

# Handheld XRF Metal/Alloy/Stainless Steel Analyzer

## DW-EX 5000

DW-EX5000 handheld XRF adopts Photoelectron, microelectronics, semiconductor, computer and many other technology and develop the new generation of handheld XRF with Independent Property Rights. DW-EX5000 andheld alloy analyzer uses large-screen, high-resolution LCD and the new digital signal processor. The minimum detection limits make its performance as great as the desktop. With small size and light weight, DW-EX5000 is portable for testing and suitable for analyzing different kinds of alloy.

### Application Field

- Precious metal alloy
- Aerospace industry
- Mosto motol roomoline
- Waste metal recycling

Boiler pressure vessel

Machinery manufacturing and processing







- Iron and steel smelting
- Shipbuilding



DW-EX5000 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 kind in one second. Rapid detection on aluminum and magnesium alloy grades is possible and it allows to make reliable identification and confirmation of the material (PMI) and precisely control the materials quality.

#### Reliable identification of materials

In the process of alloy materials production and machinery manufacturing and processing, elements detection can't work without the identification of materials. DW-EX5000 professional and nondestructive deteGction can effectively prevent the mix of raw material and avoid unnecessary loss.



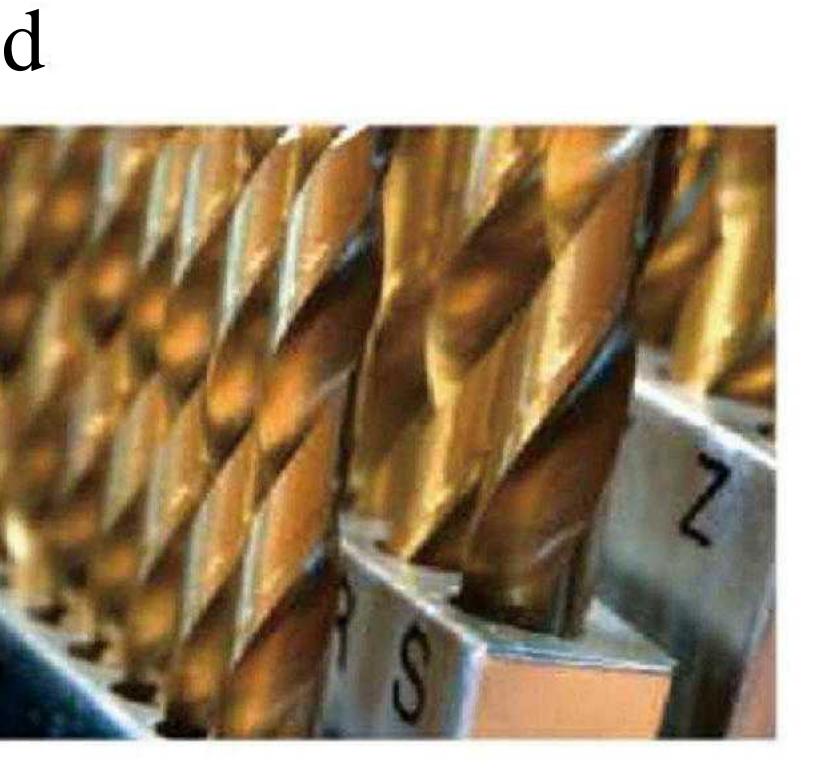


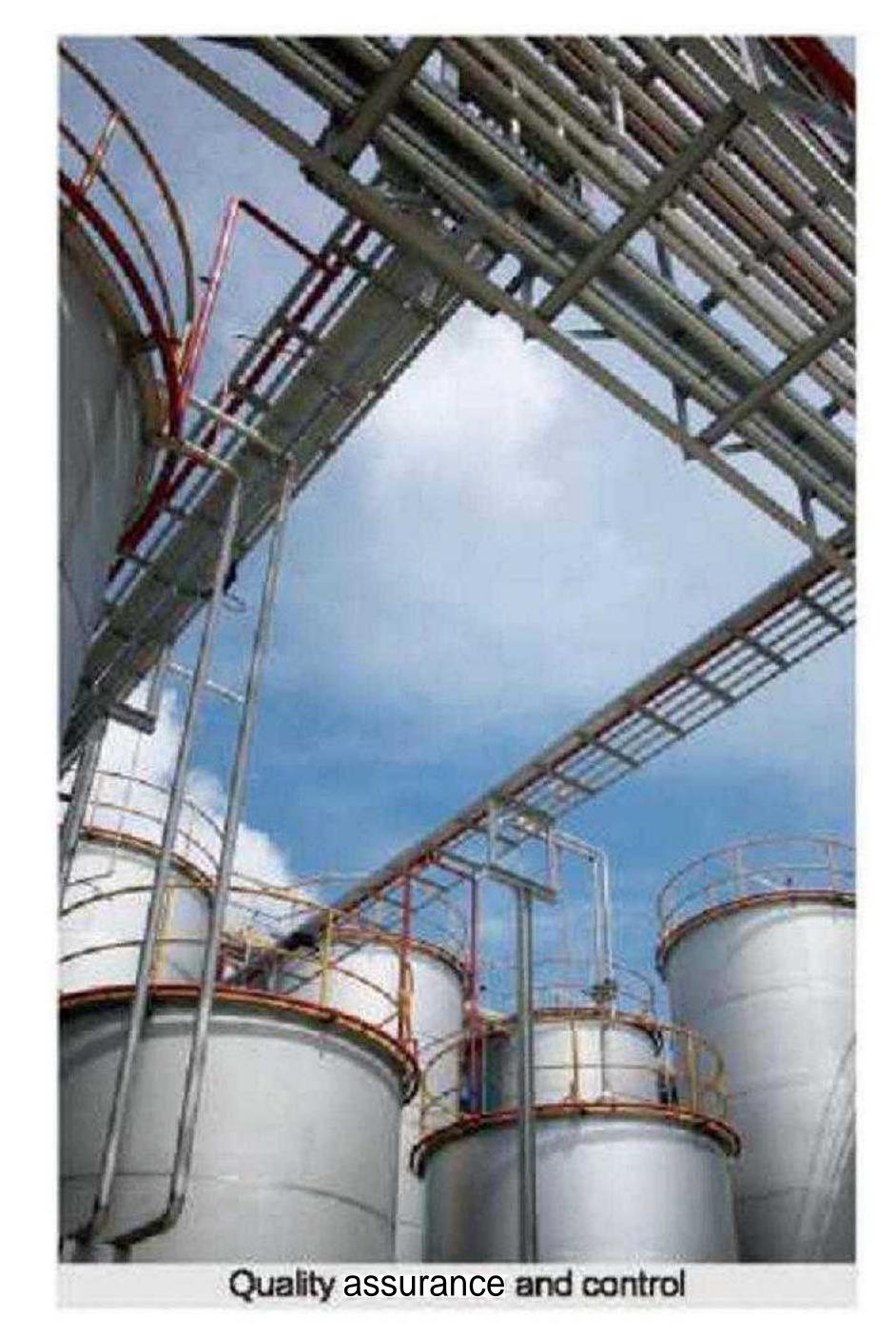
#### Quality control in industrial production

DW-EX5000 professional and nondestruOctive detection can be used for quality control and management in the manufacturing process of steel smelting, boiler industry and other high- temperature and high-pressure industries to ensure the materials quality; identification of alloy composition in shipbuilding, aerospace and other high-tech industries in order to ensure product quality and safety; identification on the quality of the spare parts in electric power plants and other industries related to people's livelihood to guarantee the equipment safety.



In waste metal recycling and reuse industry, EXPLORER 5000 can make on-site detection and rapid classification of scrap metals; recycle overstocked steel in the warehouse; classify metals in salvage station; recycle the turning scraps and cuttings. If s a powerful tool to make metal and steel identification in waste metals recycling industry.









