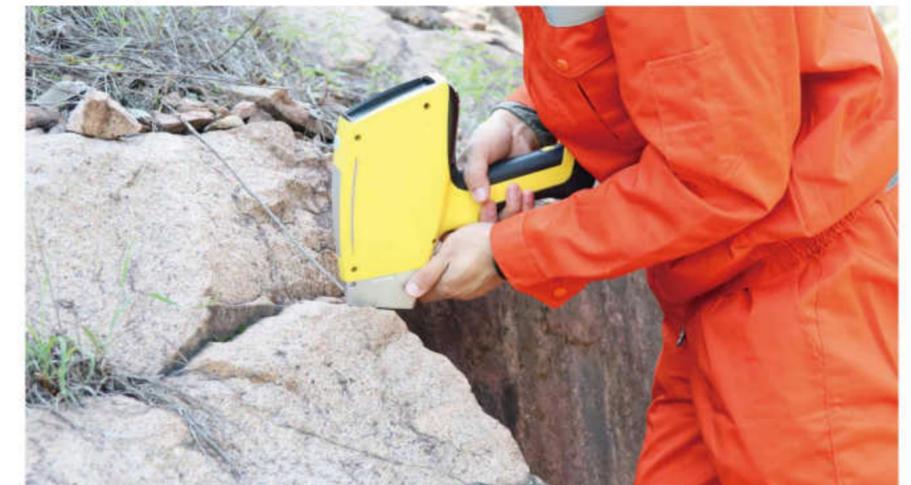
Analyze and test mine surrounding environment, slags, dust and soil pollution, then evaluate mine mountain condition renovation effect.

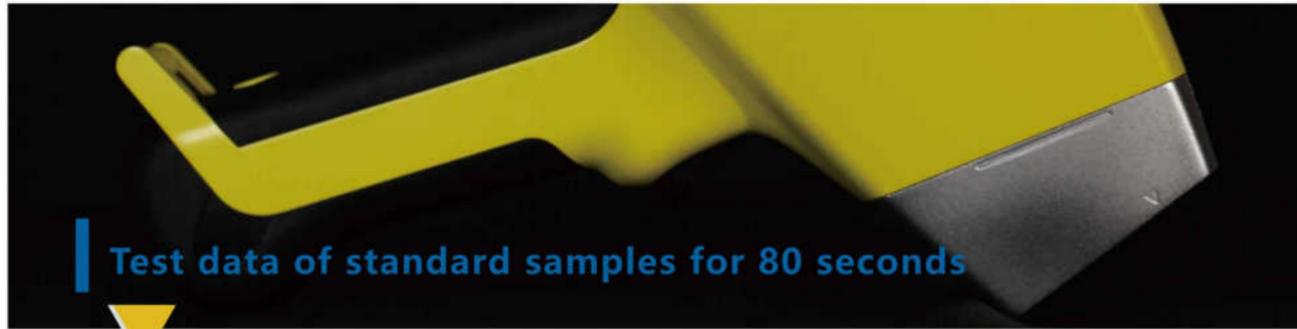


### Performance Features



- 1.Small, light and easy to carry.
- 2.High-speed processing chip, advanced algorithm and high-responsive software, resulting in even faster analysis.
- 3.High-performance X-ray Tube, Ultra-high Resolution Detector combined with Digital Multi-channel Processing Technology, yielding super-high detection resolution.
- 4.Industrial resistive touch screen, superior to capacitive screen in back-light and clearer against sunlight in the field. At the same time, people don't need to take off gloves when they are operating machine in some particular environment.
- 5.Intelligent battery management exerts a real-time monitoring of the residual capacity of battery and backup battery through MSBUS bus.
- 6.Automatic switch to standby mode when not used and recovery after the machine is picked up, which saves power and extends working time; moreover, TrueX has a gravity sensing system which shuts down instrument automatically when it accidentally falls down, another safety consideration; TrueX will also give out alarm when ambient temperature or humidity exceeds the scope of application.
- 7.On TrueX, users can customize the reports by adding their company logos, addresses, test results, spectrum and others (such as product description, origin of products and batch number).
- 8.TrueX is built with double beam technology which can automatically sense whether there is a sample at the measurement window. This is also a safety and protection feature. The brightness of the display of TrueX is automatically regulated according to environment brightness.
- 9.TrueX can be configured and maintained in a remote way via Internet.
- 10.TrueX's new algorithm optimizes the spectral resolution, so lower detection limits can be achieved, which are comparable with even large-scale lab instruments.
- 11.TrueX Ultra-short optical™ path design can significantly improve light element excitation effects, without the fall/fill condition.
- 12.TrueX has a built-in environmental sensing system covering conditions such as temperature, dust humidity and others.



