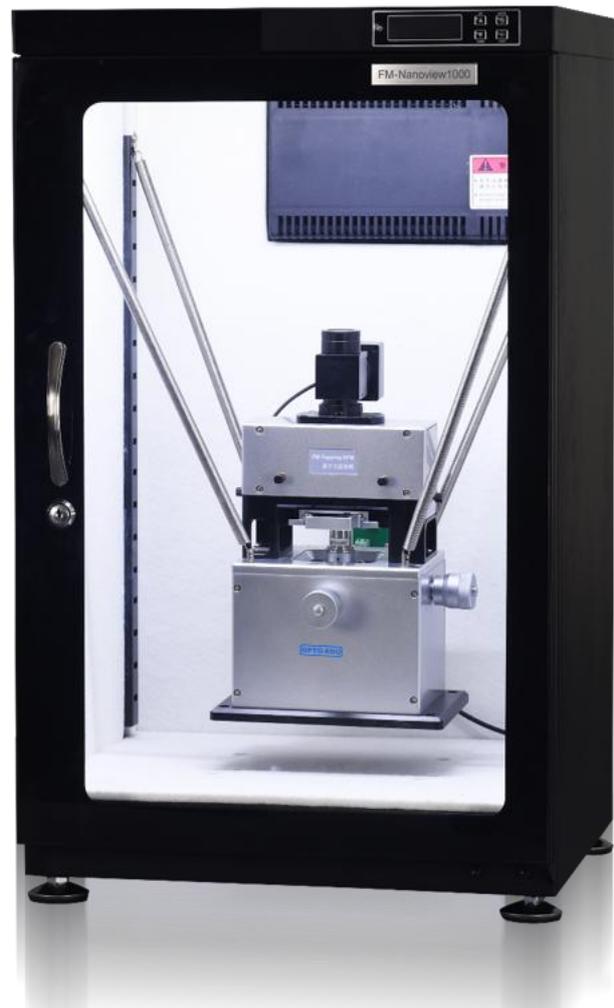




A62.4501

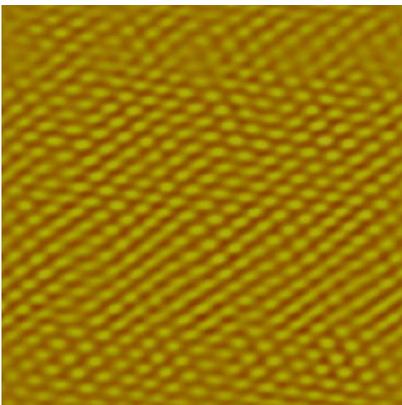
Basic Level Atomic Force Microscope (AFM)



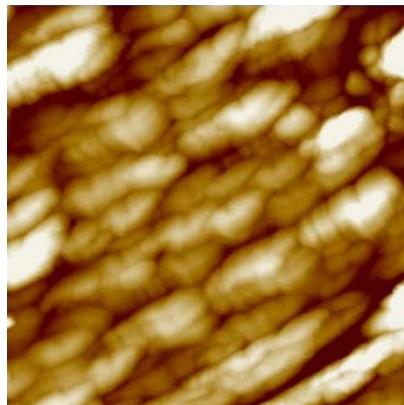
Product Details

- ◆ The laser detection head and the sample scanning stage are integrated, the structure is very stable, and the anti-interference is strong
- ◆ Precision probe positioning device, laser spot alignment adjustment is very easy
- ◆ The single-axis drive sample automatically approaches the probe vertically, so that the needle tip is perpendicular to the sample scan
- ◆ The intelligent needle feeding method of motor-controlled pressurized piezoelectric ceramic automatic detection protects the probe and the sample
- ◆ High-precision and wide-ranging piezoelectric ceramic scanners can be freely selected
- ◆ High-magnification objective lens automatic optical positioning, no need to focus, real-time observation and positioning of the probe sample scanning area
- ◆ Spring suspension shockproof method, simple and practical, good shockproof effect
- ◆ Metal shielded soundproof box, built-in high-precision temperature and humidity sensor, real-time monitoring of the working environment
- ◆ Integrated scanner nonlinear correction user editor, nanometer characterization and measurement accuracy better than 98%

