

**Mikrosize®**

# iSpectro-F5000

## Portable XRF Spectrum Analyzer



**Video**



**Contact us**

**Mikrosize Precision Instrument Co.,Ltd**

A-4035 RuiFeng Business Expo, Wuhu City, China , 241000.

Web:[www.mikrosize.com](http://www.mikrosize.com)

Email:[mikrosize@mikrosize.com](mailto:mikrosize@mikrosize.com)

Web:[www.mikrosize.com](http://www.mikrosize.com)

Email:[mikrosize@mikrosize.com](mailto:mikrosize@mikrosize.com)



# Product Features and Application

## Product Features

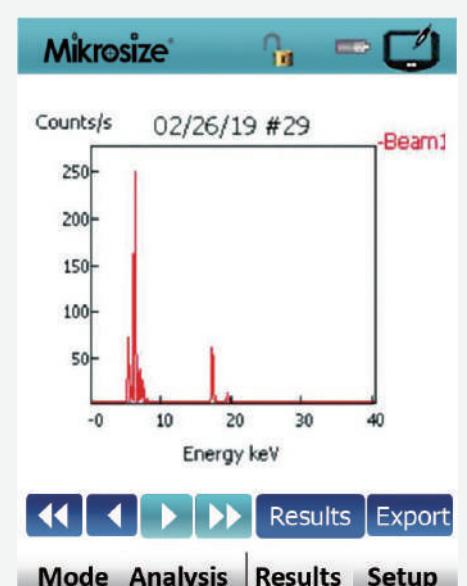
- Lightweight and portable, robust and durable, featuring a unique ergonomic design.
- Utilizes the principle of X-ray fluorescence spectrometry for analysis.
- Weight typically does not exceed 1.4kg (approximately 1.46kg with battery), available in various sizes.
- High-power, high-performance X-ray tube as the excitation source, with multiple target materials to choose from.
- Voltage of 35KV/50KV (partially adjustable), with multiple optional filters and automatic adjustment capabilities.
- Detector is a Si-pin/SDD, with a cooling temperature of -35°C and a resolution of  $\leq 135$ eV.
- High-performance processor, running on the Windows CE operating system.
- Strong data processing capabilities, equipped with a high-capacity memory card and multiple transmission methods.
- Color high-resolution TFT industrial-grade touchscreen.
- Capable of analyzing multiple elements from Mg to Pu, with more than 30 elements included as standard.
- Non-contact detection capability of 0.5mm, protecting the test window.
- Uses imported lamps and sensors, with a lamp lifespan of over 2000 hours and capable of more than 720,000 detections.
- Fast detection speed, providing results in just a few seconds to enhance work efficiency.

Simple and intuitive operation, with one-touch operation to minimize human error.

- Non-destructive testing, preserving the integrity of samples.
- High detection accuracy, approaching laboratory-level precision.

## Product Application

- Metal Recycling and On-site Testing & Rapid Classification of Unknown Materials: It can measure alloy grades and composition contents within 1-3 seconds with an accuracy of up to 0.01%, aiding in the identification of various metallic materials and determining their value and reuse methods.
- Stainless Steel & Die Steel Testing: Rapid identification of stainless steel grades, including 304 food-grade stainless steel, and die steel grades, while displaying important metallic elements and their contents to ensure materials meet production requirements.
- Mine Exploration: On-site rapid multi-element analysis for tracking mineralization anomalies, expanding exploration ranges, and reducing transportation and analysis costs associated with sending samples back to the lab. This aids in quickly understanding the potential value and mining feasibility of ores.
- Core Monitoring: On-site analysis of core samples and other drilling samples to assess reserves, improve mining efficiency, and provide accurate data support for mining operations.
- Mining Process Control: It can delineate ore body boundaries, determine vein strikes, and precisely manage the mining process, ensuring the scientific and efficient nature of mining operations.



## Instrument Structure



- 1. User Interface Touchscreen (Equipped with a stylus; users can operate the touchscreen using their hands or the stylus)**
- 2. Spectrum Browsing Button (Users can use this button to view spectra)**
- 3. Testing Window**
- 4. Testing Trigger**
- 5. Battery Protective Sleeve**

## Instrument Interface

### Top of the Instrument and its Radiator

One-touch power button for startup. Press once to turn on the device. Please wait for approximately 50 seconds for the machine to boot up and complete its self-check.



### Side of the Instrument

Detection indicator light. During the detection process, the indicator light strip will flash. The flashing will stop once the detection is complete.



