# 8x-800000x Emission Scanning Electron Microscope Schottky Gun A63.7080 Std Feg Sem

Our Product Introduction

## Basic Information

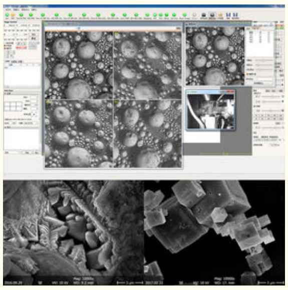
| | |
|---|---|
| Place of Origin: | China |
| Brand Name: | CNOEC, OPTO-EDU |
| Certification: | CE, |
| Model Number: | A63.7080 |
| Minimum Order Quantity: | 1 pc |
| Price: | FOB $1~1000, Depend on Order Quantity |
| Packaging Details: | Carton Packing, For Export Transportation |
| Delivery Time: | 5~20 Days |
| Payment Terms: | T/T, West Union, Paypal |
| Supply Ability: | 5000 pcs/ Month |

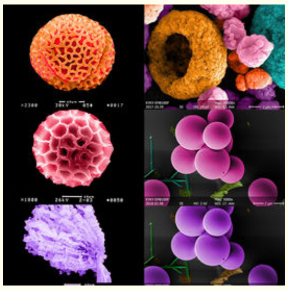
## Product Specification

| | |
|---|---|
| Resolution: | 1.5nm@15KV(SE); 3nm@20KV(BSE) |
| Magnification: | 8x~800000x |
| Electron Gun: | Schottky Emission Electron Gun |
| Accelerating Voltage: | 0~30KV |
| Vacuum System: | Ion Pump, Turbo Molecular Pump Rotation Pump |
| Specimen Stage: | Five Axes Eucentric Motorized Stage |
| Electron Beam Current: | 10pA~0.3μA |
| Max Specimen Diameter: | 175mm |
| Highlight: | **8x emission scanning electron microscope**, **schottky gun emission scanning electron microscope** |

for more products please visit us on cnoec.com

## More Images





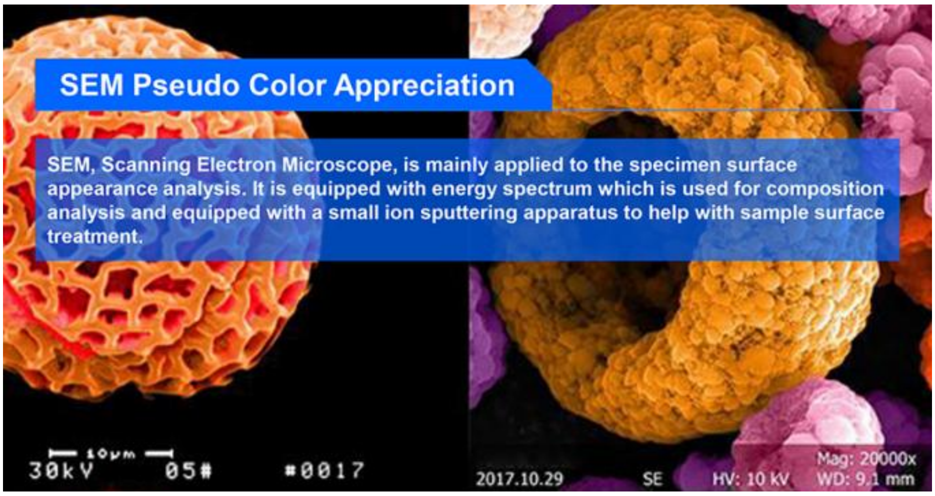
## Product Description

8x~800000x With Detector SED+CCD, Five Axes Manual Stage or Motorized Stage
E-Beam Acceleration With Stable Beam Current Supply Excellent Image Under Low Voltage
Non Conduction Sample Can Be Observed Directly No Need To Be Sputtered In Low Voltage
Easy & Friendly Operation Interface, All Controled By Mouse In Windows System
Large Sample Room With Five Axes Eucentric Motorized Stage Large Size, Max Specimen Dia.175mm

OPTO-EDU (BEIJING) CO., LTD.
F-1501 Wanda Plaza, No.18 Shijingshan Road, Beijing 100043, China
Tel:+8610 88696020 Fax:+8610 88696085