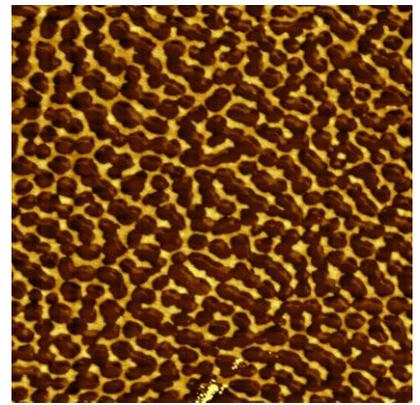
Application Case



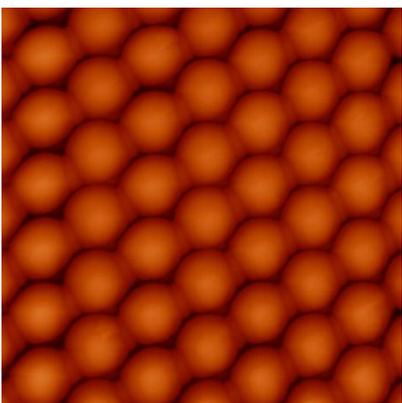
High-order graphite/scanning range $5\text{nm} \times 5\text{nm}$



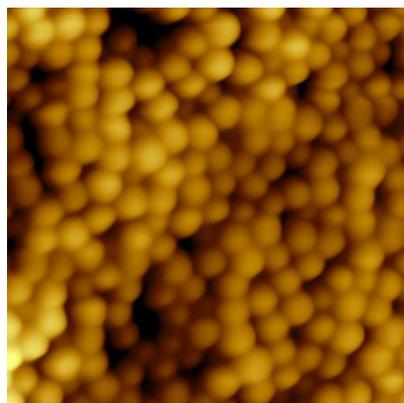
Gold clusters/scanning range $0.5\mu\text{m} \times 0.5\mu\text{m}$



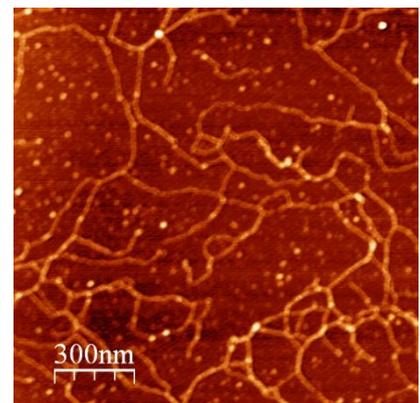
Polysaccharide $10 \times 10\mu\text{m}$



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



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



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

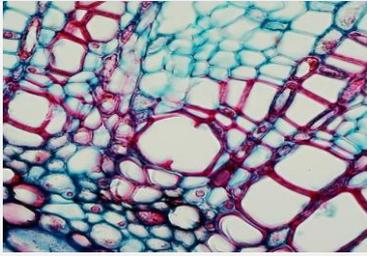
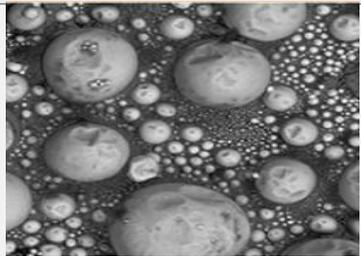
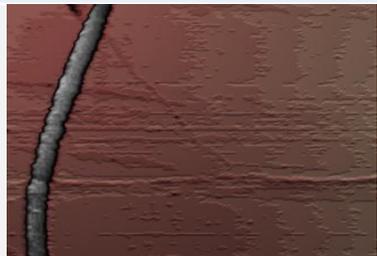
Specification



Specification	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 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	20×20um	20×20um	50×50um	50×50um
XY Scan Resolution	0.2nm	0.2nm	0.2nm	0.2nm
Z Scan Range	2.5um	2.5um	5um	5um
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	25×25um	25×25um
Shock-Absorbing Design	Spring Suspension	Spring Suspension Metal Shielding Box	Spring Suspension Metal Shielding Box	-
Optical System	4x Objective Resolution 2.5um	4x Objective Resolution 2.5um	4x Objective Resolution 2.5um	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

