

## Product Description

Colloidal probes for Force Modulation mode with spherical particles calibrated by size fixed on the tipless cantilever.

Sphere material SiO<sub>2</sub>, 5 sphere sizes from 2µm till 15µm are available, no reflective coating, resonant frequency 45-115kHz, force constant 0,5-9,5 N/m.

Colloidal Probe Atomic Force Microscopy requires a tip of known shape to be mounted cleanly on a consistently reproducible cantilever. These probes are known as “Colloidal Probes” and are used to study colloidal interactions between two surfaces and to quantify the interactive properties. The tip is formed using a spherical, colloidal particle that is attached to a tipless cantilever. Colloidal probes are manufactured in the state-of-the-art clean room using micromachining techniques and a high precision, 6 axis, micromanipulator stage system. Near perfect micro-spheres of various materials are attached at the end of tipless cantilevers using a proprietary, clean, contamination free process.

## Colloidal Probe Application

Colloidal Probe applications include direct surface force measurement, colloidal interactions on the single particle-particle level, direct measurement of cell mechanics, measurement of adhesion forces, study of colloidal interactions between particle and surface. These are just a few application out of a fast growing field using colloidal probe technique.

### General Features

Material	Single Crystal Silicon, N-type, 0.01-0.025 Ohm-cm, Antimony doped
Chip size	3.4x1.6x0.3mm
Reflective side coating	No
Tip coating	No

### Special Features

Cantilever series	Cantilever length, L±10µm	Cantilever width, W±7.5µm	Cantilever thickness, T±1µm	Resonant frequency, kHz			Force constant, N/m		
				min	typical	max	min	typical	max
CPFM	225	27.5	3.0	45	75	115	0.5	2.8	9.5