OPTO-EDU A63.7004 Single-Crystal Filament Scanning Electron Microscope SE BSE 360000x 3nm@20KV

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: CNOEC, OPTO-EDU
- Certification: CE, Rohs
- Model Number: A63.7004
- 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: 3nm@20KV
- Magnification: 360000x
- Electron Gun: LaB6
- Voltage: 3-20KV
- Detector: BSE+SE
- Navigation CCD: CCD+Cabin Camera

Our Product Introduction

for more products please visit us on cnoec.com

Product Description

Magnification 360000x Resolution 3nm@20KV With Detector SE+BSE+CCD, Optional EDS

Standard X/Y Motorized Working Stage, Optional 3 Axes X/Y/Z, 5 Axes X/Y/Z/R/T

Single Crystal LaB6 Filament Catridge Voltage 20kV, Life Time >1500 Hours

High Vaccum System With Mechanical Rotary Pump To Get Vaccum In 30s

One Key Auto Focus, Auto Brightness & Contrast Adjust, No Need Shock Absorbing Table

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OPTO-EDU

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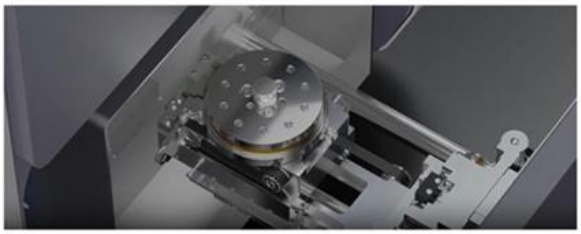
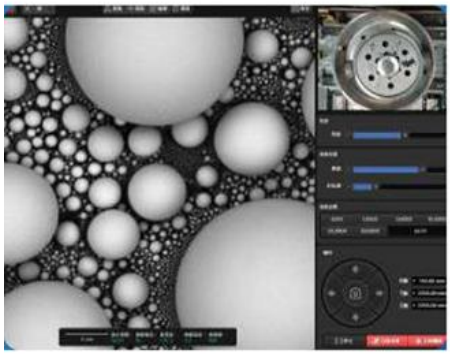
A63.7004

Single-Crystal Filament Scanning Electron Microscope, SE+BSE, 360000x, 3nm@20KV

A63.7004 Introduction





A63.7004 **Desktop Scanning Electron Microscopes (SEM), upgrade the gun from tungsten to LaB6,** incorporate numerous innovative technologies, offering not only excellent imaging performance but also portability, catering to a wide range of application needs. Both domestically and internationally, the ZEM series, with its high-end positioning and diverse models, has achieved advanced standards in imaging clarity, user-friendliness, and system integration.

A63.7004 is renowned for its high level of integration and flexible configuration options. The user interface is simple, easy to learn, and operate, allowing even non-expert users to quickly become proficient. The accompanying software supports the entire workflow, from sample preparation, parameter adjustment, to image analysis, providing an integrated and efficient solution. **A63.7004** has demonstrated strong analytical capabilities across multiple fields such as new materials, new energy, biomedicine, and semiconductors, assisting researchers in exploring the mysteries of the microscopic world. Due to its excellent cost-performance ratio, the ZEM series has become a preferred choice for many universities, research institutions, and enterprises seeking a desktop scanning electron microscope.

The A63.7004 benchtop SEM utilizes a wider range of accelerating voltages, 1Kv steps, and a maximum magnification of 360,000x with a resolution of up to 5nm The tabletop deceleration mode allows real-time observation of low-conductivity products without the need for gold spraying. The extra-large sample compartment can be integrated with a wide range of in-situ expansion platforms to meet different experimental and inspection needs.

