

We are pleased to submit the information of **NAMA-(AFM-STM)** system, or call **NAMA-SPM** specification and our latest price and sales conditions as you inquired about.

	Description of good :																						
	<p>NAMA-AFM is an advanced scanning force microscope capable of providing clear, accurate and reproducible 2D and 3D images in nano meter-scale.</p> <p><i>Now with Advantages :</i></p> <ol style="list-style-type: none"> 1- <u>Semi & Non Contact and Contact Modes</u> 2- <u>Adjust Sample Conservator Table electronically</u> 3- <u>Electronically control PID Steps</u> 4- <u>Camera Turn on & off electronically</u> 5- <u>Lithography Options</u> 6- <u>Different signal process and filters</u> 7- <u>Easy approaches system</u> 8- <u>Easy cantilever mounting</u> 9- <u>Controllable scan ratio and so many scan parameters</u> 10- <u>Sophisticated analyses software</u> 11- <u>Force Spectroscopy</u> 12- <u>Phase image mode</u> 13- <u>And.....</u> <p>Main parts of each system includes:</p> <table border="0"> <thead> <tr> <th data-bbox="336 1464 544 1503">*Consisting of:</th> <th data-bbox="1209 1464 1262 1503">Qty</th> </tr> </thead> <tbody> <tr> <td data-bbox="384 1503 767 1541">1- Electronic control system</td> <td data-bbox="1225 1503 1246 1541">1</td> </tr> <tr> <td data-bbox="384 1541 767 1579">2- AFM Head and 1 cameras</td> <td data-bbox="1225 1541 1246 1579">1</td> </tr> <tr> <td data-bbox="384 1579 639 1617">3- Interface boards</td> <td data-bbox="1225 1579 1246 1617">1</td> </tr> <tr> <td data-bbox="384 1617 603 1655">4- Software CD</td> <td data-bbox="1225 1617 1246 1655">1</td> </tr> <tr> <td data-bbox="384 1655 970 1693">5- Connection cables and related connectors</td> <td data-bbox="1214 1655 1257 1693">10</td> </tr> <tr> <td data-bbox="384 1693 624 1731">6- Interface cable</td> <td data-bbox="1225 1693 1246 1731">1</td> </tr> <tr> <td data-bbox="384 1731 635 1769">7- Computer Case</td> <td data-bbox="1225 1731 1246 1769">1</td> </tr> <tr> <td data-bbox="384 1769 571 1807">8- Key board</td> <td data-bbox="1225 1769 1246 1807">1</td> </tr> <tr> <td data-bbox="384 1807 528 1845">9- Mouse</td> <td data-bbox="1225 1807 1246 1845">1</td> </tr> <tr> <td data-bbox="384 1845 667 1883">10- LCD monitor 17"</td> <td data-bbox="1225 1845 1246 1883">1</td> </tr> </tbody> </table> <p>*Some of these are listed and shared with STM system as well</p>	*Consisting of:	Qty	1- Electronic control system	1	2- AFM Head and 1 cameras	1	3- Interface boards	1	4- Software CD	1	5- Connection cables and related connectors	10	6- Interface cable	1	7- Computer Case	1	8- Key board	1	9- Mouse	1	10- LCD monitor 17"	1
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Z -Approach Module

Consisting of a precision aligned sliding mechanism and high accuracy linear pizeomotor:

Z movement resolution = 0.045 *nm*
= 0.0045 *nm* in zoom mode

High mechanical stability is achieved through rigid structural components accompanied by zero-backlash mechanism.

Tip- Holder Module

Consisting of 3 pizeoactuator for X, Y and Z and AC mode :

Range of X,Y Tip deflection = 15 μm
Range of Z (vertical) Tip movement = 4 μm
X,Y scanning resolution = 0.15 *nm*
= 0.015 *nm* in zoom mode

High mechanical stability is achieved through rigid structural components accompanied by zero-backlash mechanism. Ergonomic considerations are implemented for easy and fast tip replacement.