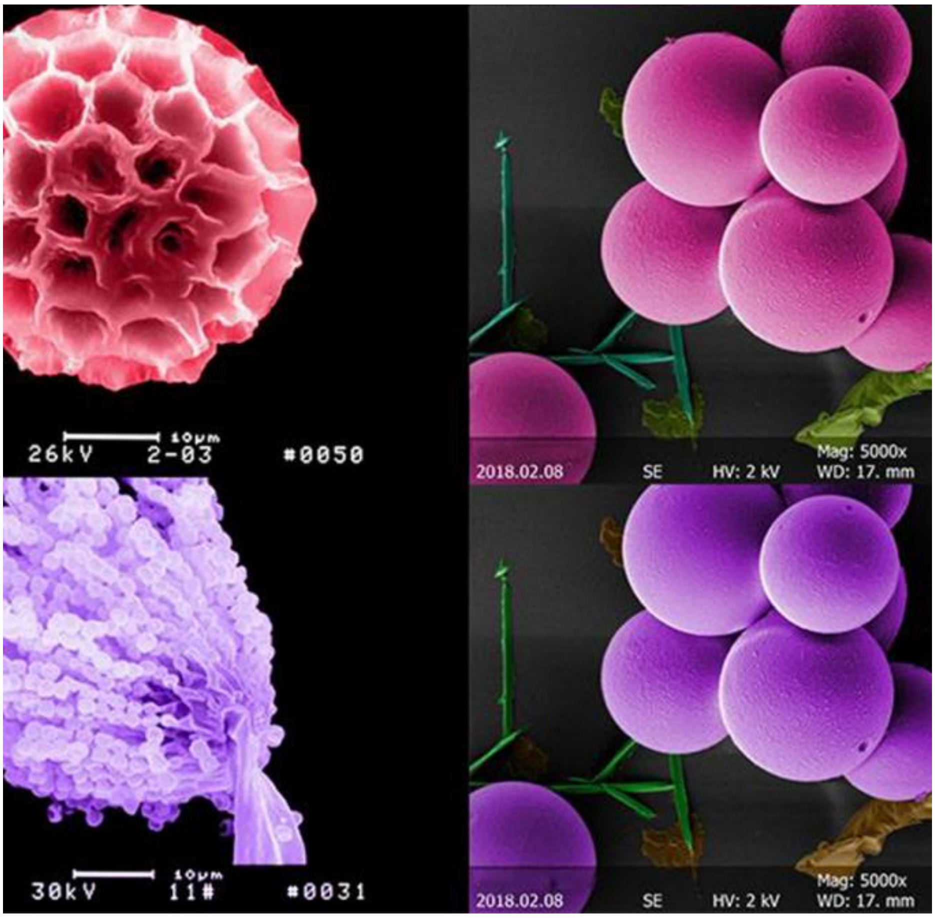
# A63.7080

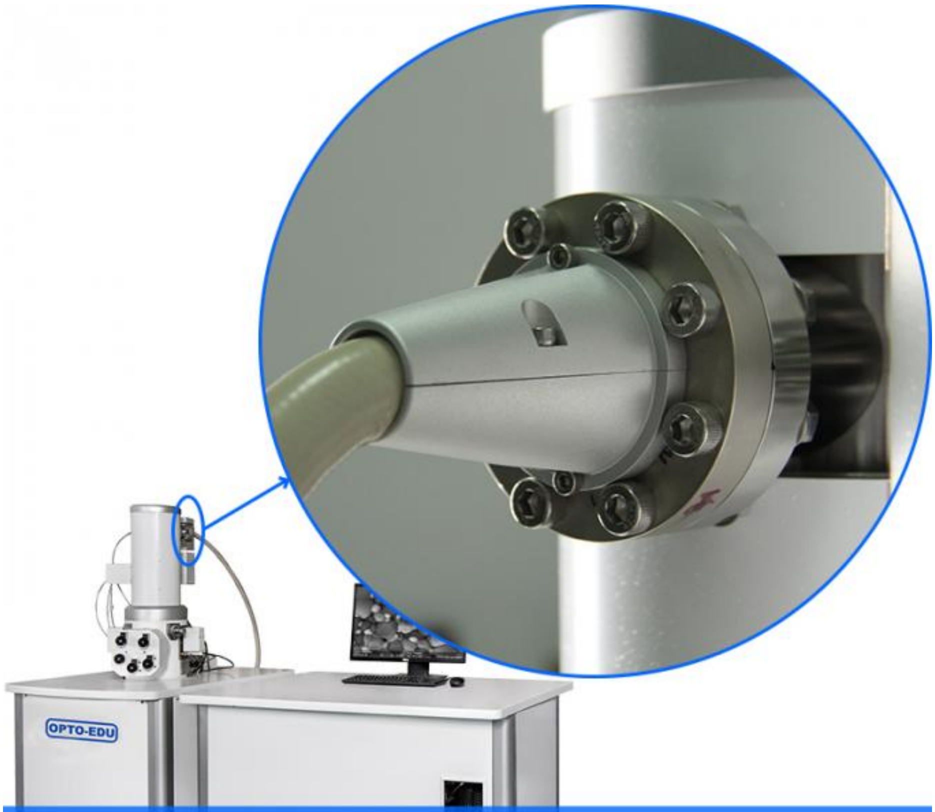
## Schottky Field Emission Gun Scanning Electron Microscope, SED+CCD, 8x~800000x