#### Reatures

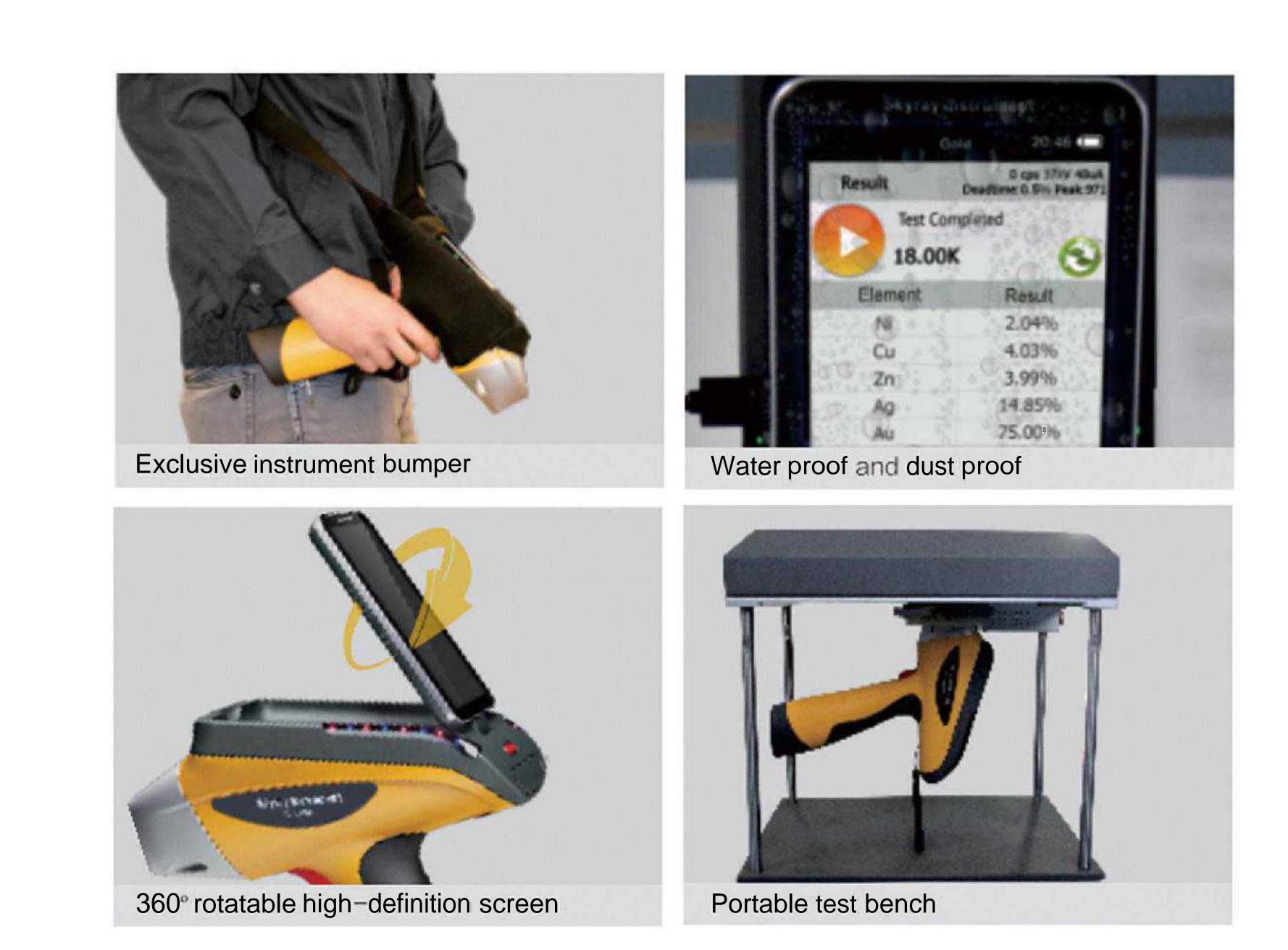
#### 1.Easier Operating

Light & small, ergonomic handle design, equipped with a special instrument case, easier to grasp and more convenient to use in the field.

