

PointProbe® Plus - High Quality-Factor - Non-Contact/ Tapping Mode - High Resonance Frequency - Reflex Coating

The PointProbe® Plus Q30K-Plus combines the well-known features of the proven PointProbe® Plus series such as a further reduced and more reproducible AFM tip radius (typical AFM tip radius less than 7 nm) as well as a more defined AFM tip shape with a high mechanical quality factor (Q-factor) under ultra high vacuum (UHV) conditions. The typical Q-factor of over 35000 under UHV conditions and the aluminum coating on the detector side provide excellent resolution and an enhanced signal to noise ratio.

NANOSENSORS™ PPP-QNCHR AFM probes are designed for non-contact mode or tapping mode AFM (also known as: attractive or dynamic mode) under UHV-conditions. Due to its high Q-factor and the typical features of the PPP series this AFM probe combines high operation stability with outstanding sensitivity and fast scanning ability.

The AFM probe offers unique features:

- guaranteed AFM tip radius of curvature < 10 nm
- AFM tip height 10 - 15 µm
- highly doped silicon to dissipate static charge
- Al coating on detector side of AFM cantilever
- chemically inert
- excellent mechanical Q-factor under UHV conditions for high sensitivity

The reflective coating is an approximately 30 nm thick aluminum coating on the detector side of the AFM cantilever which enhances the reflectivity of the laser beam by a factor of about 2.5. Furthermore it prevents light from interfering within the AFM cantilever. As the coating is nearly stress-free the bending of the AFM cantilever due to stress is less than 2 degrees.

This AFM probe features alignment grooves on the back side of the holder chip. These grooves fit to the NANOSENSORS Alignment Chip.

Cantilever data:

Property	Nominal Value	Specified Range
Resonance Frequency [kHz]	330	204 - 497
Force Constant [N/m]	42	10 - 130
Length [µm]	125	115 - 135
Mean Width [µm]	30	22.5 - 37.5
Thickness [µm]	4	3 - 5
Quality Factor	30000	30000 - 50000

Order codes and shipping units:

Order Code	AFM probes per pack	Data sheet
PPP-QNCHR-10	10	of all probes