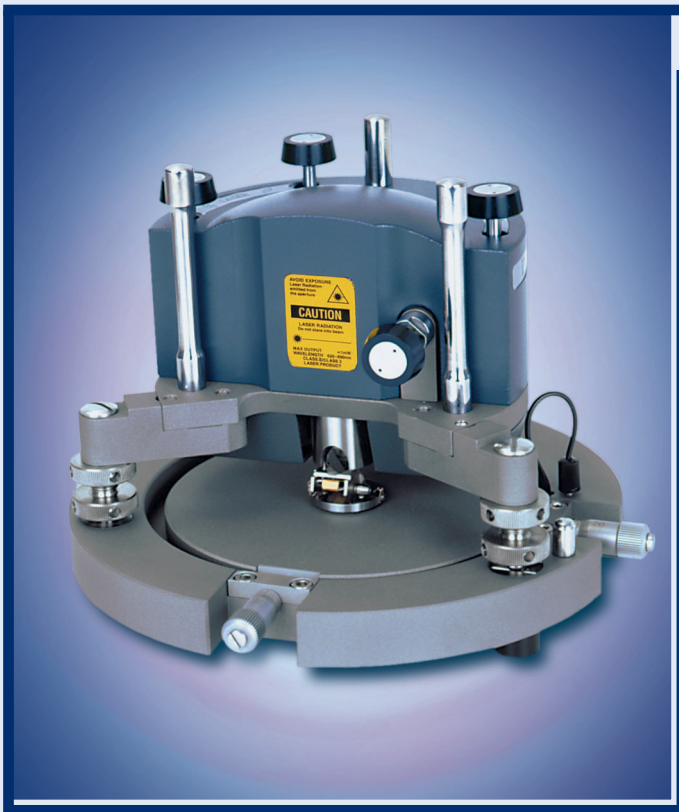
STAND ALONE SMENA



Stand Alone SMENA
(scanning-by-probe system configuration)

The Stand Alone SMENA expands the scope of scanning probe microscopy to bring you innovative facilities for investigating samples of unlimited size in all available SPM measuring modes. In spite of such versatile measuring capabilities, SMENA has a very compact low weight design and a reasonable price.

There is a configuration of SMENA with closed liquid cell with a flow of liquid. For more information please take a look at http://www.ntmdt.com/device/smena

Measuring Modes

In air: STM/ STS/ Contact AFM/ LFM/ ResonantMode (semicontact AFM+noncontact AFM)/ Phase Imaging/ Force Modulation (viscoelastisity)/ Spreading Resistance Imaging/ MFM/ EFM/ SCM/ SKM/ Adhesion Force Imaging/ Shear Force/ AFM (Force + Voltage),STM, RM Lithographies
In liquid: Contact AFM/ LFM/ ResonantMode AFM (semicontact)/ Phase Imaging/ Force Modulation (viscoelastisity)/ Adhesion Force Microscopy/ AFM (Force) Lithography

Applications

- Polymers
- Biology and Medicine
- Semiconductors
- Material Science
- Optical and Magnetic Storage
- Coating and Polishing Quality Control
- Large Optics, etc.

Technical Specification

Sample Size	Unlimited **Note: Small samples (up to ∅100 mm) can be placed between the SMENA head legs** Closed liquid cell limits sample size up to 22x22x2 mm
Scanners	50x50x2.5 µm (±10%);100x100x3,5 µm (±10%) 12x12x1.5 µm (±10%) (for STM only) 80x80x3.5 µm (±10%) (for Shear Force only)
Min. Scanning Step	0.006 nm; 0.01 nm; 0.0015 nm; 0.009 nm
Scanning Type	by probe
Control System	SPM Controller (see "SPM Controller", page 25)
Vibration Isolation	Active anti-vibration system is available by request (see "Vibration isolation solutions", page 34)

MEASURING HEADS FOR SMENA

SFC050
Universal SPM scanning head SMENA for basic AFM modes in air. Scanner: 50x50x2.5µm (±10%). Cantilever tracking system, tip-to-sample manual approach system.
SFC050SEMI
Universal SPM scanning head SMENA. Modification of SFC050 for operation in additional modes: SCM, SKM, Spreading Resistance and Voltage Lithography. Scanner: 50x50x2.5µm (±10%). Cantilever tracking system, tip-to-sample manual approach system.

SFC050, SFC050SEMI

SFC090
Universal SPM scanning head SMENA for basic AFM modes in air. Scanner:100x100x3,5µm (±10%). Cantilever tracking system, tip-to-sample manual approach system.
SFC090SEMI
Universal SPM scanning head SMENA. Modification of SFC090 for operation in additional modes: SCM, SKM, Spreading Resistance and Voltage Lithography. Scanner: 100x100x3,5µm (±10%). Cantilever tracking system, preamplifiers, tip-to-sample manual approach system.