Scanning Probe Microscope (SPM) Compared to Other Microscopies

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

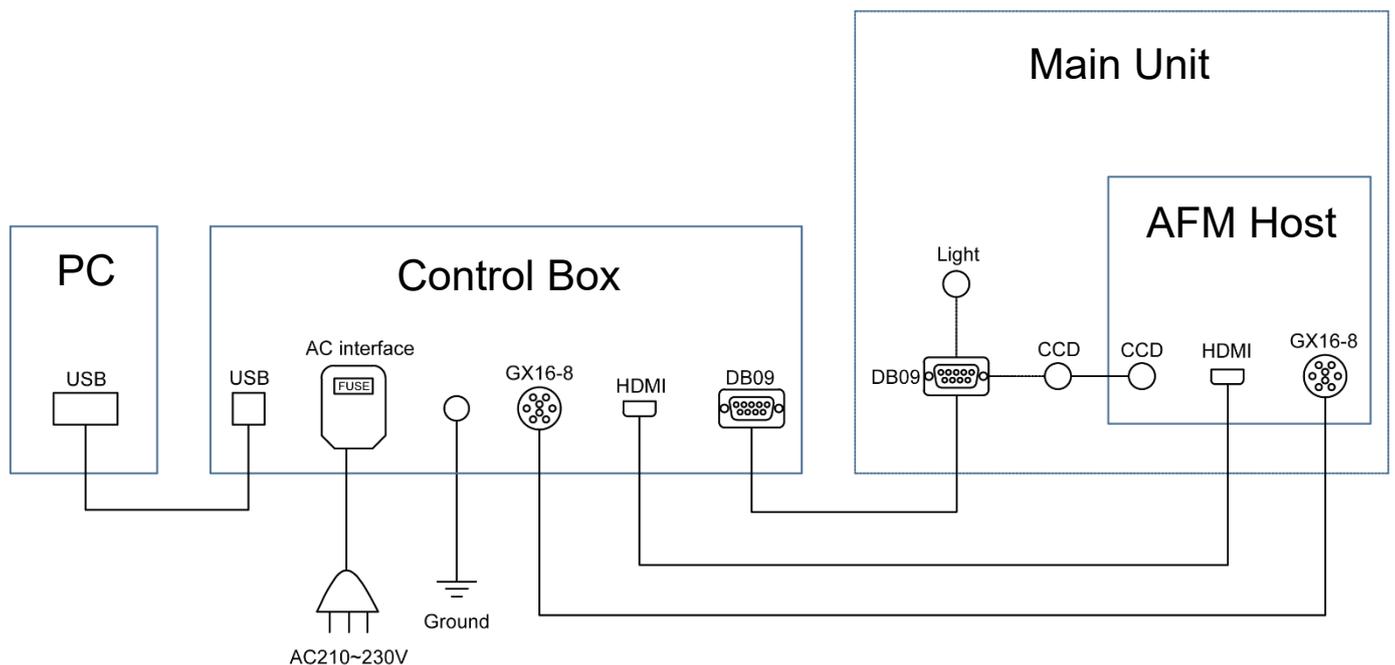
Depth of Field, Sample Preparation of Different Microscopes

	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 1 μ m @10000x
FIM	Atom Level 0.1nm	Super High Vacuum	30~80K	Damage	Atom Thickness

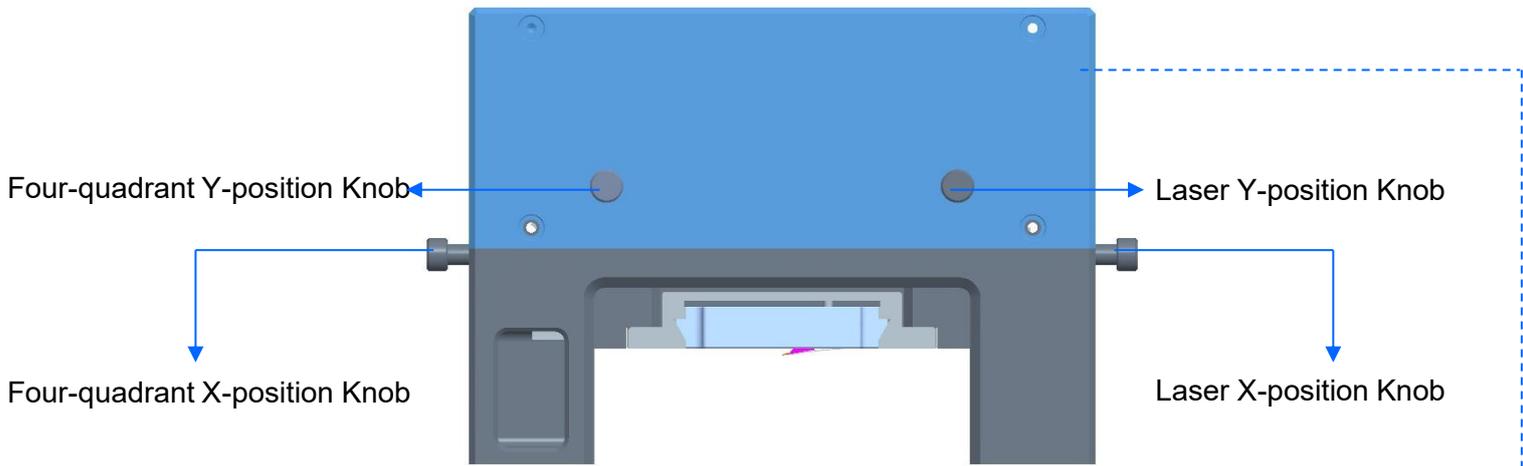
Force & Working Mode of Atomic Force Microscope (AFM)

