

PURERAY Gold^{Lite} is an X-ray fluorescence spectrometer developed by CFAN Instrument with an upgraded optical path. It can be widely used in the precious metal industry. The analyzer features an USA AMPTEK customized Si-PIN detector, an embedded computer with a 10-core CPU and the Smart FP algorithm. Besides, it adopts the creative vertical optical path to obtain a smaller real focus. The cost-effective instrument can fast and accurately analyze precious metals and ion concentrations.



Specifications

- Input Voltage: AC100~240V, 50Hz
- Package size: 625*560*480mm
- Machine size: 450*522*368mm
- Test chamber size: 374*344*155mm
- Rated power: 150W
- Gross weight: 57KG
- Net weight: 42KG
- Noise: <50dB
- Operating environment:
 - Temperature: 15°C~31°C
 - Humidity: <70% (Noncondensing)

Features

- Analysis elements: K(No.19) ~U(No.92)
- Analyzed up to 30 elements at the same time.
- Coating warning
- Rhenium and tungsten detection warning
- Test Sample: metal/liquid
- Analysis range:
 - ◆ Precious metal: 0.010%~99.999%
 - ◆ Liquid: 10mg/L~200g/L
- Precision:
 - ◆ Precious metals: $\pm 0.03\%$ (9999 gold)
 - ◆ Liquid: $RSD \leq 2.5\%$
- Multi-point testing and high efficiency
- Connect the scale for weight readings and calculate prices of gold samples.
- Calculate the average value and RSD of multi-results.
- XY micro-motion platform (optional part)
 - Stroke: 50mm*50mm

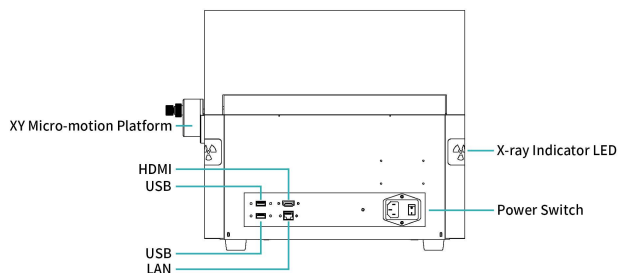
Core Components

- Detector: USA AMPTEK customized Si-PIN
 - Detector area: 6mm²
 - Resolution: 145 $\pm$ 5eV
- Embedded computer: Intel i3 10-core+Win11
- HV power supply: 50KV/1mA digital HV
- X-ray tube: 50KV/1mA
 - Window material: aluminium
 - Target material: wolfram
 - Focus: $\Phi 0.3\text{mm}$
- Collimator: $\Phi 2.0\text{mm}$

