Opto Edu A63.7016 Benchtop Tungsten Filament Scanning Electron Microscope, SE+BSE+EDS, 100000x

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: CNOEC, OPTO-EDU
- Certification: CE, Rohs
- Model Number: A63.7016
- Minimum Order Quantity: 1 pc
- Price: FOB $1~1000, Depend on Order Quantity
- Packaging Details: Carton Packing, For Export Transportation
- Delivery Time: 5~20 Days
- Payment Terms: T/T,West Union,Paypal
- Supply Ability: 5000 pcs/ Month

Product Specification

- Resolution: 130eV
- Acceleration Voltage: 5 KV, 10 KV, 15 KV
- 3D Moving Sample Stage: X:±25mm Y:±25mm Z:30mm
- The Maximum Size Sample: "90 Mm(diameter) 40 Mm(thickness)"
- Electron Gun: Pre-centered Cartridge Tungsten Filament
- Image Signal: Backscattered Electron
- Highlight: **benchtop tungsten filament SEM**, **scanning electron microscope with EDS**, **100000x magnification electron microscope**

Product Description

Opto Edu A63.7016 Benchtop Tungsten Filament Scanning Electron Microscope

SE+BSE+EDS, 100000x magnification

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A63.7016

Benchtop Tungsten Filament Scanning Electron Microscope, SE+BSE+EDS, 100,000x

A63.7016 SEM

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Advanced Analytical Performance

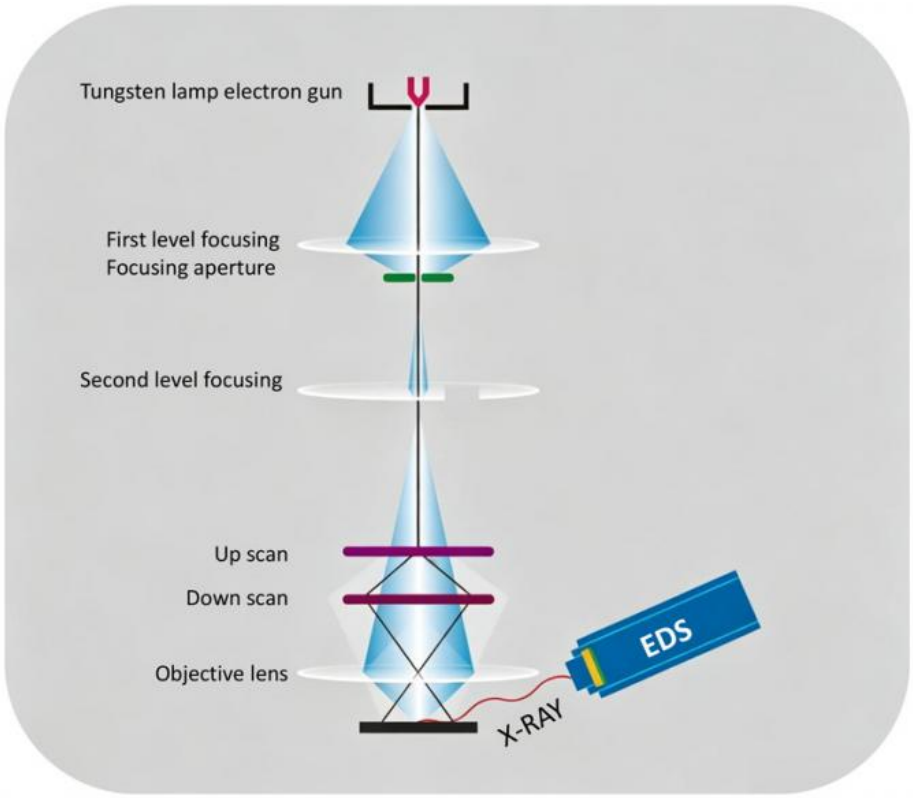
The A63.7016 SuperSEM breaks tradition with real-time EDS elemental analysis, combining SEM and EDS technologies in an advanced electron optical system. With exceptional analytical performance, real-time energy-dispersive spectroscopic pseudo-color imaging, and user-friendly operation, it enables in-depth analysis of both surface structure and chemical elements of samples.