A63.7004 Features

Working Conditions:

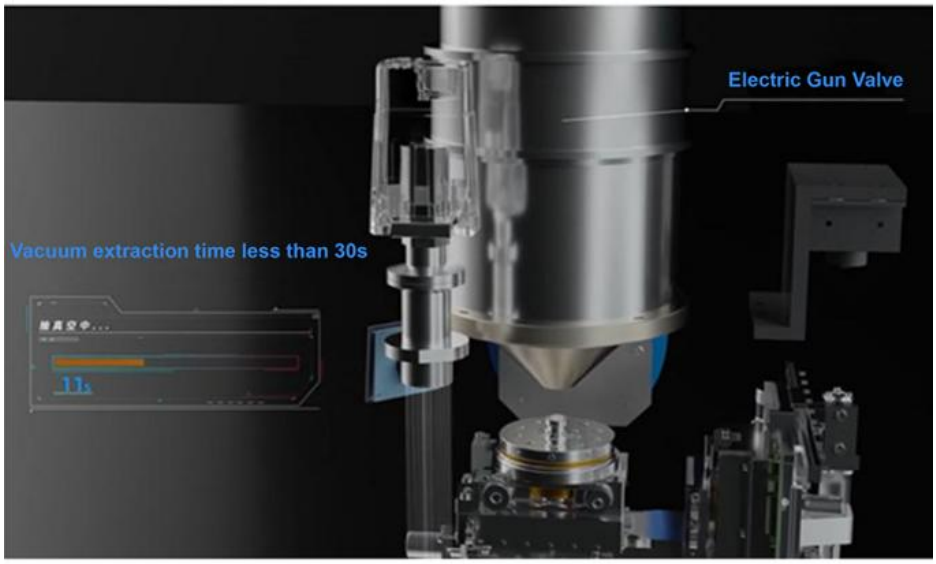
Environmental requirements: small size, the whole machine can be placed on an ordinary laboratory table, no need to be equipped with an additional shock absorbing table.

1.Power supply 220V, 50Hz, 1KW

2.Temperature: Operating ambient temperature: 15°C-30°C

3.Humidity: <80%RH

▲ Vacuum Separation Technology: Utilizes a unique vacuum design where the electron gun and sample chamber have separate vacuums, allowing for sample change in less than 1 minute.
▲ Extra-Large Sample Chamber: Provides a larger sample storage space for convenient user operation.
▲ Ultra-High Resolution: Achieves a maximum magnification of 360,000 times with a resolution of 3nm at 20kV.
▲ Standard Equipped Deceleration Mode: Allows for the observation of weakly conductive samples without gold sputtering.
▲ In-Chamber Camera: The sample chamber is equipped with a high-definition camera for real-time monitoring of sample changes during in-situ experiments.



A63.7004 Specification

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Main Specification:

1. Acceleration voltage: 3-20kV, continuously adjustable.
2. Electron gun type: pre-aligned single crystal LaB6 filament, life time 1500 hours, highly integrated two-stage gun lens, no need to manually adjust the diaphragm of the objective lens.
3. Magnification ≥360000X
4. Resolution:≤3nm@20KV
5. Detector: secondary electron detector (SE), quadruple backscatter detector (BSE),
6. Stage: 2 Axis XY motorized stage, moving 60x55mm
7. Maximum sample size: 100*78*68.5mm while XY axes move freely
8. Sample change and high vacuum pumping time≤ 90s.
9. High vacuum system: mechanical pump, turbo molecular pump, ion pump, the vacuum in sample chamber ≥4x10-2Pa, fully automatic control;
10. Video mode ≥512x512 pixels, no need for small window scanning.
11. Quick scan mode: imaging time≤3s, 512x512 pixels.
12. Slow scan mode: imaging time≤40s, 2048x2048 pixels.
13. Image File: BMP, TIFF, JPEG, PNG.
14. One-key automatic adjustment of brightness and contrast, auto-focus, large image stitching
15. Navigation function: optical camera navigation and cabin camera.
16. Image measurement function: distance, angle, etc.
17. Including computer & software, mouse control.
18. Optional:

--Tungsten filament (20pcs/box)
--EDS
--3 Axis Motorized Stage XYZ
--3 Axis Motorized Stage XYT
--5 Axis Motorized Stage XYZRT
--Low vacuum (1-60Pa)
--In-Situ stage from original factory, heating, cooling, stretch, etc.
--Deceleration Mode, 1-10KV, can observe non-conductor or poor conductivity samples without gold spraying, only for BSE mode
--Shock-absorbing Platform (recommend for A63.7004)

