

AFM Probe Specifications:

Coating

none

Additional Info

AFM probes of the 4XC series feature four different AFM cantilevers for various measurement modes, two on each side of the holder chip:

500DC - Contact mode AFM cantilever

240AC - Soft tapping mode AFM cantilever for imaging soft samples

200AC - Standard tapping mode AFM cantilever

65AC - High resonance frequency AFM cantilever for High speed scanning

The uncoated AFM probe offers sharp AFM tip apexes, chemical inertness and high AFM cantilever Quality factors.

The tetrahedral AFM tips are located precisely at the free ends of the AFM cantilevers. This allows the AFM tips to be positioned accurately over the area of interest on the sample surface.

AFM Tip:

Shape	Height	Setback	Radius	Half Cone Angle
Optimized Positioning	14 μm (12 - 16 μm)*	0 μm	< 7 nm	0° front, 35° back, <9° side

* typical values

AFM Cantilever:

Cantilever	Shape	Force Const.	Res. Freq.	Length	Width	Thickness
Contact mode AFM cantilever	Beam	0.3 N/m (0.1 - 0.6 N/m)*	17 kHz (11 - 22 kHz)*	500 μm (1 - 515 μm)*	30 μm (28 - 32 μm)*	3 μm (2.5 - 3.5 μm)*
Soft tapping mode AFM cantilever	Beam	2.5 N/m (0.75 - 5.3 N/m)*	75 kHz (50 - 100 kHz)*	240 μm (1 - 255 μm)*	30 μm (28 - 32 μm)*	3 μm (2.5 - 3.5 μm)*
Standard tapping mode AFM cantilever	Beam	9 N/m (2.8 - 21 N/m)*	150 kHz (100 - 200 kHz)*	175 μm (1 - 190 μm)*	40 μm (38 - 42 μm)*	3 μm (2.5 - 3.5 μm)*
High frequency tapping mode AFM cantilever	Beam	100 N/m (35 - 215 N/m)*	1200 kHz (650 - 1850 kHz)*	65 μm (1 - 80 μm)*	31 μm (29 - 33 μm)*	3 μm (2.5 - 3.5 μm)*

* typical values