



CIQTEK *Electron Microscope*

www.ciqtekglobal.com

About CIQTEK

CIQTEK is the global developer & manufacturer of high-precision scientific instruments. Our main products include Magnetic Resonance Spectrometer, Electron Microscopes, Scanning NV Microscopes, and BET Surface Area & Pore Analyzer, etc.

350+

R&D Staffs

200+

Invention Patents

40%+

R&D Investment

1000+

Customers

12

Application Centers



**Tungsten Filament
Scanning Electron Microscope**
SEM3200



**High Resolution Tungsten Filament
Scanning Electron Microscope**
SEM3300



**Field Emission
Scanning Electron Microscope**
SEM4000Pro



**Field Emission
Scanning Electron Microscope**
SEM5000Pro



**Ultra-high Resolution Field Emission
Scanning Electron Microscope**
SEM5000X



**Focused Ion Beam
Scanning Electron Microscopy**
DB500



**High Speed
Scanning Electron Microscope**
HEM6000



**120kV Field Emission
Transmission Electron Microscope**
TH-F120

Tungsten Filament Scanning Electron Microscope SEM3200



SEM3200 is a high-performance tungsten filament scanning electron microscope. It has excellent imaging quality capabilities in both high and low vacuum modes. It also has a large depth of field with a user-friendly interface to enable users to characterize specimens and explore the world of microscopic imaging and analysis.

Resolution

High vacuum: 3 nm @ 30 kV, SE; 8 nm @ 3 kV, SE; 4 nm @ 30 kV, BSE
^①**Low vacuum:** 3 nm @ 30 kV, SE

①Low vacuum secondary electronic detector optional.

Magnification

1~300,000x

Acceleration Voltage

0.2 kV ~ 30 kV

Features



Dual Anode (Tetrode)

Emission system design provides excellent resolution under low landing energy



Optical Navigation

Quickly locates targeted Region of Interest (ROI)



*Large FOV Mapping

Fully automatic image stitching to map a large Field of View



Mixed Imaging (SE+BSE)

Observe the specimen compositional and surface topographic information in one image



Expandability

SEM SE\BSE\EDS\EDX\EBSD, etc



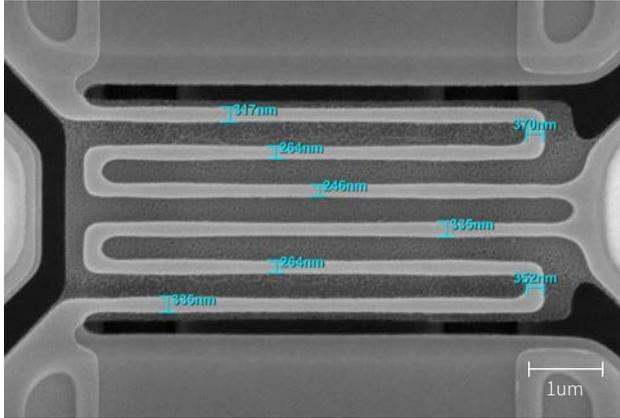
*Low Vacuum Mode

Provides specimen surface morphology information in low vacuum, vacuum modes switchable with one click

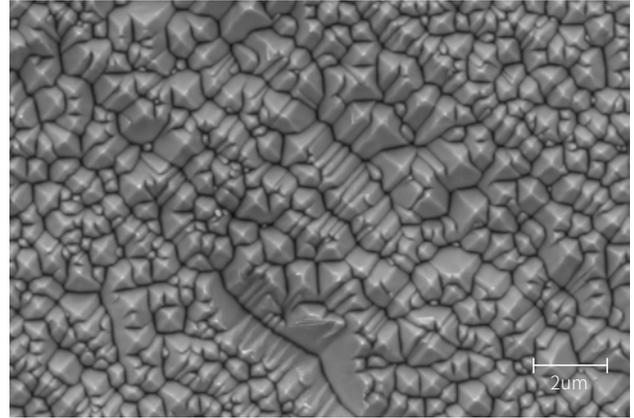
Specifications

Model		SEM3200	
Electron Optics	Electron gun		Pre-aligned Medium-sized Hairpin-type Tungsten Filament
	Resolution	High vacuum	3 nm @ 30 kV,SE; 4 nm @ 30 kV,BSE; 8 nm @ 3 kV,SE
		*Low vacuum	3 nm @ 30 kV,SE
	Magnification		1 ~ 300,000x
Accelerating voltage		0.2 kV ~ 30 kV	
Detector	Detector		Secondary electron detector (ETD) *EBSD、*Low vacuum SED、*EDS
	Image format		TIFF、JPG、BMP、PNG
Vacuum System	Vacuum mode	High vacuum	Better than 5x10 ⁻⁴ Pa
		*Low vacuum	5 ~ 1000 Pa
	Control mode		Fully automatic
	Turbo molecular pump		> 240 L/S
Mechanical pump		200 L/min(50 Hz)	
Specimen Chamber	Camera		Optical navigation Chamber monitoring
	Sample stage		Five axis automatic
	Stage Range	X: 125 mm	
		Y: 125 mm	
		Z: 50 mm	
		R: 360° T:-10° ~ +90°	
User Interface	Language		English
	OS		Windows
	Navigation		Optical navigation, gesture quick navigation
	Automatic function		Auto brightness & contrast, auto focus, auto stigmator
	Featured function		Intelligence Assisted Image Astigmatism Correction *Large-FOV Image Stitching (Optional)
Installation Requirements	Footprint		L > 3000 mm, W > 4000 mm, H > 2300 mm
	Temperature		20° C (68° F) ~ 25° C (77° F)
	Humidity		≤ 50 %
	Electrical power		AC 220 V(±10 %), 50 Hz, 2 kVA