19. Microscope size 650*370*642mm, mechanical pump size 340*160*140mm

Model	A63.7001	A63.7002	A63.7003	A63.7004	A63.7005
Resolution	10nm@15KV	6nm@18KV	4nm@20KV	3nm@20KV	2.5nm@15KV
Magnification	150000x	200000x	360000x	360000x	1000000x
Electron Gun	Tungsten	Tungsten	Tungsten	LaB6	Schotty FEG
Voltage	5/10/15KV	3-18KV	3-20KV	3-20KV	1-15KV
Detector	BSE+SE	BSE+SE	BSE+SE	BSE+SE	BSE+SE
Navigation CCD	CCD	CCD	CCD+Cabin Camera	CCD+Cabin Camera	CCD+Cabin Camera
Vaccum Time	90s	90s	30s	90s	180s
Vaccum System	Mechanical Pump Molecular Pump	Mechanical Pump Molecular Pump	Mechanical Pump Molecular Pump	Mechanical Pump Molecular Pump Ion Pump	Mechanical Pump Molecular Pump Ion Pump x2
Vaccum	High Vaccum 1x10-1Pa	High Vaccum 1x10-1Pa	High Vaccum 1x10-1Pa	High Vaccum 5x10-4Pa	High Vaccum 5x10-4Pa
Stage	XY Stage, 40x30/40x40mm	XY Stage, 40x30/40x40mm	XY Stage, 60x55mm	XY Stage, 60x55mm	XY Stage, 60x55mm
Stage Precision	-	Position Precise 5um			
Working Distance	5-35mm	5-35mm	5-73.4mm	5-73.4mm	5-73.4mm
Max Specimen	80x42x40mm	80x42x40mm	100x78x68.5mm	100x78x68.5mm	100x78x68.5mm
Optional	Tungsten Filament 20 pcs/box			Lab6 Filament	Field Emission Lamp
	EDS Oxford AZtecOne with XploreCompact 30				
	-	Low Vaccum 1-100Pa		Low Vaccum 1-30Pa	
	-	Z Axis Module	3 Axis Stage, X 60mm, Y 50mm, Z 25mm		
	-	T Axis Module	3 Axis Stage, X 60mm, Y 50mm, T ±20°		
	-	-	5 Axis Stage, X 90mm, Y 50mm, Z 25mm, T ±20°, R 360°		
	-	-	Shock-absorbing Platform, For 3 Axis, 5 Axis Stage		
	-	Deceleration Mode 1-10KV To Watch Non-conduct Samples, Only For BSE			

	-	In-Situ Stage From Original Factory, Heating, Cooling, Stretch, etc.
		UPS

A63.7004 Software Description

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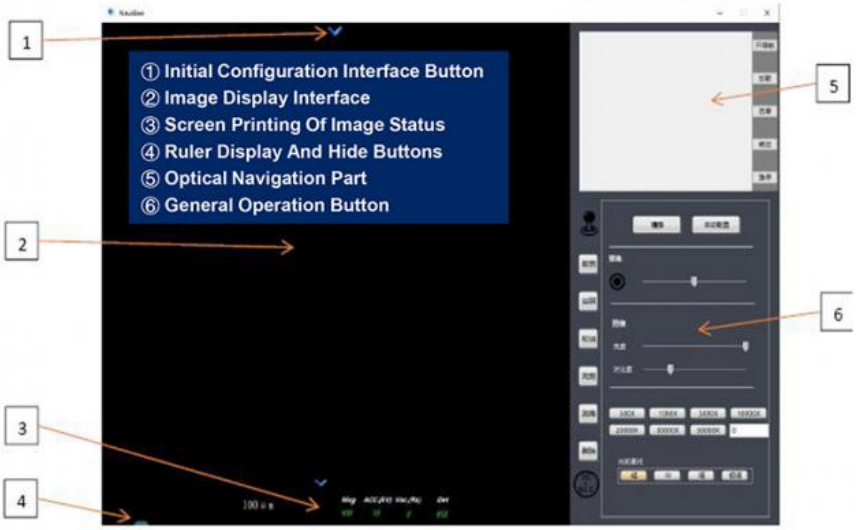
▶ Software Interface



▶ Stake Out, Evacuate And Turn On High Pressure.