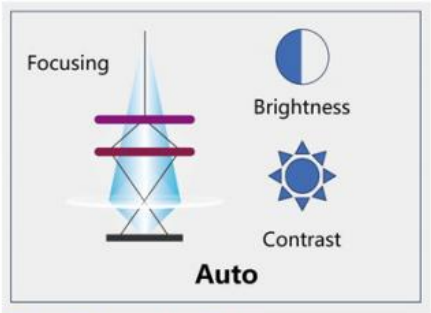
A63.7016 SuperSEM Key Features

- Always display X-ray spectra in real-time
- Real-time Energy Dispersive Spectroscopy (EDS) Pseudo-color Imaging
- Highlight elements of interest during analysis

Technology Overview

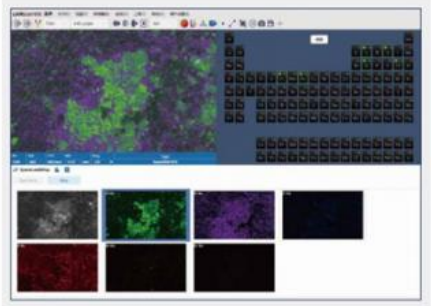
The scanning electron microscope uses an electron beam as the illumination source, irradiating samples with a focused, fine electron beam in a raster scanning manner. This generates various information related to sample properties, which is collected and processed to obtain magnified images of microscopic morphology. Compared to optical or transmission microscopes, it offers high resolution, large depth of field, and three-dimensional imaging capabilities.





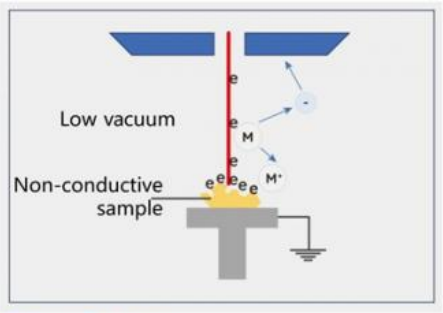
One click operation for better user experience

User-friendly interface, easy operation,integrated condenser lens without need for manual aperture adjustment and frequent electron beam alignment,one-click automatic brightness and contrast adjustment, automatic focusing, automatic aberration correction, and large image stitching allow novice users to quickly get started.



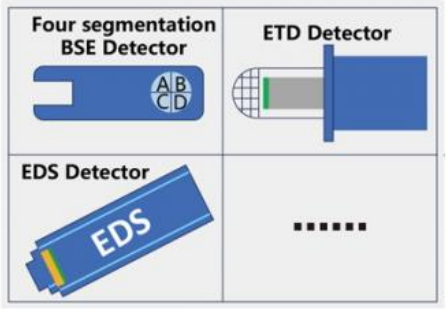
Real-time quantitative elemental analysis

Real-time composition information Unlike traditional SEM, this instrument integrates EDS as a detector on the SEM, and develops an exclusive algorithm for synchronous processing of BSE video data and EDS spectrum data, which can perform elemental analysis while scanning and acquiring multiple signals, and detect morphology and various element content
information in real time.



Charge Reduction

Equipped with low vacuum mode and reduced acceleration voltage methods, effectively reducing charging effects to achieve high-quality imaging results.



Various detectors

- Equipped with various detectors including BSD(Back-scatteringelectron detector), SED(Secondary electron detector) and EDS(Energy Dispersive Spectrometer).
- BSD(Back-scattering electron detector):Four-channel indepen-dent imaging,arbitrary signal synthesis, provide rich composi-tional information, good environmental adaptability,Coversmedium to high vacuum.
- SED(Secondary electron detector): Innovative compact structural design, independent internal power supply by multipliertube,stable signal, provide clear surface morphology informa-tion.
- SDD Energy Dispersive Spectrometer(EDS):Equipped withself-developed data processing module, innovative real-timetransmission of spectral signals without complex softwareoperations,enable real-time qualitative and quantitative analy-sis of micro-area elements.