5 inch high-definition screen with 360 degree rotation, multiple points operating, can display clearly at any lights.

Integrated design of Seal type, with waterproof and dustproof function, can be used continuously in harsh environments.

Directly measure and analyse the surface of samples and goods. Can do a quick measurement by its handheld benefit and accurately test samples for a long time by its test block.



#### **2.Better Performance**

Rapid nondestructive detection and quick measurement by aiming, report results within one second. Comparable to the bench-top XRF, fast and accurate.

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, S, and it can add customized elements.

Instrument can run without helium by the ultra near optical path design, and can detect the light elements from the beginning of Mg that fully meets the needs of specific users.

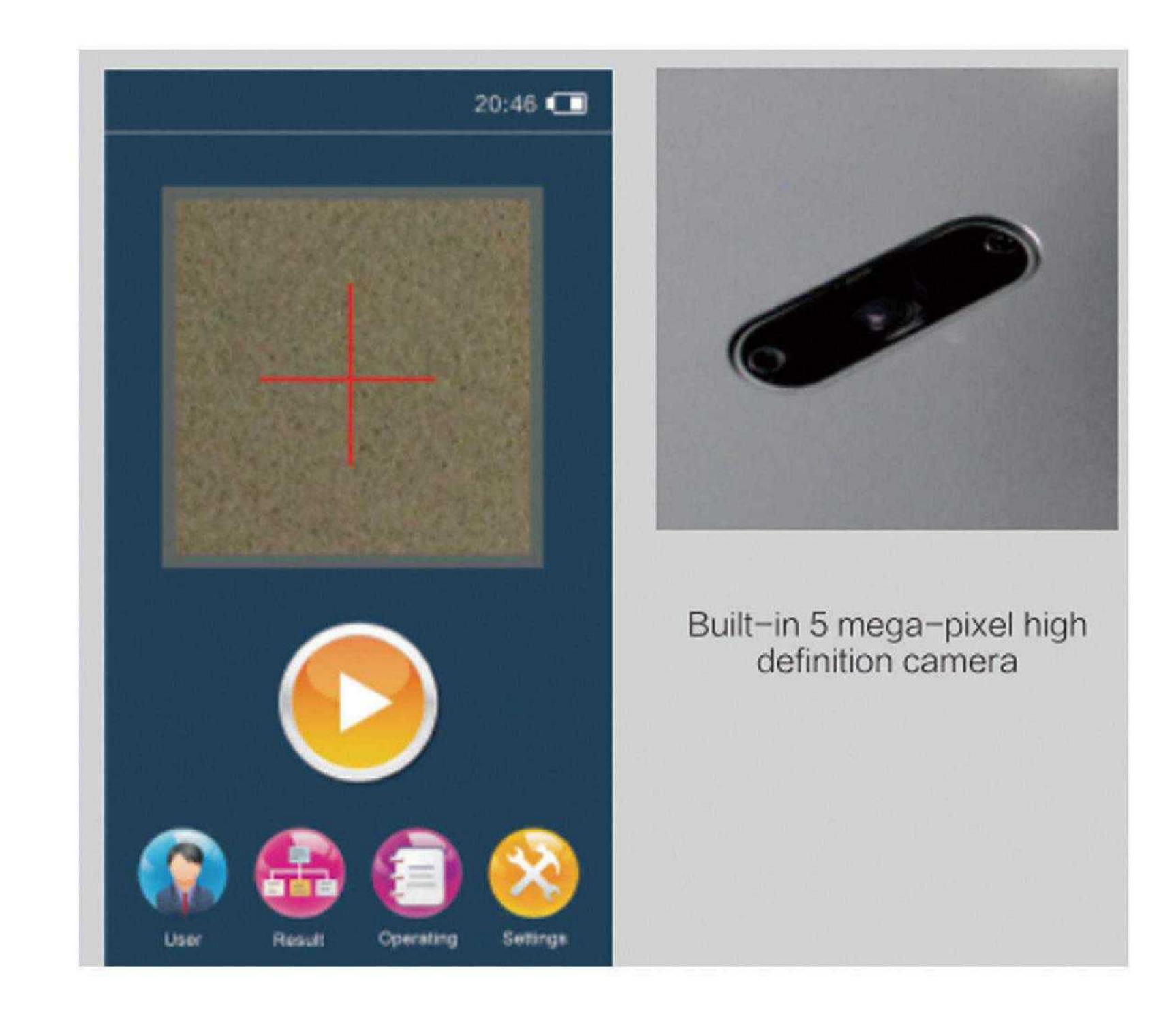


#### 3.Strong Battery

- \* 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.