▶ Image Display Configuration And Adjustment

▶ BSE Advanced Configuration

▶ Lens configuration

▶ Turn Off The High Pressure, Vent The Vacuum.

A63.7004 Software Installation And Application

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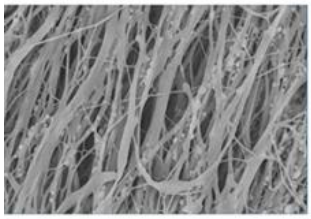
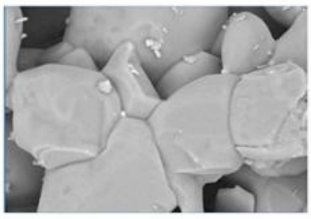
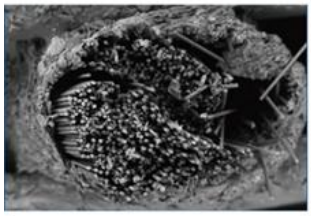


Research And Teaching

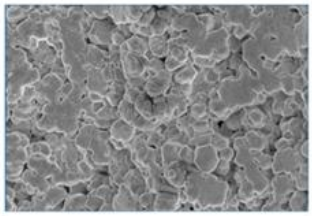


Functional Inorganic Materials

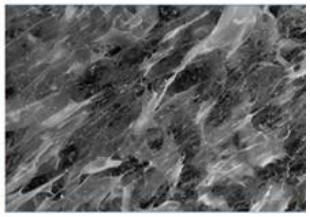
Functional Nanomaterials



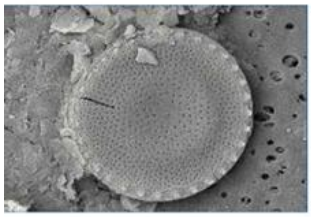
Tubular Nanomaterials



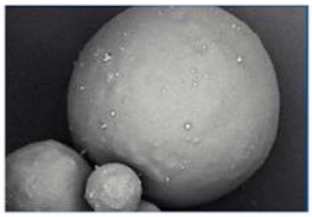
Aluminum Nitride



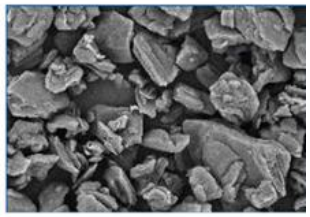
Hydrogel



Diatom

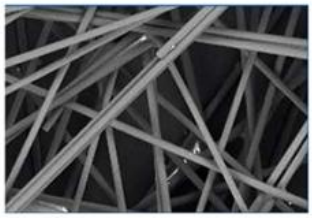


Powdered Medicine Material

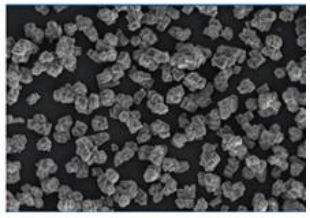


Anode Materials For Lithium Battery

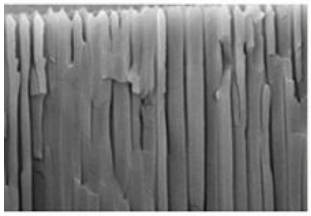
Industrial Monitoring



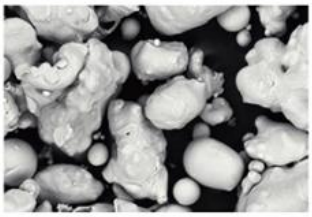
Fiber Testing



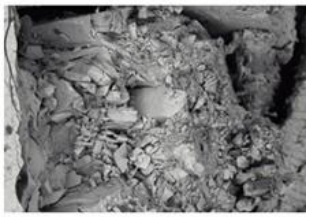
