

FEEL THE WORLD IN A QUANTUM WAY



## Field Emission Scanning Electron Microscope

SEM5000

# Field Emission Scanning Electron Microscope

## SEM5000



SEM5000 is a field emission scanning electron microscope with high resolution and abundant functions.

Advanced tube design, high pressure tunnel technology (SuperTunnel), low aberration and MFL objective design, achieve low voltage high resolution imaging, and magnetic samples can be applied. Optical navigation, perfect automatic function, carefully designed human-computer interaction, optimized operation and use process, no matter rich experience or not, you can quickly get started and complete high-resolution shooting tasks.

### Electron gun

High brightness Schottky  
Field emission electron gun

### Resolution

1 nm @ 15 kV, SE  
1.5 nm @ 1 kV, SE  
0.8 nm @ 30 kV, STEM

### Magnification

1 ~ 2,500,000 x

### Accelerating voltage

20 V ~ 30 kV

### sample stage

Five axis automatic

## Product Features

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01

High resolution, high resolution imaging under low acceleration voltage

02

High pressure Super Tunnel technology with the high energy electrons in the tunnel, reduce the space charge effect and guarantee the resolution in low voltage

03

Electromagnetic composite objective reduces aberrations, significantly improves resolution at low voltages, and enables observation of magnetic samples

04

The electronic optic path has no crossover, which effectively reduces the system aberration and improves the resolution ability

05

Water cooling constant temperature objective lens ensures the stability, reliability and repeatability of the objective lens

06

Magnetic deflection six-hole adjustable diaphragm, automatic switch aperture, without mechanical adjustment, to achieve high resolution observation or large beam analysis mode switch quickly

## Product Applications

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Lithium electricity



Semiconductor chip



Ceramic



Building materials



Electronic components



Chemical



Biomedical



Environmental protection



Metal materials



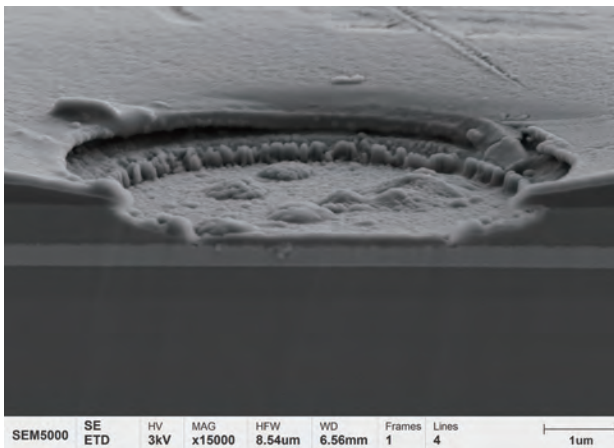
More applications

## Product Specifications

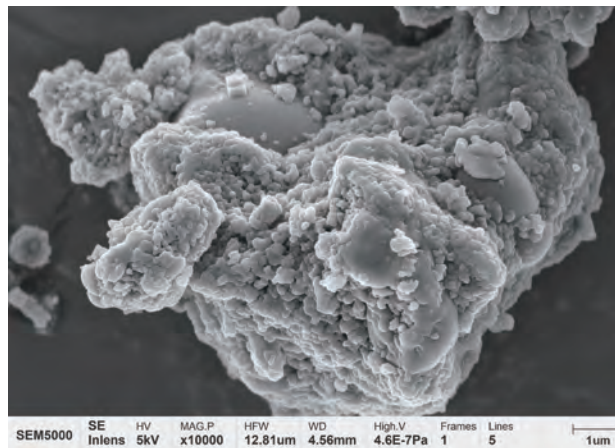
Key parameters	Resolution	1.0 nm @ 15 kV, SE 1.5 nm @ 1 kV, SE 0.8 nm @ 30 kV, STEM
	Accelerating voltage	20 V ~ 30 kV
	Magnification	1 ~ 2,500,000 x
	Type of electron gun	High brightness schottky field emission electron gun
Sample room	Vacuum system	Fully automatic control, oil free vacuum system
	Camera	Dual cameras (Optical navigation + in-warehouse monitoring)
	Distance	X: 120 mm Y: 115 mm Z: 50 mm T: -10° ~ +90° R: 360°
Detector and extension	Standard configuration	High Angle electron detector in the mirror barrel Low Angle electron detector in the lateral
	Optional configuration	Flat insertion medium Angle backscattered electron detector STEM automatic telescopic scanning transmission detector Sample exchange warehouse High speed beam gate and electron beam exposure EDS EBSD EBIC CL High and low temperature in situ drawing table Nano manipulator Large-scale image stitching Trackball & Knob control panel
Software	Language	Chinese/English
	OS	Windows
	Navigation	Optical navigation, gesture navigation
	Automatic function	Auto brightness contrast, auto focus, auto astigmatism