#### **♦ 4. Higher Configuration**

- •Four core parts which are Miniature X-ray tube, Fast-SDD detector (the world's best detector), digital signal processor and micro multichannel intelligent analysis module, can achieve the accuracy as good as bench- top's.
- •Large data storage is by ultra-high frequency memory and mass storage space. Our new independent research and development Digital multi □ channel technology ensure effective mining spectral counts per second is up to 500K cps.
- •Collimation filter system, its combination can reach to the limit of 12 groups, to meet the testing requirements of different customers.



#### **5.Safer Protection**

- •Intelligent-tricolor-early-warning-system: 360 degrees without dead angle display by LED three-color lamp design. Instrument status shown in different colors: Green light means power on; Red flushing means testing; Yellow flushing means fault.
- •Triple safety protection function:
- a: Automatic induction, instrument does not work without sample, no leakage radiation.
- b: Thicken preventing testing wall can effectively prevent the scattering.
- c: Safety protection cover can prevent the surrounding light matrix scattering.
- Security-linkage-locking device protects your security; it can guard the final checkpoint if the software is unable to control the instrument turn off.





#### **♦ 6.More Intelligent Software**

- \* DW-EX5000 alloy analyzer is equipped with professional application software, specifically for alloy industry; the feature is intelligent, high sensitivity, short testing time, and easy operation.
- \* Brand new knowledge-ware is one key operation with dual mode design
- a. User mode uses for recognizing categories of sample by one key operation;
- b.Expert mode uses for increasing the elements and increasing the specific in-depth analysis of the operation curve.
- \* Internal intensity correction method can correct deviation caused by uneven sample of different geometries, densities and structures.

## Parameters

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 analyze 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 (one 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	500W pixel high resolution camera
Display screen	Brand new 5 inch semi-reflecting and semi-transmitting LCD touch screen, its resolution is 1080*720.
Detection limit	The minimum detection limits at $1 \sim 500$ 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 -turn -off X-Ray tube function. Standard radiation shields, thickened instrument's alloy testing wally test instrument
Specialty	Ore Special edition of ore's analytical software, and intellectualized one key testin
Convenience of application	No need to select curves, intellectualized one- key-selecting will select the best matching 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) x330mm (Height)
Instrument weight	1.7Kg
Intelligent warning signalsIndicator system	Green light means power on, red flushing means testing and yellow flushing means the errors
	Three-military-protection-box is compression, waterproof and shock absorption
	Two lithium battery and charger, PDA accessories, radiation shield.
Accessories	Two lithium battery and charger, PDA accessories, radiation shield.  Universal charger and car charger, 4G SD memory card and card reader