X-Y Table

Consisting of motorized clamp, a precision aligned 2-D motorized sliding mechanism and sample holder. Ergonomic considerations are implemented for easy and fast sample replacement.

Digital Electronics

Includes atomic force measurement with very low noise signal amplification achieved due to the advanced transmission and filtering techniques.

Includes position controllers for all microscope functions through keyboard, mouse and trackball.

Windows-Based Software

User friendly windows-based software provides full control over the hardware and a wide range of image processing facilities:

Image size, resolution and live image all adjustable.

Scan in both constant height and constant current modes.

Ability to show various views of different images simultaneously

View images in 2D and 3D

Using different palettes

Edit palettes

View each scan line in the image

Flexible coloring

<p>Different filters:</p> <ul style="list-style-type: none"> - Median - Low pass Average - Low pass Gaussian - High pass - High boost - Plane adjust - Log - Scale - Negative - Crop - Line adjust -FFT option <p>Show images as icons</p> <p>Automatic and manual tip approach</p> <p>Select the tip speed to move</p> <p>Live display of tip during approach</p> <p>Select scan area</p> <p>Scan with selectable resolution</p> <p>Scan with selectable frequency</p> <p>Different PID configurations</p> <p>Zoom capability</p> <p>Manual Tip movement</p> <p>Computer specifications</p> <p>The Manufacturer reserves the right to change the computer specification according to topical situation in the computer market.</p> <p>Monitor specification</p> <p>17" LCD display monitor</p> <p>Camera</p> <p>Spare parts:</p> <ul style="list-style-type: none"> - Samplers - Small mechanical tool box - AFM Tips - Checking sample 	<p><u>Qty</u></p> <p>4</p> <p>1</p> <p>5</p> <p>2</p>
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NAMA-STM SS3 SL is an advanced scanning tunneling microscope capable of providing clear, accurate and reproducible 2D and 3D images in nano meter-scale.

Now with New Advantages :

1-**Costant Current and Constant Hight Modes**

2-**Spectroscopy Options**

2-**STM Lithography options**

3-Camera Motorized

4-Adjust Sample Conservator Table electronically

5- Micrometer Dement ion and controlled Table movement capability

6- Electronic control PID Steps.

7- Camera Turn on & turn off electronically

Main parts of each system includes:

*Consisting of:	Qty
11- Electronic control system	1
12- Special box for isolation of electrical and mechanical noise	1
13- STM Head, camera and light inside the isolation box	1
14- Interface boards	1
15- Software CD	1
16- Connection cables and related connectors	10
17- Interface cable	1
18- Computer Case	1
19- Key board	1
20- Mouse	1
21- LCD monitor 17"	1

**Some of these are listed and shared with AFM system as well*

L-type Frame

Consisting of a two column precision aligned, high stiffness structure with a fixed lower T-slot table and locking handle. Absolute thermal drift balance is achieved by appropriate material and dimensional selection. All mechanical parts are assembled on the L-type frame with modular designs for easy maintenance and repair.

Z -Approach Module

Consisting of a precision aligned sliding mechanism and high accuracy linear pizoemotor:

Z movement resolution = 0.045 nm
= 0.0045 nm in zoom mode

High mechanical stability is achieved through rigid structural components accompanied by zero-backlash mechanism.

Tip- Holder Module

Consisting of a precision aligned 3-D of freedom mechanism and high accuracy 3 axes piezotube:

Range of X,Y Tip deflection = $8 \mu m$

Range of Z (vertical) Tip movement = $3 \mu m$

X,Y scanning resolution = $0.12 nm$

= $0.012 nm$ in zoom mode

High mechanical stability is achieved through rigid structural components accompanied by zero-backlash mechanism. Ergonomic considerations are implemented for easy and fast tip replacement.

X-Y Table

Consisting of motorized clamp, a precision aligned 2-D motorized sliding mechanism and sample holder. Ergonomic considerations are implemented for easy and fast sample replacement.

Digital Electronics

Includes tunneling current measurement with very low noise signal amplification achieved due to the advanced transmission and filtering techniques.