Particle Detection



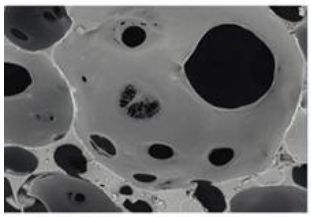
Aluminum Oxide Film Testing



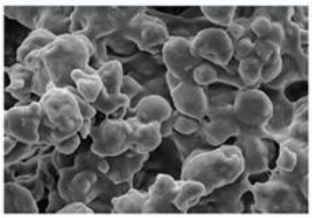
Metal Material



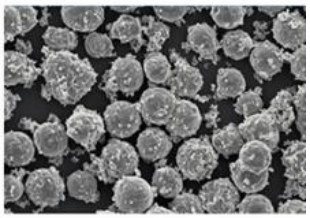
Resistance Detection



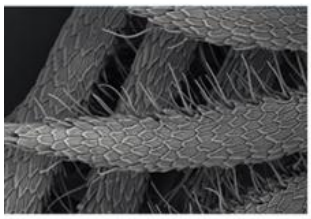
Chemical Material



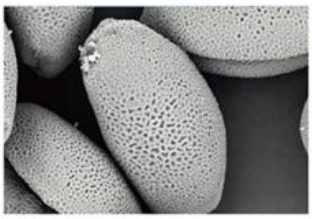
Drug Testing



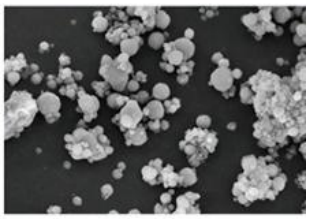
Ternary Lithium Battery



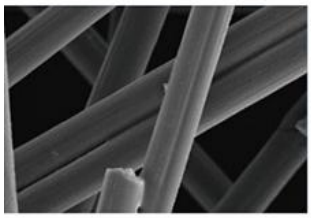
Life Sciences



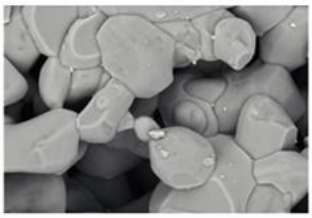
Plant Testing



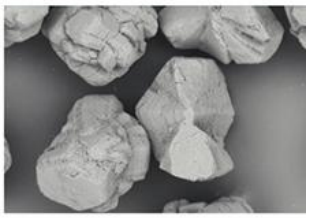
Chemical Testing



Fiber Testing



Functional Inorganic Materials



Industrial Inspection

A63.7004 Accessories

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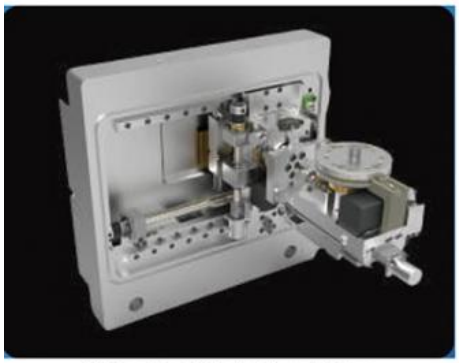
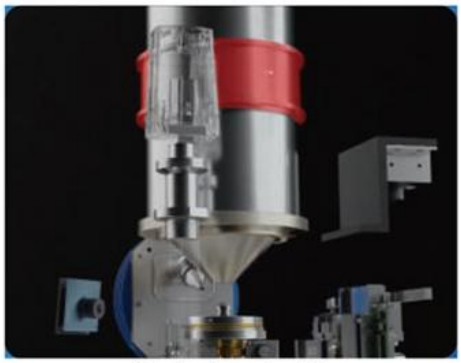


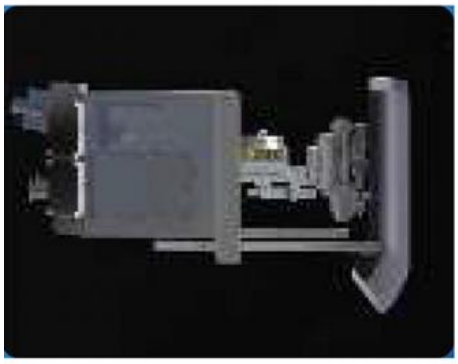
Optional 5-axis Center Sample Stage



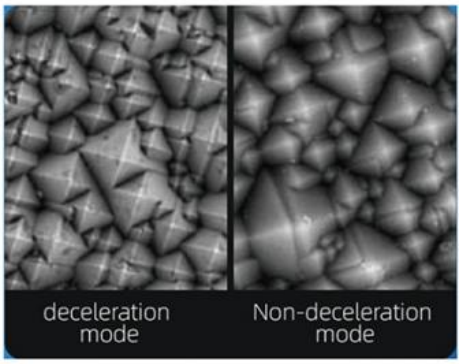
Sample change time 30s

Addition of a camera inside the sample compartment for real-time observation of the sample compartment