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

Cable Connection



System Diagram



Main Unit

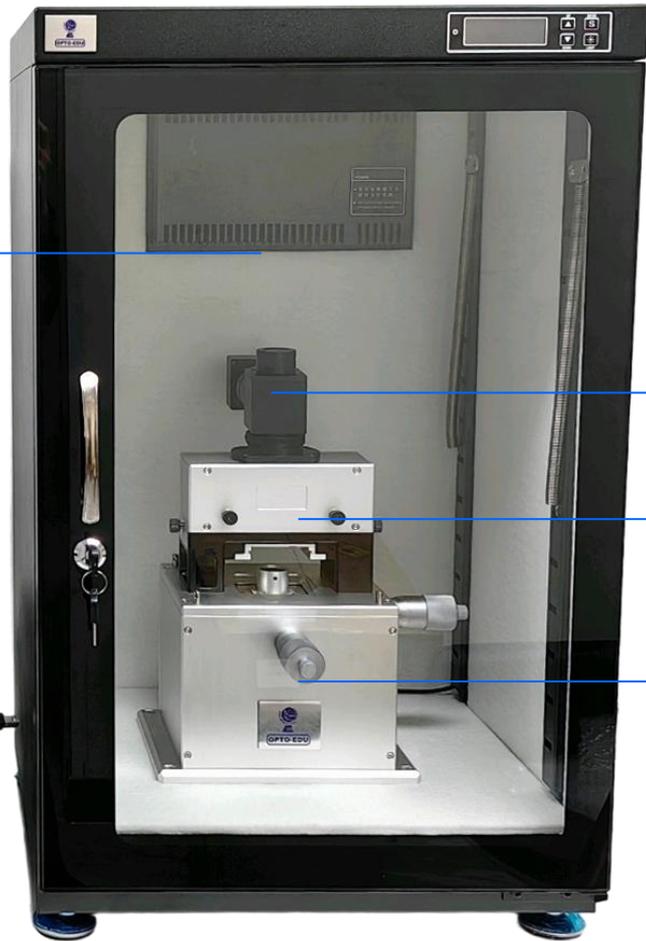
Control Box



CCD Camera

Scan Head