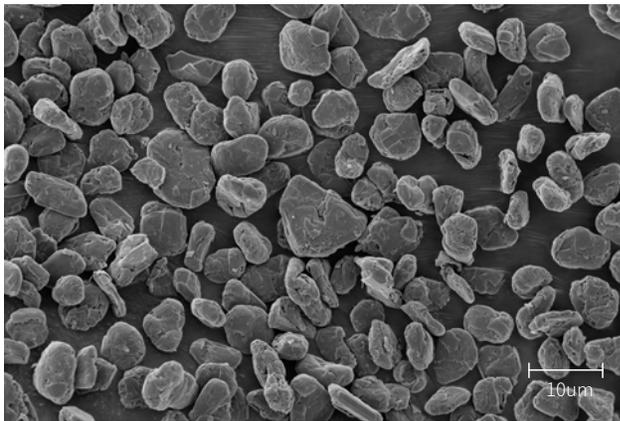
Image Gallery



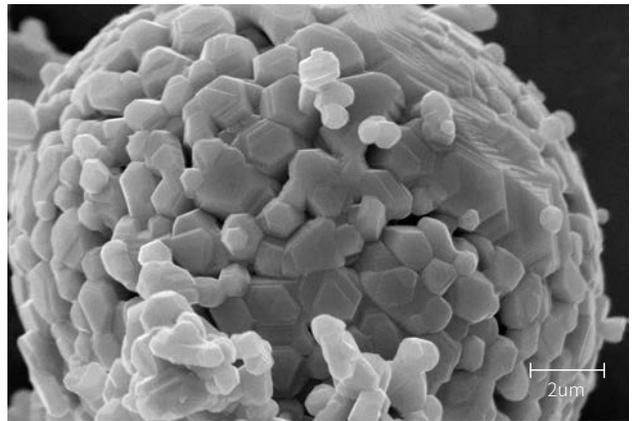
IC Chips/10kV/ETD



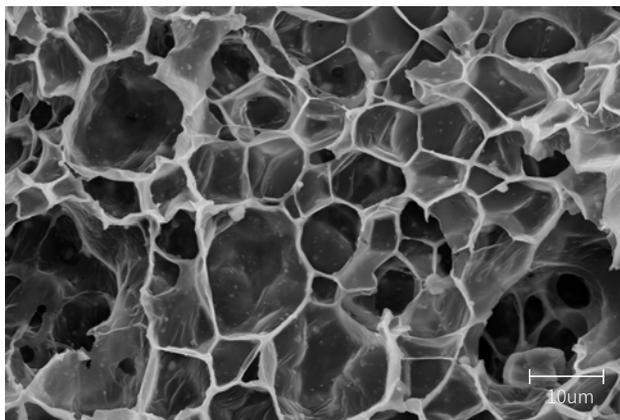
Solar Battery-1/5kV/ETD



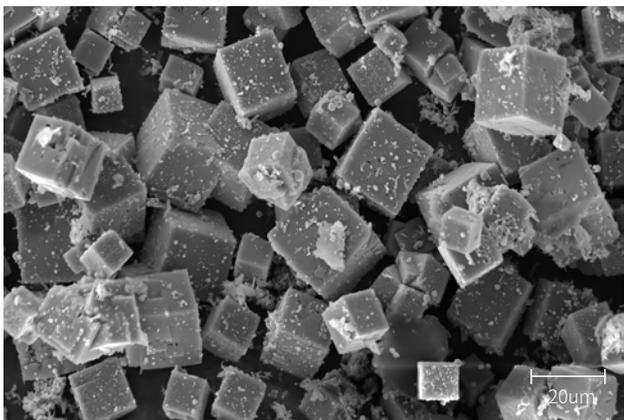
Cathode-Carbon/5kV/ETD



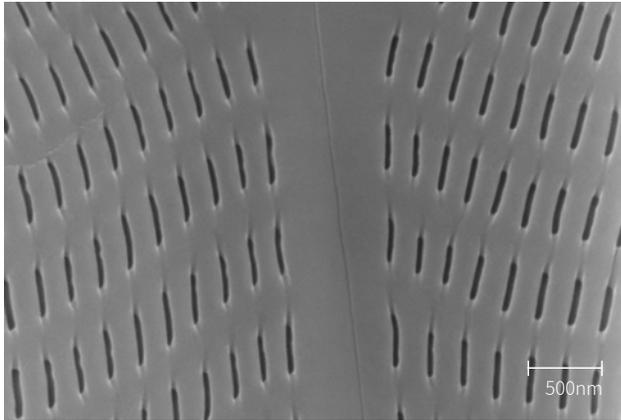
Anode-Lithium Cobaltate/15kV/ETD



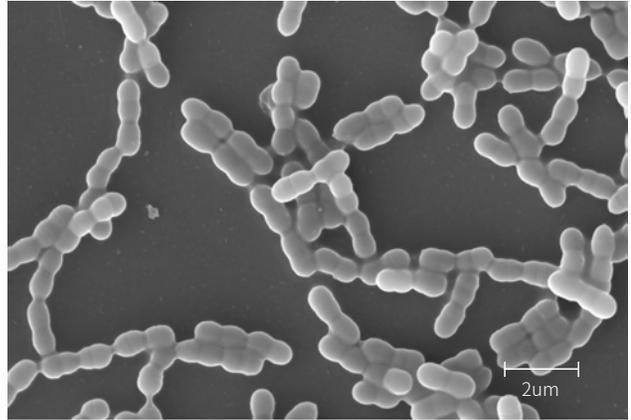
Polymer Foam/15kV/



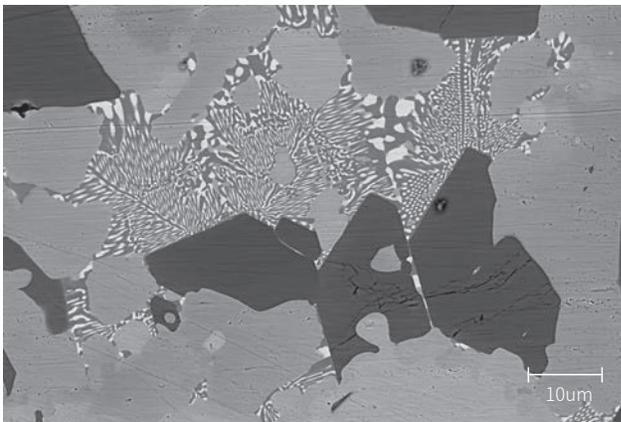
MOF-Material/15kV/ETD



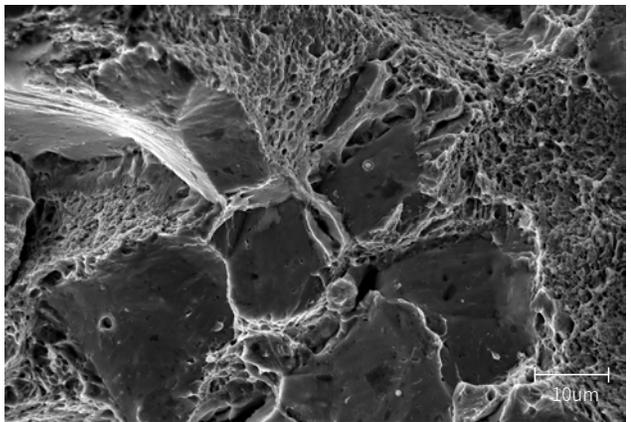
Diatom/10kV/ETD



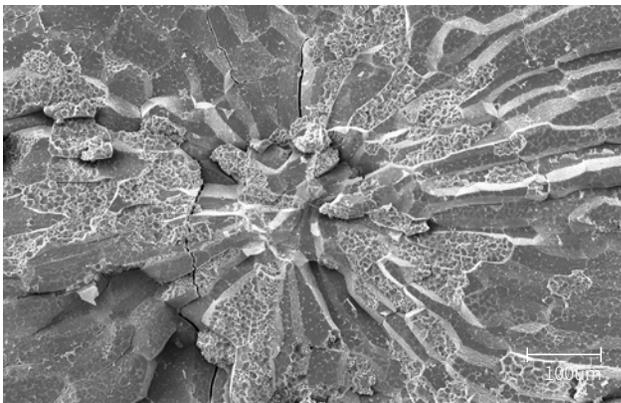
Staphylococcus Gallinarum/15kV/ETD



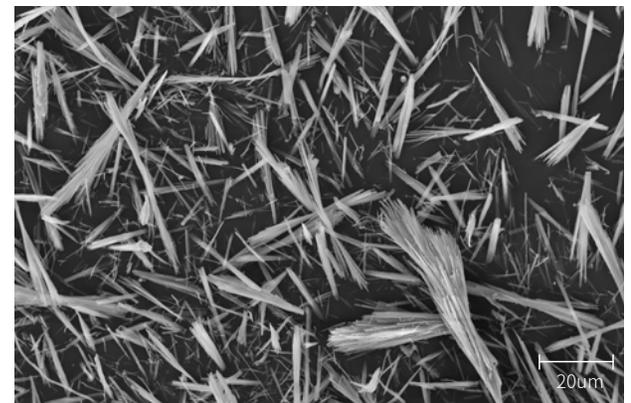
Stainless Steel-Brass Weldments/15kV/BSED



Alloy Fracture Brittleness + Toughness/20kV/ETD



Ricw/10kV/ETD



Magnesium Sulfate/15kV/ETD

High Resolution Tungsten Filament Scanning Electron Microscope

SEM3300



SEM3300 is a new generation of tungsten filament scanning electron microscope with a resolution better than 2.5 nm @ 20kV. The special electron optics design breaks through the resolution limit of tungsten filament, reaches a resolution of 5 nm at a low voltage of 1 kV.

It has excellent imaging quality, can obtain high-resolution images in various field of view ranges, delivers large depth of field. Great expandability enables to explore the world of microscopic imaging.

Resolution

2.5 nm @ 20 kV, SE; 4 nm @ 3 kV, SE; 5 nm @ 1 kV, SE

Magnification

1 ~ 300,000 x

Acceleration Voltage

0.1 kV~ 30 kV

Features



"SuperTunnel"

Electron Optics Technology



Low Voltage High Resolution Imaging

Achieved by Electron Optics Column Beam Deceleration Technology



Electromagnetic & Electrostatic Combo Objective Lens

Effectively reduces lens aberration, improves image resolution at low voltages, compatible to imaging of magnetic samples



In-column Electron Detection Technology

Improves signal electron capturing efficiency, realizes high signal-to-noise ratio at high resolution



Optical Navigation

Quickly locates targeted sample coordinates and Regions of Interest(ROI)



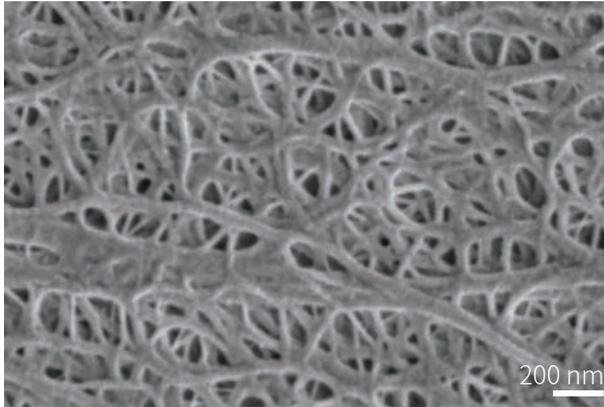
*AutoMap

Fully automated image acquisition & stitching, mapping a large Field of View

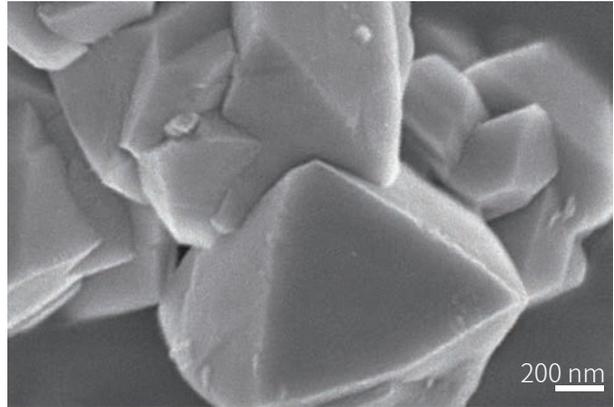
Specifications

Electron Optics	Electron gun	Pre-aligned Hairpin-type Tungsten Filament
	Resolution	2.5 nm @ 20kV ; 4 nm @ 3 kV ; 5 nm @ 1kV
	Magnification	1 x ~ 300,000 x
	Acceleration Voltage	0.1 kV~30 kV
Detector	Detector	ETD In-lens Electron Detector
		Backscattered Electron Detector, Energy Dispersive Spectrometry (EDS), etc.
	Image format	TIFF, JPG, BMP, PNG
Vacuum System	Vacuum level	Better than 5×10^{-4} Pa
	Control mode	Fully automatic
Specimen Chamber	Optional configuration	Optical navigation
		Chamber monitoring
	Specimen stage	Five axis automatic
User Interface	Language	English
	OS	Windows
	Navigation	Optical navigation, gesture quick navigation
	Automatic function	Auto brightness & contrast, auto focus, auto stigmator

