

Solver P47-PRO



Description

The Solver P47-PRO SPM is a universal tool for the complex research of different objects in air, liquid and controlled gas environments with sample heating up to 130°C. Scanning-by-sample scheme realized in the microscope provides the highest resolution in the class. Time-proven technical solutions are the base for high reliability and measurement accuracy. The construction makes the work with the system pleasant and easy. It can be used for routine measurements in small companies and university laboratories as well as in big research centers.

Applications

- Materials science
- Nanolithographies & nanomanipulations
- Medicine & biology
- Semiconductors
- Thin films

Operation modes

Microscopies:

in air: STM/ Atomic Force Microscopy (AFM) (contact + semicontact + noncontact)/ Lateral Force Microscopy (LFM)/ Phase Imaging mode/ Force Modulation mode/ Adhesion Force Imaging/DC & AC Magnetic Force Microscopy (MFM) / DC & AC Electrostatic Force Microscopy (EFM)/ Scanning Capacitance Microscopy (SCM)/ Kelvin Probe Microscopy (KPM)/ Spreading Resistance Imaging (SRI)

in liquid: Atomic Force Microscopy (AFM) (contact + semicontact + non-contact)/ Lateral Force Microscopy (LFM)/ Phase Imaging mode/ Force Modulation mode/ Adhesion Force Imaging.

Spectroscopies:

AFM (force-volume imaging, amplitude-distance, phase-distance curves), STM (I(z), I(V), Local Barrier Height (LBH), Local Density of States (LDOS).

Lithographies:

in air: AFM (Force (scratching + dynamic plowing) and Current (DC & AC))/ STM;

in liquid: AFM (scratching + dynamic plowing).

Nano-manipulations:

Contact Force

Specifications	
Sample Size	40x40x10 mm
Scanners	3x3x1.3 μm (±10%); 10x10x2 μm (±10%); 50x50x3 μm (±10%)
Min. Scanning Step	0.0004 nm; 0.0011 nm; 0.006 nm
Scanning Type	By Sample
SPM Heads	AFM STM: 30 pA – 50 nA, RMS noise 4 pA (standard preamplifier), 10 pA – 5 nA, RMS noise 1.5 pA (low current preamplifier)
Optical Viewing system	Resolution 3 μm Numerical aperture 0.1 Magnification 48x to 578x Horizontal field of view 6.1 to 0.49 mm
Vibration Isolation	Passive isolation is integrated Active anti-vibration system is available by request

Components	
Measuring heads & scanners	SF002, ST005, ST006, SC103, SC110, SC150, SFC050, SFC050SEMI, SFC100, SFC100SEMI, SNC100, SFC050L, SFC100L, CH01L, AD001
Adjustment units	AU006, AU007, AU028
Legs	LG001, LG006
Liquid cells	MP3LC
Heating stages	SU003
Approach systems	SCB02A
Vibration and acoustic isolation systems	AC004, DBM01
Special devices	AFAM03, XYZ01
Optical systems	CCD03o, CCBC1, CCBM1, TR003
Electronics	BLO22MT, BLOXYZ
Interface cards	IN004, IN005
Software	SWD01, SWD02, SWD05
Cables	CE002, IC001
Toolkits	SU001, SU002, SU007, SU008, SU015