

## TrueX 700 Handheld Soil Analyzer

### 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. Indicator lights flash on both sides for safety purposes during measurement, i.e., the built-in double beam technology will automatically sense whether there is a sample at the measurement window.
5. Industrial resistive touch screen, superior to capacitor 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.
6. TrueX utilizes anti-slip, abrasion resistance and streamlined design, which is light and easy to carry. It also integrates the new high speed digital multi-channel technology, the new library grade base identification system and the super-FP algorithm. These features allow it to measure elements faster, with higher accuracy and greater repeatability.
7. Intelligent battery management exerts a real-time monitoring of the residual capacity of battery and backup battery through MSBUS bus.
8. 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.
9. TrueX adjusts air pressure factor automatically based on altitude it has detected. This function increases excitation effect of light elements by 40% and that of rare earth elements by 30%.
10. 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).
11. 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.
12. TrueX can be configured and maintained in a remote way via Internet.
13. TrueX can build a three dimensional element content distribution graph allowing for a fast estimate of mineral reserves or the extent of geological disaster with the built-in GPS for latitude and longitude reading combined with a 3rd party GIS analysis software.
14. TrueX's new algorithm optimizes the spectral resolution, so lower detection limits can be achieved, which are comparable with even large-scale lab instruments.
15. TrueX Ultra-short optical™ path design can significantly improve light element excitation effects, without the fall/fill condition.
16. TrueX has a built-in environmental sensing system covering conditions such as temperature, dust humidity and others.



## Technology performance

1. Realize site fast, non-damage and exact analysis really, and show element content by ppm or percentage directly.
2. Small volume, fast and high precision.
3. The analysis samples can be solid and liquid objects like ores, rocks, slags, fragments, soil, slurry etc.
4. It can do intelligent test for uneven or small samples, also very small samples can be measured and recognized.
5. You just need to make it touch the object surface, then you can determine ore grade, element types and content in site.
6. It can keep high performance working even under direct big sunshine and high temperature, which benefits from the low power consumption and timely discharge of great heat in the design.
7. Endure server working condition: sealed with wear and scratch resistant full metal shell, then it can work normally in the rainy and dusty mineral environment.
8. Considering workers' long usage of equipment, then the design insures the safety as most important thing, the key parts are sealed in full metal to achieve the global lowest radiation standard.
9. Electromagnetic jams are shield, so it can work even close to mobile phone or dural wireless communication devices.
10. The fastest analysis speed in the world, only 2s can identify mineral element.

## Application fields

Monitoring and remediation of environmental pollution is a serious situation and high-cost challenge all over the world, not only mathematical modeling and risk assessment of pollution places, not only the hazardous or the toxic substances on-site monitoring and remove the lead(Pb) of paint, but also the site collection, the fast accurate analysis of thousands of samples is a must have the basic ability.

But unfortunately, in the past only depend on laboratory testing, spend much time and a lot of cost.

Now, Drawell can provide a better solution to you, the portable spectrometer(TrueX) can achieve real-time detection on site, by using this solution by the Chinese Academy of Sciences and other major environmental regulatory agencies in the world favor.

The portable spectrometer(TrueX) just gently pulls the trigger, you can obtain the report of elements on site, this spectrometers is very light and can be used in any environment and weather conditions, you can easily detect RCRA metals, the main pollutants and required items.

- \* Inspection and measurement rapidly of the metal components of polluted water, waste water, the polluted ways, the polluted boundary.
- \* Real-time monitoring RCRA related metals and priority control polluted metals.
- \* Used to analyze for sand, sludge, solid waste, soil, mud, dust, powder, filter material, etc.
- \* Used to analyze for the original sand, polluted water, waste water on the site, and provide the theoretical basis for pollution control, remedy means, deep analysis.
- \* Some diseases related some heavy metal because of pollution, such as: Cancer(Ni,Cr), Nephrosis (As, Pb), liver disease (As, Cu), Dust lung disease (Fe), Asthma (Ni), Parkinson's syndrome (Mn).



## Elements to be Analyzed and Test Modes

Analysis mode	Analysis elements
TrueX 700	Standard configuration mode analysis range, such as special elements, can be added can analyze K, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Rb, Sr, Y, Zr, Nb, Mo, Ag, Cd, Sn, Sb, W, Re, Pd, Au, Hg, Pb, Bi, Cs, Ba, Th, U, totaling 34 elements.



## Specifications

Excitation source	50KV/200μA maximum pipe pressure pipe flow can be adjusted freely, Agtarget (standard),Au,W,Rh target(optional).
Detector	BOOST Si-PIN detector
Range of detection	All elements between Mg and U.
Display system	Industrial resistive touch screen with screen size of 4.3". Proprietary operating system software and sound waves. Multiple languages including English and Chinese. And it automatically adjusts display brightness according to the environment brightness.
Data processing	32GB memory USB, bluetooth, WIFI, or linked to the Internet; instrument can be configured and repaired remotely. Data can be exported via 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 time again.
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 Drawell Safety Band;
Power supply system	Intelligent battery management through MSBUS bus, real-time monitoring of the residual capacity of battery and backup battery. The battery complies with air transport regulations of dangerous goods. A single battery can last 8 hours.
Weight	1.6Kg (with battery)
Dimensions	254 x 79 x 280 mm ( L x W x H ) .

### 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 indonizing 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.