



Opto Edu Teaching Level Atomic Force Microscope with 20×20um XY Scan Range 0.2nm Resolution and 2.5um Z Scan Range

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: OPTO-EDU
- Certification: CE, Rohs
- Model Number: A62.4500
- Minimum Order Quantity: 1pc
- Price: FOB \$1~1000, Depend on Order Quantity
- Packaging Details: Carton Packing, For Export Transportation
- Delivery Time: 5~20 Days
- Payment Terms: L/C,T/T,Western Union
- Supply Ability: 5000 pcs/ Month



Product Specification

- Work Mode: "Tapping Mode 【Optional】 Contact Mode Friction Mode Phase Mode Magnetic Mode Electrostatic Mode"
- Current Spectrum Curve: "RMS-Z Curve 【Optional】 F-Z Force Curve"
- XY Scan Range: 20×20um
- XY Scan Resolution: 0.2nm
- Z Scan Range: 2.5um
- Y Scan Resolution: 0.05nm
- Scan Speed: 0.6Hz~30Hz
- Scan Angle: 0~360°
- Sample Size: "Φ≤90mm H≤20mm"
- Shock-Absorbing Design: Spring Suspension
- Optical System: "4x Objective Resolution 2.5um"
- Output: USB2.0/3.0
- Software: Win XP/7/8/10

Product Description

A62.4500 Opto Edu Microscope Tapping Mode Rms-Z Curve Teaching Level Atomic Force

Teaching Level Atomic Force Microscope

- Teaching Level Separate controller & main body design with Tapping Mode, 4x Objective, Miniaturized Detachable Design
- Integrated laser detection head and sample scanning stage for stable structure and strong anti-interference
- Motor-controlled pressurized piezoelectric ceramic automatic detection for intelligent needle feeding, protecting both probe and sample
- Automatic optical positioning eliminates the need for manual focusing, enabling real-time observation of probe sample scanning area
- Spring suspension shockproof method provides simple yet effective vibration isolation



Product Details

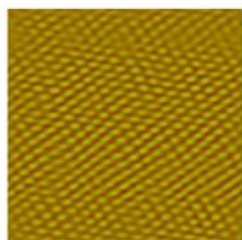
Key Features:

- ◆ Precision probe positioning device with easy laser spot alignment adjustment
- ◆ Single-axis drive sample automatically approaches probe vertically for perpendicular needle tip alignment
- ◆ Metal shielded soundproof box with built-in high-precision temperature and humidity sensor for environmental

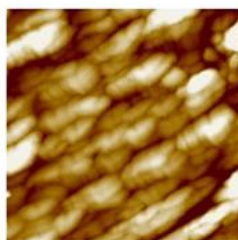
monitoring

- ◆ Integrated scanner nonlinear correction user editor with nanometer characterization accuracy better than 98%

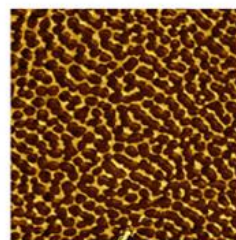
Application Case



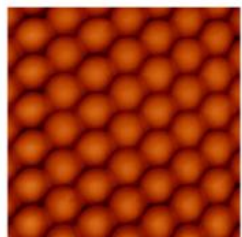
High-order graphite/scanning range 5nm×5nm



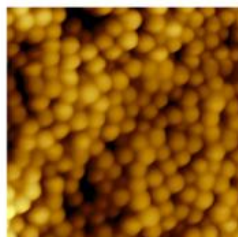
Gold clusters/scanning range 0.5μm×0.5μm



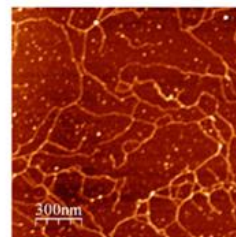
Polysaccharide 10x10um



Polystyrene ball 10x10um



Polystyrene ball 5x5um



Polysaccharide 1.5x1.5um

Specification



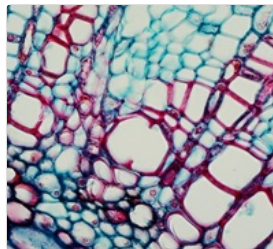
Technical Specifications

Specification	A62.4500	A622.4501	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 Spectrum 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

Microscope Technology Comparison

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

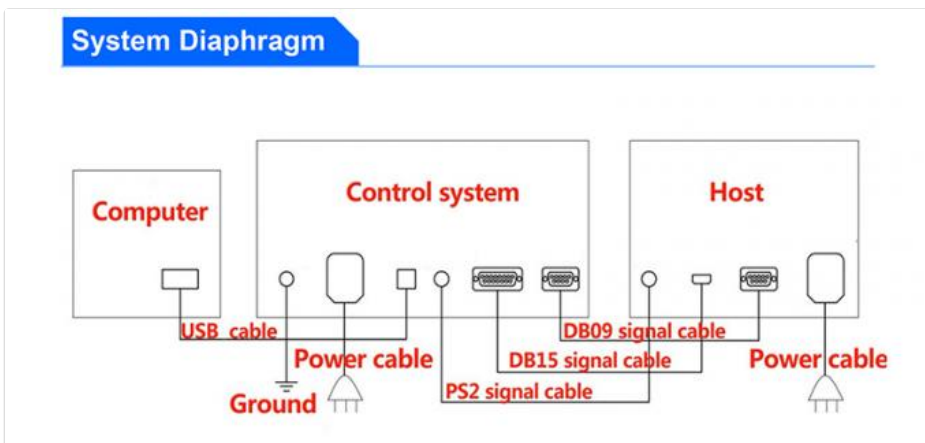


Probe-Sample Interaction Analysis

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

Microscope Performance Characteristics

	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





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