

Type: **M1- Metrology Probe M1**

**Multipurpose High Aspect Ratio and High Resolution EBD probe**

The **nanotools® M1\_ArrowNC\_13** tip is designed for non-contact / high frequency mode, in particular for automated AFM systems for in-line process control as well as general purpose AFM. Excellent lifetime and reliability for high aspect ratio and high resolution applications are key features.

**EBD Material**

The high aspect ratio part of the probe is made from HIGH-DENSITY, DIAMOND LIKE CARBON (HDC/DLC). The tips show superior properties over integrated tips, such as high aspect ratio, hydrophobic surface properties, high stiffness / elastic modulus (8x of that of silicon), low thermal mass as well as abrasion resistance. Our HDC dissipates static charge.

This leads to probes offering the extreme durability of diamond together with high resolution imaging capability. Applying our patented **EBD** (electron beam deposition) technique we ensure a stiff and rigid high aspect ratio probe of superior symmetry and nanometer precision.

**Technical Data**

Tip dimensions	Shape:	conical
	Length:	800nm +/- 200nm
	Diameter*:	70nm +/- 10nm
	Tip radius:	<10nm, typically 5nm
	Tilt compensation:	13deg +/- 1deg

Cantilever	ArrowNC
	t: 4.6µm l: 160µm w: 45µm
	f: 285kHz k: 42N/m

Coating	Tipside: none
	Backside: none

\*: at 600nm tip length

**First in Quality**

A 100% quality check by SEM for every tip, high scan speeds, flexibility in combination with stiffness, 13 deg tilt compensation and optimized cost per scan are key parameters. The **M1\_ArrowNC\_13** is used by leading fabs worldwide for several AFM in-line monitoring tasks such as depth control or STI.

Datasheet for every tip with precise tip dimensions provided.

nanotools is the first and only probe manufacturer being quality certified to ISO 9001.

For more information please contact: [info@nano-tools.com](mailto:info@nano-tools.com)  
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