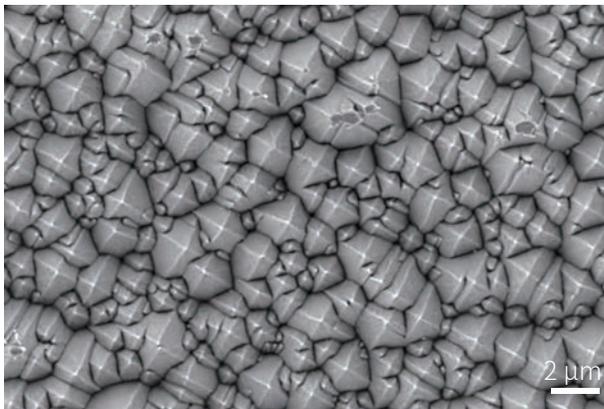
Image Gallery



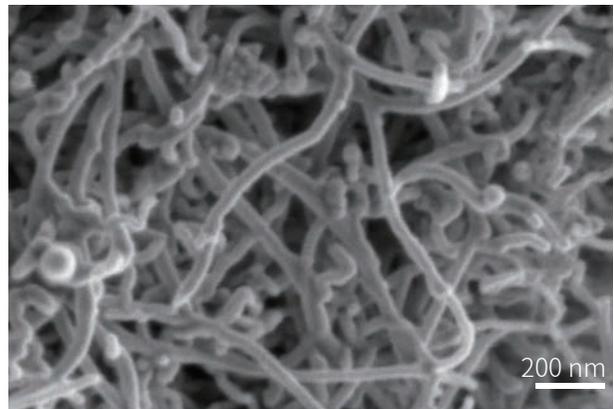
Battery Diaphragm/1 kV/Inlens



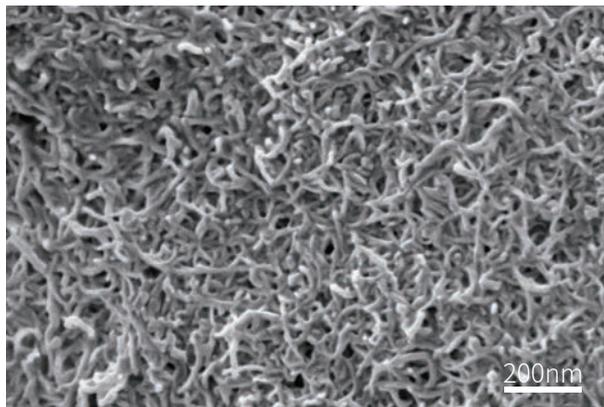
Molecular Sieve/3 kV/Inlens



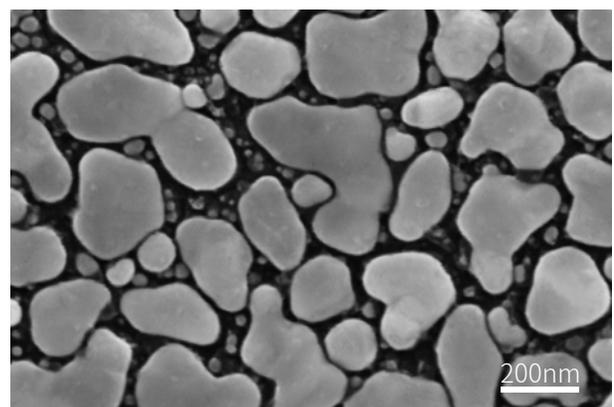
Photovoltaic Panel/3 kV/ETD-SE



CNT/1 kV/Inlens



CNT/1kV/Inlens-SE



Gold Particle/20kV/ BSED

Field Emission Scanning Electron Microscope

SEM4000Pro

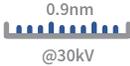


SEM4000Pro is an analytical field emission scanning electron microscope equipped with a high-brightness long-life Schottky field emission electron gun. With the three-stage condenser electron optics column design, beam current can be up to 200 nA, SEM4000Pro delivers advantages in EDS, EBSD, WDS, and other analytical applications.

The system supports low vacuum mode as well as high-performance low-vacuum secondary electron detector and retractable backscattered electron detector, which can help directly observe poorly conductive or even non-conductive samples. Standard optical navigation mode, as well as an intuitive user operational interface, make your analysis work easy.

Features


Low Vacuum Mode (180 Pa)


High Resolution (0.9 nm@ 30 kV)


200 nA Beam Current (Optional)


*Fast Specimen Exchange Loadlock(8 inches max)


Three-stage Electromagnetic Lens

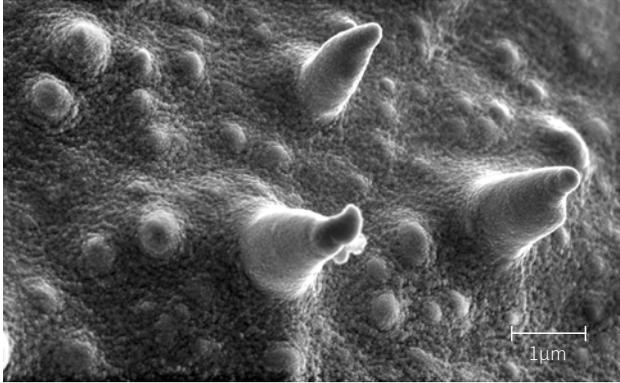

Mechanical Eucentric Sample Stage

- 01** Equipped with high brightness and long life Schottky field emission electron gun
- 02** High resolution of 0.9 nm at 30 kV
- 03** Three-stage electromagnetic lens design, deliveries wide beam current adjustable range with max beam current up to 200 nA
- 04** Non-immersion magnetic field free objective lens design, can directly observe magnetic sample
- 05** Standard low vacuum mode, as well as high performance low vacuum secondary electron detector and retractable backscattered electron detector
- 06** Standard optical navigation integrated to make analysis work easier

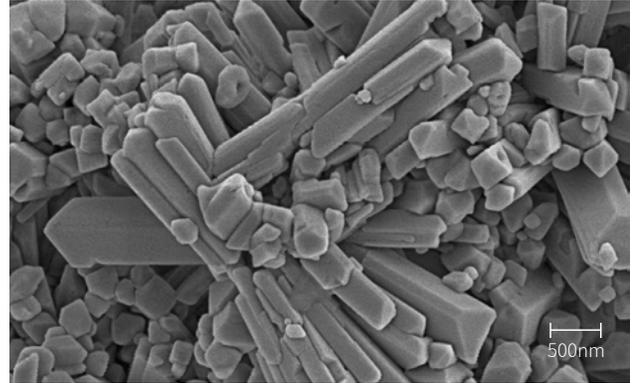
Specifications

Electron Optics	Resolution	High Vacuum	0.9 nm @ 30 kV, SE
		Low Vacuum	2.5 nm @ 30 kV, BSE, 30 Pa 1.5 nm @ 30 kV, SE, 30 Pa
	Accelerating voltage		0.2 kV ~ 30 kV
	Magnification		1 ~ 1,000,000 x
	Type of electron gun		High Brightness Schottky Field Emission Electron Gun
Specimen Chamber	Vacuum system		Fully Automated Control
	Low vacuum (optional)		Max 180 Pa
	Camera	Dual Cameras	
		(Optical navigation + chamber monitoring)	
Distance		X: 110 mm Y: 110 mm Z: 65 mm T: -10° ~ +70° R: 360°	
Detector & Accessories	Standard configuration		Everhart-Thornley Detector (ETD) Low Vacuum Detector (LVD) Backscattered Electron Detector (BSED)
	Optional configuration		STEM Detector Energy Dispersive Spectrometer (EDS) Electron Backscatter Diffraction Pattern (EBSD) Specimen Exchange Loadlock Trackball & Knob Control Panel
User Interface	Language		English
	OS		Windows
	Navigation		Optical navigation, gesture quick navigation
	Automatic function		Auto brightness & contrast, auto focus, auto stigmator

