

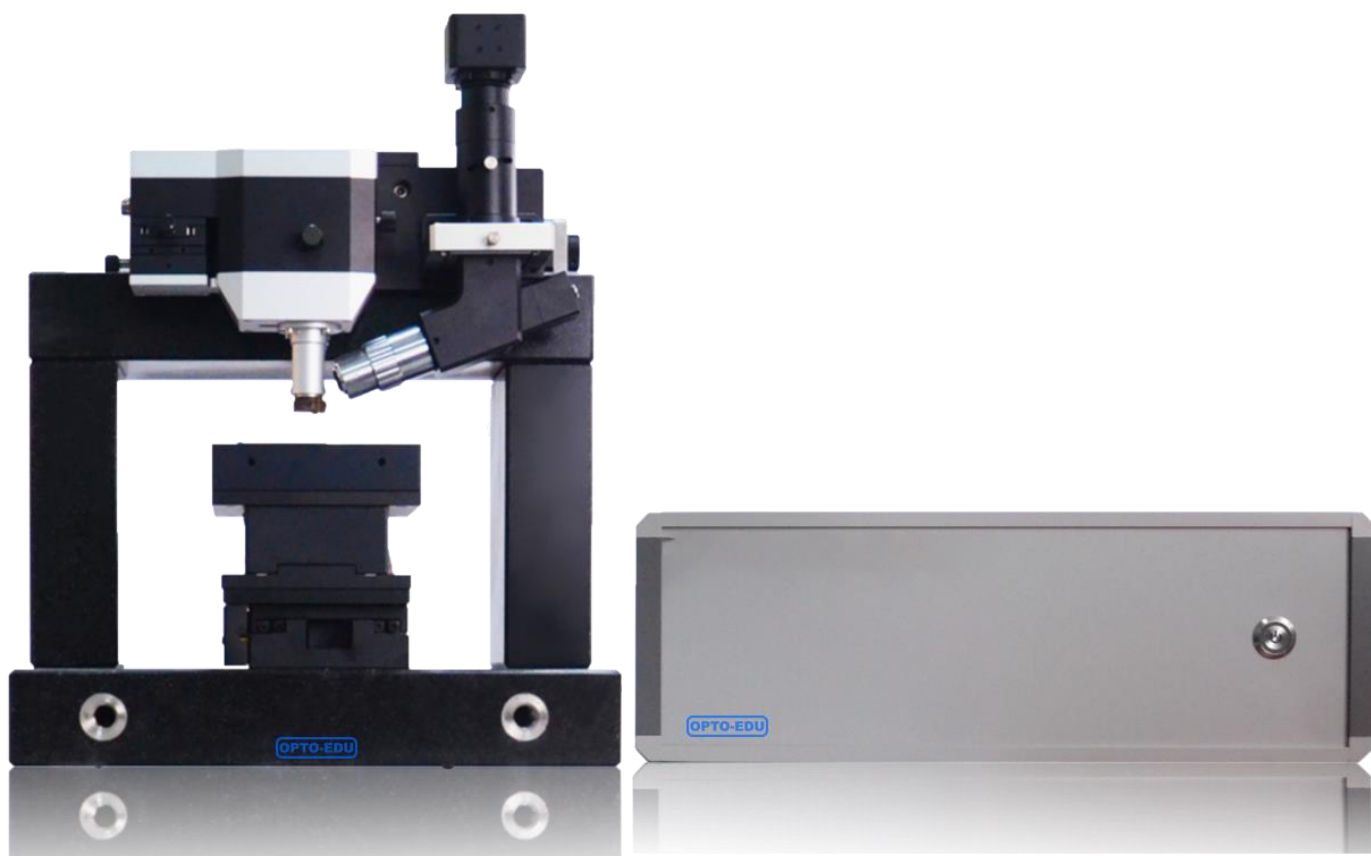


OPTO-EDU (BEIJING) CO., LTD.