### SEM Pseudo Color Appreciation

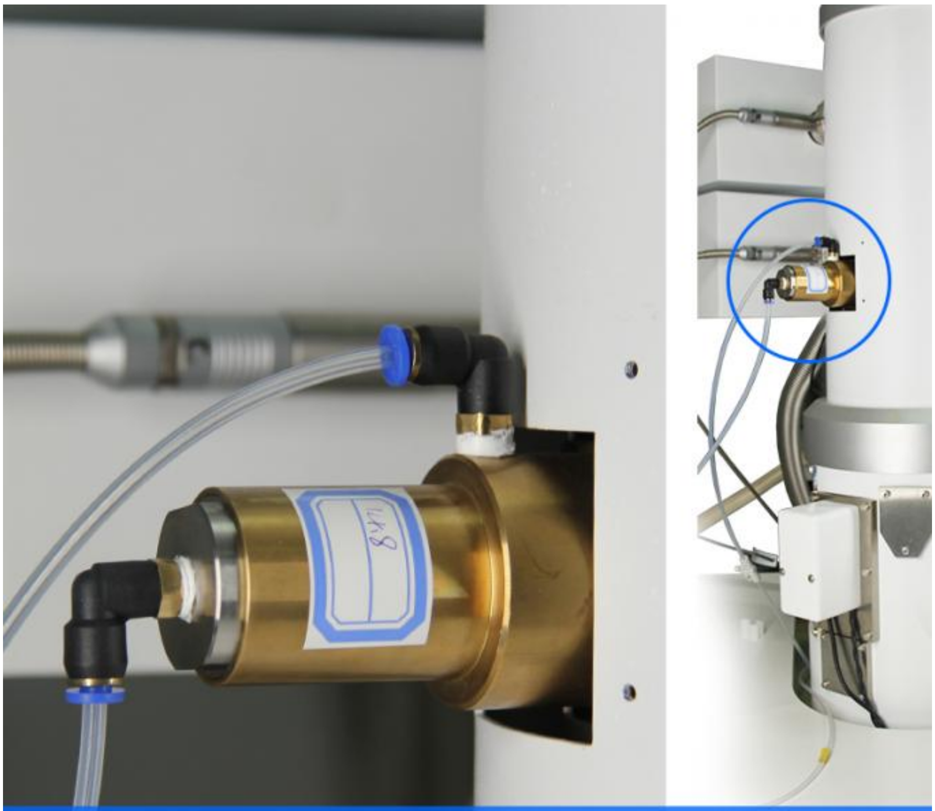
SEM, Scanning Electron Microscope, is mainly applied to the specimen surface appearance analysis. It is equipped with energy spectrum which is used for composition analysis and equipped with a small ion sputtering apparatus to help with sample surface treatment.





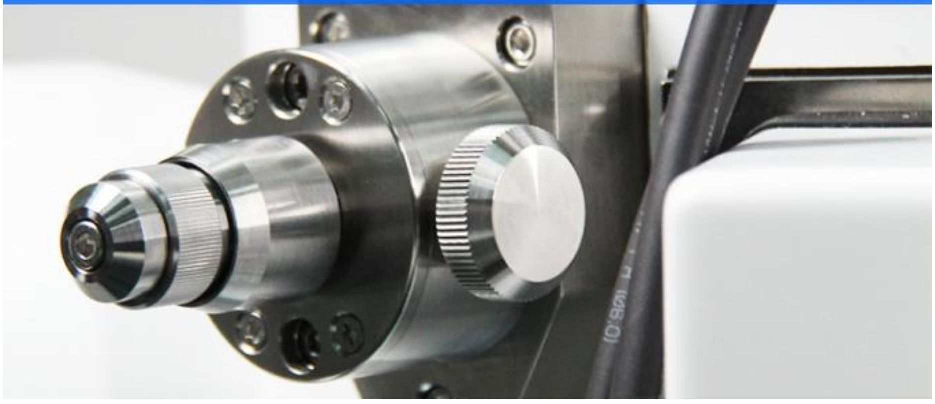
Schottky Field Emission Gun Electron Gun
Electron Gun Room Vacuum>2E-7 Pa

