Opto Edu A63.7140A63.7160 2000000x Schottky Field Emission Scanning Electron Microscope

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: CNOEC, OPTO-EDU
- Certification: CE, Rohs
- Model Number: A63.7040
- 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: 0.9nm@30kV(SE) 1.4nm@15kV(SE)
- Magnification: 1 2000000x
- Electron Gun: Schottky Field Emission Gun
- Voltage: 0.02kV 30kV
- Electron Beam: 1pA~40nA
- Dwell Time: 20ns
- Highlight: **2000000x Scanning Electron Microscope**, **Schottky Field Emission Scanning Electron Microscope**
, **Opto Edu Scanning Electron Microscope**

Product Description

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A63.7140
A63.7160

Schottky Field Emission Scanning Electron Microscope, 2000000x

A63.7140/A63.7160 Specification

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A63.7140
A63.7160

Schottky Field Emission Scanning Electron Microscope, 2000000x

A63.7140/60 Specification

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Specification		A63.7140	A63.7160
Key Parameters	Resolution	1.4nm@15kV(SE) 2.5nm@30.0kV(BSE)	0.9nm@30kV(SE) 1.2nm@15kV(SE) 1.5nm@1kV(SE, BD mode)
	Accelerating Voltage	0.02kV 30kV	0.02kV 30kV
	Magnification	1 2000000x	1 2000000x
	Electron Gun	Schottky Thermal Field Emission Gun	Schottky Thermal Field Emission Gun
	Probe Current	1pA~40nA	1pA~40nA
	Field of View	6mm	6mm
	Dwell Time	20ns	20ns

	Beam Deflection	--	Dual Beam Deflection System: Electromagnetic & Static Hybrid Beam Deflection System
	Objective Lens	Dual Objective System: Magnetic Objective Lens & Electrostatic Objective Lens, Magnetic Sample Adaptable	Dual Objective System: Magnetic Objective Lens & Electrostatic Objective Lens, Magnetic Sample Adaptable
	Gun Aperture	(10μm,30μm,70μm,100μm,150μm,220μm)*2 Sets (1 For Backup), Motorized Moving	(10μm,30μm,70μm,100μm,150μm,220μm)*2 Sets (1 For Backup), Motorized Moving
Chamber	Chamber Size	Width 370mm, Height 330mm, Depth 344mm	Width 370mm, Height 330mm, Depth 344mm
	Extension Port	10 Ports	10 Ports
	Vaccum System	2 Ion Pump 1 Turbo Molecular Pump 1 Mechanical Pump Oil Free	2 Ion Pump 1 Turbo Molecular Pump 1 Mechanical Pump Oil Free
		Gun Vacuum: 2x10-7Pa Chamber Vacuum: 6x10-4Pa	Gun Vacuum: 2x10-7Pa Chamber Vacuum: 6x10-4Pa
	Stage	5 Axes Auto Stage, X:130mm, Y:130mm, Z:60mm, R: 360°, T: -10° 70°, Maximum load >500g	5 Axes Auto Stage, X:130mm, Y:130mm, Z:60mm, R: 360°, T: -10° 70°, Maximum load >500g
	Camera	Optical Color Navigation CCD High Definition IR CCD	Optical Color Navigation CCD High Definition IR CCD
Detectors & Extensions	Standard	SE Detector	SE Detector Inlens SE Detector
PC & Software	Computer	Working Station, Memory 16G, Hard Disk 512G, 24" Monitor, Win10 System	Working Station, Memory 16G, Hard Disk 512G, 24" Monitor, Win10 System
	Control	Control Panel & Joystick	Control Panel & Joystick
	Software	Auto Focus, Auto Stigmator, Auto Brightness Contrast, Image Format TIFF,JPG,PNG,BMP, Image Output Resolution Max 16k*16k	Auto Focus, Auto Stigmator, Auto Brightness Contrast, Image Format TIFF,JPG,PNG,BMP, Image Output Resolution Max 16k*16k
Optional Accessories	A50.7101	BSE	BSE
	A50.7102	-	InLens BSE
	A50.7103	Energy Dispersive Spectroscopy (EDS/EDX)	Energy Dispersive Spectroscopy (EDS/EDX)
	A50.7104	Electron Backscatter Diffraction Pattern (EBSD)	Electron Backscatter Diffraction Pattern (EBSD)
	A50.7105	EDS+EBSD	EDS+EBSD
	A50.7106	Scanning Transmission Electron (STEM)	Scanning Transmission Electron (STEM)
	A50.7107	Electron-beam-induced Current (EBIC)	Electron-beam-induced Current (EBIC)
	A50.7108	Cathodoluminescence (CL)	Cathodoluminescence (CL)
	A50.7109	Plasma	Plasma
	A50.7110	Air Lock, Sample Exchange Warehouse	Air Lock, Sample Exchange Warehouse
	A50.7111	Beam Blanker	Beam Blanker
	A50.7120	Large Image Stitching Software	Large Image Stitching Software
	A50.7121	Particle Analysis Software	Particle Analysis Software
	A50.7112	Vacuum Transfer Holder	Vacuum Transfer Holder
	A50.7113	Raman-SEM Correlative System	Raman-SEM Correlative System
	A50.7115	UPS	UPS
	A50.7114	-	Column built-in energy fiter ExB