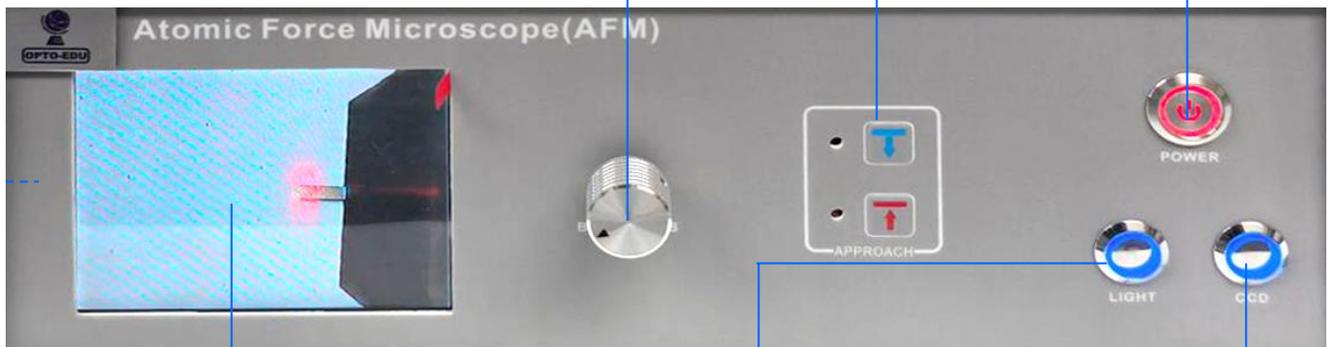
Sample Stage



Brightness

Sample Stage
Manual Up/Down

Power Switch

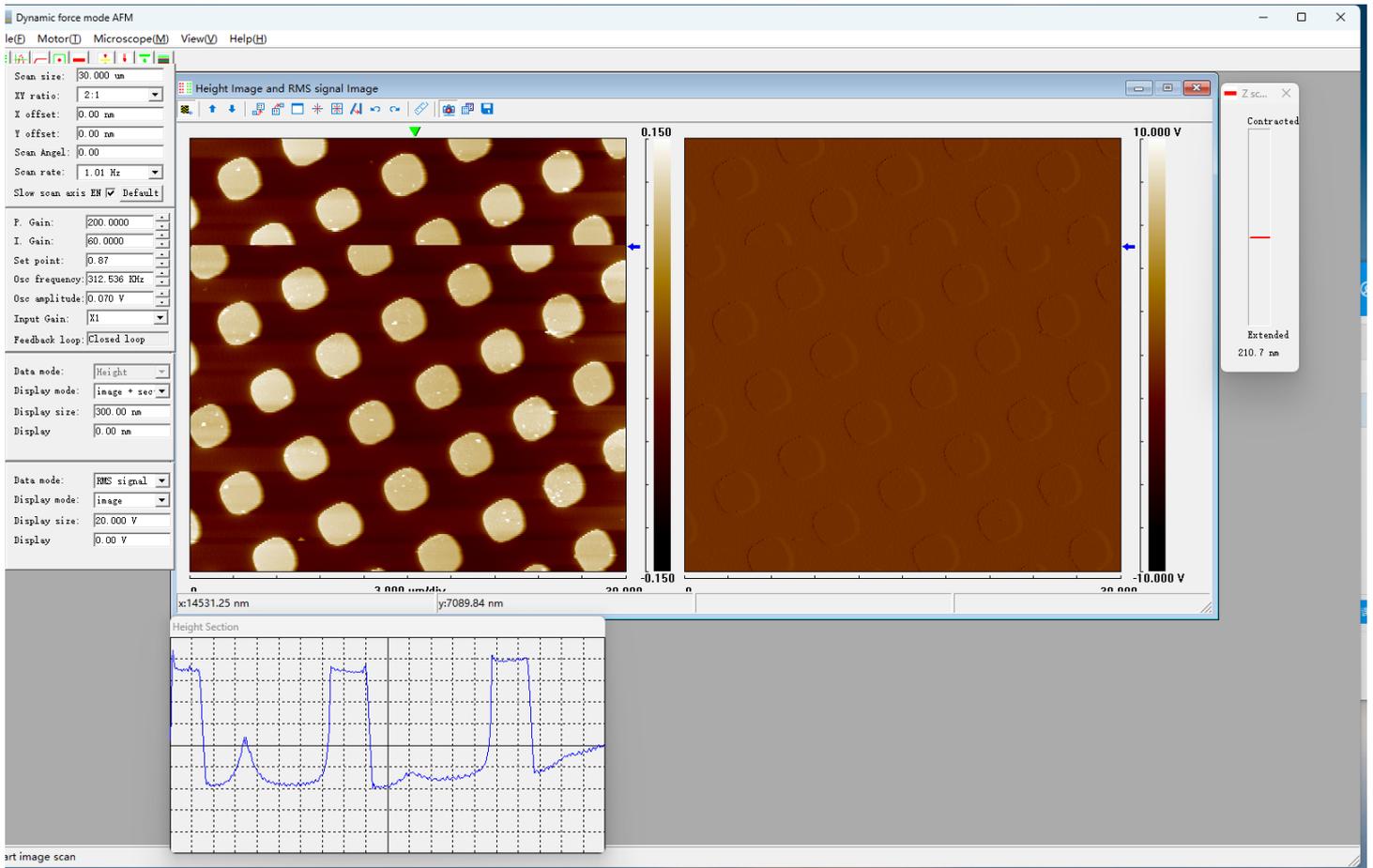


CCD Camera Screen

