



TABLETOP SEM
CUBE Series



COMPACT SEM
GENESIS Series



BIG CHAMBER SEM
VERITAS Series

The Leading SEM Company in Korea Since 2010

A Smarter Way

The capabilities of this small box is beyond your imagination

The Best Tabletop SEM CUBE II

Product Highlights

Faster
Easier
Operation

Compact
&
Light

Hi Res.
x200K Image
@30kV

More
Accessories

High
Reliability
& Safety



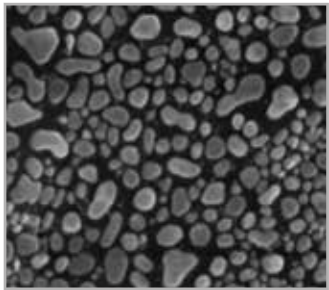
Electron Optics Instruments
Exclusive US Distributor of EmCrafts SEMs
www.electronopticsinstruments.com



“Awesome, Amazing, Fantastic”
“すごい, すばらしい”

Global applauses from all round the world

● Faster, smaller and high performance



High-Res. (x200K @30kV) as good as conventional SEM



High space efficiency and portability

Easy to port. Installable anywhere



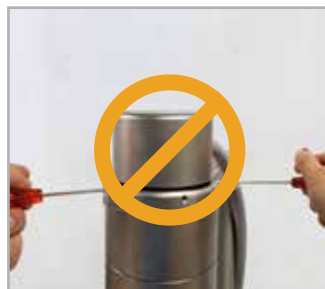
No more waiting

Pumping: 90 sec / Venting: 10 sec



Highly reliable HV component

High reliability and safety by adapting world best HV component from Spellman HV



No gun alignment required

3 minutes required for filament replacement
(US patent pending 16/287,820)



CE Certificate

● Specifications

CUBE II

I . Electron

Resolution	5nm (SE Image at 30kV)
Electron Gun	Tungsten(W) Filament
Accelerating Voltage	1 to 30kV
Magnifications	10x to 300,000x
Detector	secondary electron detector(SE) / Backscattered electron detector(BSE)

II . Stage

Navigation mode	Sample holder Map
Stage System	X,Y: 42mm, Z: 5~43mm, T: -90 ~ 90° (manual), R: 360° X,Y,Z motorized
Working Distance	5 to 53mm
Maximum Sample Size	80mm(D) x 53mm(H)

III . Image

Operation PC	Windows 10-based All-in-One 24" Workstation
Display mode	Focus mode: 320x240 pixel, Resizable Preview mode: 800x600 pixel Slow mode: Applicable to both preview and focus mode Photo mode: Up to 3200x2400 pixel
Beam Shift	100 μ m
Format	BMP,JPEG,PNG,TIFF

IV . Vacuum

Vacuum times	Vacuum : 90sec, Vent : 10sec
Vacuum mode	High Vacuum Mode (< 9x10 ⁻³ Pa) Low Vacuum Mode (Charge-up reduction)
Vacuum System	Full Automated Evacuation System - Turbo molecular & Rotary vane pump

V . Dimensions & Power

SEM	410(W) x 440(D) x 520(H)mm / 65kg
Power supply	Single Phase : 100 ~ 240VAC, 50/60Hz, 1kVA

Control Pad? Joystick? Only Mouse!

20 minutes is enough to train beginners. Request a Webinar.

Virtuoso : SEM operation software from EmCrafts

Most straightforward and convenient SEM software in the world.