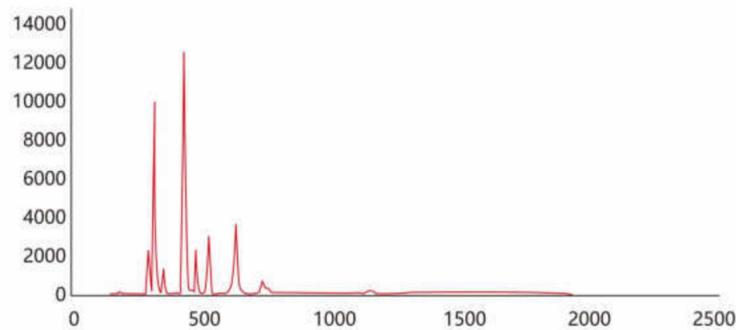


Test data of standard samples for 80 seconds

Serial number	Pattern	Fe2O3%	Mn%	Zn%	As%	Pb%
No1	Mining	20.340	5.060	13.220	0.022	4.095
No2	Mining	20.810	5.170	13.180	0.031	4.160
No3	Mining	20.850	5.110	13.210	0.009	4.206
No4	Mining	20.050	5.060	13.050	0.012	4.205
No5	Mining	20.060	5.080	12.980	0.031	3.950
No6	Mining	19.970	4.860	12.890	0.016	3.910
No7	Mining	20.650	4.800	12.990	0.029	4.006
No8	Mining	20.260	4.850	12.910	0.015	4.120
No9	Mining	20.310	4.910	12.990	0.027	4.090
No10	Mining	20.430	4.840	12.850	0.019	4.010
average value		20.373	4.974	13.027	0.021	4.075
standard value		20.440	4.960	13.120	0.021	4.060
standard deviation		0.313	0.135	0.135	0.008	0.103
RSD/%		1.536	2.711	1.034	38.402	2.531

Note: This is the laboratory test data, different instruments slightly different.

### Lead zinc ore test spectrum



Mineral	#110	30SEC
Elem	%	+/-
Fe	14.24	0.209
Fe2O3	20.34	0.299
Mn	5.06	0.022
Cu	0.071	0.011
Zn	13.22	0.075
As	0.022	0.011
Pb	4.095	0.013
Cd	0.055	0.016
Ca	1.055	0.091
Ti	0.161	0.014



### XRF-TrueX radiation safety

#### Radiation Safety Guarantee

- Low power (4W) X-ray tube, mini collimator reduce radiation quantity effectively;
- X-ray tube radiation protection shield avoids X-ray escape;
- The structure producing radiation is all in equipment interior, you don't need to align or calibrate X ray, then ensure not detect any measurable radiation in equipment operation process;
- X ray indicator light alarms user the radiation production;
- Independent safe circuit and DoubleBeam interlock tool can protect user safety effectively;
- Conform to dosage limit requirement in <Radiation protection standards for X-ray diffraction and fluorescence analysis equipment> (GBZ115-2002);
- Conform to valid annual dosage limit requirement for workers and public in<Ionizing Radiation Protection and Safety of Radiation Sources basic standards> (GB18871-2002);



#### Monitoring results

Point No.	Point Discription	Testing Results (μSv/h)						Device State
		1	2	3	4	5	Average	
1	5cm above the surface of the device	0.10	0.11	0.12	0.10	0.09	0.10	Turn On
2	5cm the surface left of the device	0.10	0.12	0.10	0.11	0.12	0.11	Turn On
3	5cm the surface right of the device	0.10	0.12	0.10	0.11	0.13	0.11	Turn On
4	5cm below the surface of the device(holding place)	0.12	0.10	0.10	0.11	0.12	0.11	Turn On
5	5cm back the surface of the device	0.09	0.08	0.10	0.12	0.08	0.09	Turn On
6	Operation place	0.10	0.09	0.11	0.08	0.09	0.09	Turn On
7	Public Distance Zone	0.09	0.05	0.07	0.08	0.06	0.07	Turn Off

Note: the testing result doesn't deduct radiation background value.

