Product description

Advanced Tip at the End of the Cantilever™ Contact Mode, Au coated

NANOSENSORS™ AdvancedTEC™ ContAu AFM probes are designed for contact mode imaging. They feature a tetrahedral AFM tip that protrudes from the very end of the AFM cantilever. This unique feature allows precise positioning and makes the **AdvancedTEC™** the only AFM scanning probe in the world that offers REAL TIP VISIBILITY FROM TOP, even when the AFM probe is tilted due to its mounting onto the AFM head. This feature makes them the premium choice for all applications where the AFM tip has to be placed exactly on the point of interest and/or has to be visible (e.g. Nanomanipulation).
Due to their very small half cone angles the AFM tips of the **AdvancedTEC™** Series show great performance on samples that have a small pattern size combined with steep sample features.

The AFM probe offers unique features:

- real AFM tip visibility from top
- metallic conductivity of the AFM tip
- AFM tip height 15 - 20 µm
- high mechanical Q-factor for high sensitivity

The **Au coating** is an approximately **70 nm** thick double layer of chromium and **gold on both sides of the AFM cantilever**.The tip side coating enhances the conductivity of the AFM tip and allows electrical contacts.The detector side coating enhances the reflectivity of the laser beam by a factor of about 2 and prevents light from interfering within the AFM cantilever.The coating process is optimized for stress compensation and wear resistance. As the coating is nearly stress-free the bending of the AFM cantilever due to stress is less than 2 degrees.
Please note: Wear at the AFM tip can occur if operating in contact-, friction- or force modulation mode or where it is necessary to conduct high currents.

Cantilever data:

Property	Nominal Value	Specified Range
Resonance Frequency [kHz]	15	7 - 25
Force Constant [N/m]	0.2	0.02 - 0.75
Length [µm]	450	440 - 460
Mean Width [µm]	50	45 - 55
Thickness [µm]	2	1 - 3

Order codes and shipping units:

Order Code	AFM probes per pack
ATEC-CONTAu-10	10

Special handling information for NANOSENSORS™ AdvancedTEC probes

Due to their unique geometry the tips of the AdvancedTEC probes are more susceptible to tip damage by electrostatic discharge (ESD) than other Silicon-SPM-Probes.

Electric fields near the probe chip may lead to field evaporation which can blunt the tip apex of the probe tip. Therefore the NANOSENSORS™ AdvancedTEC probes are shipped in specially designed ESD-safe chip carriers.

NANOSENSORS™ recommends to their customers to take appropriate precautions to avoid tip damage due to electrostatic discharge when handling the probes. This can for example be done by using anti-electrostatic mats, wrist bands and tweezers.