

# Neo Instrument Company

## X-Ray Fluorescence Spectrometer N9

\*N9 is an X-ray fluorescence spectrometer developed by Neo Technology for the RoHS testing industry of electronic and electrical products. It is mainly used for the detection of hazardous substances in incoming material inspection and finished product outgoing inspection in supply chains such as 3C electronics, toys, plastic electronics, and mobile digital products, helping enterprises reduce environmental protection risks.

\*N9 uses a semiconductor detector that does not require liquid nitrogen cooling. It can be configured with a Si-PIN or SDD detector. It has safety devices such as a safety interlock and a cover lock, features a simple interface operation and convenient limit standard management, and can quickly and accurately test materials.



# Features of N9 X-Ray Fluorescence Spectrometer

1. **Safety Lock:** Compared with the previous generation product, it adds a safety lock function (not available in Tianrui Instruments 1800B) to prevent radiation safety hazards caused by unsafe touch or opening the cover.
2. **Integrated Design:** Reliable industrial computer is integrated into the instrument, which has a longer service life, more convenient operation, and no complicated external connections.
3. **Modular Design:** Core components are designed with independent modules, which are shielded from each other, improving the electromagnetic interference performance of the whole machine, enhancing the detection limit of the instrument, and reducing the failure rate.
4. **Wide Voltage Design:** The whole machine is designed to adapt to AC110-250V wide voltage, suitable for different voltage systems in factories, especially for the fluctuating voltage in some regional factories.
5. **Multiple Configurations:** The collimator and filter adopt a combination of 5-9 groups of different specifications to meet the testing needs of samples with various specifications, shapes, and materials.
6. **Detector Protection:** The detector window uses a collimator closer to the size of the crystal area, which can not only meet the testing requirements but also provide protection for the beryllium window of the detector and reduce the cost of accidental use.
7. **Test Prompt Tone:** Integrated with a USB speaker module, it has a prompt tone after the test is completed, allowing testers to complete other work during the long waiting time and improve efficiency by changing samples after hearing the prompt tone.
8. **High-Definition Camera:** Equipped with an 8-megapixel camera, it is convenient for positioning and moving the test sample.

# Functions and Advantages of CEDXRPro Testing Software

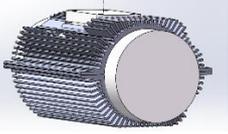
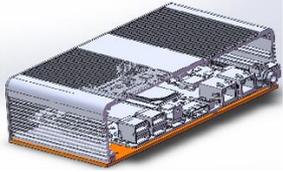
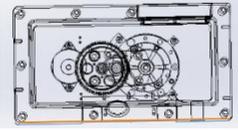
1. **Permission Settings for Different Operators:** Different permissions are set for routine operators and equipment maintenance personnel of the analysis equipment to ensure the stable maintenance of equipment data.
2. **Visual Aging Function of X-Ray Tube:** The aging function of the instrument before testing is displayed in a stepped climb visualization, and the phased aging can extend the service life of X-ray tube components and reduce maintenance costs.
3. **Preset of Multiple Limit Standards:** It has presets of multiple limit standards (RoHS, Halogens, Heavy Metals, Internal Corporate Standards, Samsung Standards, etc.), and also has the function of self-defined and arbitrary modification at any time. The order of limit standards can be adjusted arbitrarily according to test frequency.
4. **One-Click Editing of Test Reports:** The editing and modification function of test reports can be called with one click through the main interface.
5. **Export Function of Test Reports:** Excel table data can be exported by filtering time before and after and classifying test material types, which is convenient for internal statistical analysis.
6. **Integrated Detection Function for Special Elements in Plastics:** Such as S, As, Se, Ba, Sn, Sb, etc.
7. **One-Click Data Saving Function for the Whole Machine Data:** Convenient data import and export functions to prevent database loss caused by system chaos.
8. **Integrated Full-Element Detection Data Function for Metal Materials:** Such as stainless steel, copper alloy, etc.
9. **Integrated Detection Function for the Thickness of Plating Layers:** Surface electroplating layer thickness.
10. **One-Click Switching Function of Chinese and English Language Menus.**
11. **Diversity of Report Formats:** Customizable test report output formats (Excel, PDF, list, etc.) to meet various statistical needs of enterprises.



