

PointProbe® Plus Rotated Tip Force Modulation Mode - Reflex Coating

The PointProbe® Plus (PPP) combines high application versatility and compatibility with most commercial SPMs. The typical AFM tip radius of less than 7 nm and the minimized variation in AFM tip shape provide reproducible images and enhanced resolution.

The FM type is offered for force modulation microscopy. The force constant of this AFM probe spans the gap between contact and non-contact mode and is specially tailored for the force modulation mode. The FM probe serves also as a basis for magnetic coatings (MFM). Furthermore non-contact or tapping mode operation is possible with the FM tip but with reduced operation stability.

For certain applications the rotated PointProbe® Plus AFM Tip offers more symmetric imaging. The rotated AFM tip shape is identical to the classic AFM tip shape but it is rotated by 180° degrees with respect to the AFM cantilever beam direction.

The AFM probe offers unique features:

- guaranteed AFM tip radius of curvature < 10 nm
- AFM tip height 10 - 15 µm
- highly doped to dissipate static charge
- high mechanical Q-factor for high sensitivity
- alignment grooves on backside of silicon holder chip
- precise alignment of the AFM cantilever position (within +/- 2 µm) when used with the Alignment Chip
- compatible with PointProbe® Plus XY-Alignment Series

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]	75	45 - 115
Force Constant [N/m]	2.8	0.5 - 9.5
Length [µm]	225	215 - 235
Mean Width [µm]	28	20 - 35
Thickness [µm]	3	2 - 4

Order codes and shipping units:

Order Code	AFM probes per pack	Data sheet
PPP-RT-FMR-10	10	of all probes
PPP-RT-FMR-20	20	of all probes
PPP-RT-FMR-50	50