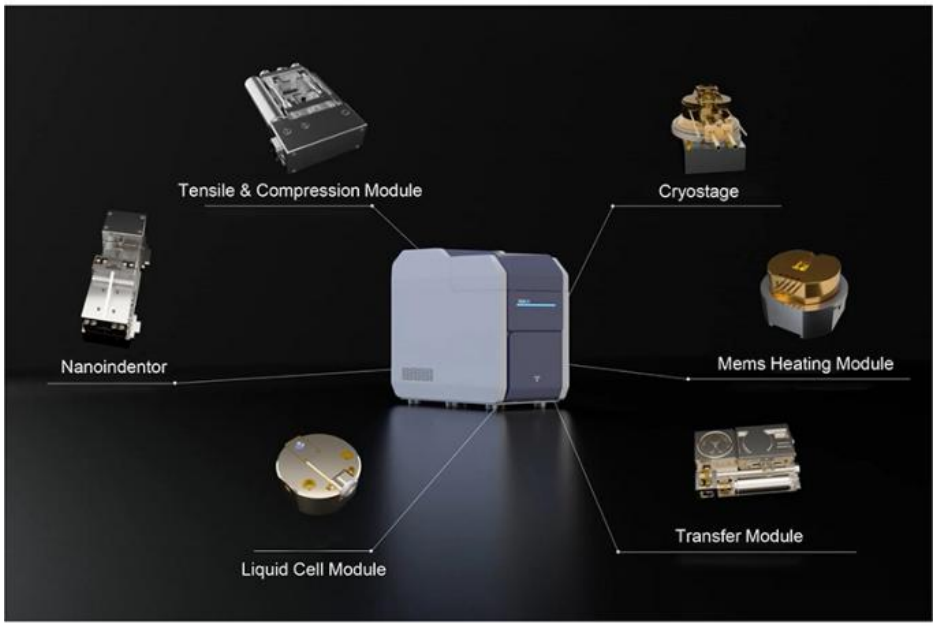
The gun head always maintains 5*10'Pa vacuum, which greatly improves the service life of tungsten filament, and LaBó filament is optional

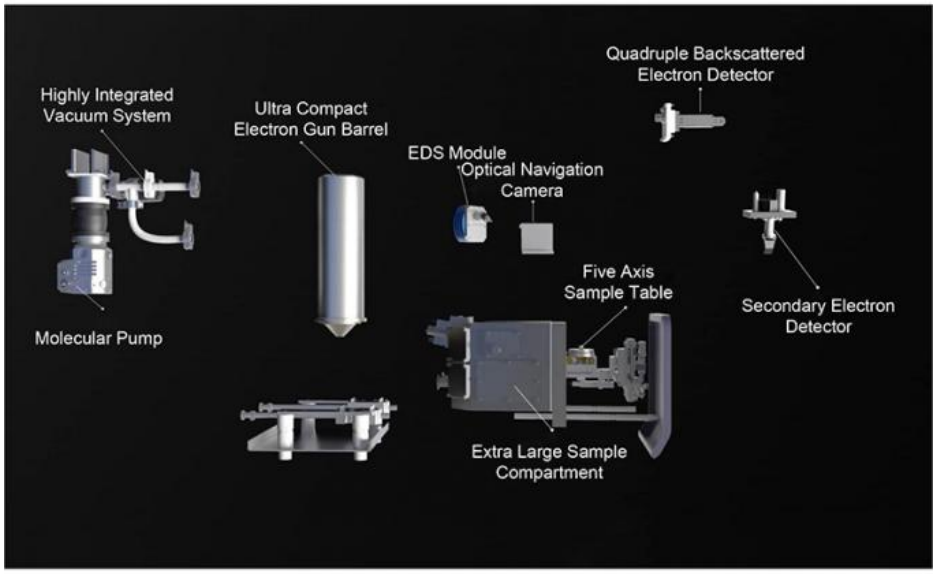


Extra large sample compartment,L185mm*w176mm*H125mm



10kv sample Table High Voltage Reduction Option


Tensile & Compression Module
Cryostage
Nanoindentor
Mems Heating Module
Liquid Cell Module
Transfer Module


