

Cantilever Data	Value	Range*
Resonance Frequency	285 kHz	240 - 380 kHz
Force Constant	42 N/m	27 - 80 N/m
Length	160 μm	155 - 165 μm
Mean Width	45 μm	40 - 50 μm
Thickness	4.6 μm	4.1 - 5.1 μm

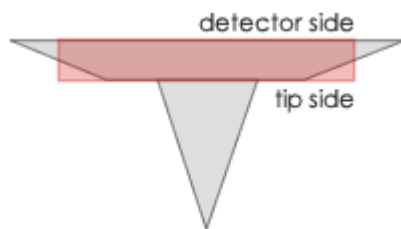
Optimized positioning through maximized AFM tip visibility

NanoWorld® Arrow™ NCpt AFM probes are designed for non-contact or tapping mode imaging. This AFM probe type combines high operation stability with outstanding sensitivity and fast scanning ability.

All SPM and AFM probes of the Arrow™ series are made from monolithic silicon which is highly doped to dissipate static charge. They are chemically inert and offer a high mechanical Q-factor for high sensitivity. These AFM probes feature a rectangular AFM cantilever with a triangular free end and a tetrahedral AFM tip with a typical height of 10 - 15 μm .

Additionally, this AFM tip offers an AFM tip radius of curvature of less than 25 nm.

The unique Arrow™ shape with the AFM tip position at the very end of the AFM cantilever allows easy positioning of the AFM tip on the area of interest.



A trapezoidal cross section of the AFM cantilever and therefore 30% wider (e.g. NCH) AFM cantilever detector side result in easier and faster laser adjustment. Additionally, because there is simply more space to place and reflect the laser beam, a higher SUM signal is reached.

Tip shape: Arrow
Coating: Electrically Conductive

PtIr5 Coating

The PtIr5 coating consists of a 23 nm thick platinum iridium5 layer deposited on both sides of the AFM cantilever. The tip side coating enhances the conductivity of the AFM tip and allows electrical contacts. The detector side coating enhances the reflectance of the laser beam by a factor of 2 and prevents light from interfering within the AFM cantilever.

The coating process is optimized for stress compensation and wear resistance. Wear at the AFM tip can occur if operating in contact-, friction- or force modulation mode. As the coating is almost stress-free the bending of the AFM cantilever due to stress is less than 2 degrees.

Order Code	Quantity	Data Sheet
ARROW-NCPT-10	10	Nominal values
ARROW-NCPT-20	20	Nominal values
ARROW-NCPT-50	50	Nominal values
ARROW-NCPT-W	380	Nominal values