F-1501 Wanda Plaza, No.18 Shijingshan Road, Beijing 100043, China
Tel:+8610 88696020 Fax:+8610 88696085

A62.4510

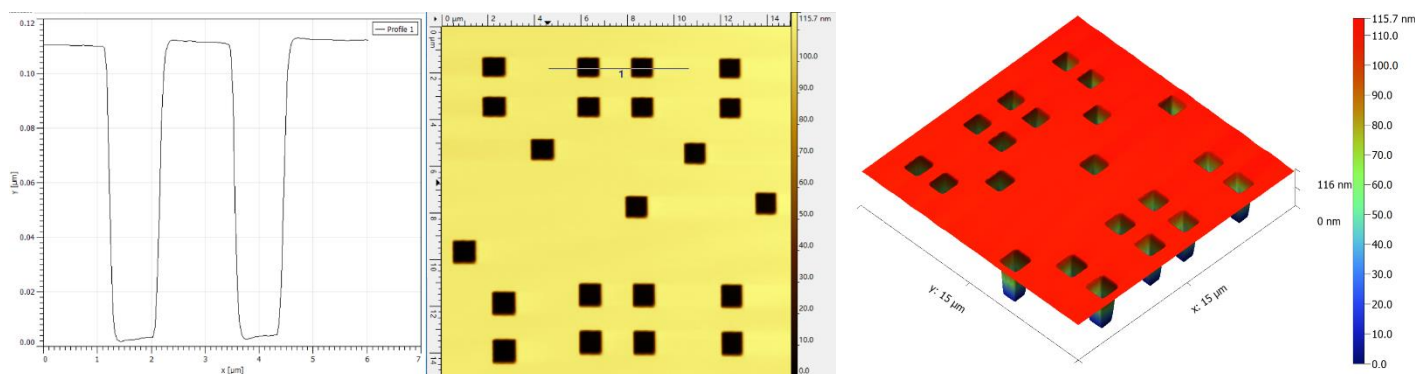
Probe Scanning Atomic Force Microscope (AFM)



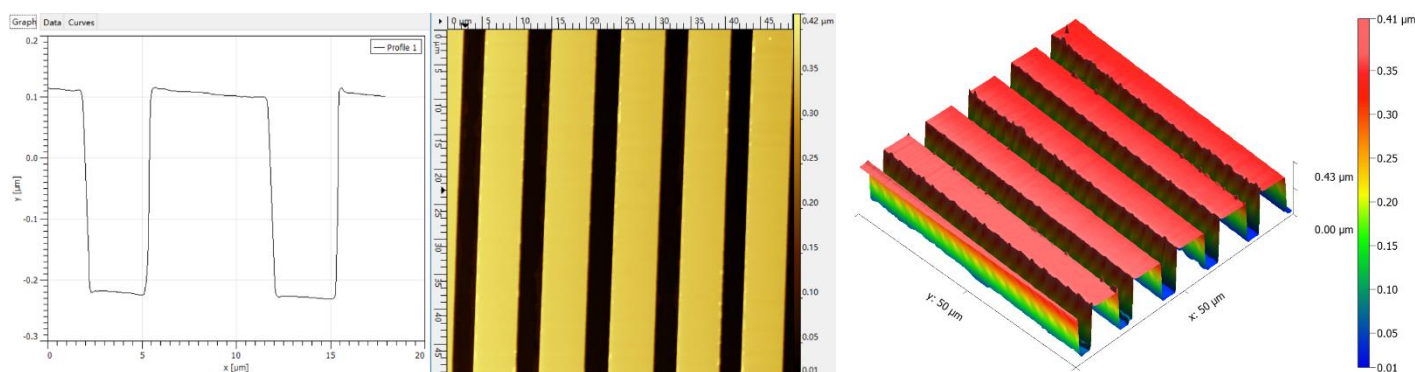
Product Details

- ◆ The first commercial atomic force microscope in China that keeps the sample stationary and the probe moves and scans;
- ◆ The sample size and weight are almost unlimited, especially suitable for the detection of very large samples;
- ◆ The sample stage is highly expandable, which is very convenient for multi-instrument combination to realize in-situ detection;
- ◆ Electric control of sample moving table and lifting table, which can be programmed with multi-point position to realize fast automatic detection;
- ◆ Gantry scanning head design, marble base, vacuum adsorption and magnetic adsorption stage;
- ◆ The motor automatically controls the intelligent needle feeding method of the piezoelectric ceramic automatic detection to protect the probe and the sample;
- ◆ High magnification auxiliary optical microscope positioning, real-time observation and positioning of probe and sample scanning area;
- ◆ Integrated scanner nonlinear correction user editor, nanometer characterization and measurement accuracy better than 98%.

