

PURERAY Supreme is an X-ray fluorescence spectrometer developed by CFAN Instrument for the non-destructive coating analysis. It can be widely used in various industries, such as the electroplating, chemical plating, connector and PCB. The analyzer adopts an USA AMPTEK customized Fast-SDD detector, an embedded computer with a 12-core CPU and the Smart FP algorithm. Without standard samples, the spectrometer can measure the thickness and composition of coatings at the same time. It can fast and accurately analyze 10-layer coatings.



Specifications

- Input Voltage: AC100~240V, 50Hz
- Package size: 625*560*480mm
- Machine size: 460*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: Al(No.13)~U(No.92)
- Analyze 10 layers coatings
- Measure the thickness and composition of coatings
- Test sample: coating/metal/liquid/RoHS
- Analysis range:
 - ◆ Coating: 0.001um~80um
 - ◆ Precious metal: 0.010%~99.999%
 - ◆ Liquid: 5mg/L~200g/L
 - ◆ RoHS: 10ppm~99.99%
- Precision:
 - ◆ Coating: RSD ≤1.5%
 - ◆ Precious metal: ±0.01% (9999 gold)
 - ◆ Liquid: RSD ≤1.5%
 - ◆ RoHS: 1ppm (ideal situation)
- Compliance with ISO3497:2000 and ASTM-B568 standard
- Multiple collimators and filters
- XY micro-motion platform (optional part)
 - Stroke: 50mm*50mm

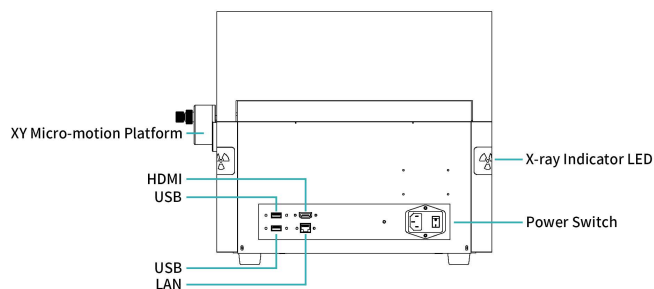
Core Components

- Detector: USA AMPTEK customized Fast-SDD
 - Area: 25mm²
 - Resolution: 125±5eV
- Embedded compute: Intel i5 12-core+Win11
- HV power supply: 50KV/1mA digital HV
- X-ray tube: 50KV/1mA
 - Window material: beryllium
 - Target material: wolfram
 - Focus: Φ0.1mm
- Collimator: 0.1*0.2/Φ0.35mm/Φ1.5mm