A63.7016 Performance Characteristics

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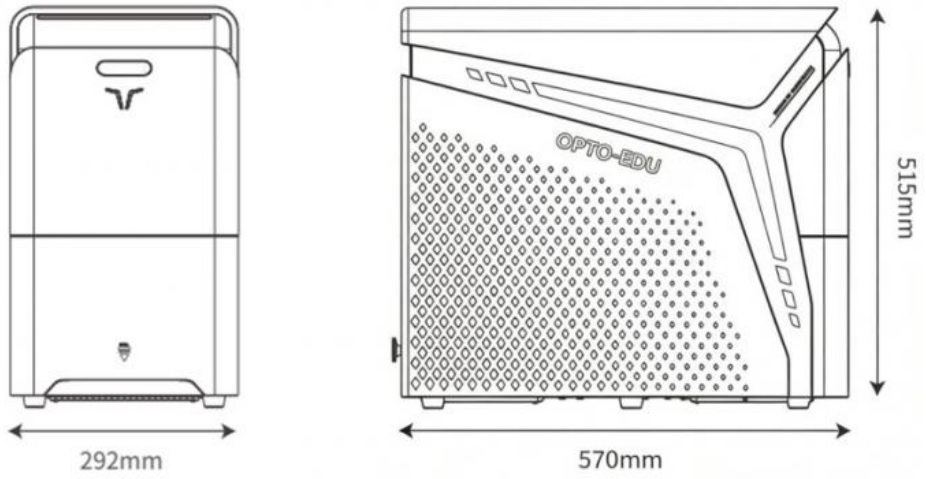
Performance Advantages

- **Fast Scanning Speed:** Signal acquisition bandwidth up to 10M. Video mode allows real-time sample observation without ghosting or trailing, ensuring no detail is missed.
- **Compact Design:** Structurally efficient device requires no special equipment rooms or additional vibration isolation tables. Plug-and-play with standard mains power, suitable for limited laboratory space.
- **Advanced Coloring Technique:** SEM image coloring visually highlights sample details, enhancing feature recognition and facilitating analysis. Color differentiation can reveal material composition, improving research outcomes.
- **Real-time Spectral Comparison:** Quantitative results display in real-time without completing collection, allowing comparison with previous spectra during the collection process.
- **Visualized Energy Spectrum Analysis:** Freely select analysis ranges for points, lines, or surfaces. Excellent visualization algorithms achieve precise separation of close spectral peaks and display elemental spatial distribution for studying material characteristics.

A63.7016 Specification OPTO-EDU

Technical Specifications

Specification	A63.7016	A63.7016-X	A63.7016-V	A63.7016-L
Resolution	130eV	130eV	130eV	130eV
Acceleration voltage	5 kV, 10 kV, 15 kV	5 kV, 10 kV, 15 kV	5 kV, 20 kV, 25 kV, 30 kV	5 kV, 10 kV, 15 kV, 20 kV, 25 kV, 30 kV
3D moving sample stage	X:±25mm Y:±25mm Z:30mm	X:±25mm Y:±25mm Z:30mm	X:±25mm Y:±25mm Z:30mm	X:±50mm Y:±50mm Z:60mm
The maximum size sample	90 mm(diameter) 40 mm(thickness)	90 mm(diameter) 40 mm(thickness)	90 mm(diameter) 40 mm(thickness)	200 mm(diameter) 60 mm(thickness)
Multiplying Power	×10 ~ ×100,000 (Photo magnification) ×25 ~ ×250,000 (Display multiplier)			
Electron Gun	Pre-centered cartridge tungsten filament			
Detector	BSE: High-Sensitivity 4-segment BSE detector	BSE: High-Sensitivity 4-segment BSE detector SE: Secondary electron detector EDS: Real-time energy spectrum pseudo-color imaging		
EDS Parameter	/	Detector type: silicon drift detector Detection area: 30mm² Resolution: 130eV Range of elemental analysis: B-Cf		
Image signal	Backscattered electron	Backscattered electron, Self-developed real-time energy spectrum detector, Secondary electron, Mix (Backscattered electron + Secondary electron + Real-time energy spectrum pseudo-color imaging)		
Vacuum mode	Standard, Charge-up reduction			
Conductor	BSE, Standard, Charge-up reduction			
Size(W×L×H)	292 mm×570 mm×515 mm	292 mm×570 mm×515 mm	292 mm×570 mm×515 mm	292 mm×570 mm×515 mm
Weight	55KG	56KG	57KG	66KG



