Smaller is better

Across the spectrum from the microelectronic industry to scientific research, the imminent revolution in nanotechnology is happening now. The workforce of the near future needs to be prepared with a strong understanding of the principles involved in nano-imaging. In the emerging nanotechnology field, size matters! We are now entering a very exciting era where we seek to better understand materials at the atomic/molecular level, and use such understanding to design materials from the nanoscale up.

Kleindiek Nanotechnik is a young and customer oriented company offering cutting edge nanotechnology to help better our understanding of the nanoworld. With an innovative and powerful driving concept, the company is breaking new ground in micro- and nano-positioning. The Nanomotor®, invented by the company founder, Dr. Stephan Kleindiek, is a small linear motor with 3 mm diameter, 15 mm length and 10 mm travel which combines highest precision with an extremely large working range.

During his PhD thesis at the University of Tuebingen in Germany, Dr. Stephan Kleindiek invented the Nanomotor® and used it to created the world's smallest commercial Scanning Tunnelling Microscope (STM). This microscope is the first of its kind with atomic resolution without additional vibration damping.

The philosophy of product development at Kleindiek Nanotechnik is to find the direct solution of the specific underlying problem. Kleindiek Nanotechnik invests heavily in continuous innovative development in order to create solutions for customer specific positioning problems. This strategy has resulted in a strong market position for the company in various market niches.

It is clear that size matters in nanotechnology. Using large micromanipulators to position some-thing with nanometer precision is like trying to build something out of Lego with boxing gloves on. Kleindiek Nanotechnik has the viewpoint that the size of the tool should be in relation to one's working area. By simply holding to the idea that everything should be kept as small as possible, we solve numerous problems that our competitors are experiencing. A small, simple and harmonious construction leads to stability, robustness, high manoeuvrability and ease of installation. Kleindiek micromanipulators allow you to take off the boxing gloves and work with ease, efficiency and precision.

Miniaturization in chip technology, optics, micro mechanics, medicine, gene and bio technology has led to the demand for highly precise positioning techniques. This demand can be met by the Nanomotor® line of products, which offer a new level of precision. Products are delivered in complete systems that are easy to install, easy to use and easy to maintain. Systems include highly sophisticated control electronics and user friendly control software. The company offers competent and reliable consulting through distribution partners in most major industrial countries.

Products

- Micro- and nanomanipulators
- Positioning tables
- Force measurement systems
- Microinjector systems
- Microgripper systems
- SPM/AFM systems

SEM/FIB Applications

- Semiconductor failure analysis (electrical probing)
- TEM sample preparation
- CNT manipulation & characterization
- Microinjection in low-vacuum SEM
- Nanoindentation
- Scanning probe microscopy
- Force measurement (spring constant & Young's modulus)
- STEM
- Materials research

Light Microscope Applications

- Life science
- Electrophysiology (patch clamping)
- Micromounting
- Fibre optic manipulation
- Minimal invasive surgery

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