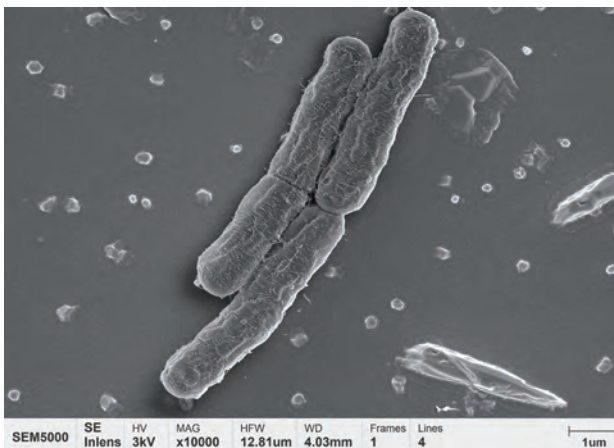
## Product Application



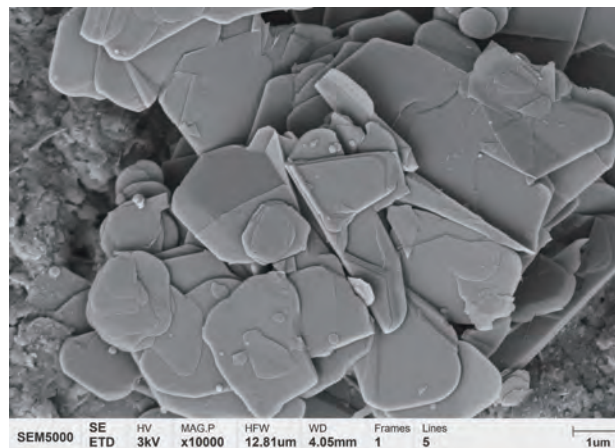
Glass substrate  
Acceleration voltage: 3 kV/ Magnification: X15000



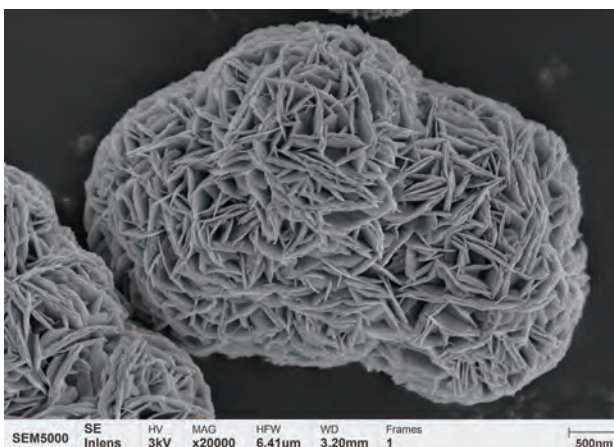
Catalyst  
Acceleration voltage: 5 kV/ Magnification: X10000



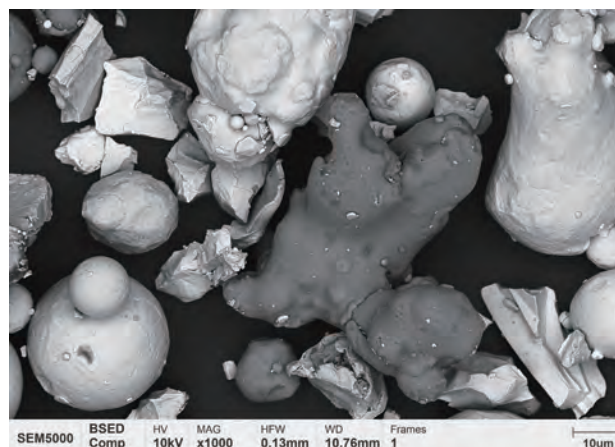
Escherichia coli  
Acceleration voltage: 3 kV/ Magnification: X10000



