

Opto Edu A62.4503 Atomic Force Microscope with 50μm Scan Range 0.2nm Resolution and 0.6Hz~4.34Hz Scan Rate for Laboratory Research

Basic Information

- Place of Origin: China
- Brand Name: CNOEC, OPTO-EDU
- Certification: CE, Rohs
- Model Number: A62.4503
- 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

- Operation Modes: Contact Mode, Tapping Mode, phase, friction, MFM, EFM
- Sample Size: Radius ≤ 90mm, H ≤ 20mm
- Max. Scan Range: X/Y: 50μm, Z: 5μm
- Resolution: X/Y: 0.2 Nm, Z: 0.05nm
- Scan Rate: 0.6Hz~4.34Hz
- Scanning Control: XY: 18-bit D/A, Z: 16-bit D/A
- Data Sampling: One 14-bit A/D And Double 16-bit A/D Multiple-channel Simultaneously
- Windows: USB2.0, Compatible With Windows 98/2000/XP/7/8
- Name: Laboratory Research New Atomic Force Scanning Electron Microscope
- Features: All-in-one Design, Smart Structure And Shape.
- Highlight: **compound scanning optical microscope, laboratory scanning optical microscope,**

Product Description

Opto Edu A62.4503 Compound Scanning Optical Microscope Atomic Force For Laboratory

Key Features

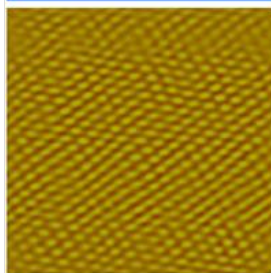
- Basic Level, Separate Controller & Main Body Design
- Contact Mode and Tapping Mode operation
- Scan Range: XY 50×50μm, Z 5μm
- Scan Resolution: XY 0.2nm, Z 0.05nm
- Sample Size: Diameter <90mm, Height <20mm
- Stage Moving: 25×25mm
- Optical Objective: APO 10x with 1μm resolution
- Scan Speed: 0.6~30Hz
- Scan Angle: 0-360°
- Output: USB3.0 compatible with Win7/8/10/11
- Optional Work Modes: Friction Mode, Phase Mode, Magnetic Mode, Electrostatic Mode



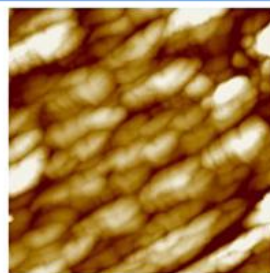
Product Details

- ◆ Integrated laser detection head and sample scanning stage for stable structure and strong anti-interference
- ◆ Precision probe positioning device with easy laser spot alignment adjustment
- ◆ Single-axis drive sample automatically approaches probe vertically for perpendicular needle tip alignment
- ◆ Motor-controlled pressurized piezoelectric ceramic automatic detection protects probe and sample
- ◆ High-precision, wide-ranging piezoelectric ceramic scanners available
- ◆ High-magnification objective lens with automatic optical positioning for real-time observation
- ◆ Spring suspension shockproof method for effective vibration damping
- ◆ Metal shielded soundproof box with built-in temperature and humidity sensor
- ◆ Integrated scanner nonlinear correction editor with nanometer characterization accuracy better than 98%

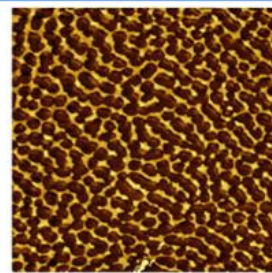
Application Case



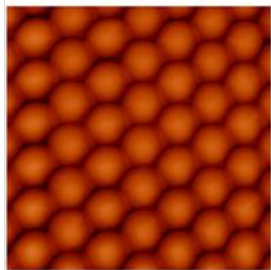
High-order graphite/scanning range $5\text{nm} \times 5\text{nm}$



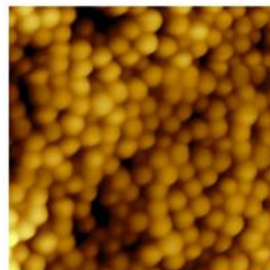
Gold clusters/scanning range $0.5\mu\text{m} \times 0.5\mu\text{m}$



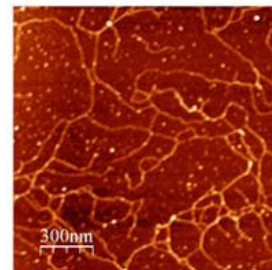
Polysaccharide $10\mu\text{m} \times 10\mu\text{m}$