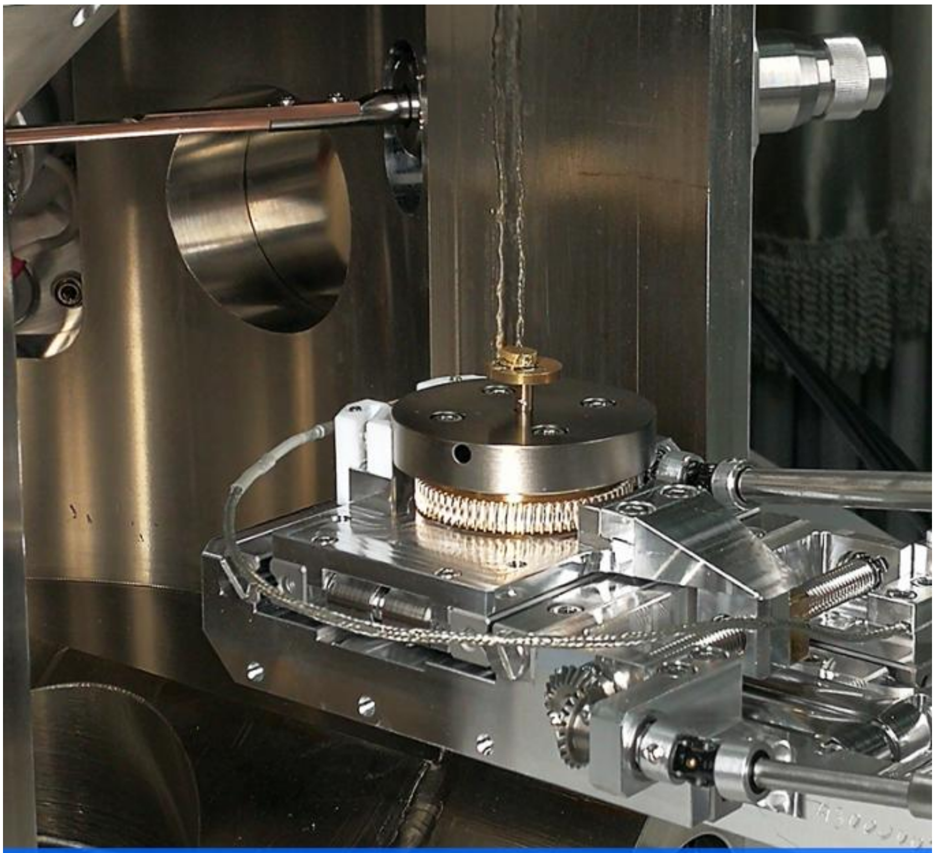
Vacuum System: Ion Pump



The Isolating Valve Ensures That The Upper Vacuum Is Not Affected When The Sample Room Is Opened

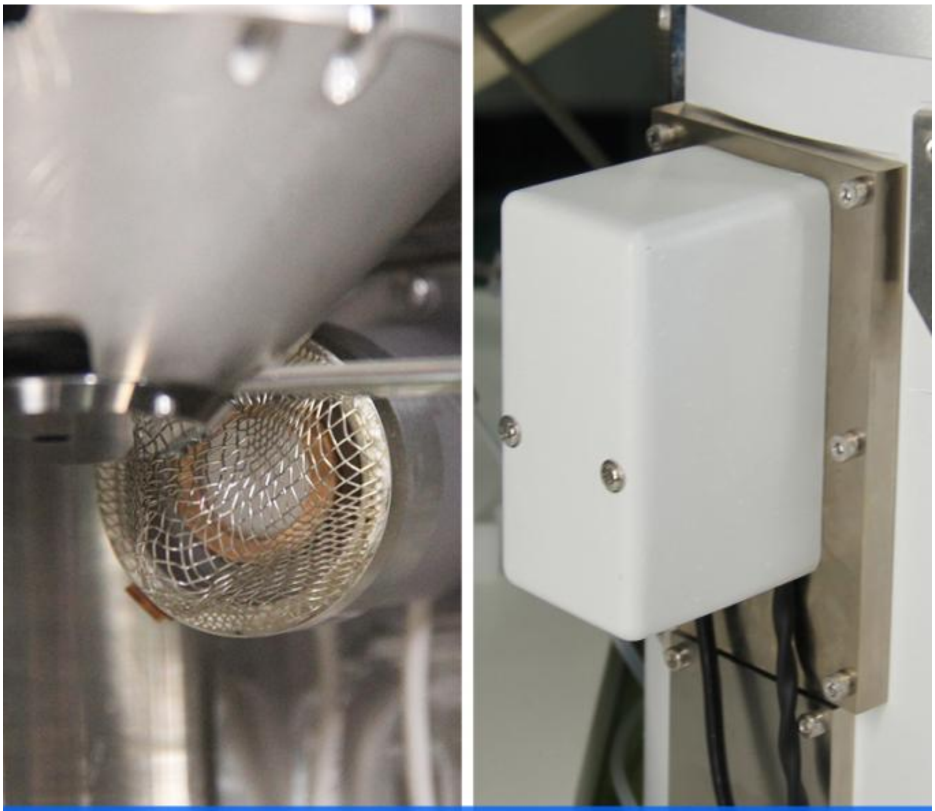
3 Molybdenum Objective Apertures, Adjustable Outside Of Vacuum System, No Need Disassemble Objective To Change Aperture