✓ 100% motorized stage

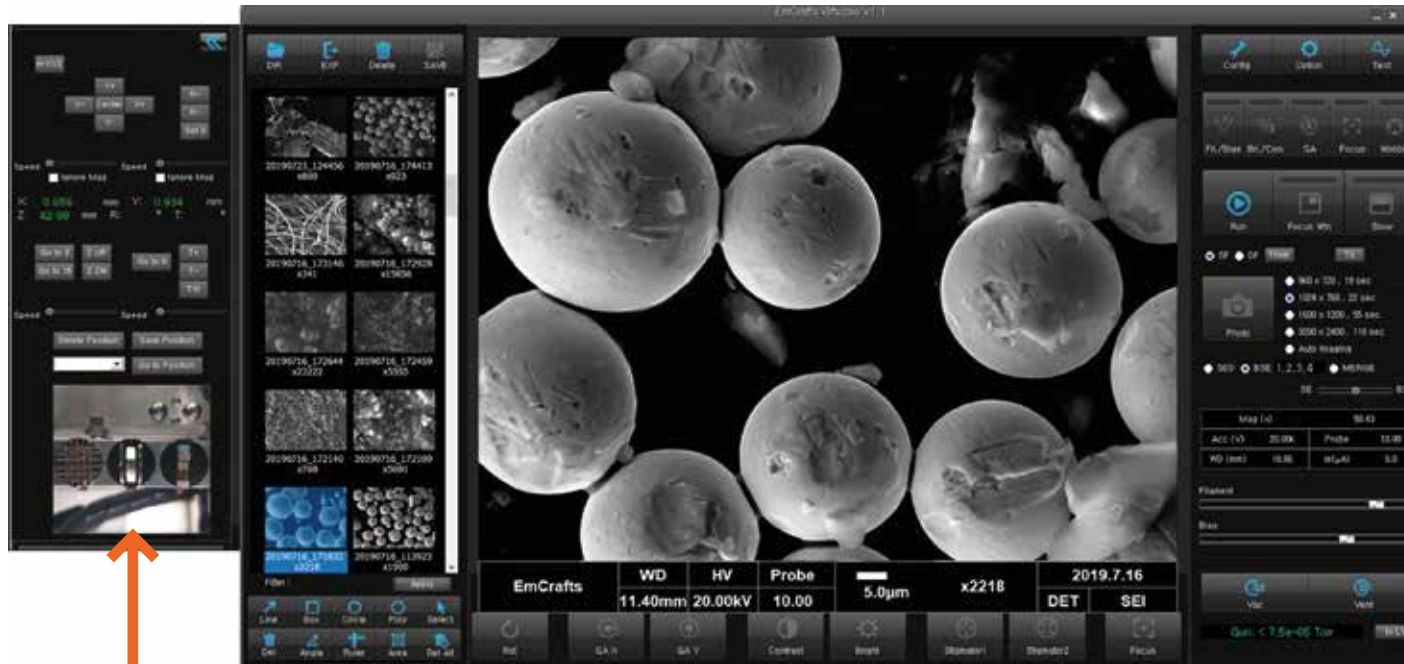
All you need for basic operation is the mouse

✓ Click and Go

Move the stage by double click. Navigate inside samples like a Google map

✓ Position saving

Save up to 100 analysis positions and restore one of them immediately



✓ No jig is required to mount your specimens

Just place your sample on one of three positions



✓ Drawing tools

- Length, area, angle measurement
- Circle, line, polygon annotation



✓ Remote Control

Remote operation through Teamviewer sessions enables remote research and diagnostics

✓ Map(Navigation) Mode

Multiple stub is provided as a standard Easy illustration about the sample position. Optical image can be overlaid(optional)

✓ Start/Stop just like a camcorder

- Convenient switching among imaging modes (TV, Focus, Slow, Photo)
- Easy resolution selection from radio buttons

✓ SE / BSE / Merge

- SE-BSE selection from radio buttons
- 4CH BSE imaging is provided as a standard.
- Both compositional and topographical imaging are possible
- SE+BSE Mergible

✓ Auto Imaging function

- Automated operation for wanted magnifications listed in a file or edit boxes
- high-resolution images can be acquired from N x N automated tile images.

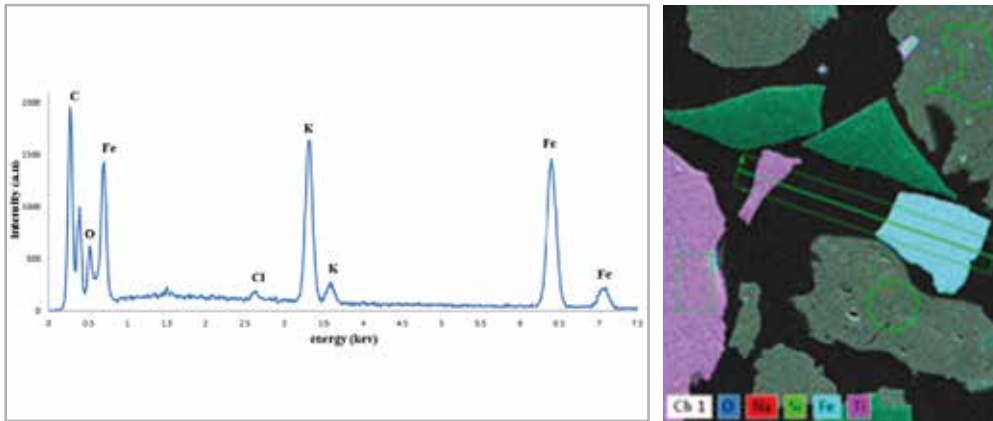


Elemental Analysis (Any EDS)

Every EDS from every maker

Select your preferred EDS.

