

Type: **MC90/70** Probe for 90 nm and 70 nm inline Depth Metrology

The **nanotools**® **MC90/70** probes feature a perfectly cylindrical tip shape providing the highest repeatability of depth and bottom width measurements (constant bottom travel distance). The **nanotools**® **MC90/70** high aspect ratio probes with cylindrical shape are the AFM In-Line metrology solution for 90 nm and 70 nm. MC tips are tilt compensated and are available for most AFM systems.

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:	cylindrical
	Length:	800 nm (+/- 200 nm)
	Diameter:	55 nm (+/- 5 nm)
	Tip radius:	<5 nm
	Tilt compensation:	3deg (+/- 0.5 deg)

Cantilever	ArrowNCR
	l: 160µm w: 45µm t: 4,6µm
	k: 42N/m f: 285kHz

Coating	Tipside: none
	Backside: Al

First in Quality

A 100% quality check by SEM for every tip, high scan speeds, flexibility in combination with stiffness, 3 deg tilt compensation and optimized cost per scan are key parameters. The **MC90/70** 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
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