Polystyrene ball $10\mu\text{m} \times 10\mu\text{m}$

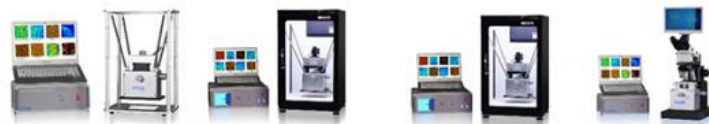


Polystyrene ball $5\mu\text{m} \times 5\mu\text{m}$



Polysaccharide $1.5\mu\text{m} \times 1.5\mu\text{m}$

Specification



Technical Specifications

Specifi cation	A62.4500	A62.4501	A62.4503	A62.4505
Work Mode	Tapping Mode 【Optional】 Contact Mode, Friction Mode, Phase Mode, Magnetic Mode, Electrostatic Mode	Contact Mode, Tapping Mode 【Optional】 Friction Mode, Phase Mode, Magnetic Mode, Electrostatic Mode	Contact Mode, Tapping Mode 【Optional】 Friction Mode, Phase Mode, Magnetic Mode, Electrostatic Mode	Contact Mode, Tapping Mode 【Optional】 Friction Mode, Phase Mode, Magnetic Mode, Electrostatic Mode
Current Spectru m Curve	RMS-Z Curve 【Optional】 F-Z Force Curve	RMS-Z Curve, F-Z Force Curve	RMS-Z Curve, F-Z Force Curve	RMS-Z Curve, F-Z Force Curve

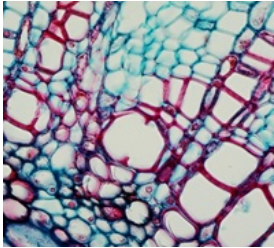
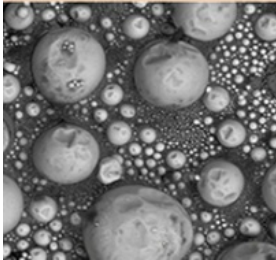
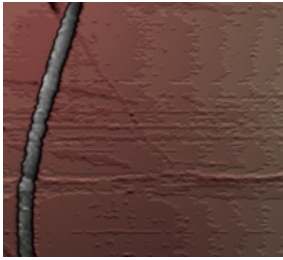
XY Scan Range	20×20μm	20×20μm	50×50μm	50×50μm
XY Scan Resolution	0.2nm	0.2nm	0.2nm	0.2nm
Z Scan Range	2.5μm	2.5μm	5μm	5μm
Y Scan Resolution	0.05nm	0.05nm	0.05nm	0.05nm
Scan Speed	0.6Hz~30Hz	0.6Hz~30Hz	0.6Hz~30Hz	0.6Hz~30Hz
Scan Angle	0~360°	0~360°	0~360°	0~360°
Sample Size	Φ≤90mm H≤20mm	Φ≤90mm H≤20mm	Φ≤90mm H≤20mm	Φ≤90mm H≤20mm
XY Stage Moving	15×15mm	15×15mm	25×25μm	25×25μm
Shock-Absorbing Design	Spring Suspension	Spring Suspension, Metal Shielding Box	Spring Suspension, Metal Shielding Box	-
Optical System	4x Objective Resolution 2.5μm	4x Objective Resolution 2.5μm	4x Objective Resolution 2.5μm	Eyepiece 10x Infinity Plan LWD APO 5x10x20x50x 5.0M Digital Camera 10" LCD Monitor, With Measuring LED Kohler Illumination Coaxial Coarse & Fine Focusing
Output	USB2.0/3.0	USB2.0/3.0	USB2.0/3.0	USB2.0/3.0
Software	Win XP/7/8/10	Win XP/7/8/10	Win XP/7/8/10	Win XP/7/8/10