One of all EDS brands(BRUKER, OXFORD, EDAX, THERMO, IXRF) can be installed inside the chassis and its interface was 100% proven already.



Thermo
SCIENTIFIC

BRUKER

OXFORD
INSTRUMENTS

EDAX
Smart Insight

AMETEK
MATERIALS ANALYSIS DIVISION

IXRF SYSTEMS

Ion Sputtering Coater (EGCI01)

Coat Gold and Platinum fast on your sample

Enhance your image contrast and brightness by increasing conductivity.

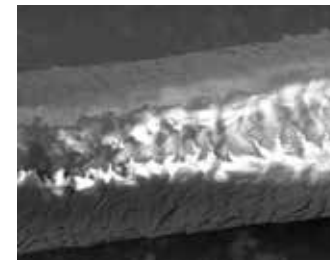
Ion sputter coater creates thin metal coat on a specimen for better conductivity

- ✓ Modern metallic design that fits every place
- ✓ Wide 7" screen
- ✓ Easy and hassle-free touch screen operation



Model	EGC101
Degree of Vacuum	2.0×10^{-1} Tor
Ion Current	1 to 10mA (1mA/step)
Target Material	Au or Pt
Chamber Size	$\phi 140\text{mm(D)} \times 100\text{mm(H)}$
Sample Stage	$\phi 50\text{mm(D)} \times 30\text{mm(H)}$
Target Size	$\phi 50\text{mm(D)}$
Sputter Time	1 to 600sec (1sec/step)
Vacuum Pump	100L/min, Rotary Pump

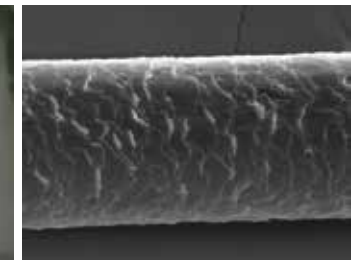
Non Coating



Plasma Sputtering



Au Coating

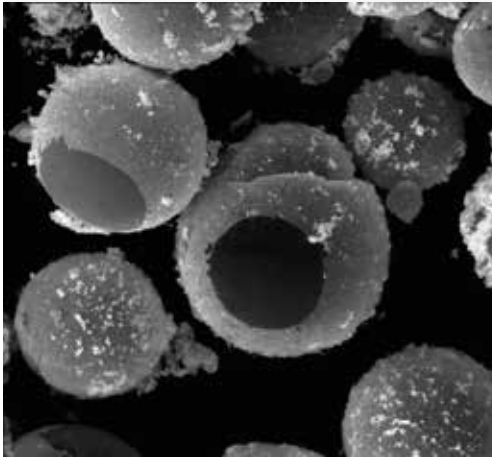


World Class BSE Detector

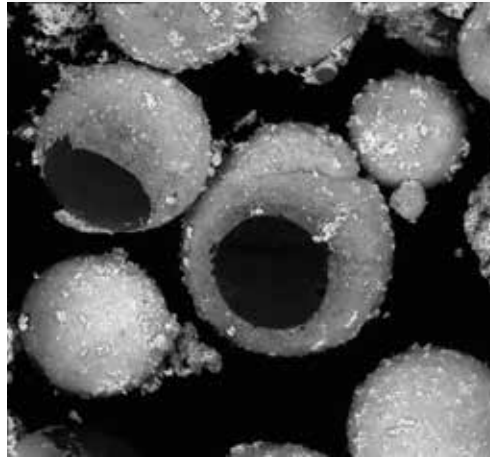
Provided as a standard

EmCrafts' leading signal sensing technology enabled superior low-noise performance and high contrast.

SE

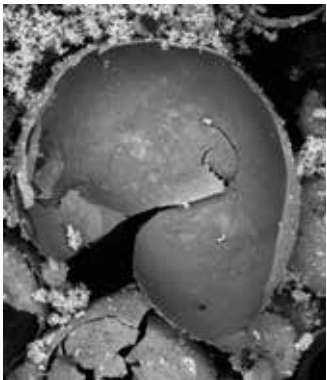


BSE



Each channel works as (+) or (-) to make 2^4 imaging combinations for BSE

COMPO



TOPO1



TOPO2



Best Quality Cooling Stage(IGLOO-I)

Liquid Sample? You can do it with Cube II

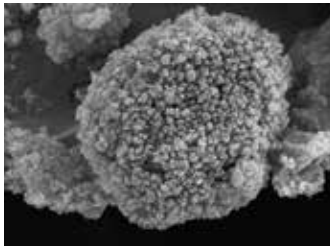
Freeze wet samples up to -25°C and analyze them in low vacuum mode.

