

## SuperSharpSilicon™ - SEIKO Microscopes - Non-Contact / Tapping Mode - High Force Constant - Reflex Coating

For owners of a Seiko Instruments microscope using the non-contact mode we recommend the **NANOSENSORS™ SEIH** type (Seiko Instruments / high force constant). Compared with the ZEIH type the force constant is further reduced.

For enhanced resolution of nanostructures and microroughness we offer our **SuperSharpSilicon™** AFM tip with unrivalled sharpness.

### The AFM probe offers unique features:

- guaranteed AFM tip radius of curvature < 5 nm
- typical AFM tip radius of curvature of 2 nm
- typical aspect ratio at 200 nm from AFM tip apex in the order of 4:1
- half cone angle at 200 nm from apex < 10°
- highly doped silicon 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]	130	96 - 175
Force Constant [N/m]	15	5 - 37
Length [µm]	225	215 - 235
Mean Width [µm]	33	30 - 45
Thickness [µm]	5	4 - 6

### Order codes and shipping units:

Order Code	AFM probes per pack	Data sheet
SSS-SEIHR-10	10	of all probes
SSS-SEIHR-20	20	of all probes
SSS-SEIHR-50	50	.....