A63.7140/60 Analysis Software

OPTO-EDU

▶ Independent research and development, Independent and controllable

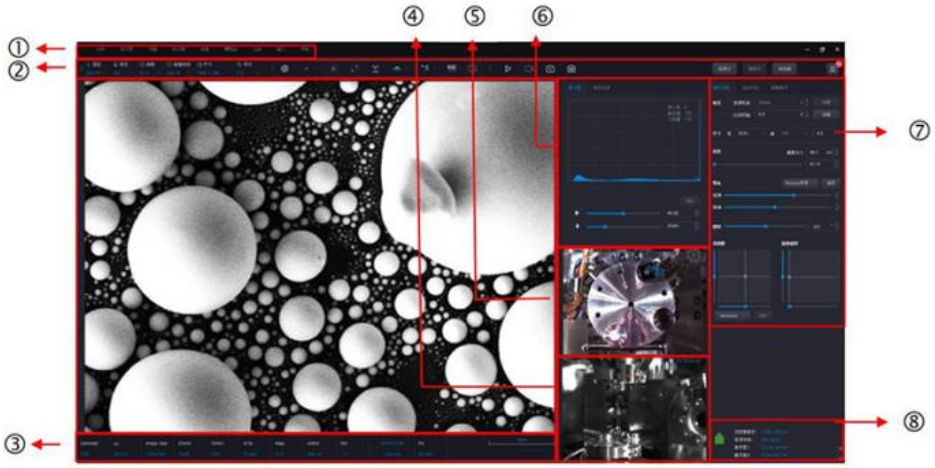
Guarding the kernel security architecture to achieve application security and data security;
High scalability and compatibility, striving to create a diversified SEM application ecosystem

▶ Strong Compatibility, High Adaptability

Can be installed on different terminals, such as computers, mobile phones, and tablets, to control the electron microscope; This SEM-OS electron microscope operating system is compatible with SEM from various manufacturers and is compatible with multiple models, expanding the SEM ecosystem

▶ Integrated Software and Computing, Simple and Efficient

Unified user interface, no need to repeatedly adapt to different terminals; Equipped with AI algorithms to collect information and present real-time output effects with clearer image quality and more prominent details; Kernel driven SEM accelerates hardware control

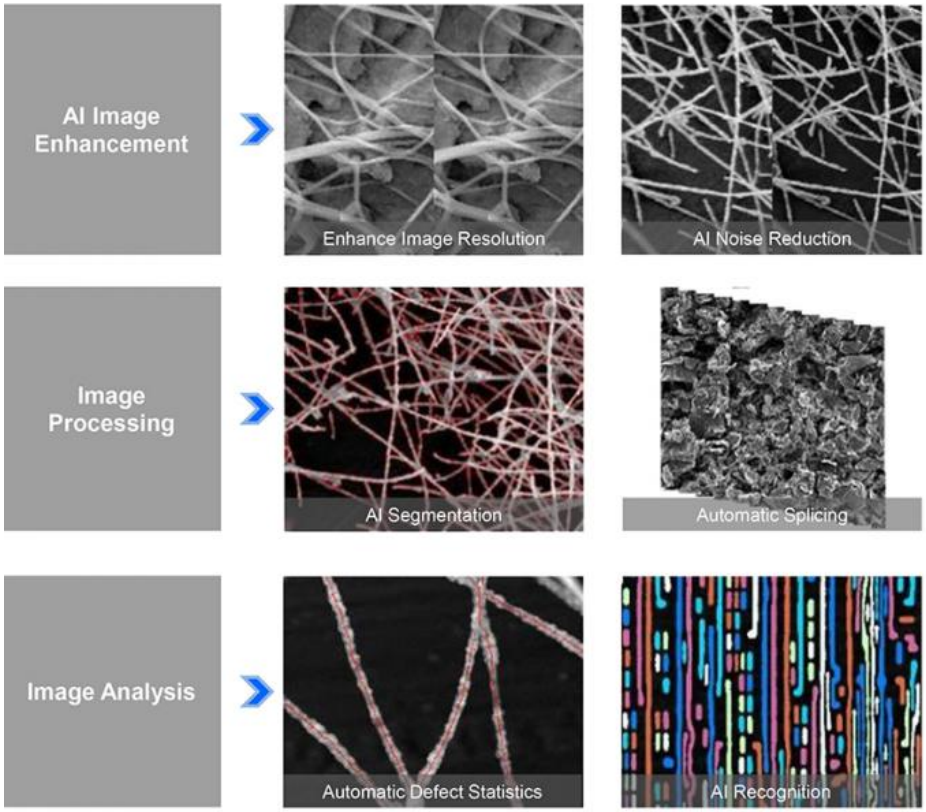


① Menu bar, ② Quick operation area, ③ Data bar, ④ Monitoring area, ⑤ Navigation area, ⑥ Comprehensive area, ⑦ Operation area, ⑧ Status area

▶ AI+ Large Numbers According to Cloud Support

AI+ data cloud support, automatically analyzing user needs and usage habits, creating a personalized micro data analysis platform for multiple applications

Supported by the "cloud" platform, we aim to create a micro image big data platform with independent and flexible modeling capabilities Flexible derivation of personalized applications from image big data, feeding back the accumulation of image data dimensions Deep learning empowers image quality enhancement, processing speed improvement, and analysis upgrade

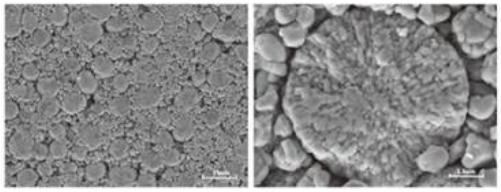


A63.7140/60 Lithium Battery Material Solutions

OPTO-EDU

The A63.7140/A63.7160 series scanning electron microscope is equipped with IGS vacuum transfer rods, EDS energy spectrometers, Raman spectroscopy and other accessories, providing a comprehensive solution for lithium battery research from sample preparation, morphology observation, composition analysis, and structural analysis.