Boron nitride nanosheet  
Acceleration voltage: 3 kV/ Magnification: X10000



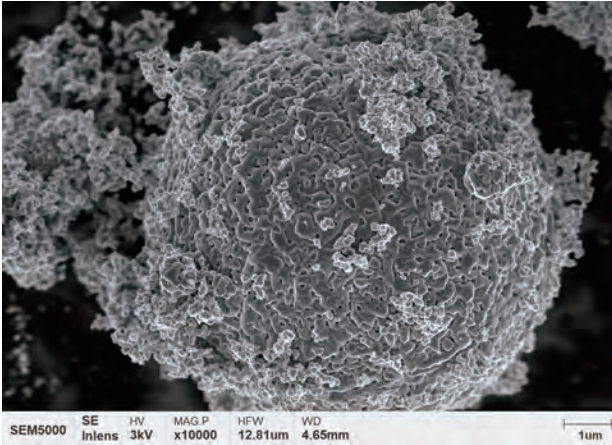
Ternary positive precursor  
Acceleration voltage: 3 kV/ Magnification: X20000



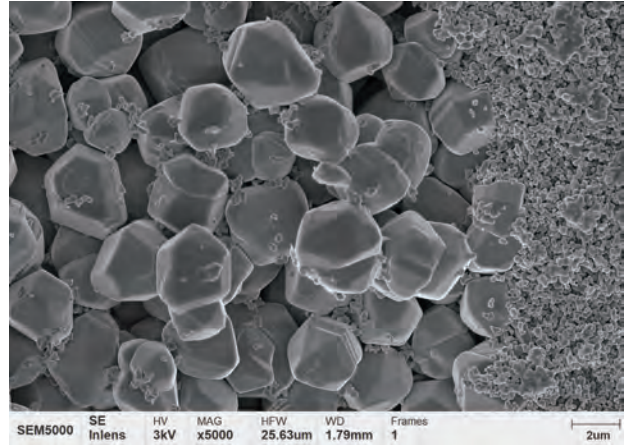
High entropy alloy powder  
Acceleration voltage: 10 kV/ Magnification: X1000



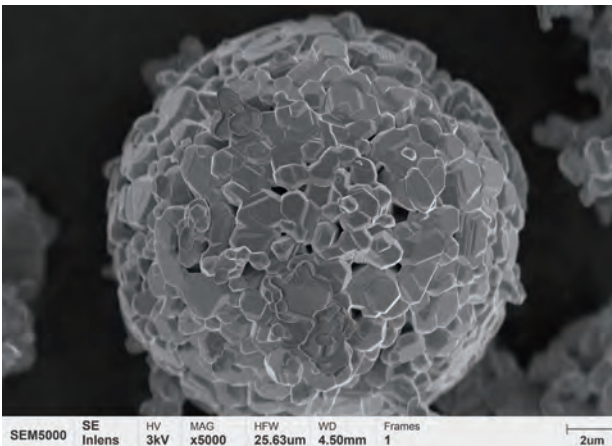
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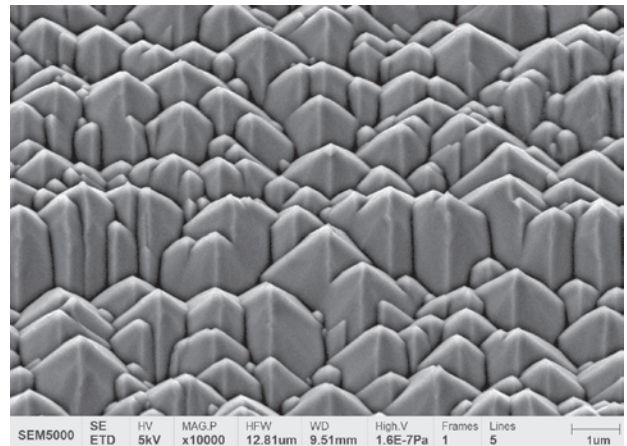
Metallic copper powder  
Acceleration voltage: 3 kV/ Magnification: X10000



