

UMF Equipment – Zeptools STM Holder

The University Research Facility in Materials Characterization and Device Fabrication (UMF) is pleased to introduce the Zeptools STM holder system, designed for use with the ThermoFisher double Cs correctors Spectra 300 Scanning Transmission Electron Microscope (STEM).

The Zeptools STM holder is equipped with a nanomanipulator, enabling precise manipulation within the holder. It accommodates various sample configurations, including half TEM grids, FIB TEM grids, and 0.3mm metal wires. An integrated current-voltage (I-V) measurement unit within the controller facilitates basic I-V measurement at specific nanostructure locations with sub-nanometer precision. The holder supports a maximum current range of 30mA and allows for precise, independent movements along the X, Y, and Z axes. This capability ensures accurate point-contact with the samples and facilitates high-resolution TEM imaging.

Nanomanipulator Specifications:

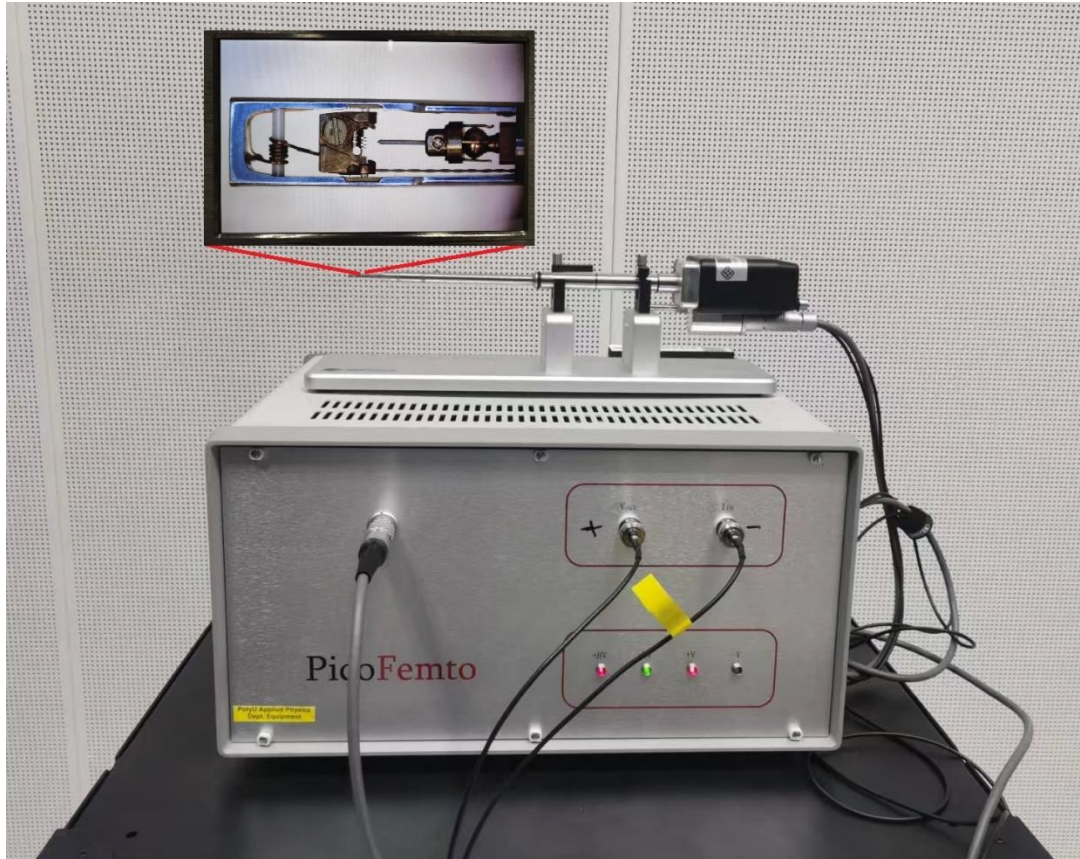
- Coarse movement range: XY 2.5 mm, Z 1.5 mm.
- Fine movement range: XY 18 μ m, Z 1.5 μ m.
- Resolution of fine movement: XY 0.4 nm, Z 0.04 nm.
- Movement all controlled by software.

I-V measurement Specifications:

- One I-V unit included.
- 9 current measurement range, from 1 nA to 30 mA.
- Resolution of current measurement: better than 100 fA.
- Voltage output range: \pm 10 V and \pm 150 V.
- Automatic I-V and I-t measurement.

Please refer to <http://www.zeptools.com/products/tem/1450.html> for further details of the system.

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Components of Zeptools STM holder system