▶ SEM+ EDS Spectrometer + Analysis Software



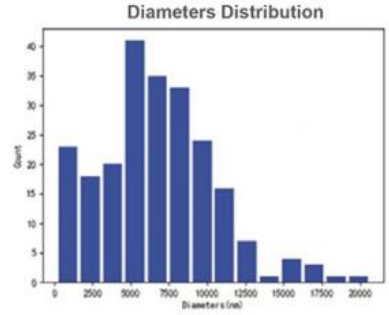
SEM Morphology Image of NCM811 Positive Electrode

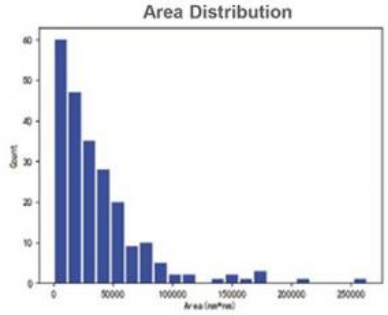
Particle Size Statistical Analysis of NCM523 Particles

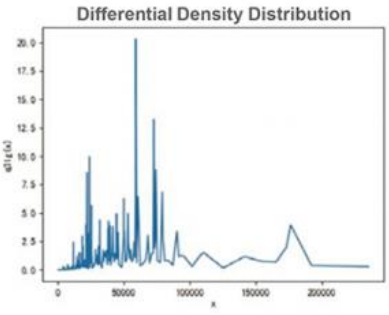
High speed automation | Comprehensive component analysis | Accurate granularity statistics

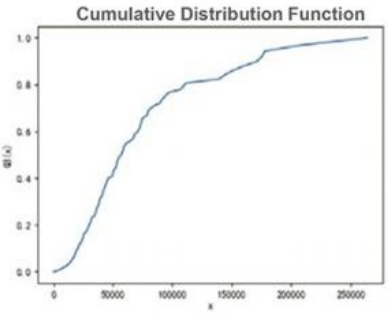
High resolution imaging | Vacuum transfer solution | Customized services

- Realize fast imaging with three keys, high degree of automation, and save time and cost
- Wide field morphology observation and element distribution, accurate observation of mixing uniformity
- Equipped with powerful granularity analysis function, it helps you deeply mine sample data









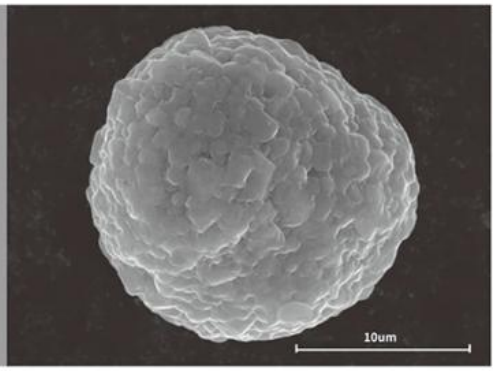
▶ SEM+ EDS Spectrometer + Vacuum Transfer Rod + Analysis Software

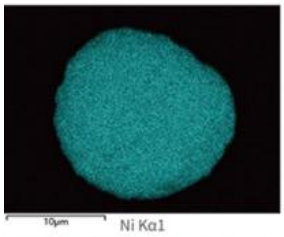
Vacuum Transfer Rod

High resolution imaging | Vacuum transfer solution | Customized services

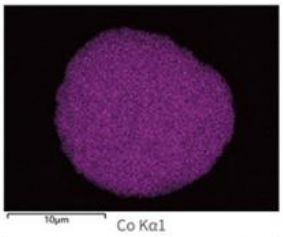
- Effectively solving the problem of sample oxidation and ensuring the authenticity and reliability of observation results
- High resolution scanning mode for rapid imaging, reducing damage to the sample by electron beam
- Customizable services to meet personalized customer needs and ensure the best experience

SEM Morphology Images and EDS Mapping Analysis of NCM523 Particles

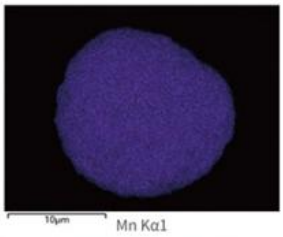




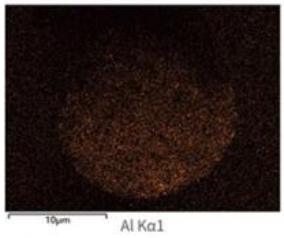
Ni Kα1



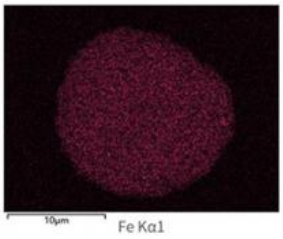
Co Kα1



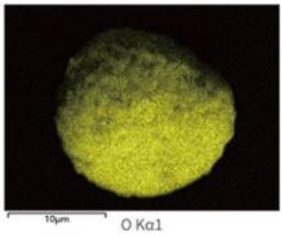
Mn Kα1



Al Kα1



Fe Kα1



O Kα1

Step 1:The transfer rod is loaded onto the glove box to complete the sample transfer from the glove box to the transfer rod compartment.

