



## QUICK SELECTION TABLE

Application	Type	Coating	Force Constant	Res. Frequency
Contact Mode	Arrow™ CONT	None	0.2 N/m	14 kHz
	Arrow™ CONTR	Reflex		
Non-Contact / TappingMode	Arrow™ NC	None	42 N/m	285 kHz
	Arrow™ NCR	Reflex		
Force Modulation Mode	Arrow™ FM	None	2.8 N/m	75 kHz
	Arrow™ FMR	Reflex		

For further information please visit our website at [www.nanoworld.com](http://www.nanoworld.com)

## ABOUT NANOWORLD® AG:

Nanotechnology is our field. Precision is our tradition. Innovation is our key instrument. That's why we are located in Switzerland, one of the most powerful and innovative areas in Europe.

Our location in Neuchatel is next to the IMT (Institute of Microtechnology, University of Neuchâtel) and the CSEM (Swiss Center of Electronics and Microtechnology). From this perfect infrastructural surrounding we support our customers with high precision Scanning Probes for their success in atomic force microscopy (AFM).

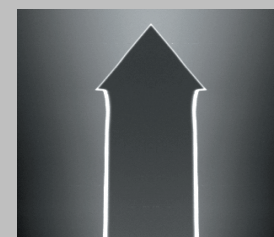
Using our knowledge as well as our high precision Scanning Probes, our clients are able to get the best results they need for atomic force microscopy (AFM).



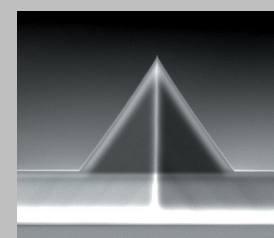
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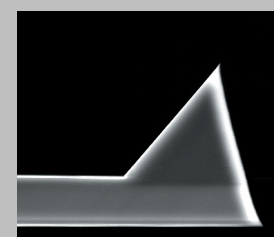
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Top View



Front View



Side View

## ARROW™ SILICON-SPM-SENSORS

Optimized positioning through maximized tip visibility

### General

- SPM sensor for high resolution imaging
- fits to all wellknown commercial SPMs
- cantilever and tip are supported by a single crystal silicon holder (monolithic design)

### Material Features

- highly doped, single crystal silicon (resistivity 0.01 - 0.025 Ohm\*cm)
- no intrinsic stress and absolutely straight cantilevers
- chemically inert silicon for application in fluids or electrochemical cells

### Cantilever

- rectangular cantilever with triangular free end
- easy positoning of tip on the area of interest due to the Arrow™ shape
- consistent distance between tip and cantilever end (3 - 5 µm depending on the sensor type)
- trapezoidal cross section with wide detector side for easy laser adjustment

### Holder

- dimensions of the holder are very reproducible (1.6 mm x 3.4 mm)
- replacement of sensor without major readjustment of the detection system
- etched corners of the holder avoid contact between the holder and the sample

### Tip

- tip height 10 - 15 µm and radius of curvature typically < 10 nm (15 nm guaranteed)
- macroscopic half cone angles 20° to 25° from the front and 30° to 35° along the cantilever axis

### Package sizes

- Small packages of 10, 20 or 50 sensors
- Full wafer of at least 380 sensors

### Reflex Coating

- 30 nm thick aluminum coating on the backside of the cantilever
- enhances the reflectivity of the laser beam by a factor of 2.5