### Battery Compartment

Ingeniously designed for user convenience. It allows for easy installation and removal of the lithium-ion battery. It includes a protective sleeve to prevent the lithium battery from being bumped or knocked.



# Software

## Testing Process and Results

The test results are accurate with a precision of up to 0.01%, automatically matching the corresponding material element grades in the gr ade library



Test ID: 10/11/24#2

XPress Alloy

Grade Match Result:

316 - MN:0.4

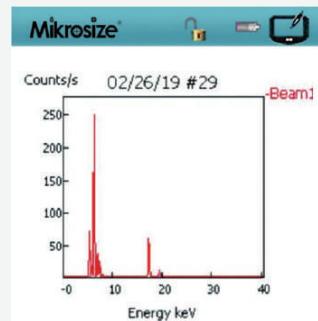
19-9DX - MN: 1.9

El	%	+/-	Comp
Cr	16.70	0.14	[16.00-18.00]
Mn	1.38	0.08	[0.00-2.00]
Fe	69.11	0.34	[58.00-77.00]
Ni	10.40	0.17	[10.00-14.00]
Cu	0.23	0.04	[0.00-0.75]
Mo	2.19	0.02	[2.00-3.00]



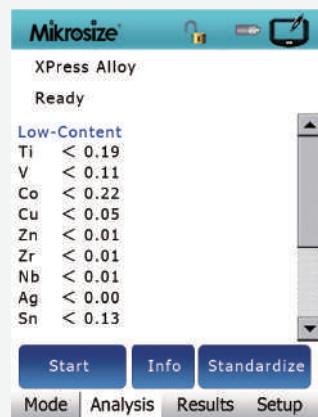
## View Spectrum

Users can directly view the spectrum graph on the test result interface by clicking the corresponding button



## View Low-Content Elements

Users can view the percentage content of elements with low content, facilitating the judgment of specific elements contained in the tested material



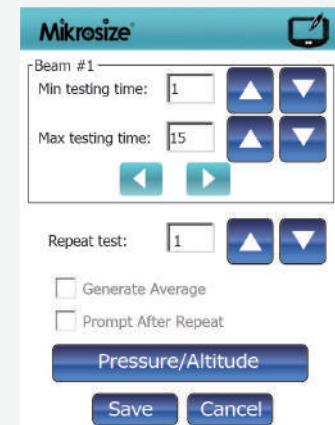
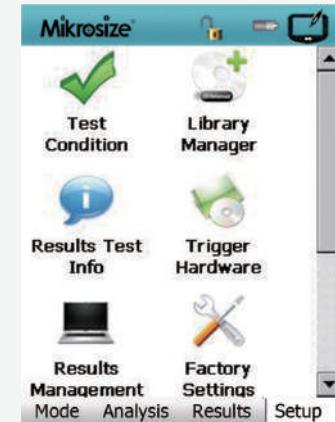
# Setting Interface

## Settings Interface

Users can set commonly used parameters on this interface;

## Set Test Duration

For test duration settings, the shortest setting is 0 or 1 second, and the longest duration can be set according to user needs (the recommended optimal setting is: 15 seconds)



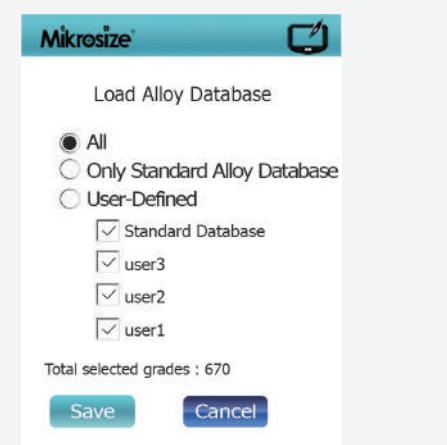
## User-defined Display Setting

Users can configure which elements are not displayed on the test result interface by moving the undesired elements into the hidden library on the left side. Elements that have been hidden by the user will not be viewable on the test result interface.



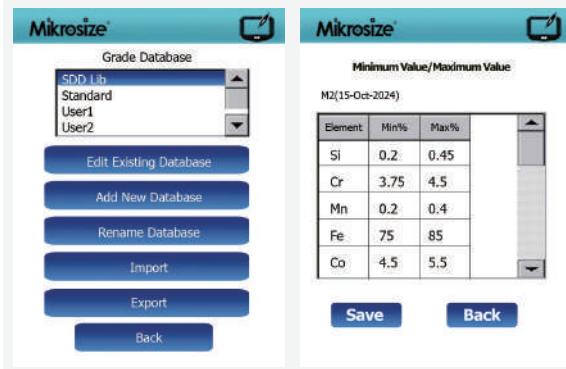
## Select Display Database

Users can select different databases, including "All," "Standard and Gold Databases," and "User-Defined Database." Different databases contain different grades. Users can choose according to their needs.