SFC090, SFC090SEMI

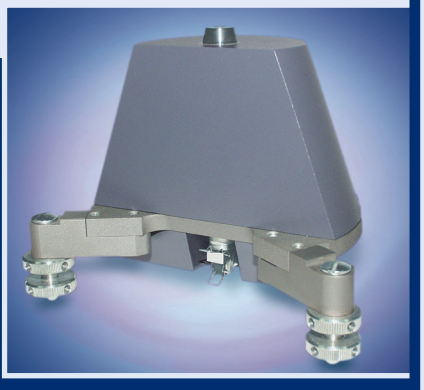
SFC050L
Universal SPM scanning head SMENA. Modification of SFC050 for operation in basic AFM modes in liquid. Scanner: 50x50x2.5µm (±10%). Cantilever tracking system, tip-to-sample manual approach system. Replaceable cantilever holder for operation in air.
SFC090L
Universal SPM scanning head SMENA. Modification of SFC090 for operation in basic AFM modes in liquid. Scanner:100x100x3,5µm (±10%). Cantilever tracking system, tip-to-sample manual approach system. Replaceable cantilever holder for operation in air.

SFC090L

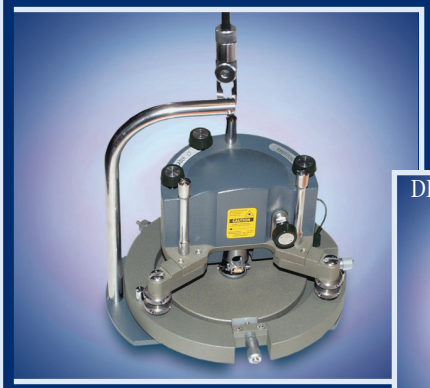
SFS012

SFS012
STM scanning head with preamplifier (30pA-50nA). Scanner: 12x12x1.5µm (±10%).

SNC080
Shear Force (SNOM) scanning head with quartz detector of fiber vibration (without SNOM illumination and detection system). Scanner: 80x80x3,5µm (±10%).

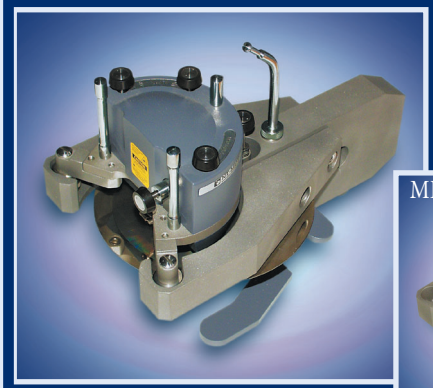


SNC080

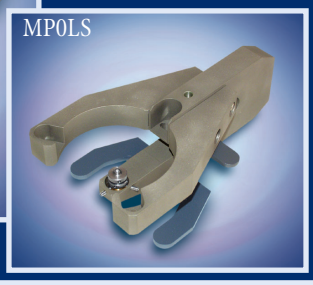


SMENA head with positioning stage and DBM03

DBM03
Antivibration suspension for SMENA heads on MP1SM.



SMENA head on MP0LS



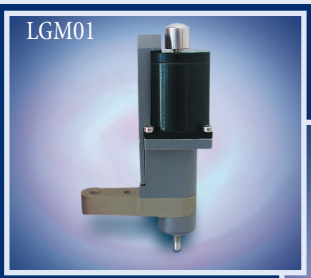
MP0LS
SMENA base for large samples. Scanning point position can be located up to 150 mm from the sample edge.

SMENA head with positioning stage and MA001

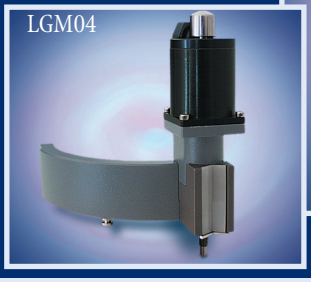
MA001
Adjustable mirror for optical viewing for SMENA heads on MP1SM and MP1LC.

PARTS FOR SMENA

LGM01
Motorized approach leg for SMENA, SFS012 and SNC080 heads.



LGM04
Motorized approach leg for SMENA, SFS012 and SNC080 heads on XY scanning stages with manual positioning (SCTPON, SCTPZN, SCTP0, SCTPZ).



STM SMENA with installed LGM04

AA010
Attachment for atomic resolution measurements. For SFS012 STM head on MP1SM, SCBO1A.

STM SMENA head with positioning stage and AA010

AA110
Attachment for atomic resolution measurements. For SMENA heads SFC050, SFC050SEMI, SFC090, SFC090SEMI on MP1SM, SCBO1A.

Stand Alone SMENA head with installed AA110

AA020
Attachment for atomic resolution measurements. For SFS012 STM head on XY scanning stage with manual positioning (SCTPON, SCTPZN, SCTP0, SCTPZ).

MP1LC
Manual X, Y positioning stage with closed liquid cell with flow. For biological applications. Range of sample positioning 1x1 mm, positioning resolution 5 µm. For SMENA.
For more information please take a look at http://www.ntmdt.com/products/SMENA.3html

SMENA head with MP1LC