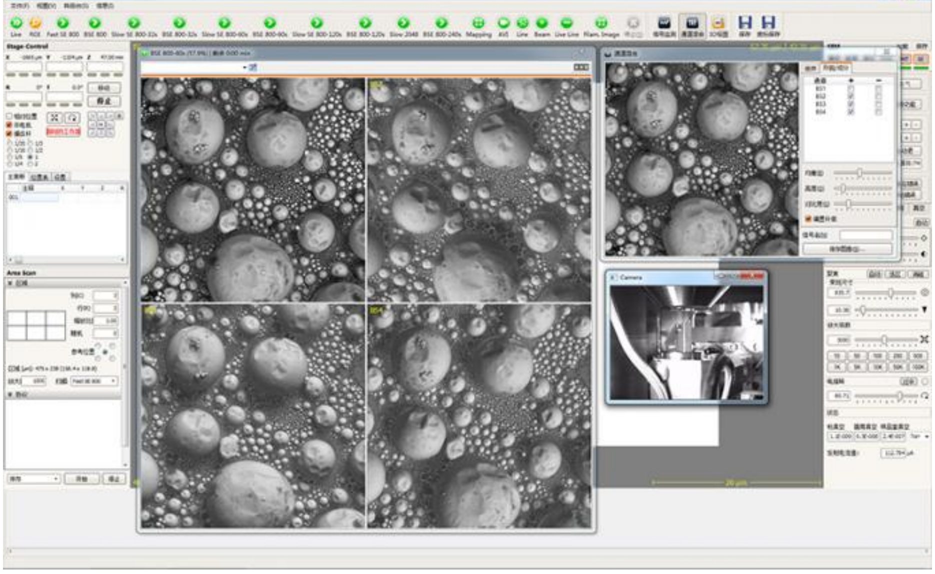


Sample Room Vacuum>6E-4Pa

5 Axes Auto Middle Stage
Touch Alert & Stop Function

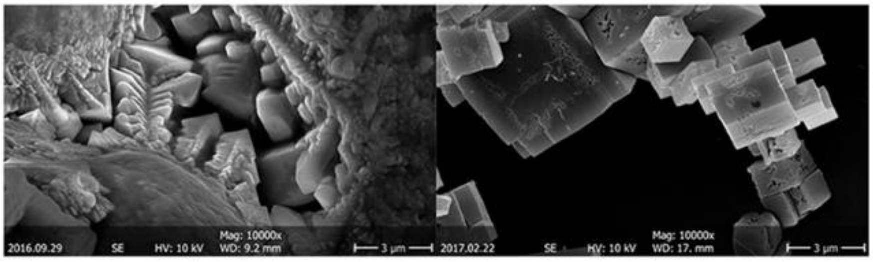


SE: High Vacuum Secondary Electron
Detector (With Detector Protection)



| A63.7080, A63.7081 Software Main Function | | |
|---|---|---|
| High voltage integrated commissioning | Automatic filament on / off | Potential shift regulation |
| Brightness adjustment | Electric to central adjustment | Automatic brightness |
| Contrast adjustment | Objective lens adjustment | Auto focus |
| Magnification adjustment | Objective degaussing | Automatic astigmatism elimination |

| | | |
|---|---|---|
| Selected area scanning mode | Electric rotation adjustment | Management of microscope parameters |
| Point scanning mode | Electron beam displacement adjustment | Real time display of scanning field size |
| Line scanning mode | Electron beam tilt adjustment | Gun lens adjustment |
| Surface scanning | Scanning speed adjustment | Multichannel input |
| High voltage power monitoring | Swing centering | Ruler measurement |



## A63.7080 Multi-angle

| SEM | A63.7069 | A63.7080 | A63.7081 |
|---|---|---|---|
| Resolution | 3nm@30KV(SE)<br>6nm@30KV(BSE) | 1.5nm@30KV(SE)<br>3nm@30KV(BSE) | 1.0nm@30KV(SE)<br>3.0nm@1KV(SE)<br>2.5nm@30KV(BSE) |
| Magnification | 8x~300000x Negative True Magnification | 8x~800000x Negative True Magnification | 6x~1000000x Negative True Magnification |
| Electron Gun | Pre-Centered Tungsten Filament Cartridge | Schottky Field Emission Gun | Schottky Field Emission Gun |
| Voltage | Accelerating Voltage 0~30KV, Continuous Adjustable, Adjust Step 100V@0-10Kv, 1KV@10-30KV | | |
| Quick View | One Key Quick View Image Function | N/A | N/A |
| Lens System | Three-levels Electromagnetic Tapered Lens | Multi-levels Electromagnetic Tapered Lens | |
| Aperture | 3 Molybdenum Objective Apertures, Adjustable Outside Of Vacuum System, No Need Disassemble Objective To Change Aperture | | |
| Vacuum System | 1 Turbo Molecular Pump<br>1 Mechanical Pump<br>Sample Room Vacuum>2.6E-3Pa<br>Electron Gun Room Vacuum>2.6E-3Pa<br>Fully Auto Vacuum Control<br>Vacuum Interlock Function<br>**Optional Model: A63.7069-LV**<br>1 Turbo Molecular Pump<br>**2** Mechanical Pumps<br>Sample Room Vacuum>2.6E-3Pa<br>Electron Gun Room Vacuum>2.6E-3Pa<br>Fully Auto Vacuum Control<br>Vacuum Interlock Function<br>**Low Vacuum** Range 10~270Pa For Quick Switch in 90 Seconds For BSE(LV) | 1 Ion Pump Set<br>1 Turbo Molecular Pump<br>1 Mechanical Pump<br>Sample Room Vacuum>6E-4Pa<br>Electron Gun Room Vacuum>2E-7 Pa<br>Fully Auto Vacuum Control<br>Vacuum Interlock Function | 1 Sputter Ion Pump<br>1 Getter Ion Compound Pump<br>1 Turbo Molecular Pump<br>1 Mechanical Pump<br>Sample Room Vacuum>6E-4Pa<br>Electron Gun Room Vacuum>2E-7 Pa<br>Fully Auto Vacuum Control<br>Vacuum Interlock Function |
| Detector | **SE**: High Vacuum Secondary Electron Detector (With Detector Protection) | **SE**: High Vacuum Secondary Electron Detector (With Detector Protection) | **SE**: High Vacuum Secondary Electron Detector (With Detector Protection) |
| | | | |