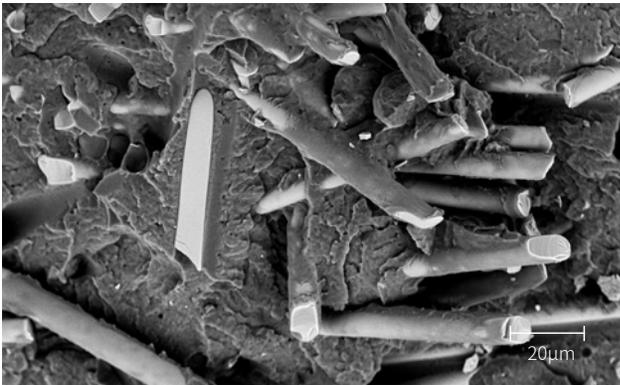
Image Gallery



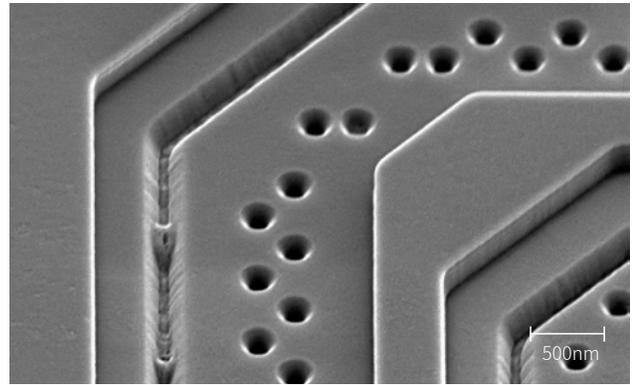
Cauliflower Pollen
Acceleration voltage: 10 kV



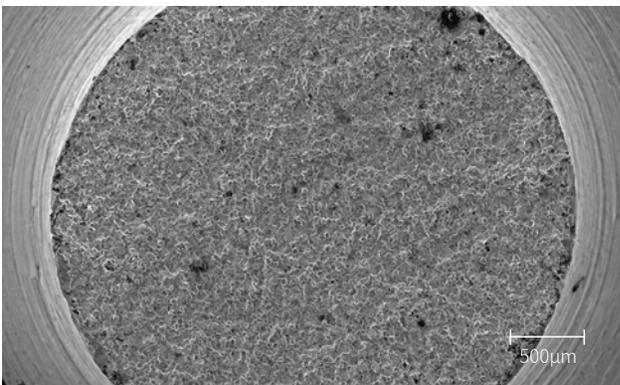
Ceramic
Acceleration voltage: 3 kV



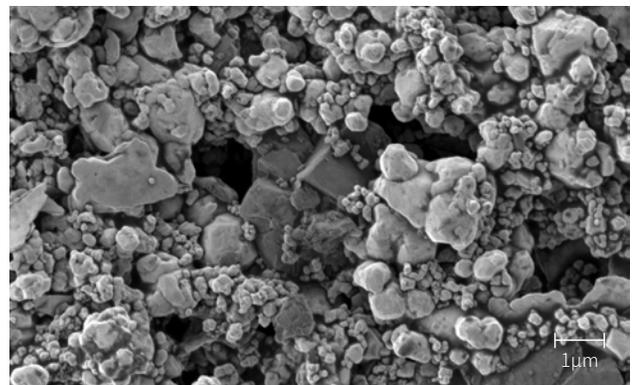
PA-Glass Fiber Composite Material
Acceleration voltage: 10 kV



IC Chip
Acceleration voltage: 3 kV



Metal Fracture
Acceleration voltage: 10 kV



Silver Paste
Acceleration voltage: 1 kV

Field Emission Scanning Electron Microscope

SEM5000Pro



SEM5000Pro is a field emission scanning electron microscope with high-resolution imaging and analysis ability, supported by abundant functions, benefits from advanced electron optics column design, with high-pressure electron beam tunnel technology “SuperTunnel”, providing low aberration and magnetic free objective lens, achieves low voltage high-resolution imaging experience, the magnetic specimen can also be analyzed. With optical navigation, automated functionalities, carefully designed human-computer interaction user interface, and optimized

operation and use process, no matter if you are an expert or not, you can quickly get started and finish off high-resolution imaging and analysis work.

Electron Gun

High brightness Schottky
Field emission electron
gun

Resolution

0.8 nm @ 15 kV
1.2 nm @ 1 kV

Magnification

1 ~ 2,500,000 x

Accelerating Voltage

0.02kV~30kV

Sample Stage

5-axis automatic

Features

- 01** High-resolution imaging at low accelerating voltage
- 02** High-pressure tunneling technology “SuperTunnel” ensures low voltage resolution
- 03** Electromagnetic & electrostatic combo objective lens improves low-voltage resolution and enables magnetic samples observation
- 04** The electron optics path without crossover reduces system aberration and improves resolution
- 05** Water-cooled constant temperature controlled objective lens ensures the stability, reliability, and repeatability
- 06** Electromagnetically deflected multi-hole aperture exchange system, facilitates automatically switchable apertures system, no mechanical adjustment needed, achieves high-resolution imaging or large beam analysis mode through a click-away fast switching.

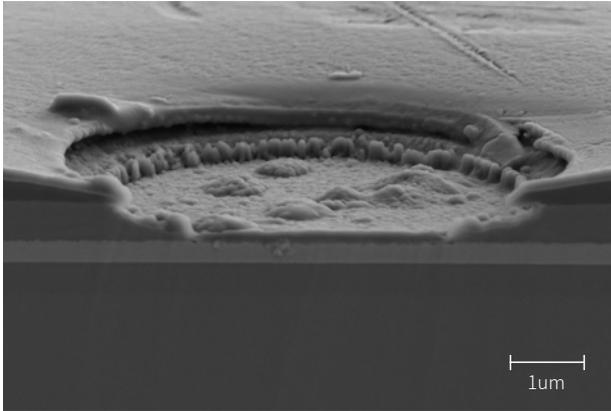
Applications



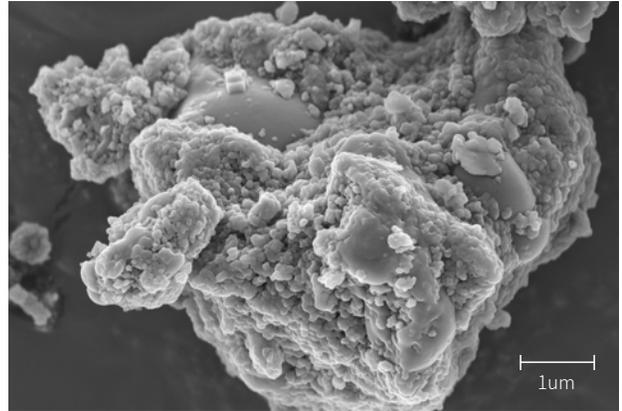
Specifications

Electron Optics	High Vacuum Resolution	0.8 nm @ 15 kV, SE
		1.2 nm @ 1.0 kV, SE
	Accelerating voltage	0.02 kV ~ 30 kV
	Magnification	1 ~ 2,500,000 x
	Type of electron gun	High Brightness Schottky Field Emission Electron Gun
Specimen Chamber	Vacuum system	Fully automatic control, oil free vacuum system
	Camera	Dual cameras (Optical navigation + chamber monitoring)
	Distance	X=110 mm
		Y=110 mm
		Z=50 mm
T: -10° ~+70°		
	R: 360°	
Detector & Accessories	Standard	In-lens Detector
		Everhart-Thornley Detector(ETD)
	Optional	Retractable Backscattered Electron Detector (BSED)
		Retractable Scanning Transmission Electron Microscope(STEM)
		Energy Dispersive X-ray Spectroscopy (EDS)
		Electron Backscatter Diffraction (EBSD)
		Specimen Exchange Loadlock
Trackball & Knob Control Panel		
User Interface	Language	English
	OS	Windows
	Navigation	Optical navigation, gesture quick navigation
	Automatic function	Auto brightness & contrast, auto focus, auto stigmator

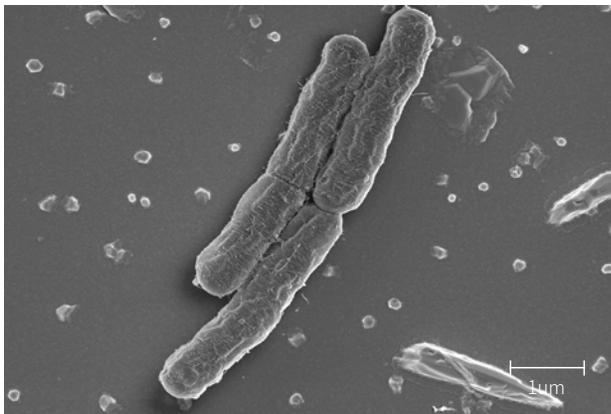
Image Gallery



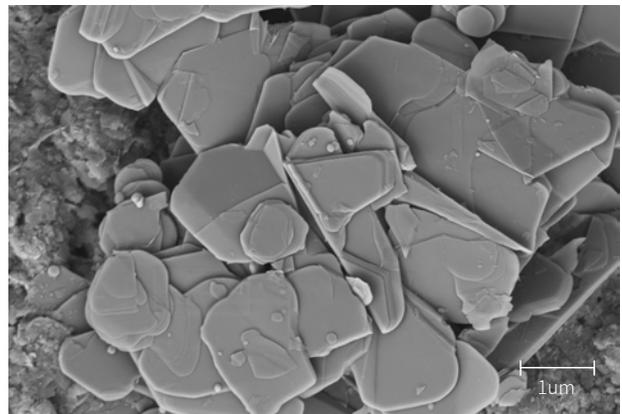
Glass Substrate
Acceleration voltage: 3 kV