Step 2:The sample transfer process involves transferring the positive pressure inside the rod chamber during the transfer process.

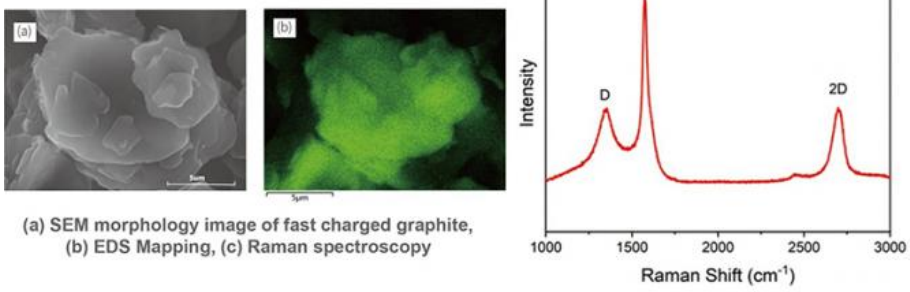
Step 3:The transfer rod is loaded onto the electron microscope to transfer the sample from the transfer rod chamber to the main chamber of the electron microscope.

Step 4:Sample shooting and data post-processing, customized development according to user needs.

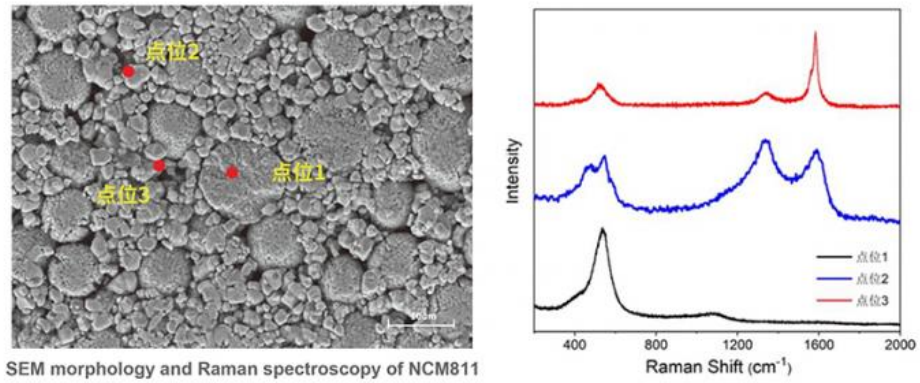
▶ SEM+ EDS Spectrometer + Vacuum Transfer Rod + Raman Spectroscopy + Analysis Software

Structural analysis | Mechanism analysis | High precision displacement table

- Make up for the molecular structure analysis that EDS technology cannot achieve, and comprehensively grasp the sample composition
- Realize fast switching between Raman optical axis and electron beam optical axis, multi-dimensional analysis of sample characteristics, and real-time tracking. The structural evolution of materials during charging and discharging processes, and the in-depth study of their assisting mechanisms
- Large stroke high-precision high-speed piezoelectric ceramic displacement table, achieving integrated data acquisition at the same position, meeting Stability analysis of long-term confocal Raman surface



(a) SEM morphology image of fast charged graphite,
(b) EDS Mapping, (c) Raman spectroscopy



SEM morphology and Raman spectroscopy of NCM811

A63.7140/A63.7160 Sample Observation

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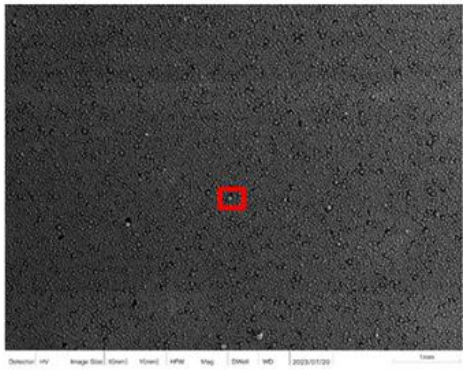
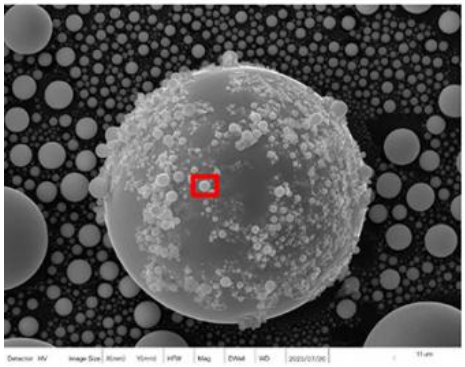
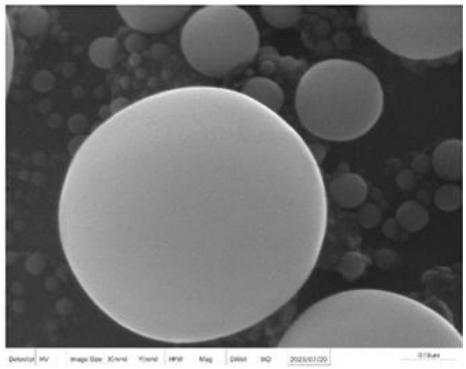
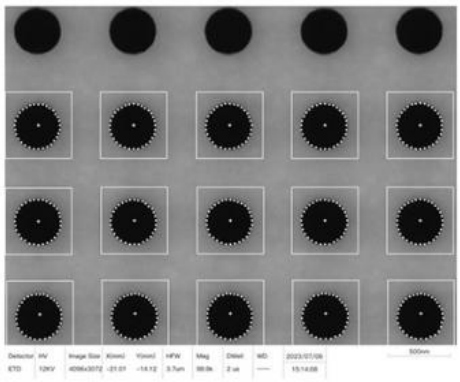
▶ Gold on Carbon Sample Quick Position & Zoom View