A63.7016 Applications

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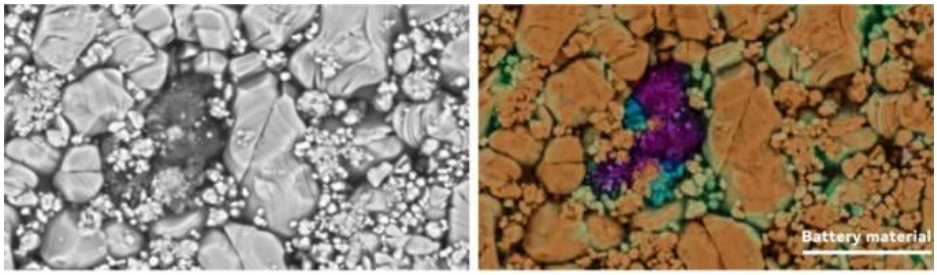

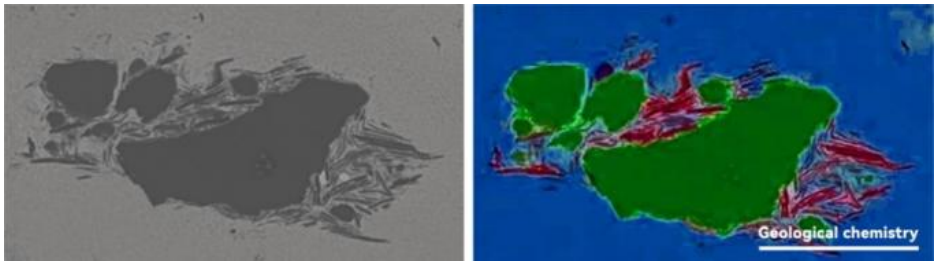

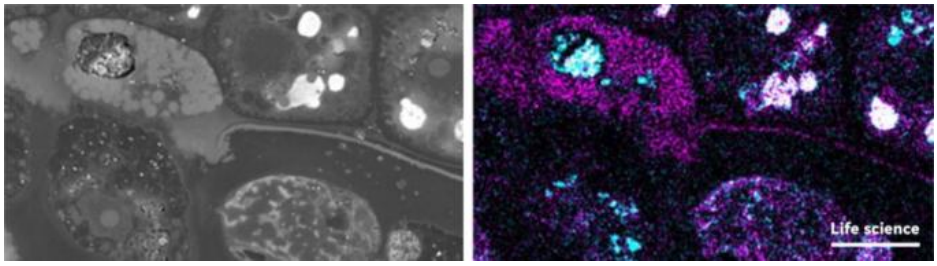

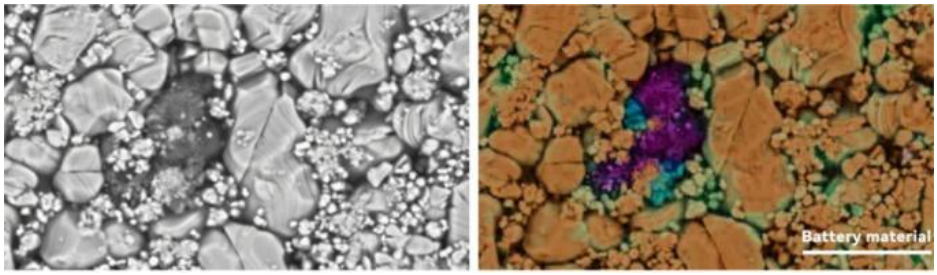

Applications

The A63.7016 SuperSEM is equipped with high acceleration voltage, multi-angle observation capabilities, and supporting data analysis software that enables automatic focusing, quick scanning, and real-time observation of sample element distribution in video mode. It ensures accurate and efficient image acquisition and analysis for materials including metals, ceramics, batteries, coatings, cement, and soft matter, making it a powerful tool for scientific research and industrial testing.

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