Not only frozen specimen but also normal one can be mounted on a same cooling stage.
(US patent pending 16/287,770)

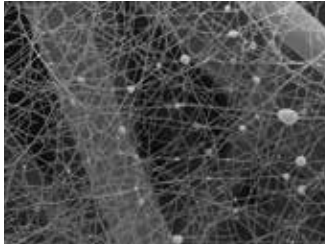
Easy Installation and compact design for space efficiency.



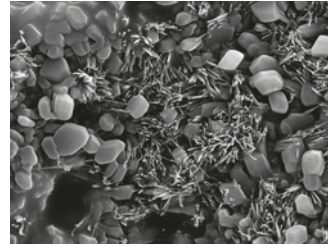
Materials Science



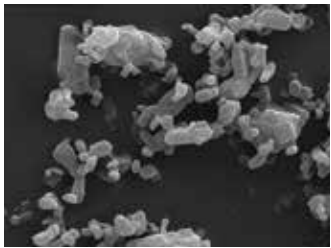
SiC powder



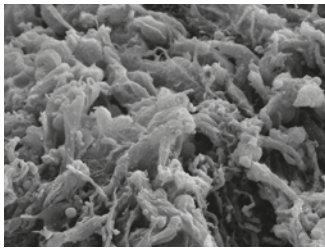
Nano Fiber



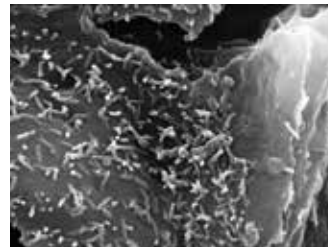
Paper



Pill powder

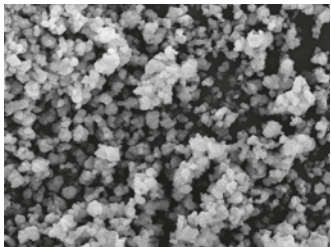


Lymph tissue



Insect skin

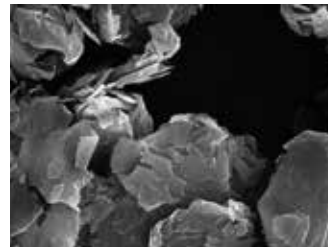
Energy



ZSM-5 catalyst

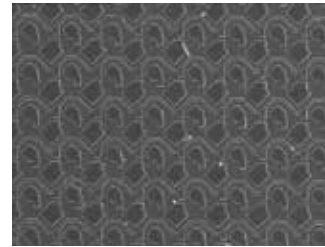


Anode for Secondary cell

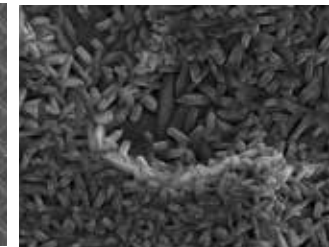


Graphene

Automotive & Metals



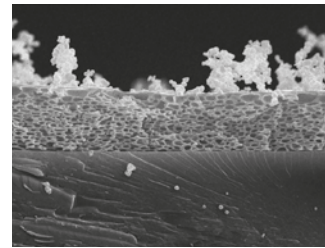
TST on Glass



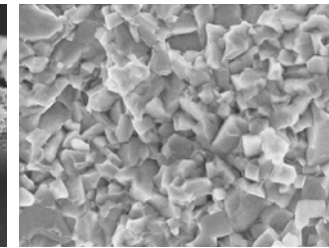
Galvanized Steel Plate