Highly Integrated
Vacuum System
Ultra Compact
Electron Gun Barrel
Quadruple Backscattered
Electron Detector
EDS Module
Optical Navigation
Camera
Five Axis
Sample Table
Secondary Electron
Detector
Molecular Pump
Extra Large Sample
Compartment

▶ In Situ Expansion Product Accessories

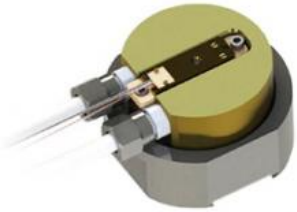
Tec Cold Table

Sem Stretching Stage

Sem Heated Sample Stage

▶ Other Customized In-situ Products

SEM Nano Probe Stage



SEM Atmosphere Heating system

SEM Nano Force Measurement System

(High temperature) in situ SEM cell station

A63.7004 Oxford EDS

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▶ AZtecOne with XploreCompact 30 for TTM

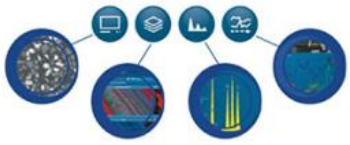
System Conventional Eds Analysis

The system provides qualitative and quantitative analysis of different materials, analyzing elements ranging from B(5) to cf (98).in addition to individual point scans of the sample surface, powerful line scans and elemental spectral scans are also available. combined with a customized detector, analysis and reporting can be done in seconds.

Effective Crystal Area	30mm2	Resolution (Of A Photo)	Mn Ka <129eV @50,000cps
Elemental Detection Range	B (5) to cf (98)	Maximum Input Count Rate	>1,000,000 cps

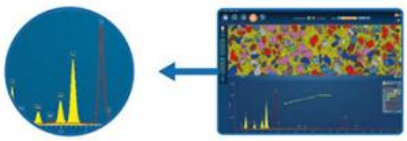
Highly User-Friendly Software

The software interface has simple navigation steps to guide the user through the analysis quickly and easily.



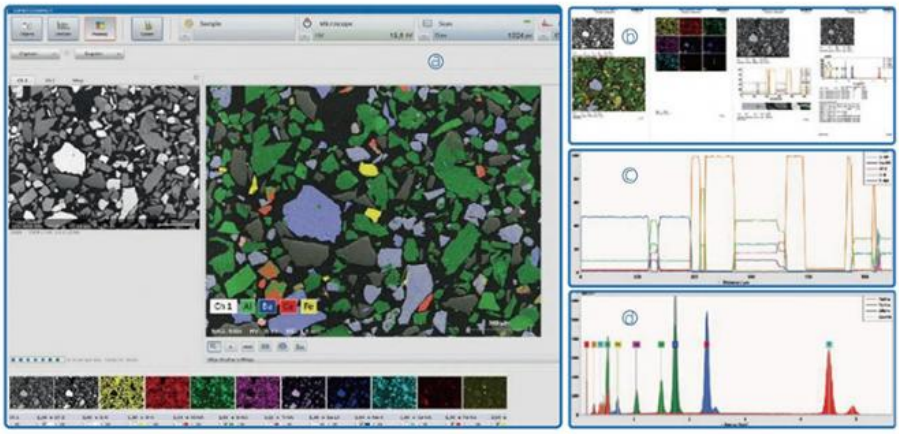
Comparison Of Real-Time Spectra

Real-time display of results saves analysis time
- No need to wait until collection is complete, quantitative results are displayed instantly
- Comparison with previous spectra is possible even during the acquisition process



Reporting

Intelligent report template selector generates reports in seconds



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