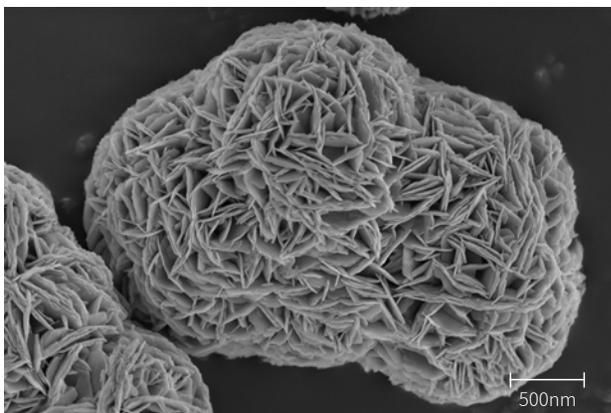
Catalyst
Acceleration voltage: 5 kV



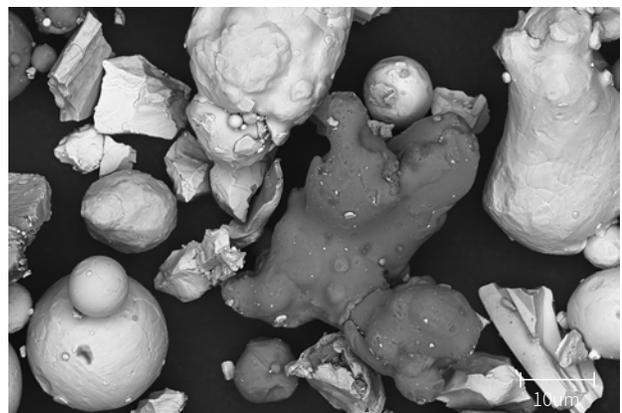
Escherichia Coli
Acceleration voltage: 3 kV



Boron Nitride Nanosheet
Acceleration voltage: 3 kV



Ternary Positive Precursor
Acceleration voltage: 3 kV



High Entropy Alloy Powder
Acceleration voltage: 10 kV

Ultra-high Resolution Field Emission Scanning Electron Microscope

SEM5000X



SEM5000X is an ultra-high resolution Field Emission-Scanning Electron Microscope with breakthrough resolution of 0.6 nm@ 15 kV and 1.0 nm@ 1 kV. Benefited from upgraded column engineering process, “SuperTunnel” electron optics technology, and high-resolution objective lens design, SEM5000X is able to achieve further improvements in low-voltage imaging resolution. The specimen chamber ports extends to 16, and the specimen exchange loadlock supports up to 8-inch wafer size (maximum diameter 208 mm), which

greatly expand the coverage of applications. The advanced scanning modes and enhanced automated functions bring stronger performance and an even more optimized experience.

Features



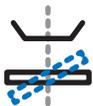
"SuperTunnel"
Electron Optics Technology



Ultra-high Resolution
(0.6 nm@ 15 kV)



*Dual Deceleration
Mode (Duo-Dec)



Mechanical Eucentric
Specimen Stage



*Specimen Exchange Loadlock
(Maximum 8")

01

Ultra-high resolution imaging with breakthrough 0.6 nm@ 15 kV and 1.0 nm@ 1 kV specification.

03

High-precision mechanical eucentric specimen stage, ultra-stable vibration damping design, also available with integral enclosure option, greatly minimized the environmental interference that could impact the resolution.

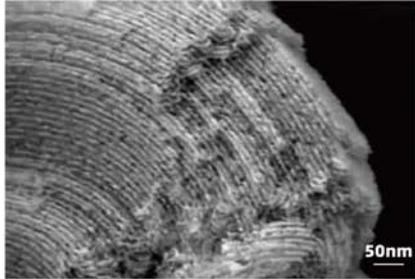
02

Dual deceleration technology combining specimen stage tandem deceleration and “SuperTunnel” electron optics technology, ready to challenge extreme imaging conditions.

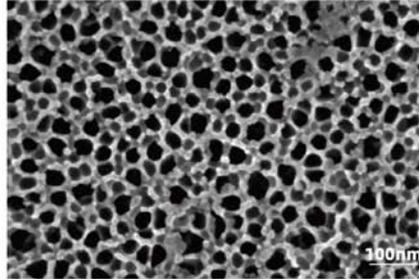
04

Specimen exchange loadlock with up to 8" wafer size (Maximum 208 mm in diameter), meets the needs of semiconductor and research applications.

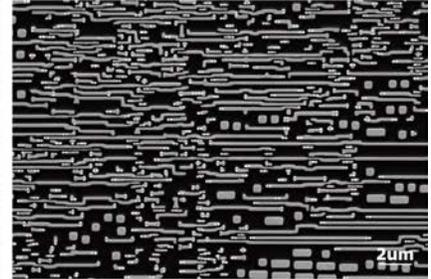
Image Gallery



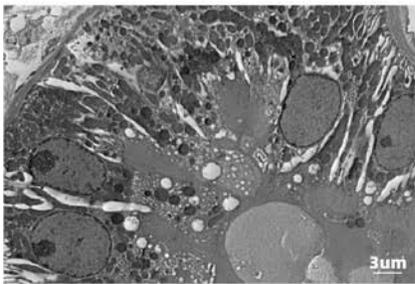
Mesoporous Silica/1 kV (Duo-Dec)
/Inlens



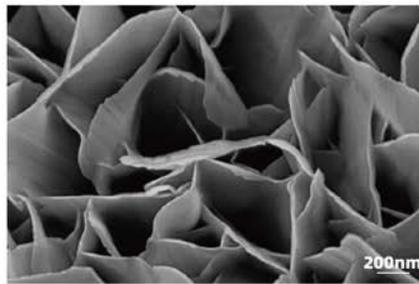
Anodized Aluminum Plate/10 kV
/Inlens



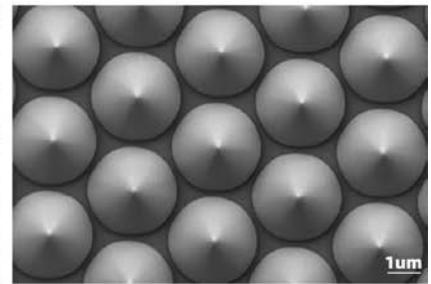
IC Chip/5 kV/BSED-COMP



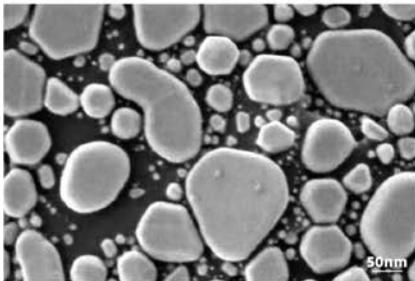
Kidney Sections/5 kV/BSED-COMP



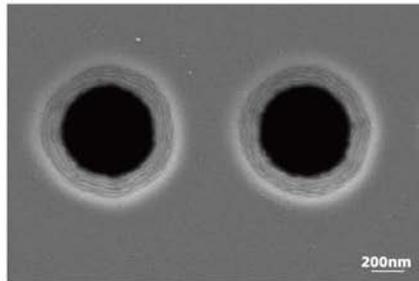
Nickel Foam/2 kV/ETD-SE



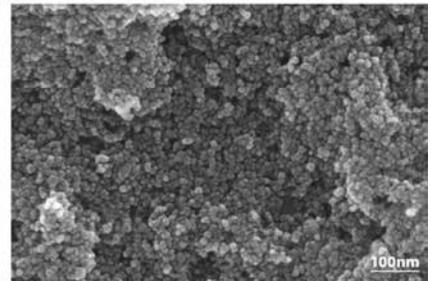
Sapphire Substrate/5 kV/ETD-SE



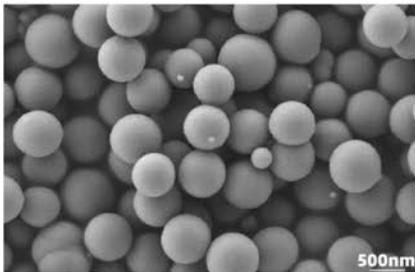
Gold Particles/1 kV/Inlens



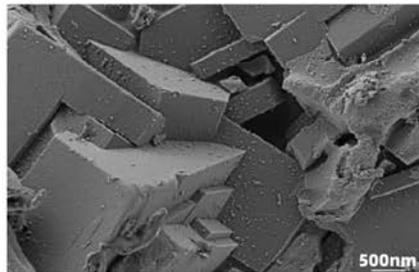
Photoresist/2 kV/ETD-SE



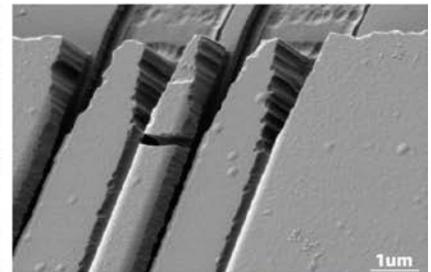
Magnetic Powder/10 kV/Inlens



Silicon Dioxide Spheres/3 kV/ETD-SE



Catalyst/1 kV/ETD-SE



Waveguide/1 kV/ETD-SE

Specifications

Electron Optics	Resolution	0.6 nm @ 15 kV, SE
		1.0 nm @ 1 kV, SE
	Acceleration Voltage	0.02 kV ~ 30 kV
	Magnification	1 ~ 2,500,000 x
	Electron Gun Type	Schottky Field Emission Electron Gun
Specimen Chamber	Vacuum System	Fully automated control
	Cameras	Dual cameras (optical navigation + chamber monitoring)
	Stage Type	5-Axis Mechanical Eucentric Specimen Stage
	Stage range	X=110 mm, Y=110 mm, Z=65 mm T: -10° ~+70° , R: 360°
Detector & Accessories	Standard	In-lens Detector
		Everhart-Thornley Detector (ETD)
	Optional	Retractable Back-Scattered Electron Detector (BSED)
		Retractable Scanning Transmission Electron Microscopy detector (STEM)
		Energy Dispersive Spectrometer (EDS)
		Electron Backscattered Diffraction Pattern (EBSD)
		Specimen exchange loadlock (4" & 8" optional)
		Trackball & Knob Control Panel
		Specimen stage tandem deceleration
		Magnetic field & acoustic noise enclosure system (SEMI certified)
User Interface	Languages	English
	Operating System	Windows
	Navigation	Optical navigation, gesture quick navigation
	Automatic Functions	Auto brightness & contrast, auto focus, auto stigmator