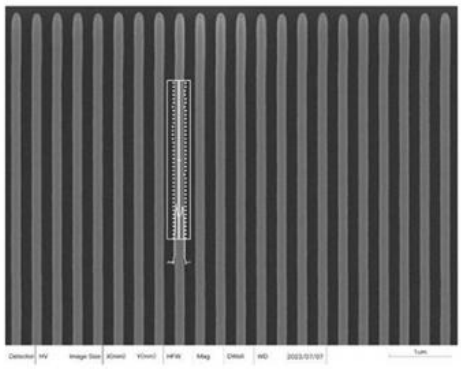




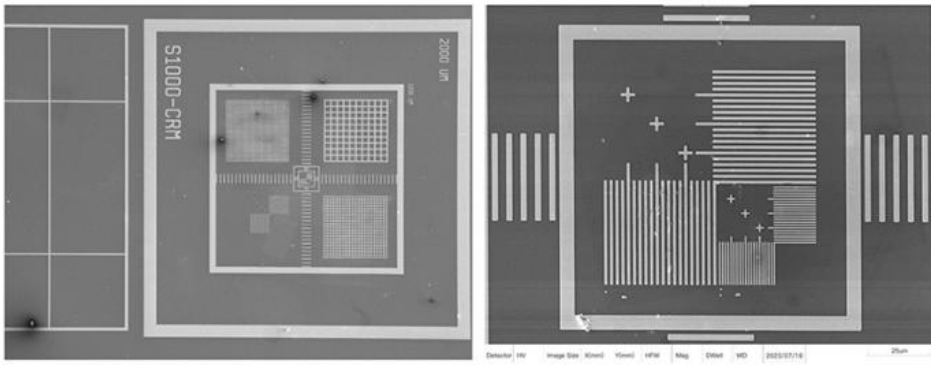


▶ High Resolution Image

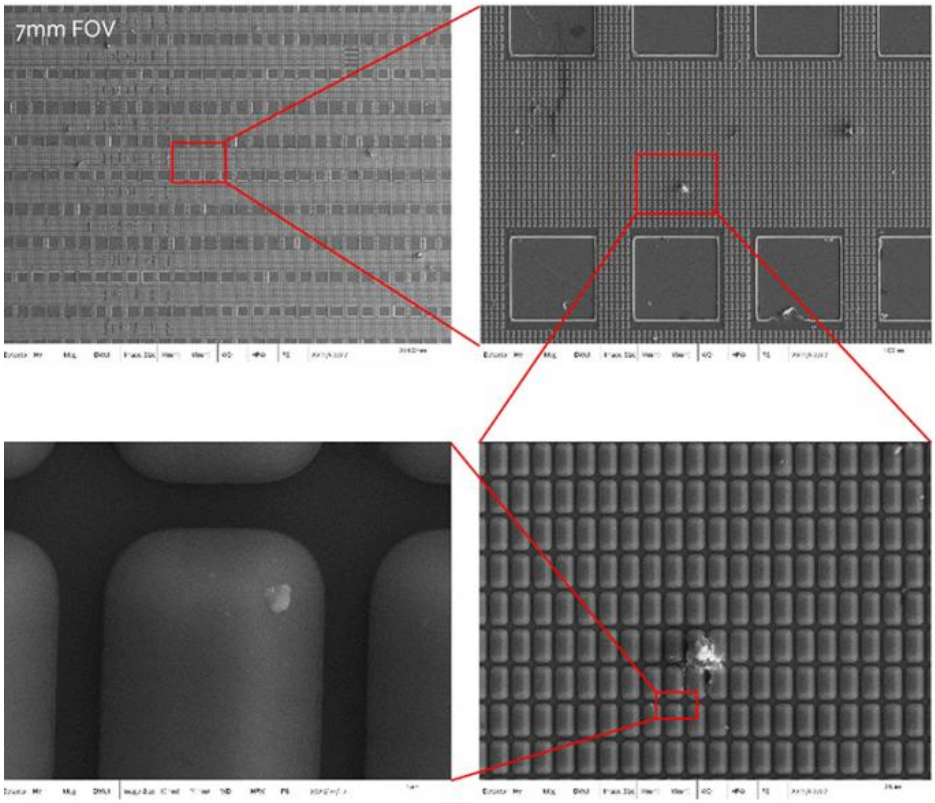


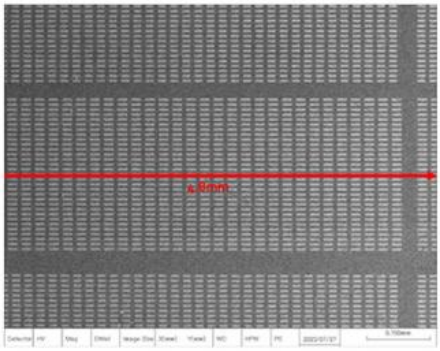


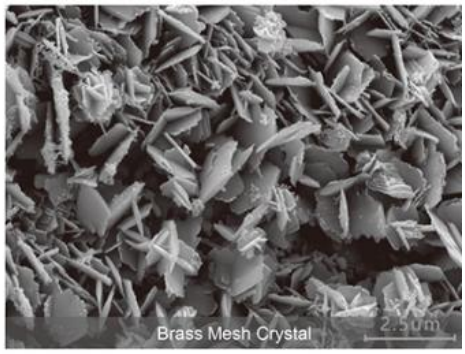
▶ Large Field of View Without Distortion