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|---|---|---|---|
| | **BSE**: Semiconductor 4 Segmentation Back Scattering Detector<br><br>**Optional Model: A63.7069-LV**<br>**BSE(LV)**: Semiconductor 4 Segmentation<br>Back Scattering Detector | Optional | Optional |
| | **CCD:** Infrared CCD Camera | **CCD:** Infrared CCD Camera | **CCD:** Infrared CCD Camera |
| Extend Port | 2 Extend Ports On Sample Room For EDS, BSD, WDS etc. | 4 Extend Ports On Sample Room For BSE, EDS, BSD, WDS etc. | 4 Extend Ports On Sample Room For BSE, EDS, BSD, WDS etc. |
| Specimen Stage | 5 Axes Stage, 4 **Auto** +1 **Manual** Control<br>Travel Range:<br>X=70mm, Y=50mm, Z=45mm,<br>R=360°, T=-5°~+90°(Manual)<br>Touch Alert & Stop Function | 5 Axes **Auto Middle** Stage<br>Travel Range:<br>X=80mm, Y=50mm, Z=30mm,<br>R=360°, T=-5°~+70°<br>Touch Alert & Stop Function<br><br>Optional Model:<br>**A63.7080-M** 5 Axes **Manual** Stage<br>**A63.7080-L** 5 Axes **Auto Large** Stage | 5 Axes **Auto Large** Stage<br>Travel Range:<br>X=150mm, Y=150mm, Z=60mm,<br>R=360°, T=-5°~+70°<br>Touch Alert & Stop Function |
| Max Specimen | Dia.175mm, Height 35mm | Dia.175mm, Height 20mm | Dia.340mm, Height 50mm |
| Image System | Real Still Image Max Resolution 4096x4096 Pixels,<br>Image File Format: BMP(Default), GIF, JPG, PNG, TIF | Real Still Image Max Resolution 16384x16384 Pixels,<br>Image File Format: TIF(Default), BMP, GIF, JPG, PNG<br>Video: Auto Record Digital .AVI Video | Real Still Image Max Resolution 16384x16384 Pixels,<br>Image File Format: TIF(Default), BMP, GIF, JPG, PNG<br>Video: Auto Record Digital .AVI Video |
| Computer & Software | PC Work Station Win 10 System, With Professional Image Analysis Software To Fully Control Whole SEM Microscope Operation, Computer Specification No Less Than Inter I5 3.2GHz, 4G Memory, 24" IPS LCD Monitor, 500G Hard Disk, Mouse, Keyboard | | |
| Photo Display | The Image Level Is Rich And Meticulous, Showing Real Time Magnification, Ruler, Voltage, Gray Curve | | |
| Dimension & Weight | Microscope Body 800x800x1850mm<br>Working Table 1340x850x740mm<br>Total Weight 400Kg | Microscope Body 800x800x1480mm<br>Working Table 1340x850x740mm<br>Total Weight 450Kg | Microscope Body 1000x1000x1730mm<br>Working Table 1330x850x740mm<br>Total Weight 550Kg |
| **Optional Accessories** | | | |
| Optional Accessories | **A50.7002** EDS Energy Dispersive X-Ray Spectrometer<br>**A50.7011** Ion Sputtering Coater | **A50.7001** BSE Back Scattering Electron Detector<br>**A50.7002** EDS Energy Dispersive X-Ray Spectrometer<br>**A50.7011** Ion Sputtering Coater<br>**A50.7030** Motorize Control Panel | **A50.7001** BSE Back Scattering Electron Detector<br>**A50.7002** EDS Energy Dispersive X-Ray Spectrometer<br>**A50.7011** Ion Sputtering Coater<br>**A50.7030** Motorize Control Panel |