Focused Ion Beam Scanning Electron Microscopy DB500



DB500 is a Field Emission Scanning Electron Microscope with Focused Ion Beam column for nano-analysis and specimen preparation, which is applied with “SuperTunnel” electron optics technology-low aberration and magnetic-free objective lens design, with “Low-voltage & High-resolution” ability that ensures its nano-scale analytical capability.

The ion column facilitates a Ga⁺ liquid metal ion source with highly stable and high quality ion beam to ensure nano-fabrication capability. DB500 is equipped with an integrated nano-manipulator, gas injection system, electrical anti-contamination mechanism for objective lens, and with 24 expansion ports on the specimen chamber, making it an all-around nano-analysis and fabrication platform with comprehensive configurations and expandability.

Features



"SuperTunnel"
Electron Optics Technology



Gallium Ion Beam



Fully Configured



Gas Injection System



Integrated Manipulator



Excellent Warranty

01

“SuperTunnel” Electron Optics technology with a magnetic-free objective lens, suitable for high-resolution imaging, and compatible with magnetic specimen imaging

02

The focused ion beam column which outputs a highly stable, high-quality ion beam, suitable for high-quality nano-fabrication and TEM specimen preparation

03

A piezoelectric driven manipulator located inside the specimen chamber with an integrated control system for precise handling

04

Independently developed system with strong expandability. The integrated ion source assembly design for quick ion source exchange. Excellent service supported by an included three-years warranty

Focused Ion Beam Column

Resolution: 3 nm@30 kV
 Probe current: 1 pA~65 nA
 Accelerating voltage range: 0.5 kV~30 kV
 Ion source exchange interval: ≥ 1000 hours
 Stability: 72 hours uninterrupted operation

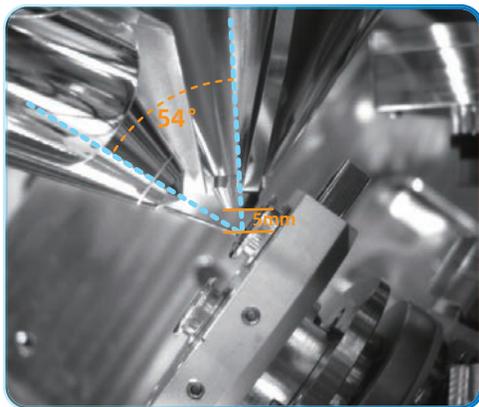


Nano-manipulator

Chamber internally mounted
 Four-axis all-piezoelectric driven
 Stepper motor accuracy: ≤ 10 nm
 Maximum travel speed: 2 mm/s
 Integrated control system



Ion Beam-Electron Beam Collaboration

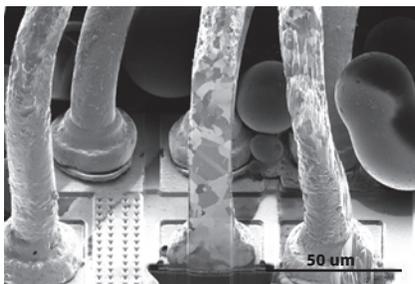


Gas Injection System

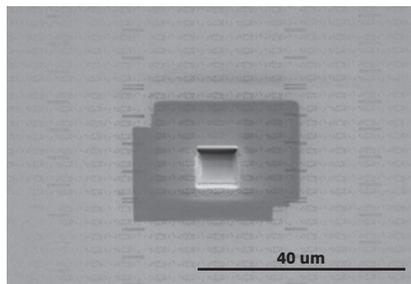
Single GIS design
 Various gas precursor sources available
 Needle insertion distance: ≥ 35 mm
 Motion repeatability: ≤ 10 μ m
 Heating temperature control repeatability: $\leq 0.1^\circ\text{C}$
 Heating range: room temperature ~ 90°C
 Integrated control system



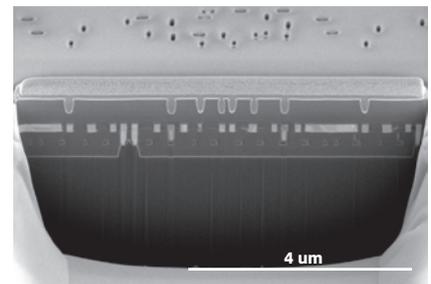
Image Gallery



Gold Wire/30 kV/800X/ETD



IC Chip 1/1 kV/1500X/ETD



IC Chip 2/1 kV/15000X/ETD

High Speed Scanning Electron Microscope

HEM6000



HEM6000 is a high-speed scanning electron microscope that can cover large volume specimen imaging across scales.

It facilities technologies such as high-brightness large-beam current electron gun, high-speed electron beam deflection system, high-voltage sample stage deceleration, dynamic optical axis, and immersion electromagnetic & electrostatic combo objective lens to achieve high-speed image acquisition whilst ensuring nano-scale resolution.

The automated operation process is designed for application such as a more efficient and smarter large-area high-resolution imaging workflow. The imaging speed can reach more than 5 times faster than a conventional field emission scanning electron microscope.

Image Acquisition Speed

10 ns/pixel, 2*100 M pixel/s

Resolution

1.3 nm@ 3 kV, SE; 1.5 nm@ 1 kV, SE
0.9 nm@ 30 kV, STEM

Acceleration Voltage

0.1 kV~6 kV (Deceleration Mode)
6 kV~30 kV (Non-deceleration Mode)

Field Of View

Maximum 1*1 mm², high-resolution minimum distortion 64*64 um²

Stage repeatability

X +/-0.6 um; Y +/-0.3 um

Features



High-Speed Scanning Driver

Dwell time 10 ns/pixel, maximum imaging acquisition speed 2*100M pixel/s



Signal Electron Filtering System

SE/BSE signal free switching, mixing with adjustable ratio



Fully Electrostatic High-Speed Beam Deflection System

High resolution large field imaging achievable
Maximum Field of View up to 32 um*32 um at 4 nm per-pixel



Sample Stage Deceleration Technology

Reduces incident electron landing voltage, whilst increasing signal electron capturing efficiency



Electromagnetic & Electrostatic Combo Immersion Objective Lens Beam Deflection System

Objective lens magnetic field immerses sample, contributes low aberration high resolution imaging

Features

01

High Speed Automation

Fully automatic sample loading & offloading process and image acquisition operation, which makes the overall imaging speed 5 times faster than that of conventional field emission scanning electron microscopes

02

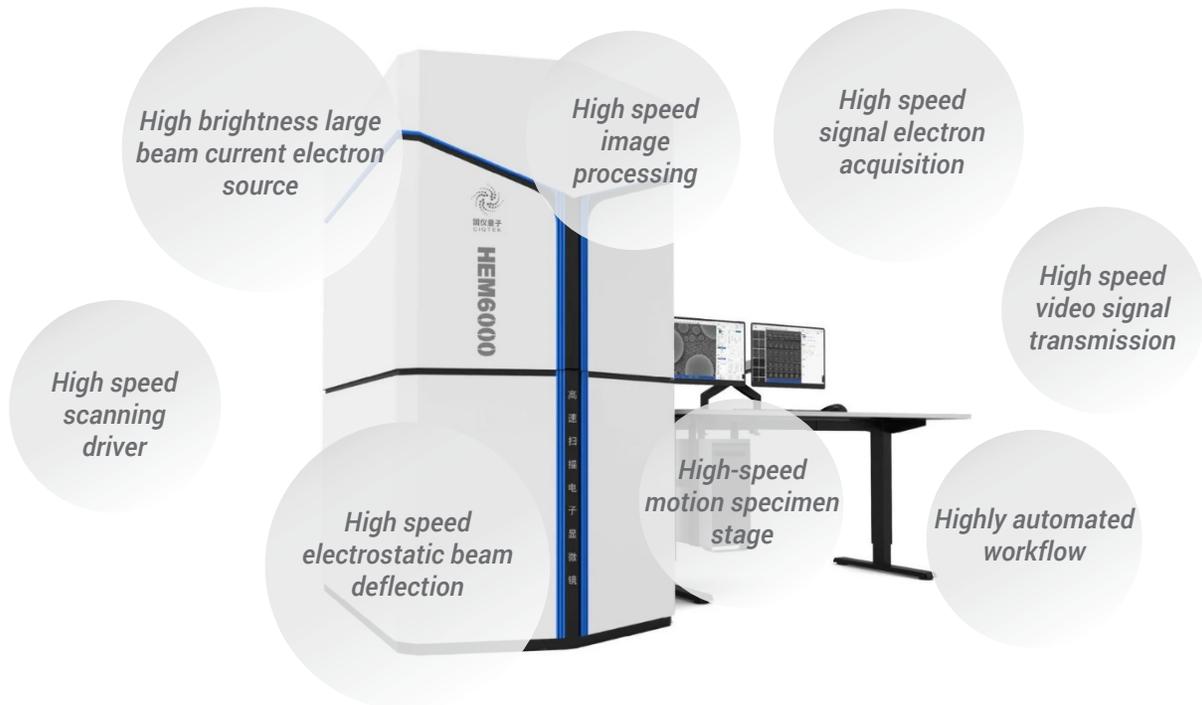
Large Field of View

Technology that dynamically shifts optical axis according to the scanning deflection range, achieves minimum edge distortion