Application Case

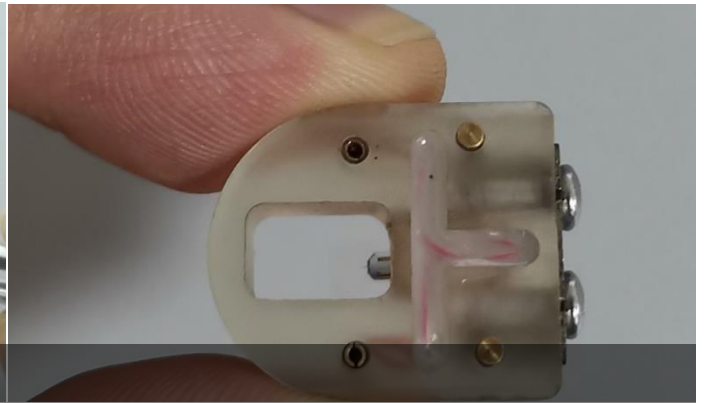
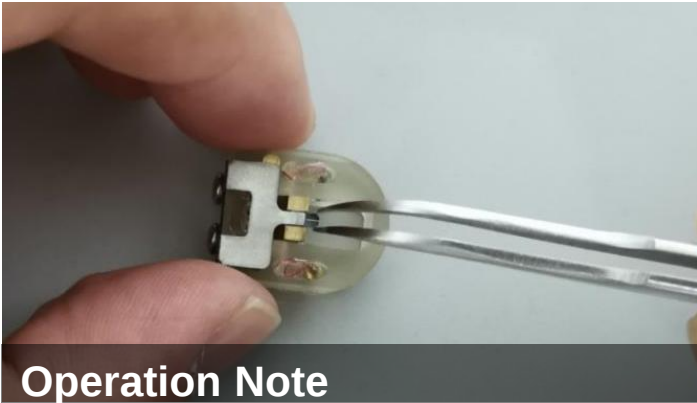


2D raster/scan range 15μm × 15μm



1D raster/scan range 50μm × 50μm

Product Details



Operation Note

Lift the spring on the probe holder with your left hand. Then carefully insert the probe into the groove of the probe holder with the right hand, and release the probe holder with the left hand, so that the spring plate slowly clamps the probe.