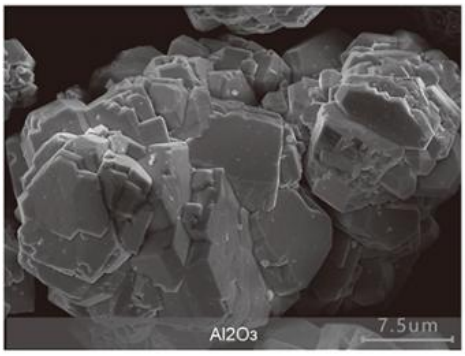


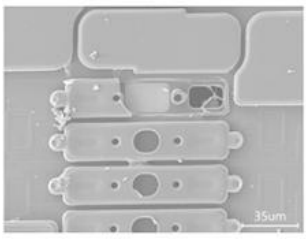
▶ Continuous Imaging



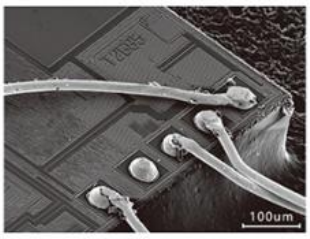




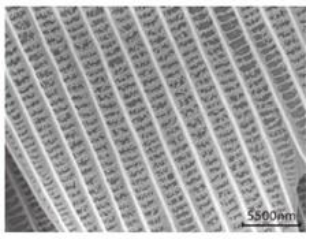




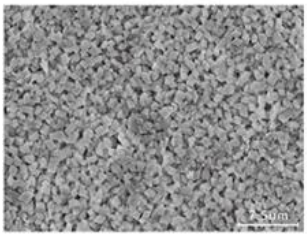
Printer Nozzle



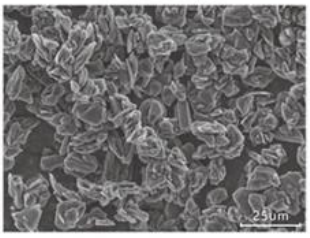
Failure Analysis



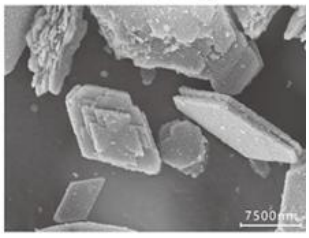
Butterfly Wings



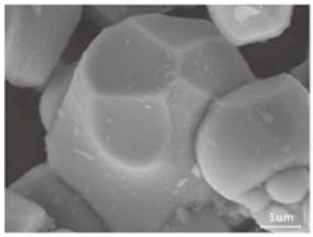
Al_2O_3



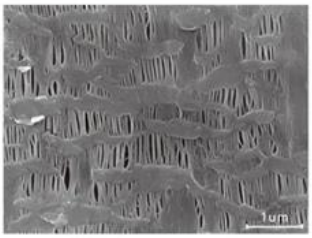
Graphite



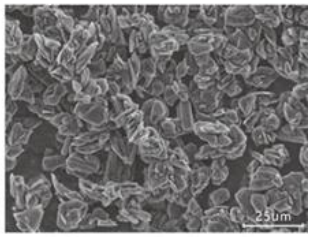
$CaZnO_3$ Crystal



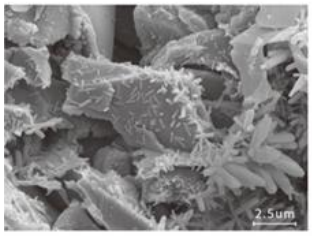
Lithium battery positive electrode



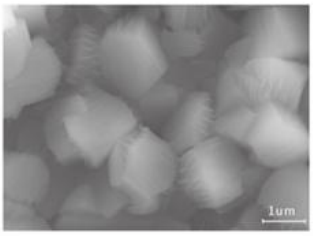
Lithium battery separator



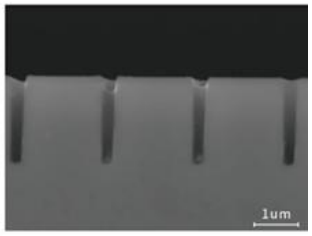
Lithium negative electrode



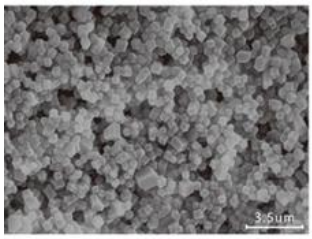
Refractory fracture surface



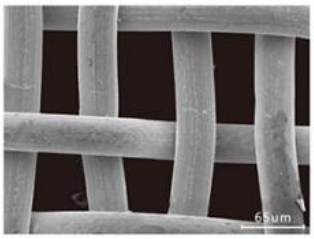
Magnetic materials



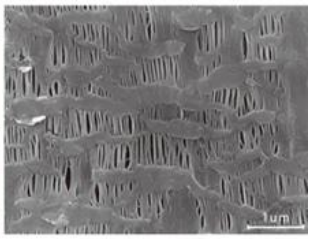
Semiconductor material cross-section



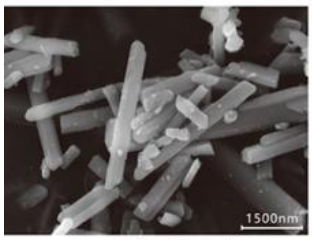
Zeolitic Imidazolate Frameworks (ZIFs)