## Product Accessories

**A50.7001**
**BSE Detector**

**A50.7002**
**EDS (X Ray Detector)**

**A50.7003**
**EBSD (Electron Beam Backscattered Diffraction)**

**A50.7013**
**Critical Point Dryer**

**A50.7010**
**Coating Machine**

**A50.7011**
**Ion Sputtering Coater**

**A50.7012**
**Argon Ion Sputtering Coater**

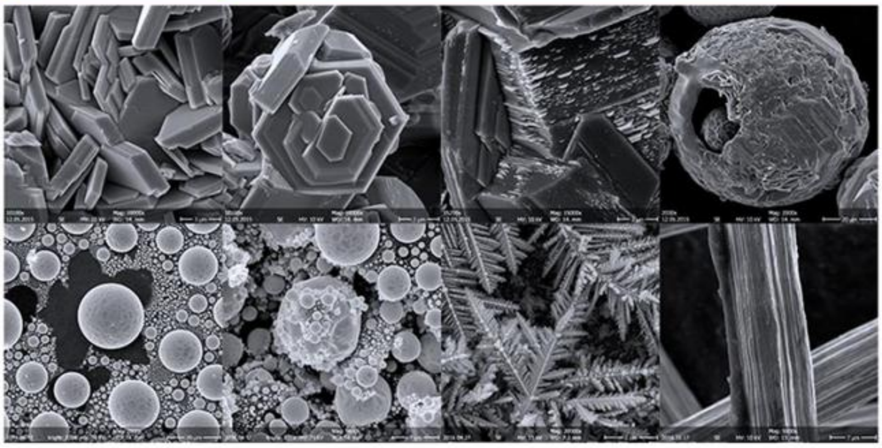
**A50.7014**
**Electron Beam Lithography**

**A50.7030 Motorize Control Panel**
Motorize Control Panel, Integrated Computer Mouse To Control Magnification, Brightness, Contrast, Focus, Working Stage Moving Easily.

| | | |
|---|---|---|
| **A50.7001** | BSE Detector | Semiconductor Four Segment Back Scattering Detector;<br>Available In Ingredients A+B, Morphology Info A-B;<br>Available Sample Observe Without Sputtering Gold;<br>Available In Observe Impurity And Distribution From Grayscale Map Directly. |
| **A50.7002** | EDS (X Ray Detector) | Silicon Nitride (Si3N4) Window To Optimize Low Energy X-ray Transmission For Light Element Analysis;<br>Excellent Resolution And Their Advanced Low-noise Electronics Provide Outstanding Throughput Performance;<br>The Small Footprint Offers Flexibility To Ensure Ideal Geometry And Aata Collection Conditions;<br>The Detectors Contain A 30mm2 Chip. |
| **A50.7003** | EBSD (Electron Beam Backscattered Diffraction) | user could analysis crystal orientation, crystal phase and micro texture of materials and related materials performance,etc.<br>automatic optimization of EBSD camera settings<br>during the data collection, do interactive real-time analysis to obtain maximum information<br>all the data were branded with time tag, which can be viewed at any time<br>high resolution 1392 x 1040 x 12<br>Scanning and index speed: 198 points / sec, with Ni as the standard, under the condition of 2~5nA, it can ensure the index rate ≥99%;<br>works well under the condition of low beam current and low voltage of 5kV at 100pA<br>orientation measuring accuracy: Better than 0.1 degrees<br>Using triplex index system: no need rely on single band definition , easy indexing of poor pattern quality<br>dedicated database: EBSD special database obtained by electron diffraction: >400 phase structure<br>Index ability: it can automatically index all crystal materials of 7 crystal systems.<br>The advanced options include calculating elastic stiffness (Elastic Stiffness), Taylor (Taylor) factor, Schmidt (Schmid) factor and so on. |
| **A50.7010** | Coating Machine | Glass Protecting Shell: ∮250mm; 340mm High;<br>Glass Processing Chamber:<br>∮88mm; 140mm High, ∮88mm; 57mm High;<br>Specimen Stage Size: ∮40mm (max);<br>Vacuum System:molecula Pump And Mechanical Pump;<br>Vacuum Detection: Pirani Gage;<br>Vacuum:better Than 2 X 10-3 Pa;<br>Vacuum Protection:20 Pa With Microscale Inflation Valve;<br>Specimen Movement: Plane Rotation,tilt Precession. |
| **A50.7011** | Ion Sputtering Coater | Glass Processing Chamber: ∮100mm; 130mm High;<br>Specimen Stage Size: ∮40mm( Hold 6 Specimen Cups) ;<br>Golden Target Size: ∮58mm*0.12mm(thickness);<br>Vacuum Detection: Pirani Gage;<br>Vacuum Protection:20 Pa With Microscale Inflation Valve;<br>Medium Gas:argon Or Air With Argon Gas Special Air Inlet And Gas Regulating In Microscale. |
| **A50.7012** | Argon Ion Sputtering Coater | The Sample Was Plated With Carbon And Gold Under High Vacuum;<br>Rotatable Sample Table, Uniform Coating, Particle Size About 3-5nm;<br>No Selection Of Target Material, No Damage To Samples;<br>The Functions Of Ion Cleaning And Ion Thinning Can Be Realized. |