03

Low Imaging Distortion

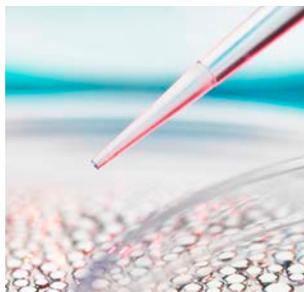
Specimen stage tandem deceleration technology, achieves low landing energy, whilst obtaining high resolution images



Applications



Semiconductor



Biology



Materials

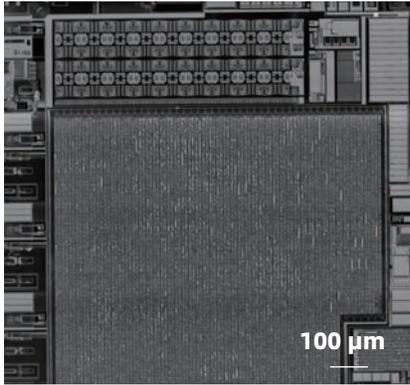


Geology

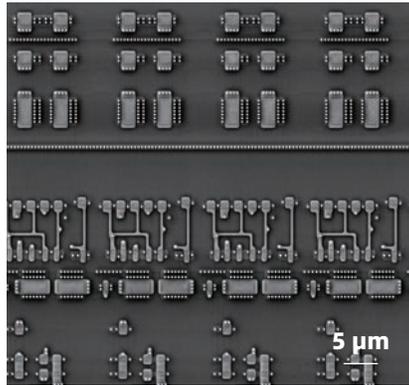
Specifications

Electron Optics	Resolution	1.3 nm@ 3 kV, SE; 2.2 nm@ 1 kV, SE	
		1.9 nm @ 3 kV, BSE; 3.3 nm @ 1 kV, BSE	
	Accelerating voltage	0.1 kV~6 kV(deceleration mode)	
		6 kV~30 kV(none-decel mode)	
	Magnification	66~1,000,000x	
	Electron gun	High Brightness Schottky Field Emission Electron Gun	
Type of objective lens	Immersion electromagnetic & electrostatic combo objective lens		
Sample Loading System	Vacuum system	Fully automatic oil free vacuum system	
	Specimen monitoring	Horizontal main chamber monitoring camera; vertical sample exchange loadlock chamber monitoring camera	
	Maximum sample size	4 inches in diameter	
	Specimen stage	Type	Motorized 3-axis specimen stage (*optional piezoelectric driven specimen stage)
		Travel range	X, Y: 110 mm; Z: 28 mm
		Repeatability	X: $\pm 0.6 \mu\text{m}$; Y: $\pm 0.3 \mu\text{m}$
	Specimen Exchange	Fully automatic	
Sample exchanging duration	< 15 min		
loadlock chamber cleaning	Fully automatic plasma cleaning system		
Image Acquisition and Processing	Dwell time	10 ns/pixel	
	Acquisition speed	2*100 M pixel/s	
	Image Size	8K*8K	
Detector & Accessories	Standard configuration	In-lens electron detector	
	Optional configuration	Low angle backscattered electron detector	
		In-column High-angle backscattered electron detector	
		Piezoelectric driven specimen stage	
		High resolution large FOV mode(SW)	
		Loadlock chamber plasma cleaning system	
		6-inch specimen loading system	
		Active anti-vibration platform	
AI noise reduction; large area field stitching; 3D reconstruction			
User Interface	Language	English	
	OS	Windows	
	Navigation	Optical navigation, gesture quick navigation	
	Automatic function	Auto sample recognition, auto imaging area selection, auto brightness & contrast, auto focus, auto stigmator	

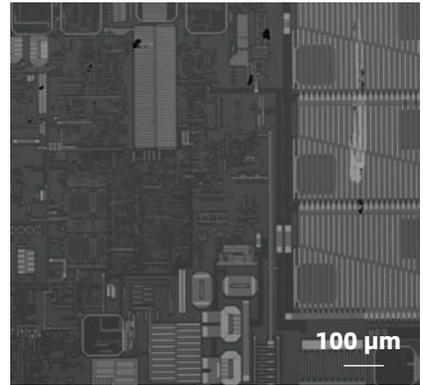
Image Gallery



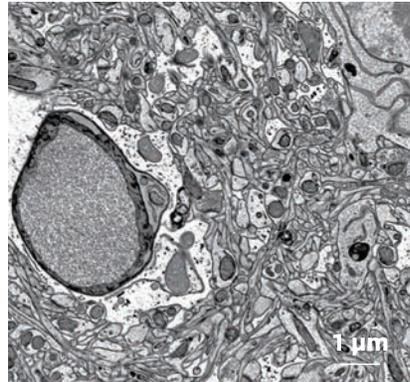
IC Chip (Metal Layer)/ 116X / BSE / 120 ns



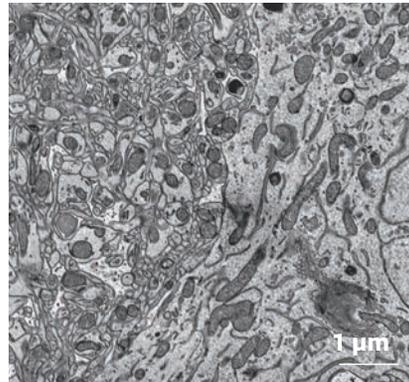
IC Chip (Device Layer)/ 2000X / BSE / 40 ns



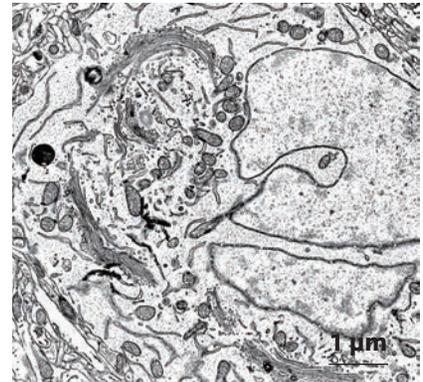
IC Chip (Metal Layer)/ 1200X / BSE / 120 ns



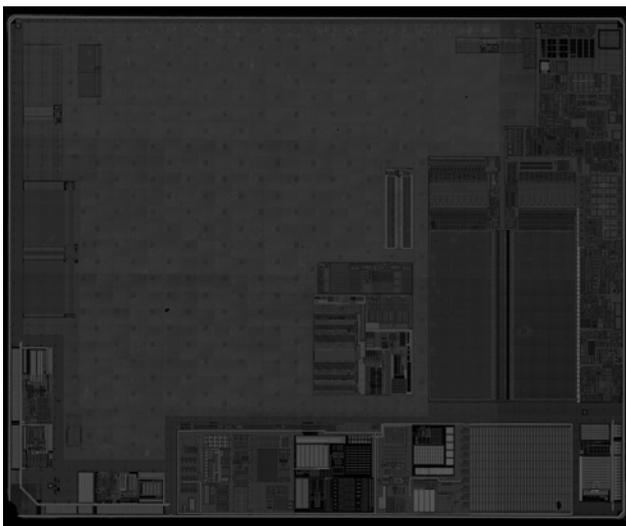
Biopsy Section / 9500X / BSE / 120 ns



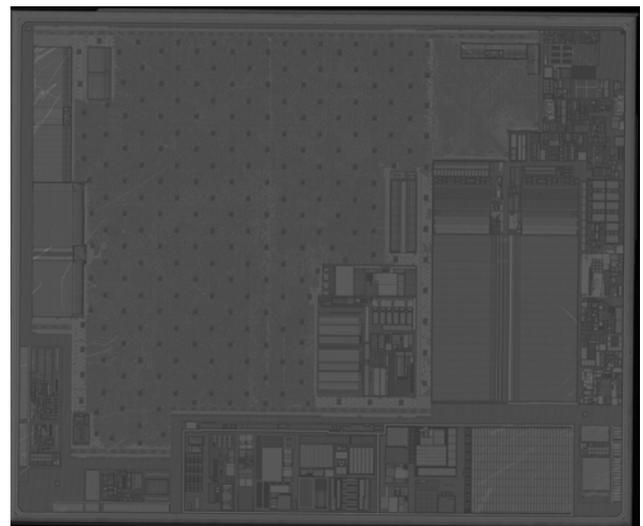
Biopsy Section / 10000X / BSE / 120 ns



Biopsy Section / 10000X / BSE / 120 ns



Poly Layer



M1 Layer

120kV Field Emission Transmission Electron Microscope

TH-F120



Features



Schottky Field Emission gun



Parallel/Convergent Beam Automatic Switching System



Symmetric constant power objective lens



High pixel CMOS camera



Four-axis high precision stage



Highly Integrated Software

01 Divided workspaces by user and TEM system

User operates TEM in a divided room with comfort, reducing environmental interference to TEM