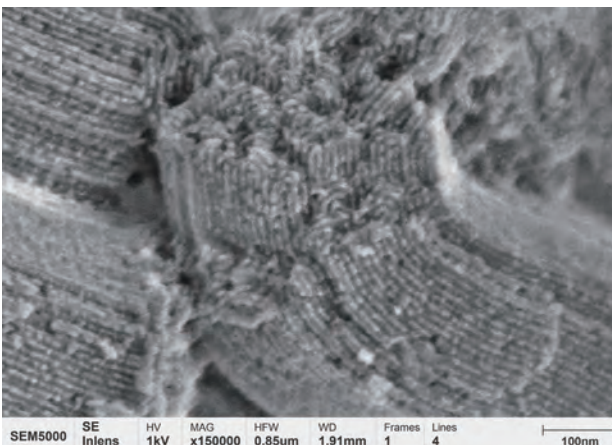
Ceramic cross section  
Acceleration voltage: 3 kV/ Magnification: X5000



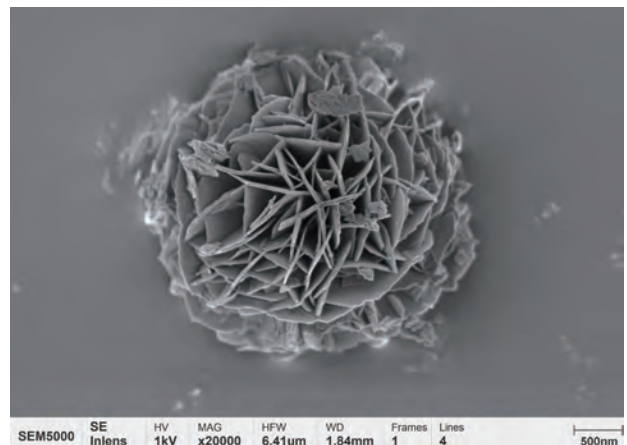
Lithium cobaltate  
Acceleration voltage: 3 kV/ Magnification: X5000