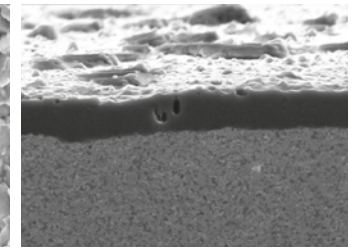
Aluminum Surface



Polymer Coating on Glass

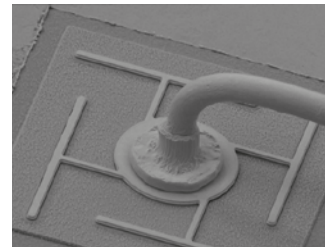


Carbide Surface

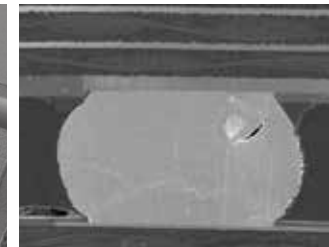


Carbide Intersection

Semiconductors & Electronics



LED wire bonding

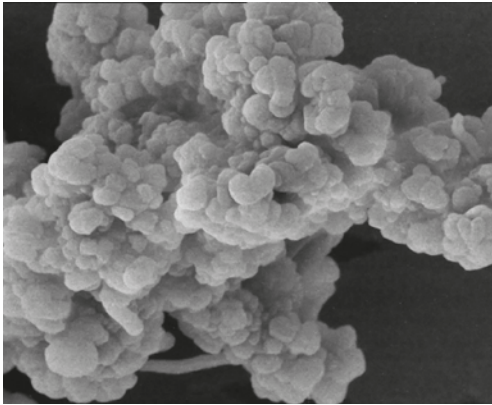


Semiconductor intersection

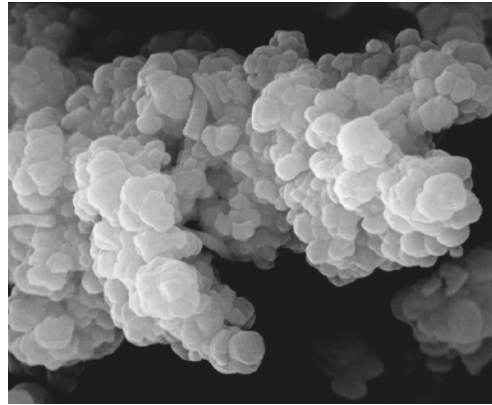


TST on Glass

Imaging with different Acceleration Voltages

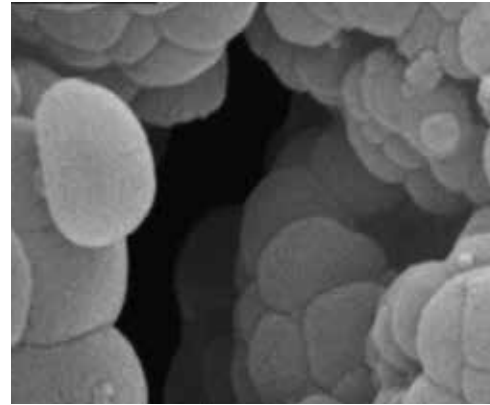


Acc Voltage: 10kV
Magnification: 10,000x

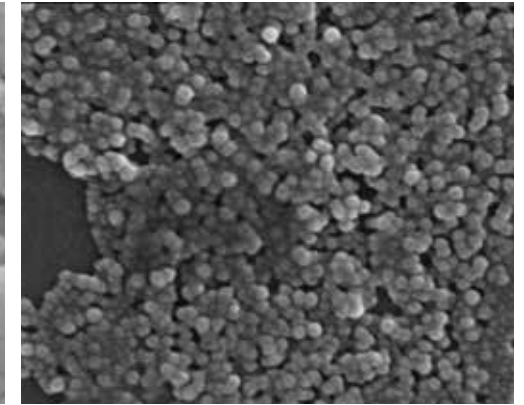


Acc Voltage: 20kV
Magnification: 10,000x

High Resolution Images

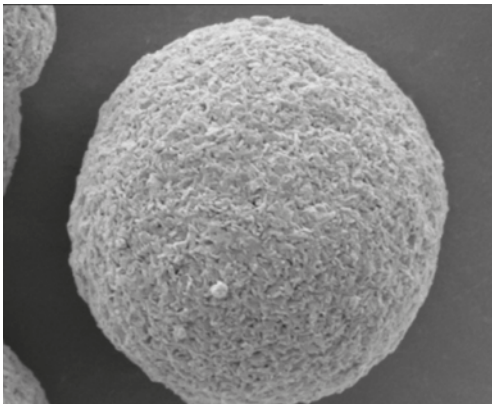


Magnification : 100,000x

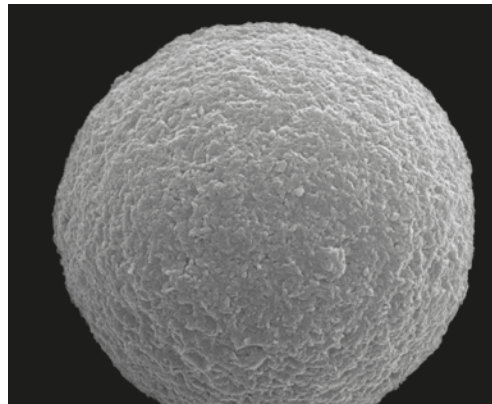


Magnification : 100,000x

Calibration & Gold Powder Sample



Acc Voltage: 5kV
Magnification : 20,000x



Acc Voltage: 20kV
Magnification : 20,000x