02 High operational efficiency

Designated software integrates highly automated processes, allowing for efficient interaction to TEM with real-time monitoring

03 Upgraded operational experience

Equipped with a field emission electron gun with a highly automated system, which only available in a higher-end TEM product from competitor

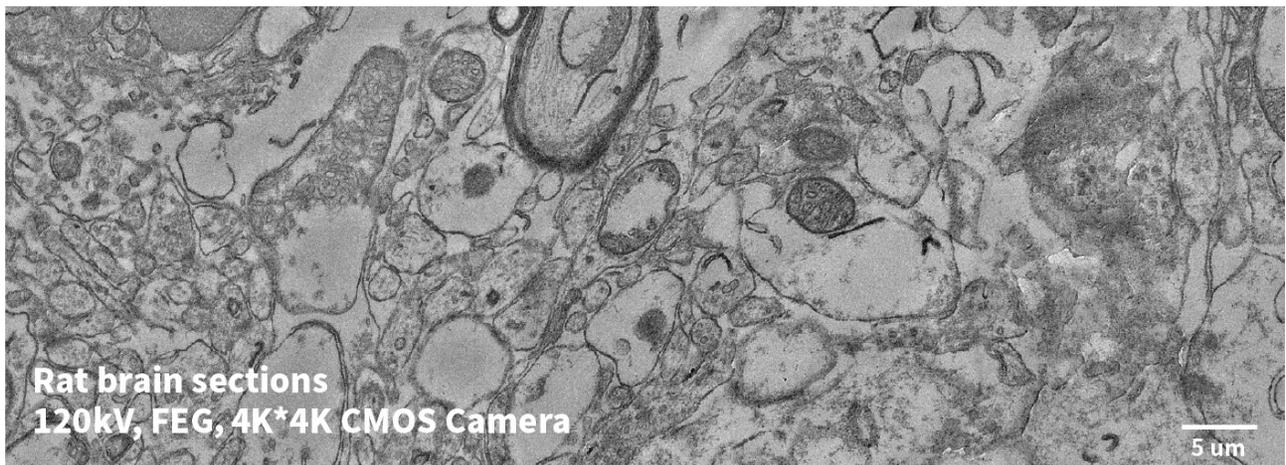
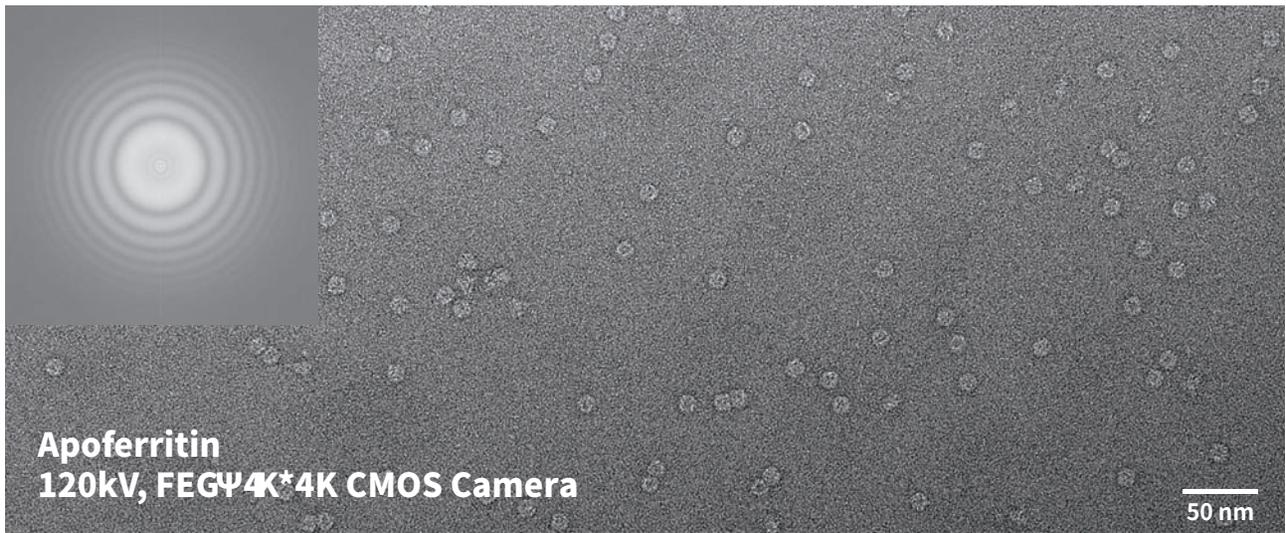
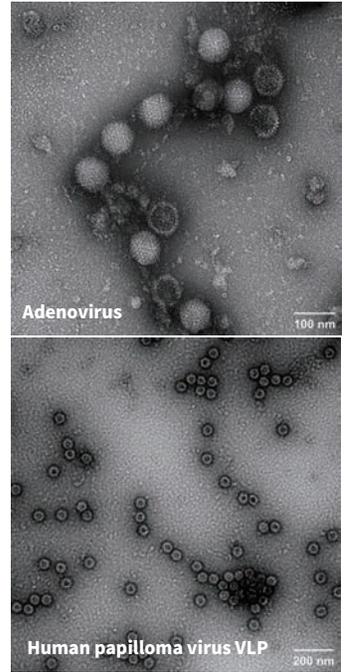
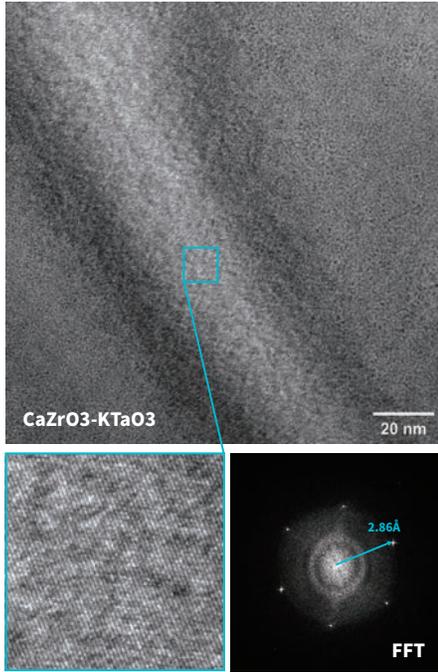
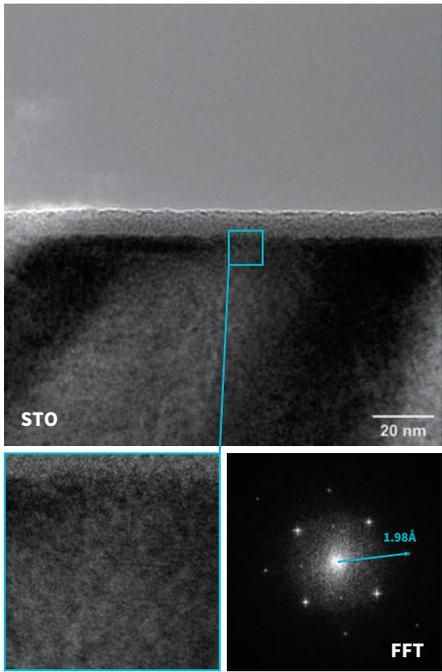
04 High expandability

Reserved sufficient interfaces for users to upgrade to a higher configuration, meets diverse application requirement

Specifications

	High contrast version	High resolution version
Acceleration voltage	10~120 kV	10~120 kV
Information limit	0.20 nm	0.14 nm
Point resolution	0.36 nm	0.30 nm
Magnification range	10~1,200,000 x	10~1,500,000 x
camera sensor size	4096×4096(pixels)	4096×4096(pixels)
Rotation angle of stage	-90 °~+90 °	-70 °~+70 °
Optional equipment	EDS、STEM、Side-line camera、EELS、Cryo-box	

Image Gallery



After Sales

CIQTEK has Electron Microscope Demo laboratories in Hefei, Wuxi, Shanghai and Guangzhou within China, which are equipped with multi electron microscope system, senior application engineers provide demonstration services to all electron microscope.

The main application fields include lithium batteries, nanomaterials, semiconductor materials, mineral metallurgy, geological exploration, biomedicine and so on.

Relying on the products of CIQTEK EM product range, the laboratory carries out scientific research projects with fully-owned independent Intellectual Property, and is committed to realizing the goals of scientific research and talent training. At the same time, the laboratory also provides high-quality services to scientific research institutes, universities and colleges, enterprises and public institutions that have the need for electron microscopy applications.



Provide **professional customization services**
Satisfying various application scenarios



Provide technical support
within **24 hours**

V-2024.07

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