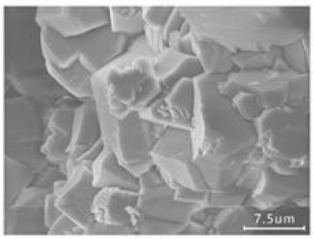
Brass Mesh



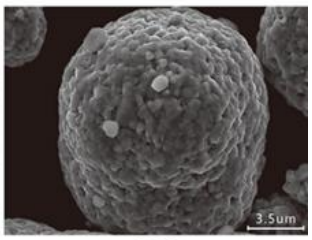
Diaphragm Material



Al_2O_3 Crystal



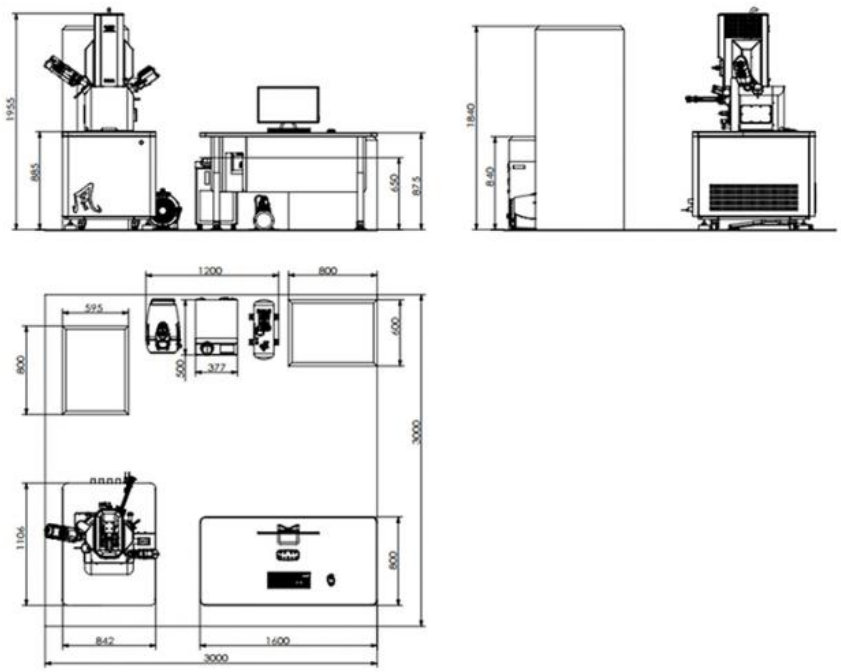
Al_2O_3

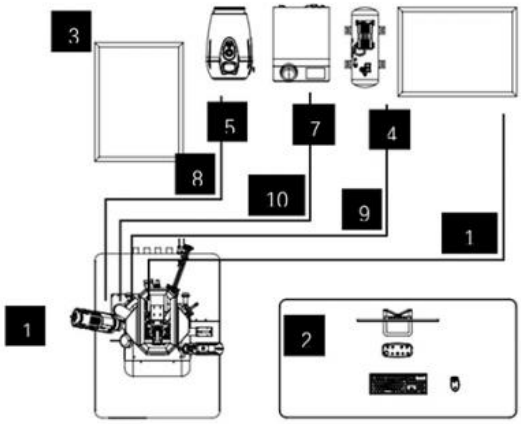


NCM

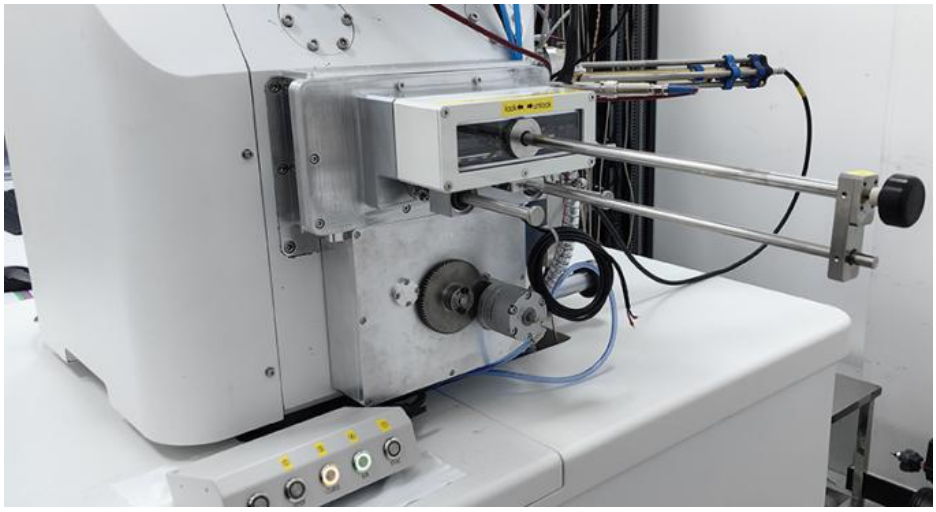
A63.7140/A63.7160 System Diaphragm

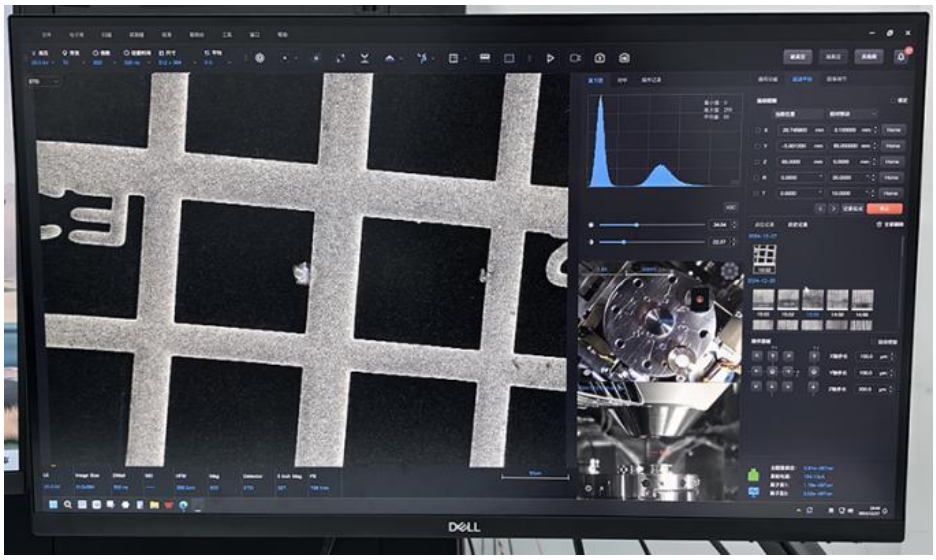
OPTO-EDU