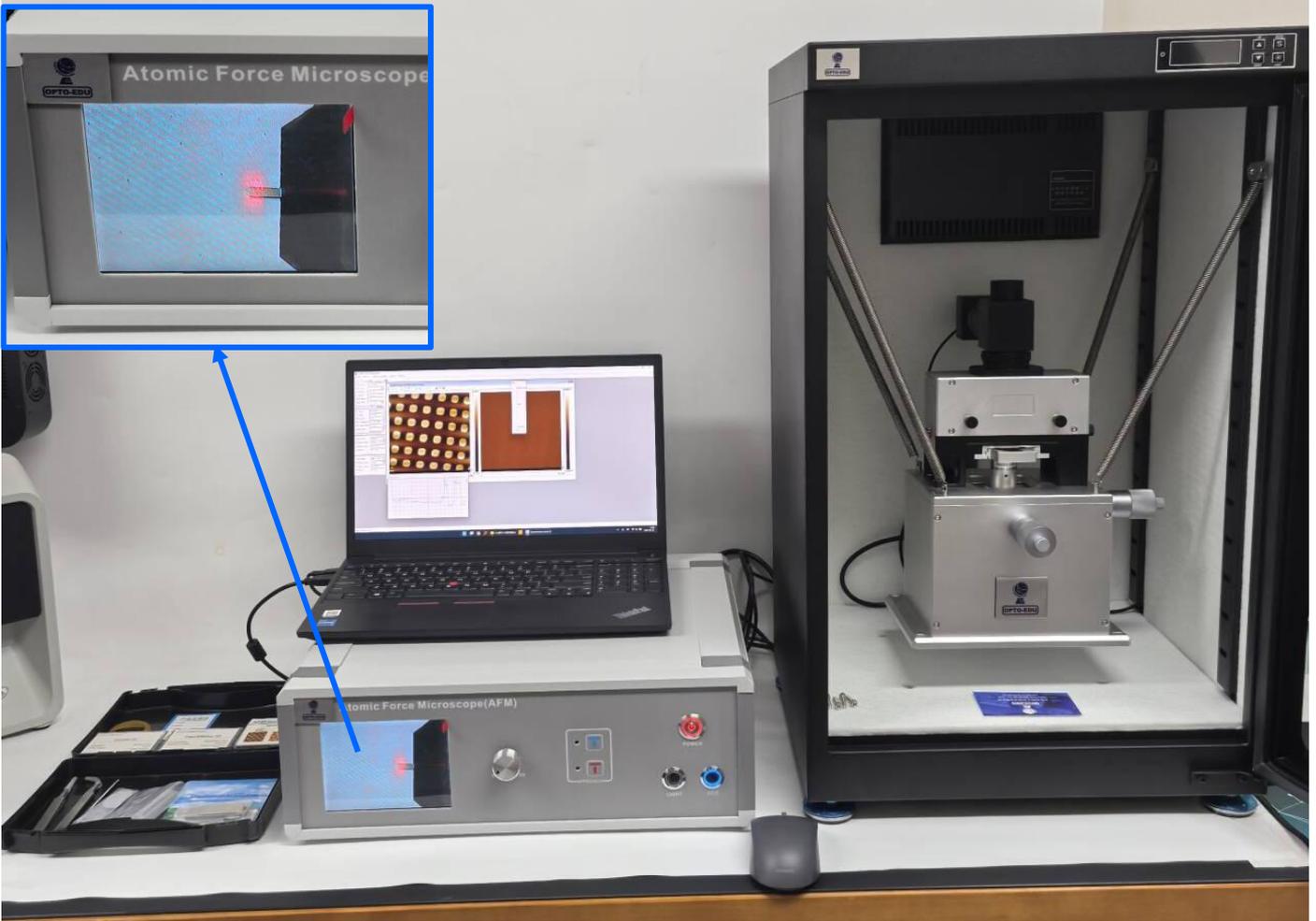
Main Unit Illumination On/Off

CCD Camera Screen On/Off

Software & Accessories



More Pictures



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