

**PPP-MFMR**

*Point Probe® Plus Magnetic Force Microscopy - Reflex Coating*

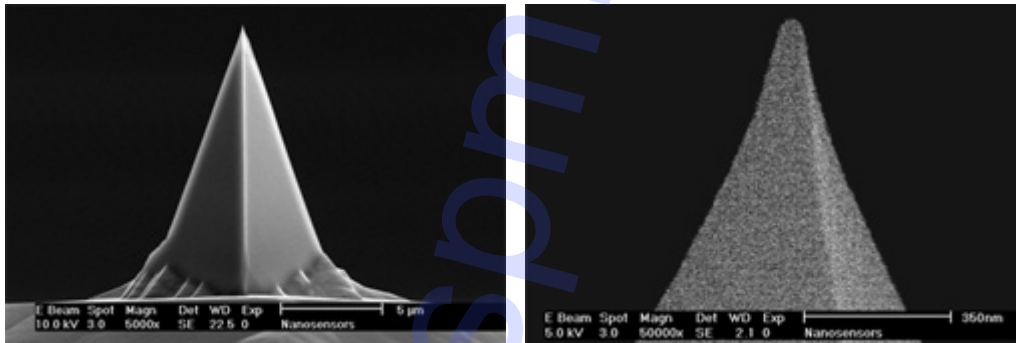
The **NANOSENSORS™ PPP-MFMR** AFM probe is our standard probe for magnetic force microscopy providing a reasonable sensitivity, resolution and coercivity. It has proven stable imaging of a variety of recording media and other samples. The force constant of this probe type is specially tailored for magnetic force microscopy yielding high force sensitivity while simultaneously enabling tapping mode and lift mode operation.

The hardmagnetic coating on the tip is optimized for high magnetic contrast and high lateral resolution of considerably better than 50 nm. The coating is characterized by a coercivity of app. 300 Oe and a remanence magnetization of app. 300 emu/cm<sup>3</sup> (these values were determined on a flat surface).

**The SPM probe offers unique features:**

- hard magnetic coating on the tip side (coercivity of app. 300 Oe, remanence magnetization of app. 300 emu/cm<sup>3</sup>)
- effective magnetic moment in the order of 10<sup>-13</sup> emu
- metallic electrical conductivity
- guaranteed tip radius of curvature < 50 nm
- magnetic resolution better than 50 nm
- Al coating on detector side of cantilever enhancing the reflectivity of the laser beam by a factor of about 2.5
- alignment grooves on backside of silicon holder chip
- precise alignment of the cantilever position (within +/- 2 µm) in conjunction with the usage of the alignment chip
- compatible with **PointProbe® Plus XY-Alignment Series**

As both coatings are almost stress free the bending of the cantilever due to stress is less than 3.5% of the cantilever length. For enhanced signal strength the magnetization of the tip by means of a strong permanent magnet prior to the measurement is recommended.



**Cantilever data:**

Technical Data	Nominal Value	Specified Range
Thickness /µm	3	2.0 – 4.0
Width /µm	28	20 – 35
Length /µm	225	215 – 235
Force Constant /(N/m)	2.8	0.5 – 9.5
Resonance Frequency /kHz	75	45 – 115

**Order codes and shipping units:**

Order Code	Quantity	Data Sheet	Coating
PPP-MFMR-10	10	of all probes	hard magnetic and reflex
PPP-MFMR-20	20	of all probes	hard magnetic and reflex
PPP-MFMR-50	50	without	hard magnetic and reflex
PPP-MFMR-W	> 370	of up to 32 probes	hard magnetic and reflex

For further information please contact your local distributor or **NANOSENSORS™** directly.  
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