Includes position controllers for all microscope functions through keyboard, mouse and trackball.

Specifications include:

Maximum X,Y line scan frequency = 20 Hz

Sample Bias Voltage range = $\pm 10 V$

Sample Bias resolution = $0.3 mV$

Current Set point range = $\pm 100 nA$

Current set point resolution = $3 pA$

Maximum equivalent intrinsic Current noise = $10 pA Rms$

Controller cut off frequency

Normal mode= $1 Hz - 10 Hz - 100 Hz - 500 Hz - 1000 Hz - 2000 Hz$

Zoom mode = $0.1 Hz - 1 Hz - 10 Hz - 50 Hz - 100 Hz - 200 Hz$

Maximum data sampling rate = 100 Hz

Maximum X,Y step frequency = 100 Hz

Power consumption:

Input: $220V \ 50-60 Hz - 0.7A$

Scanning speed: adjustable; 20 lines/ second max.

Scan size and positions: adjustable

Bumpless transfer function providing delicate transfer of control from computer to automatic electronic control and vice versa.

Ultra Phase logarithmic converter used for loop linearization

Windows-Based Software

User friendly windows-based software provides full control over the hardware and a wide range of image processing facilities:

Image size, resolution and live image all adjustable.

Scan in both constant height and constant current modes.

Ability to show various views of different images simultaneously

- View images in 2D and 3D
- Using different palettes
- Edit palettes

Select

View each scan line in the image

Flexible coloring

Different filters:

- Median
- Low pass Average
- Low pass Gaussian
- High pass
- High boost
- Plane adjust
- Log
- Scale
- Negative
- Resample
- Crop
- Line adjust

Show images as icons

Automatic and manual tip approach

Select the tip speed to move

Live display of tip during approach

Select scan area

Scan with selectable resolution

Scan with selectable frequency

Different PID configurations

Zoom capability

Manual Tip movement

Select CSP and sample Bias

Computer specifications

P5K ASUS, 4 GB Ram, HDD 160 GB, CPU Core2duo 6550 Intel, DVD-RW, Vga 512 MG 8500GT, AV/PV Maker Capture.

The Manufacturer reserves the right to change the computer specification

<p>according to topical situation in the computer market.</p> <p>Monitor specification 17" LCD display monitor</p> <p>Camera and Cold beam Camera and Cold beam inside the isolation box for monitoring the tip</p> <p>position and movement: Camera resolution is approximately x100. Cold beam for preventing any thermal drift.</p>	
<p>Spare parts:</p> <ul style="list-style-type: none"> - HOPG sample - Samplers - Conductive silver paint - Small mechanical tool box - STM Tips - Checking sample 	<p><u>Qty</u></p> <p>1</p> <p>4</p> <p>1</p> <p>1</p> <p>10</p> <p>2</p>

<p>Installation by Local agents product Engineer</p> <p>Training: One person may attend the operator training course during 3 days according to the schedule (Appendix 1) at NATSYCO site in Tehran.</p>
<p>Terms and conditions:</p> <p>Guaranty: 12 months from installation completion or 15 months from ex-work dispatch according to Appendix 2.</p> <p>Service support: Spare parts are guaranteed to be available for a minimum period of 10 years. Installation and service support is available from local agent in Iran- Tehran.</p> <p>Time of Delivery: 4-5 months from confirmed order and receive 50% cash in advance.</p> <p>Terms of Delivery: CIP Tehran</p> <p>Terms of Payment: 50 % cash in advance 50 % cash on delivery Bank Account: 104-2-2522915-1, Eghtesad E Novin Bank, Kargar Shomali Branch, Tehran. Iran. In favor of Nano System Pars.</p> <p>Validity: This Performa Invoice is valid for 30 days.</p>

Export packing:
Pack in 7 boxes Gross weight approximately: 55 Kg.

	Unit Price (Rials)	Quantity	Total (Rials)
Price CIP Tehran :	1550000000	1	1550000000
Educational Discount:	70000000	"	70000000
Total amount payable:	1480000000	1	1480000000

Best Regards,