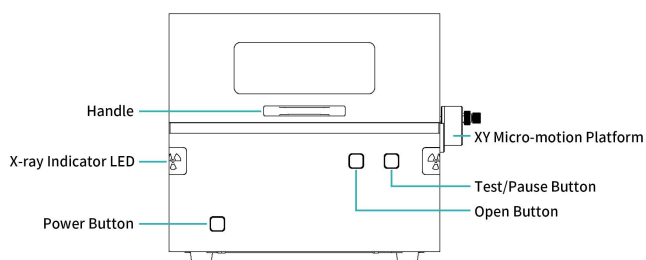
Hardware Interface

Optional part: XY micro-motion platform

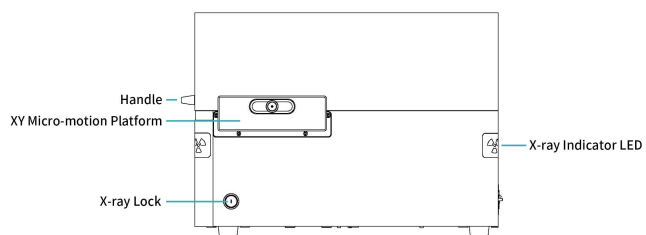
Back



Front

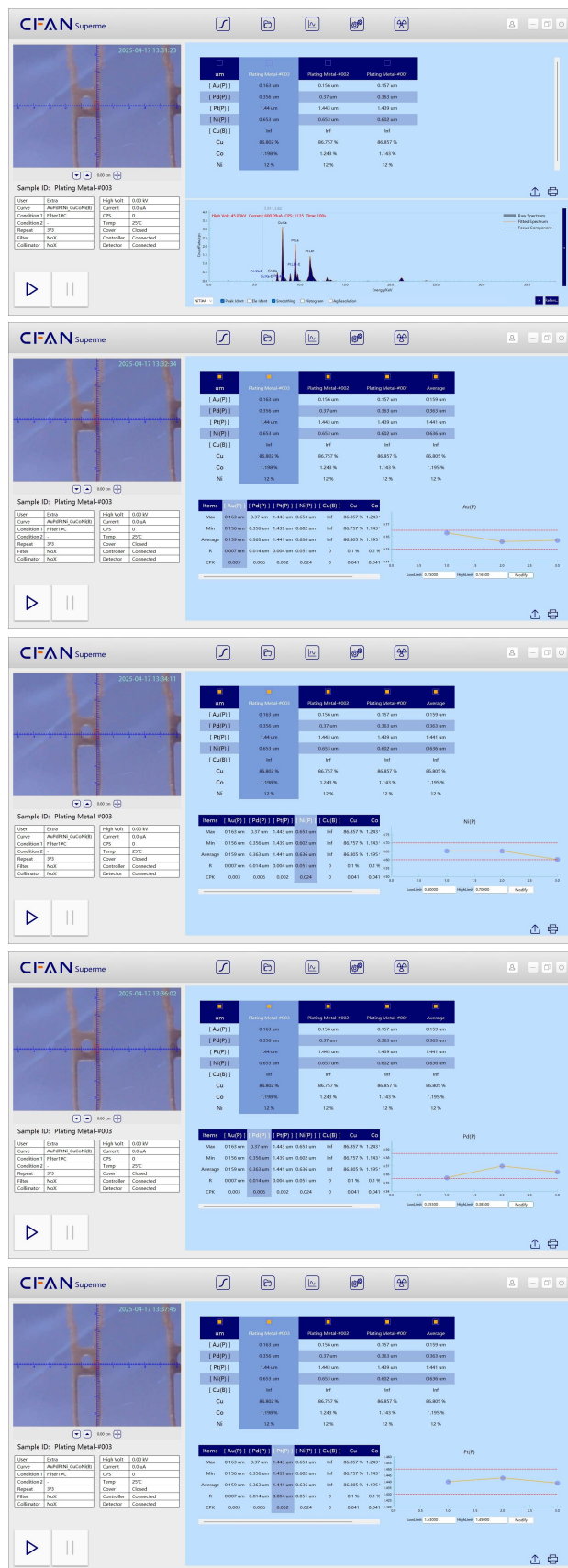


Right

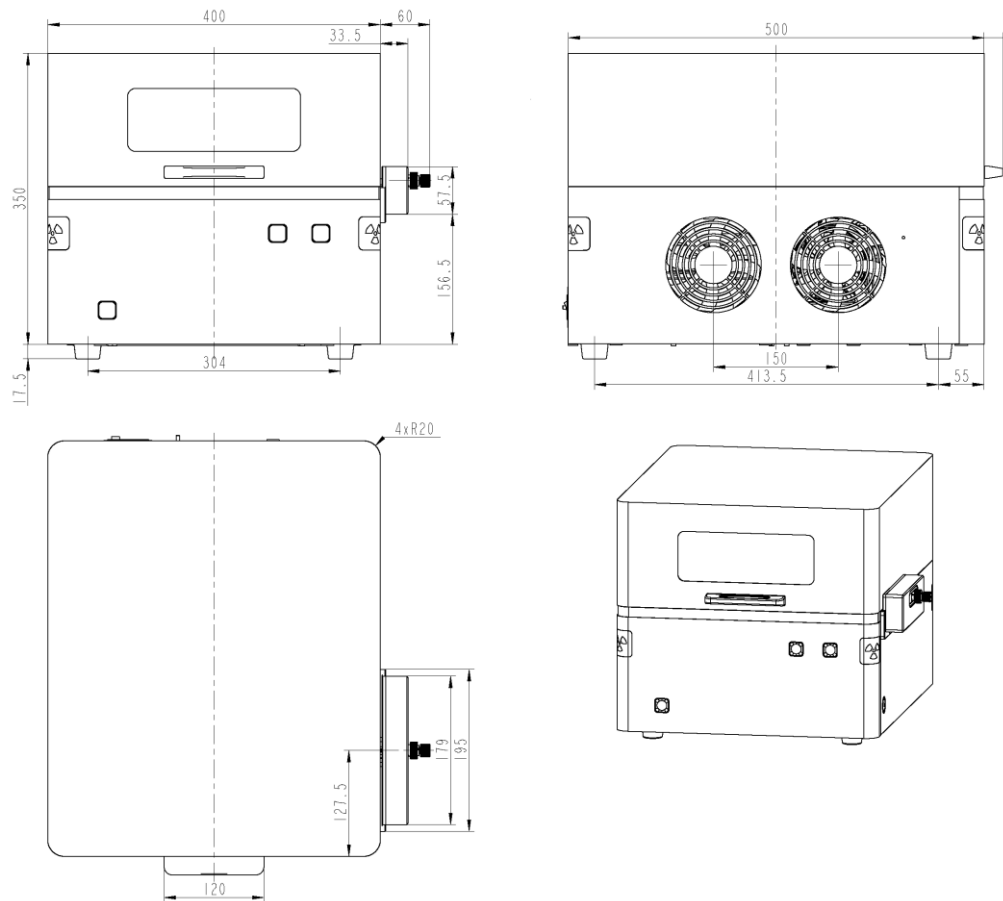


Test Case

- SnNi plated on Fe



Product Size



Attachment List

Number	Name	Quantity	Specification
1	Jewelry holder	1	Φ 132mm
2	Ground cable	1	2m
3	Power cable	1	1.8m
4	Liquid test kid	2	Φ 36mm H20mm
5	Thermal printer	1	185*135*57mm
6	HDMI to VGA adaptor	1	250mm
7	Testing film (6μm thickness)	1	100 pieces
8	USB wireless card	1	300Mbps
9	Calibration silver block	1	Φ 30mm H13mm
10	Attachment box	1	210*132*55mm
11	Curved tip tweezers	1	115mm
12	Flat tip tweezers	1	115mm
13	Dust cover	1	470*450*380mm

Maintenance

- PURERAY Supreme 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 in the excited state during the test or 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 built-in industrial 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.