#### Exclusive Accessories

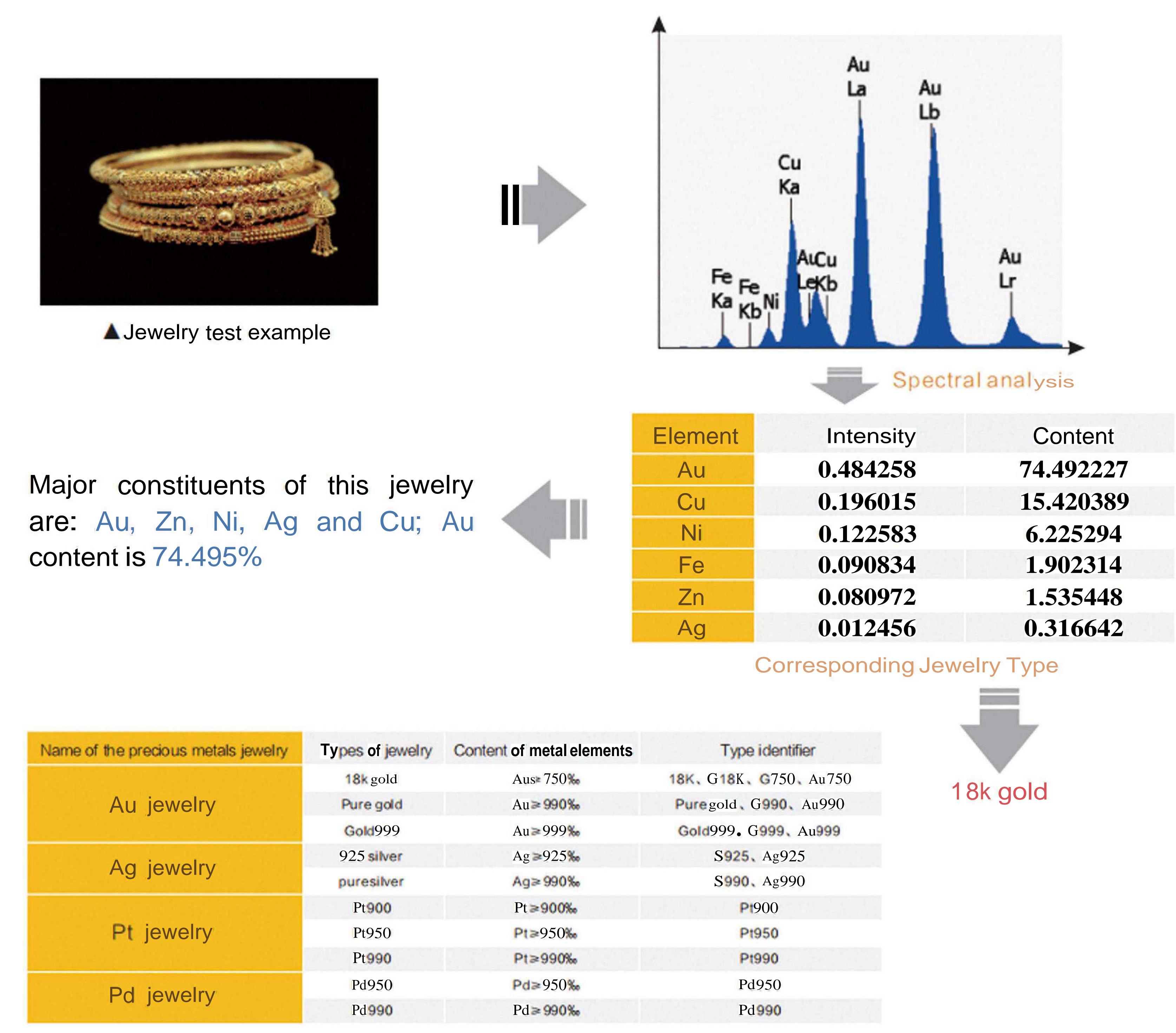


#### **♦** An Introduction to Precious Metals Analysis

Precious metals refer to the 8 metal elements Au, Ag and Ru, Rh, Pd, Os, Ir, Pt in Pt family. Most of these metals have beautiful colors. They are normally unreactive as they have strong resistance to chemicals. They are usually made into jewelries or souvenirs and have wide industrial application.

DW-EX5000 can test grades and purity of the precious metals, identify grades of gemstones and conduct routine physical, compositional and structural analysis of jewelries.

DW-EX5000 tests precious metal fineness for gold, silver, platinum, palladium, etc. in accordance with National Standard GB 11887 Jewelry—Fineness of Precious Metal Alloys and Designation and GB/T 18043 Precious Metals Jewelries Content Non-destructive Test Method X-ray Fluorescence Spectrometry.



APrecious metals jewelries currently sold on the market