Photovoltaic silicon wafer  
Acceleration voltage: 5 kV/ Magnification: X10000

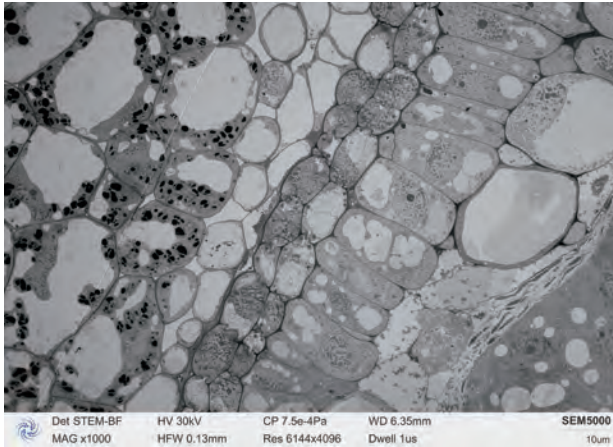


Mesoporous silicon oxide  
Acceleration voltage: 1 kV/ Magnification: X150000

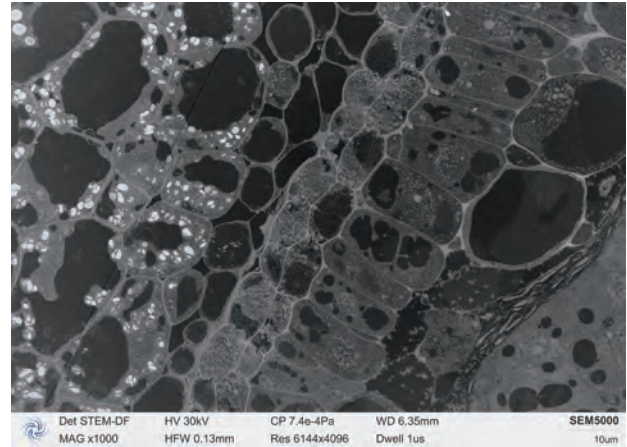


Nanoflower  
Acceleration voltage: 1 kV/ Magnification: X20000

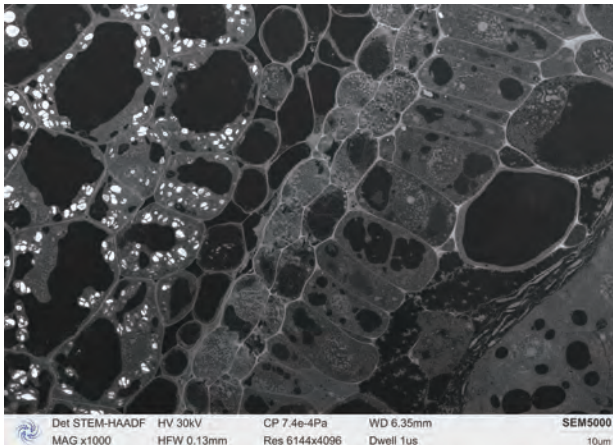




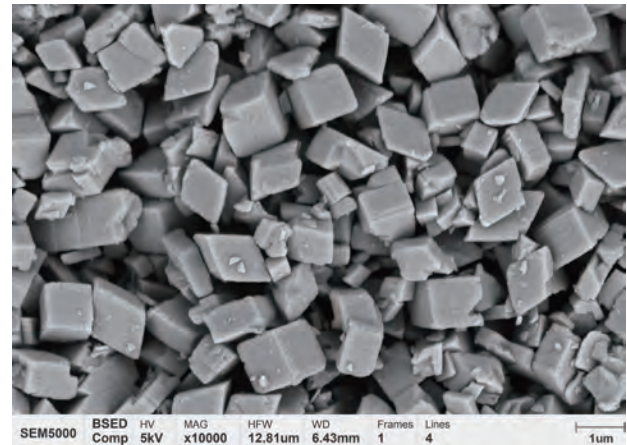
Plant slice STEM Bright field  
Acceleration voltage: 30 kV/ Magnification: X1000



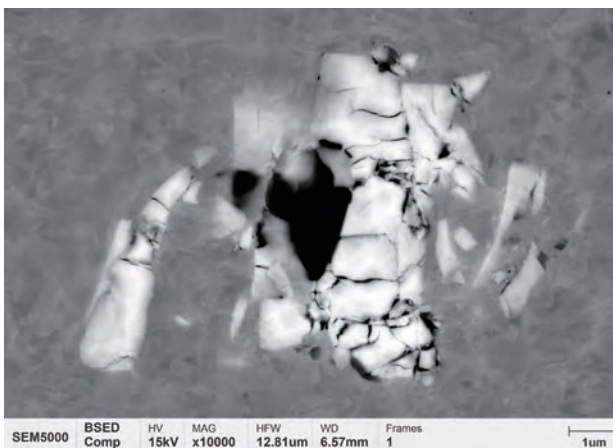
Plant slice STEM Dark field  
Acceleration voltage: 30 kV/ Magnification: X1000



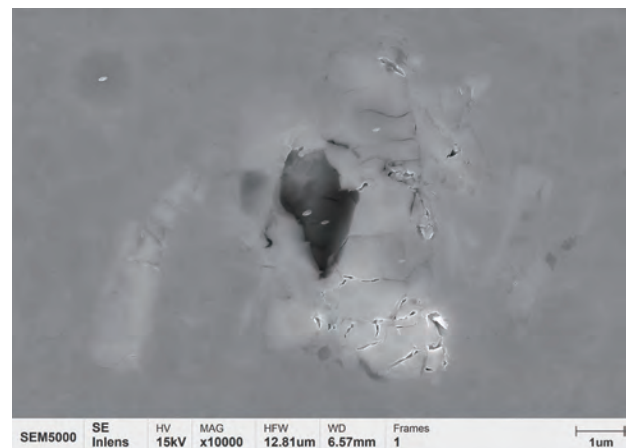
Plant slice STEM Dark field  
Acceleration voltage: 30 kV/ Magnification: X1000



Alumina powder  
Acceleration voltage: 5 kV/ Magnification: X10000



Steel inclusion -BSE  
Acceleration voltage: 15 kV/ Magnification: X10000



Steel inclusion -SE  
Acceleration voltage: 15 kV/ Magnification: X10000

## Product Services

### Scanning electron Microscope Laboratory

We have scanning electron microscopy laboratories in Hefei and Wuxi, which are equipped with many electron microscopy technical experts and senior electron microscopy application engineers, providing a variety of services including electron microscopy application technology development and sample shooting. The main application fields are lithium batteries, new nanomaterials, semiconductor materials, mineral metallurgy, geological exploration, biomedicine and so on.

Relying on CIQTEK electron microscope products, the laboratory carries out scientific research projects with independent intellectual property rights in the field of electron microscopy application, and is committed to achieving the goals of scientific research and talent training. At the same time, the laboratory also provides high quality services for research institutes, universities, enterprises and institutions that have the application needs of electron microscopy.



HEFEI



WUXI

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