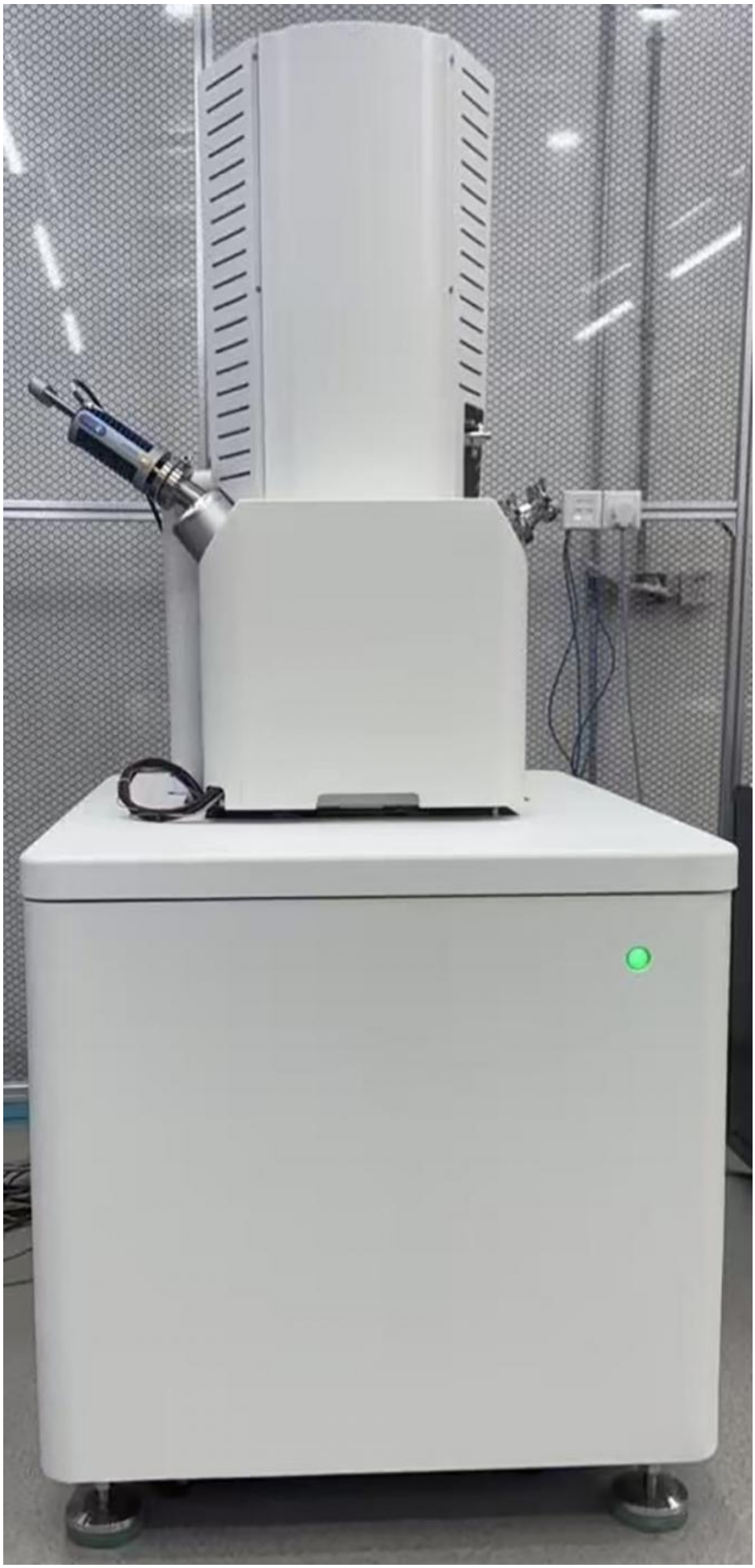




No.	Description
1	Plinth Microscope Body
2	Table
3	Electrical console
4	Air compressor
5	Pre-pump
6	UPS
7	Water Chillier
8	The length of the vacuum pump's tube
9	The length of the air compressor tube
10	The length of the water chillier tube
11	The length of the UPS Power cord







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