# Technical Specifications of EDXRF Analyzer

Item	EDX-N9
Analytical Range	S - U
Test Items	<ol style="list-style-type: none"> <li>1. Heavy metals in RoHS Directive: Pb, Cd, Hg, Br, Cr</li> <li>2. Halogens: Cl, Br</li> <li>3. Eight heavy metals regulations: Pb, Cd, Hg, As, Cr, Sb, Se, Ba</li> <li>4. Composition analysis of copper alloy, iron alloy, tin alloy, etc.</li> <li>5. Electroplating layer thickness detection: Sn/Cu, Au/Ni/Cu, Zn/Fe, Cr/Fe, Ni/CuZn</li> <li>6. Additional elements for Samsung system: Ni, Sn, etc.</li> </ol>
Sample Type	Solid, Liquid, Powder
X-Ray Tube Life	≥20,000 hours
Detector	Electrically cooled Si-PIN detector, 145±5 eV
Test Time	60s - 300s (automatically adjusted by software)
Collimation System	Spot sizes: φ0.3mm, 1mm, 3mm, 5mm, 6mm, 8mm (automatically selected by software)
Camera Positioning	8MP
Weight	38 kg
Dimensions	450mm × 400mm × 360mm (Sample chamber size: 450mm × 380mm × 85mm)
Environmental Range	Temperature: 15°C - 30°C, Humidity: ≤75%
Integrated Industrial Computer	Intel(R) i5 CPU, 8GB RAM, Windows 10 OS
Display	22-inch monitor
Data Storage	250GB (sufficient to store billions of data records)

# Core Components of EDXRF Analyzer

<p><b>Detector</b></p> 	<p>One of the core components of the EDXRF spectrometer, imported from the United States.</p> <p>Function: Detect characteristic X-rays of samples, process the collected signals, and transmit the processing results to the computer.</p> <p>Si-PIN detector, 1mil thick beryllium window, 6mm<sup>2</sup> crystal, 145eV resolution</p>
<p><b>X-Ray Tube</b></p> 	<p>Emit secondary X-rays for each element in the sample.</p> <p>Voltage: 0 - 50 kV</p> <p>Maximum current: 1.0 mA</p> <p>Maximum power: 50 W</p> <p>Target material: Mo</p>
<p><b>High-Voltage Power Supply</b></p> 	<p>Output voltage: 0 - 50 kV &amp; 1 mA</p> <p>Maximum power: 50 W</p> <p>Voltage regulation rate: 0.01% (from no-load to full-load)</p> <p>Current regulation rate: 0.01% (from no-load to full-load)</p> <p>Ripple voltage: Peak value is 0.25% of the maximum output voltage under rated output voltage condition.</p> <p>8-hour stability: ≤0.05%</p>
<p><b>Integrated Industrial Computer</b></p> 	<p>Self-developed built-in integrated industrial computer, fully matching the communication protocol of the core component (detector), providing one-to-one service.</p> <p>i5 CPU, 13th generation</p> <p>8GB RAM</p> <p>256GB solid-state drive</p>
<p><b>Optical Path System</b></p> 	<p>Collimated spot sizes: 6 types (customizable by software)</p> <p>Filter system: 6 (maximum 8mm, minimum 0.3mm)</p> <p>Stepping accuracy: 0.18 degrees angular velocity</p> <p>Control mode: Program-controlled</p>

## Standard Accessories of EDXRF Analyzer

**Standard Accessories (subject to adjustment for different applications)**

<b>Name</b>	<b>Quantity</b>
1. Sample cup	2
2. Testing film	1 box
3. Standard block	1
4. Energy calibration sample (Silver calibration sample)	1
5. Pass certificate	1
6. Operation manual	1
7. Factory radiation report	1
8. Wireless mouse and keyboard	1 set
9. Monitor	1