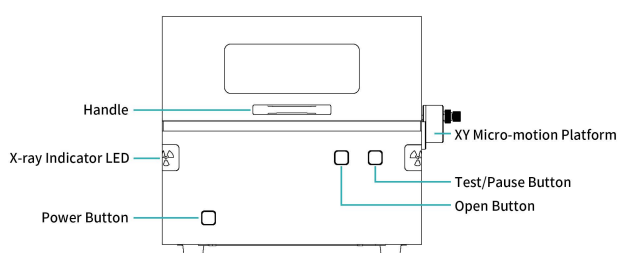
Hardware Interface

Optional part: XY micro-motion platform

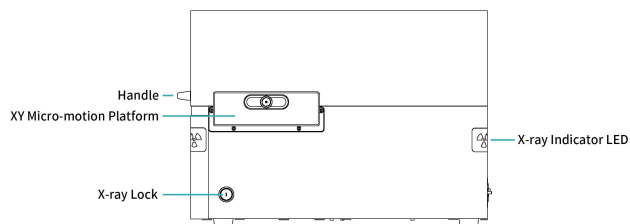
Back



Front

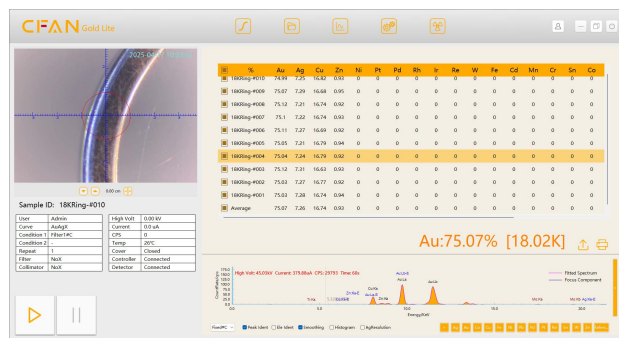


Right

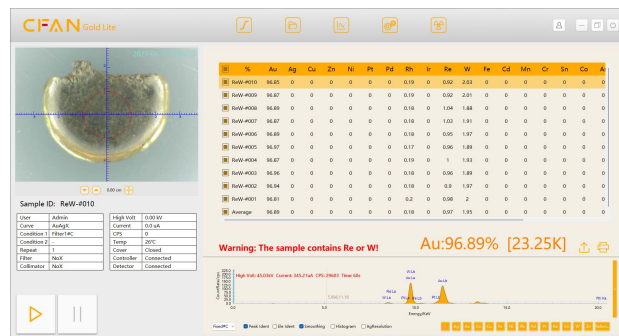


Test case

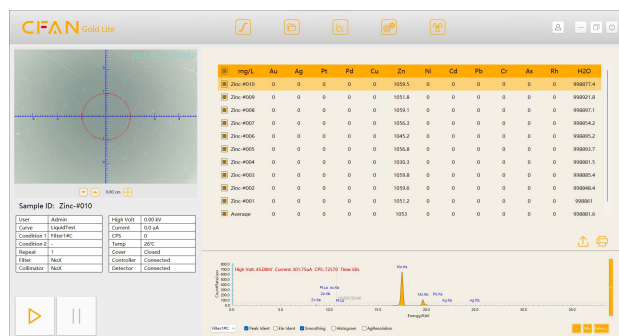
● 18K Gold



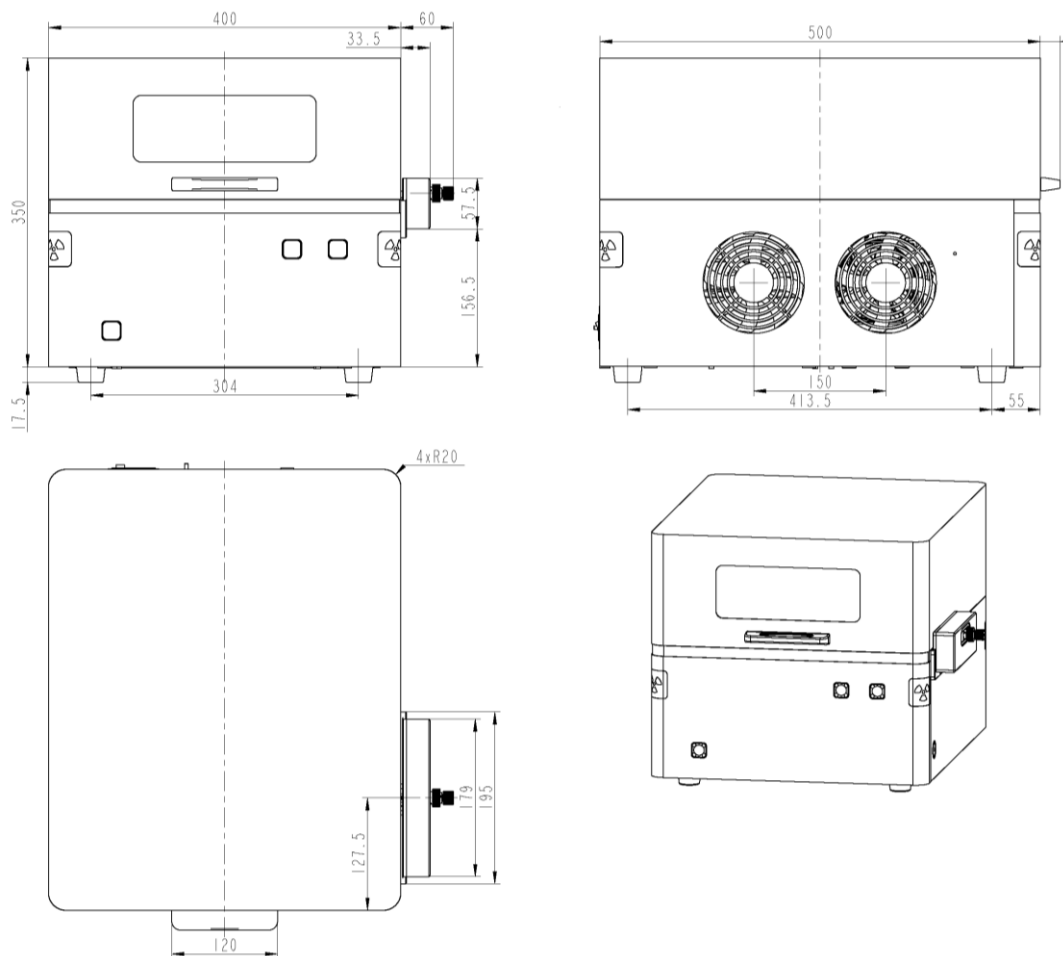
● Gold with Rhenium and Tungsten



● Zinc ion



Product Size Drawing



Attachment List

Number	Name	Quantity	Specification
1	Jewelry holder	1	Φ 132mm
2	Ground cable	1	2m
3	Power cable	1	1.8m
4	Network cable	1	1.5m
5	Thermal printer	1	185*135*57mm
6	USB wireless card	1	300Mbps
7	Testing film	1	20 pieces
8	HDMI to VGA adaptor	1	250mm
9	Calibration silver block	2	Φ 30mm H13mm
10	Attachment box	1	210*132*55mm
11	Silicone pad	2	Compatible with the sample chamber
12	Dust cover	1	470*450*380mm

Maintenance

- PURERAY Gold^{Lite} needs to be placed in a dry environment at a normal temperature. If it is not used for a long time, please unplug the power cable and cover the machine with a dust cover.
- If there is any visible dirt on the metal shell of the spectrometer, clean it with a diluted neutral detergent and a soft cloth, and then wipe off the moisture with a dry cloth. (Do not use the alcohol for cleaning.)
- There is an X-ray lock on the back of the instrument. Please turn it to the right position before testing.
- Preheat 5 minutes during the initial startup every day. Do not cancel the preheating process unless it is in an emergency.
- If you have not used it for a long time, it is necessary to turn on the machine to test any sample for half an hour every week to keep the X-ray tube dry.

Cautions

- The X-ray is still excited during the test after the test is completed. If the sample chamber is opened during testing, the system will stop the X-ray production; if the chamber is opened after testing, the system will interrupt the power of the X-ray tube to ensure safety.
- Try to use the Uninterruptible Power Supply (UPS) because the power supply failure of the embedded computer may result in lost files. Make sure to shut the instrument off before turning off the power.
- The testing film can prevent dust from falling into the interior of the instrument. The film should be replaced if there is any damage.
- The standard test duration is 60 seconds. When the duration is less than 60s, the test result will be slightly inaccurate.