## Set Grade

Users can add new material grades as needed, incorporating new grades into the grade database. Users can set the proportion of element content themselves, facilitating the detection of material element content outside the existing database.



# Software Connectivity

## Connecting Software

Users can connect the instrument to their mobile phones via hotspot, enabling the sharing of reports and real-time screens.

Users can select the desired date to download and generate reports.

Reports can be generated in PDF and EXCEL formats, facilitating easy viewing, printing, and information modification for users

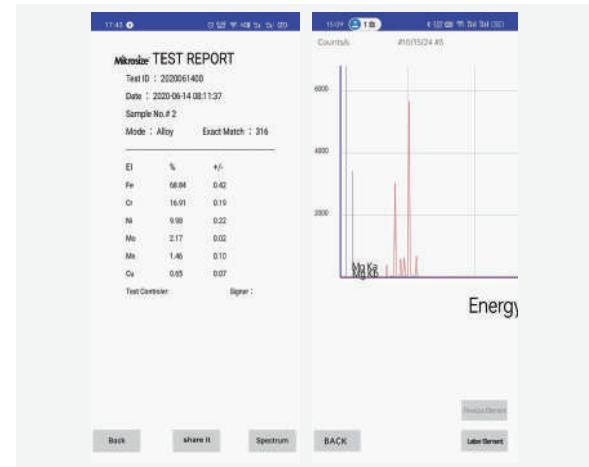


## Viewing Test Results and Spectrograms

After completion of the download, test results and spectrograms can be viewed on the mobile phone.

The horizontal axis of the spectrogram represents wavelength bands, providing qualitative analysis of elements.

The vertical axis represents reflectance, offering quantitative analysis of elements.



# Technical Parameters

Model	iSpectro-F5000
Brand	Mikrosize
Weight	Main Body:1.27kg,with battery:1.46kg
Dimensions	233mmx84mmx261mm(LxWxH)
Excitation Source	High-power high-performance miniature X-ray tube
Target	Au,Ag,W,Ta,Pd
Voltage	35KV/50KV
Filter	A variety of selectable filters,automatically adjusted for different objects
Detector	Si-pin/SDD
Cooling System	Peltier effect semiconductor refrigeration system
Standard	Stainless Steel 316
Power Supply	Lithium Battery ×2/6800mAh
Processor	High performance pulse processor
Operating System	Windows CE System
Data transmission	USB,Bluetooth,WiFi,Hotspot
Software Standard Mode	Alloy Plus 3.0
Data Processing	SD mass storage card,(memory expandable)
Display	High-resolution TFT industrial-grade color HD touches screen for ergonomics,sturdy,dust-proof,waterproof,clearly visible to any light conditions
Shape Design	Integrate body design,sturdy,waterproof,disproof,antifreeze,anti-vibration,can be used normally in harsh environments
Safe Operation	"One-button"operation,software automatic time lock,automatic stop test function; judge X-ray automatically within 2 seconds there is no sample in front of test window
Smart System	Intelligently identify atmospheric pressure and correct it
Correction	The instrument has been calibrated before leaving the factory;the instrument has a built-in calibration curve for accurate testing for specific samples .
Result Report	The instrument is equipped with standard USB,Bluetooth,WiFi,can directly customize the report format and EXCEL format to download detection data and its X-ray spectrum(user can customize the report according to the application)
Analysis Element	Mg,Al,Si,P,S,Ti,V,Cr,Mn,Fe,Co,Ni,Cu,Zn,W,Hf,Ta,Re,Pb,Bi,Zr,Nb,Mo,Ag,Sn,Sb,Pd,Cd,Ti,Th
Protective Device	Military-grade high-strength three-proof box;the instrument comes with a test window protection cover to prevent accidental damage
Accessories	5 test windows protective film,original power adapter and charging device
Annex	Operating instructions,factory inspection reported



## Standard Delivery

Name	Qty	
Main Unit	1	
Window protective film	1	
Lithium-ion battery	1	
Power adapter	1	
Charging dock	1	
316 Calibration clip	1	
Stylus pen	1	
Manual	1	
Instrument case	1	