Optical Microscope, SEM, SPM Comparison

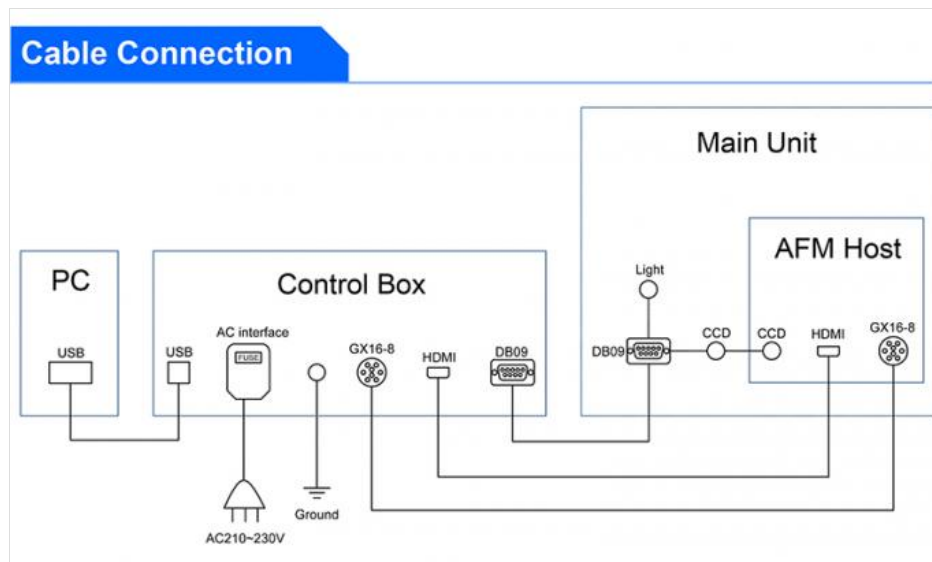
Microscope Comparison

Resolution	Working Condition	Working Temperature	Damage to Sample	Inspection Depth
SPM Atom Level 0.1nm	Normal, Liquid, Vacuum	Room or Low Temperature	None	1~2 Atom Level
TEM Point 0.3~0.5nm Lattice 0.1~0.2nm	High Vacuum	Room Temperature	Small	Usually <100nm
SEM 6-10nm	High Vacuum	Room Temperature	Small	10mm @10x 1μm @10000x
FIM Atom Level 0.1nm	Super High Vacuum	30~80K	Damage	Atom Thickness

Microscope	Optical Microscope	Electron Microscope	Scanning Probe Microscope
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Max Resolution (μm)	0.18	0.00011	0.00008
Remark	Oil immersion 1500x	Imaging diamond carbon atoms	Imaging high-order graphitic carbon atoms
Image			

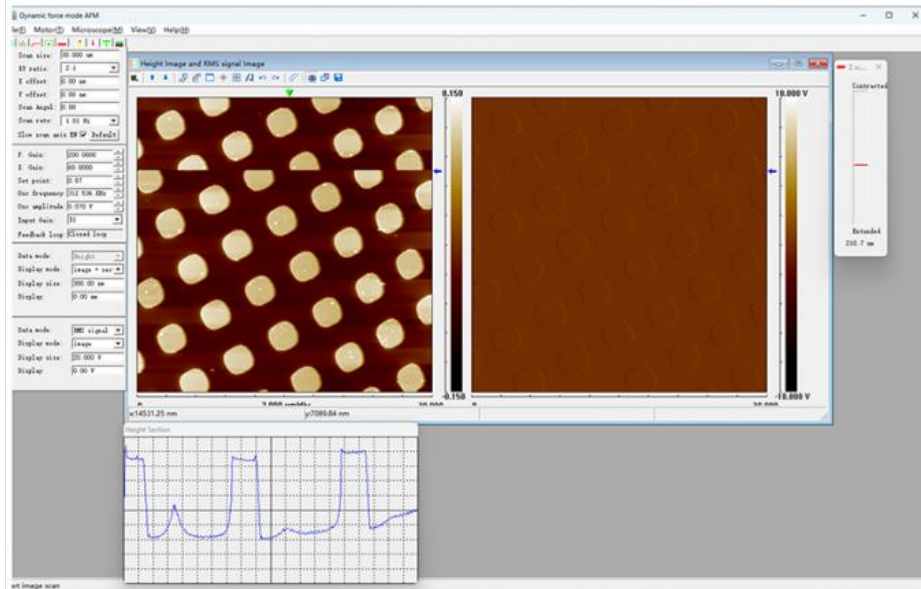
Probe-Sample Interaction	Measure Signal	Information
Force	Electrostatic Force	Shape
Tunnel Current	Current	Shape, Conductivity
Magnetic Force	Phase	Magnetic Structure
Electrostatic Force	Phase	charge distribution



System Diagram



Software & Accessories



More Pictures



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