Diamond coated Tip - Force Modulation Mode - Reflex Coating

The DT-FMR probe is designed for force modulation microscopy. The force constant of this AFM cantilever type 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 sensor but with reduced operation stability.

For applications that require hard contact between AFM tip and sample this sensor offers a real diamond tip-side coating. This coating features extremely high wear resistance due to the unsurpassed hardness of diamond. The typical macroscopic AFM tip radius of curvature lies in the range between 100 and 200 nm. Nanoroughnesses in the 10 nm regime improve the resolution on flat surfaces.

The AFM probe offers unique features:

- real diamond coating
- AFM tip height 10 - 15 µm
- 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 DT Diamond Coating is an approximately 100 nm thick coating of polycrystalline diamond on the tip-side of the AFM cantilever leading to an unsurpassed hardness of the AFM tip. The raman spectrum of the coating verifies the real diamond.

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]	105	65 - 155
Force Constant [N/m]	6.2	1.5 - 18.3
Length [µm]	225	215 - 235
Mean Width [µm]	27.5	20 - 35
Thickness [µm]	3	2 - 4

Order codes and shipping units:

Order Code	AFM probes per pack	Data sheet
DT-FMR-10	10	of all probes
DT-FMR-20	20	of all probes
DT-FMR-50	50	.....