| | | |
|---|---|---|
| **A50.7013** | Critical Point Dryer | Inner Diameter: 82mm, Inner Length: 82mm;<br>Pressure Range:0-2000psi;<br>Temperature Range:0°-50° C (32°-122° F) |
| **A50.7014** | Electron Beam Lithography | Based On Scanning Electron Microscope, A Novel Nano-exposure System Was Developed;<br>The Modificaton Has Kept All The Sem Functions For Making Nanoscale Line Width Image;<br>The Modificated Ebl System Widly Applied Into Microelectronic Devices, Optoelectronic Devices, Quantun Devices, Microelectronics System R&d. |

## Real Effect



### A63.7080, A63.7081 Standard Consumables Outfit

| | | | |
|---|---|---|---|
| 1 | Field Emission Filament | Installed In Microscope | 1 Pc |
| 2 | Sample Cup | Dia.13mm | 5 Pcs |
| 3 | Sample Cup | Dia.32mm | 5 Pcs |
| 4 | Carbon Double-sided Conductive Tape | 6mm | 1 Package |
| 5 | Vacuum Grease | | 10 Pcs |
| 6 | Hairless Cloth | | 1 Tube |
| 7 | Polishing Paste | | 1 Pc |
| 8 | Sample Box | | 2 Bags |
| 9 | Cotton Swab | | 1 Pc |
| 10 | Oil Mist Filter | | 1 Pc |

### A63.7080, A63.7081 Standard Tools & Parts Outfit

| | | | |
|---|---|---|---|
| 1 | Inner Hexagon Spanner | 1.5mm~10mm | 1 Set |
| 2 | Tweezers | Length 100-120mm | 1 Pc |
| 3 | Slotted Screwdriver | 2*50mm, 2*125mm | 2 Pcs |
| 4 | Cross Screwdriver | 2*125mmm | 1 Pc |
| 5 | Clean vent pipe | Dia.10/6.5mm(Out Diameter/Inner Diameter) | 5m |
| 6 | Vent pressure reducing valve | Output Pressure 0-0.6MPa | 1 Pc |
| 7 | Internal baking power supply | 0-3A DC | 2 Pcs |
| 8 | UPS power supply | 10kVA | 2 Pcs |

## Working Condition, Requirement For Installation

**1. Applications:**

SEM is mainly applied to the specimen surface appearance analysis. It is equipped with energy spectrum which is used for composition analysis and equipped with a small ion sputtering apparatus to help with sample surface treatment.

**2. Power Supply Requirements:**

2.1 Voltage: AC 220V ± 10%, 50Hz ± 1 Hz, standard sine wave.
2.2 It is not recommended to share the power supply line with the instrument for equipment with high power and large power consumption change.
2.3 Three power sockets needed for:
1. Scanning electron microscope instrument body, computer: AC 220V, 50Hz, 16A
2. Mechanical pump and air compressor: AC 220V, 50Hz, 16A

**3. Environmental Requirements For Installation Site:**

3.1 It is recommended to keep the temperature between 16~30 C
3.2 The relative humidity shall be less than 60%
3.3 Recommend configuration: air conditioner, dehumidifier and other equipment that can ensure the temperature and humidity of the laboratory.
3.4 Noise: < 68 DB
3.5 The durability of the instrument operation: continuously working

**4. A63.7080 Instrument Dimension & Weight**

Microscope Body 800x800x1480mm
Working Table 1340x850x740mm
Total Weight 450Kg
The floor bearing capacity should ≥ 250kg/m3, and it is recommended to place it on the first floor

**5. A63.7080 Packaging Dimension & Weight**

1 Set in 3 Wooden Boxes:
110*110*158(cm) *1
127*115*136(cm) *1
160*80*111 (cm) *1
Total Volume 5.3189CBM, Total G.W. 872 kg

## After-sale Service

--Standard 1 Year Warranty Included
--Extend Warranty 1 Year Cost 12% of Sales Contrast Amount
--On-Site Installation Cost USD6000.0 For 5+2 Days
--On-Site Maintenance Cost USD4500.0 For 3+2 Days
--Free Training for Visiting Customer in Beijing Included (Round Trip Ticket & Lodging Fee Not Included)
--Consumables Items & Accessories Available For All Life Time of Machine