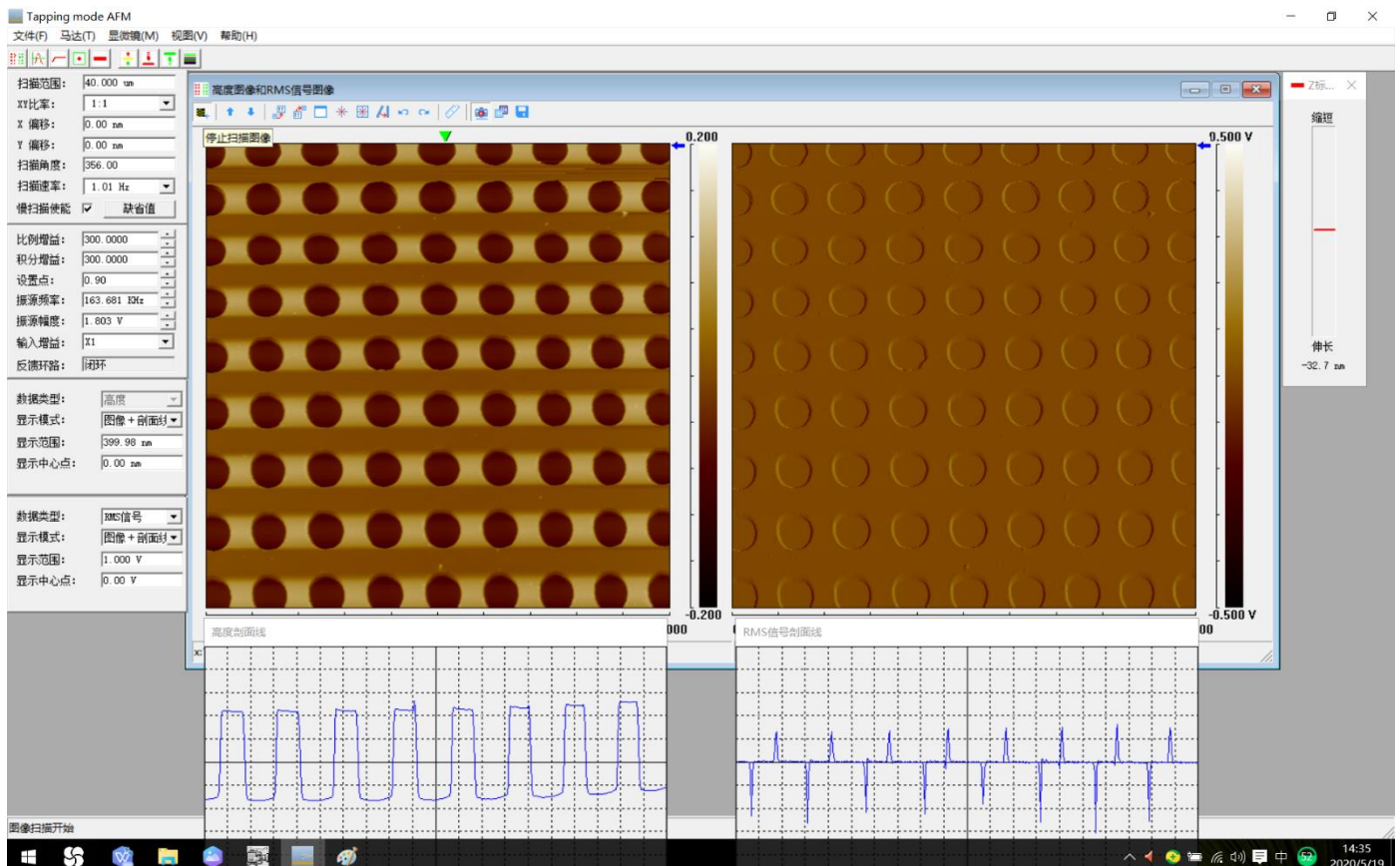


Operation Note

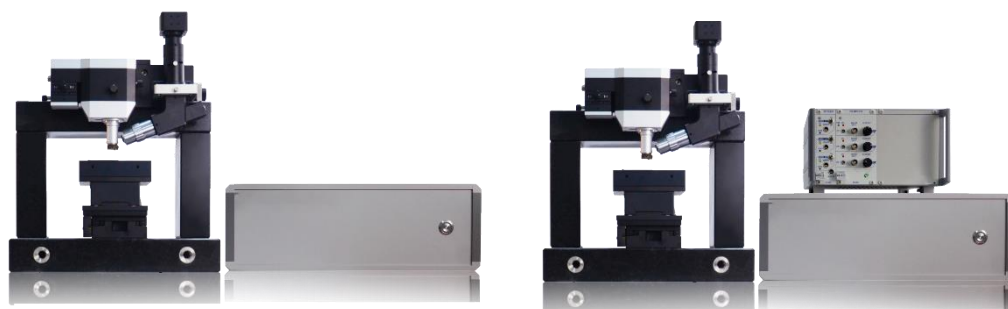
After the probe is installed, insert the probe holder with the probe up and over the scan head. There are 3 small jacks (or 2) on the back of the probe holder. There are 3 small pins (or 2) at the bottom of the corresponding scan head.



Accessories



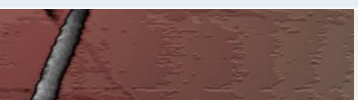
Specification



	A62.4510	A62.4511
Work 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 F-Z Force Curve	RMS-Z Curve F-Z Force Curve
XY Scan Mode	Probe Driven Scanning, Piezo Tube Scanner	Sample Driven Scanning, Closed Loop Piezoelectric Shift Scanning Stage
XY Scan Range	70×70um	Closed Loop 100×100um
XY Scan Resolution	0.2nm	Closed Loop 0.5nm
Z Scan Mode		Probe Driven Scanning
Z Scan Range	5um	5um
Z Scan Resolution	0.05nm	0.05nm
Scan Speed	0.6Hz~30Hz	0.6Hz~30Hz
Scan Angle	0~360°	0~360°
Sample Weight	≤15Kg	≤0.5Kg
Stage Size	Dia.100mm 【Optional】 Dia.200mm Dia.300mm	Dia.100mm 【Optional】 Dia.200mm Dia.300mm
Stage XY Moving	100x100mm, Resolution 1um 【Optional】 200x200mm 300x300mm	100x100mm, Resolution 1um 【Optional】 200x200mm 300x300mm
Stage Z Moving	15mm, Resolution 10nm 【Optional】 20mm 25mm	15mm, Resolution 10nm 【Optional】 20mm 25mm
Shock-Absorbing Design	Spring Suspension 【Optional】 Active Shock Absorber	Spring Suspension 【Optional】 Active Shock Absorber
Optical System	Objective 5x 5.0M Digital Camera 【Optional】 Objective 10x Objective 20x	Objective 5x 5.0M Digital Camera 【Optional】 Objective 10x Objective 20x
Output	USB2.0/3.0	USB2.0/3.0
Software	Win XP/7/8/10	Win XP/7/8/10
Main Body	Gantry Scan Head, Marble Base	Gantry Scan Head, Marble Base

Specification

Scanning Probe Microscope (SPM) Compared to Other Microscopies

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

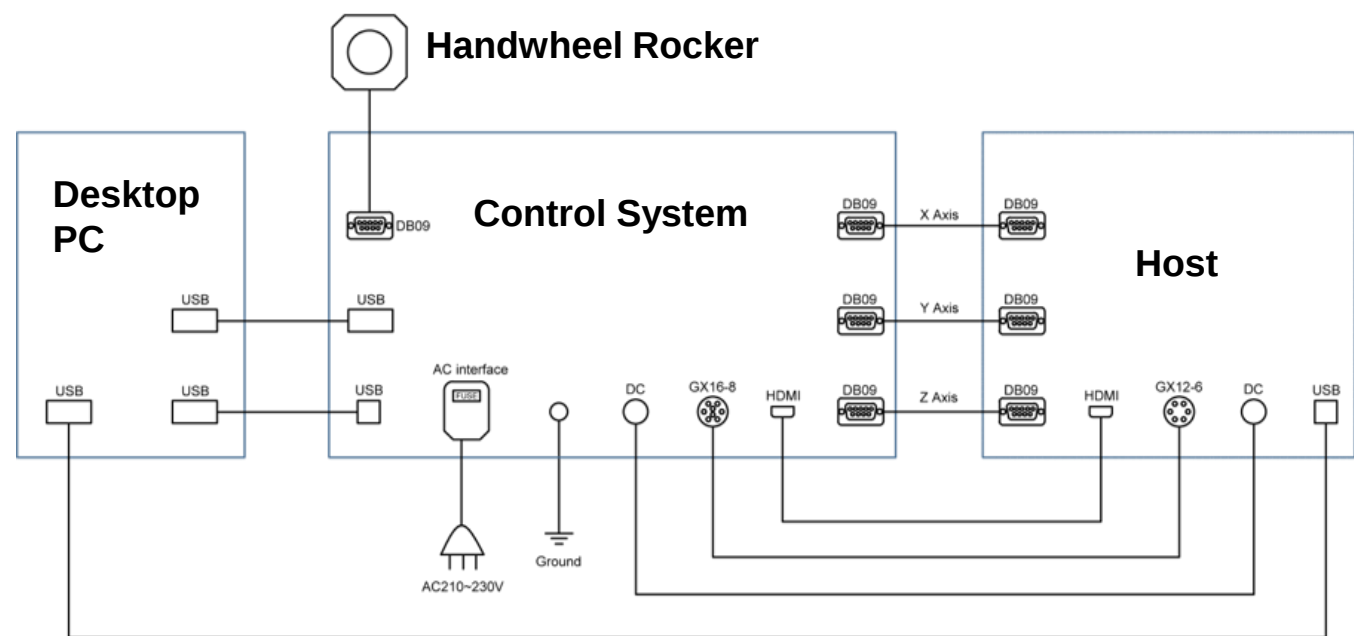
Depth of Field, Sample Preparation of Different Microscopes

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

System Diaphragm



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Opto-Edu (Beijing) Co., Ltd.

F-1501 Wanda Plaza, No.18 Shijingshan Road, Beijing 100043, China

Official Main Website: www.optoedu.com

www.cnoec.com.cn, www.optoedumicroscope.com, www.microscopemadeinchina.com

Skype: xincnoec Wechat, Mobile, WhatsApp: +86 13911110627

Tel: +86 10 88696085 Email: sale@cnoec.com

