



AutoMET AFM Software

- Enhanced Nanoscale Automation for Dimension Systems

Bruker's AutoMET™ software brings high-volume, precise AFM measurements to demanding production environments. Available for Dimension FastScan® and Dimension Icon® systems, AutoMET uniquely enables the combination of high-resolution AFM imaging with fast, automated metrology. It provides exceptional ease of use and adaptability for critical-to-quality measurements in production, QA/QC, or other high-volume measurement applications.

AutoMET includes an intuitive and simple recipe-writing environment that makes it extremely easy to reduce complex measurement routines to simple, push-button operations. Operators of all experience levels can obtain detailed, accurate measurements on thousands of samples by running pre-defined recipes.

AutoMET enables:

- User-defined automated nanoscale measurements at user-defined locations on data storage slider samples and bare and patterned wafers up to 300 millimeters
- Optical image pattern recognition and SPMZoom™, tip-centering, full-wafer or grid-mapping support, and image-placement accuracy within tens of nanometers
- Comprehensive yet simple recipe writing for advanced users
- Easy setup to align sample to probe and to perform alignment corrections
- Run Recipe mode to perform complex measurements on thousands of samples easily using a predefined recipe

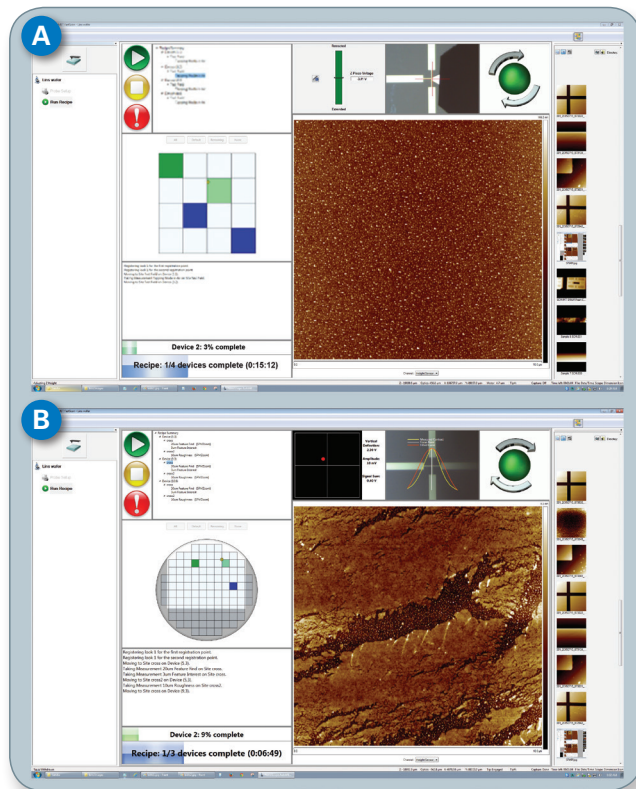
Robust Automation Software

Available for Dimension FastScan®, Icon®, 200-millimeter, and 300-millimeter AFM platforms, AutoMET automation extends the unique capabilities of each system:

- High-throughput, automated topography and roughness measurements without loss of resolution with FastScan scan head
- Automated high-resolution topography, roughness, nanomechanical and nanoelectrical measurements with Icon scan head
- Ability to achieve ± 2 -micron image placement accuracy with optical pattern recognition, and nanometer positional accuracy with SPMZoom

Automated Nanomechanical Characterization

AutoMET also makes full use of Bruker's exclusive PeakForce QNM® mode, which provides quantitative nanomechanical mapping of material properties while simultaneously imaging topography at very high resolution. This technology, coupled with Bruker's proprietary industrial-grade probes and AutoMET, enable the most comprehensive, precise sample measurements ever produced in a semi-automated AFM production environment.



Greater Measurement Flexibility

AutoMET offers two sample measurement layout configurations: a grid-based layout that uses columns and rows for a rectangular or square scan areas and user-defined measurement locations; and a wafer-based layout that lets the user define wafer sizes and precise X,Y measurement locations within the wafer. AutoMET provides great flexibility in sample type, measurement settings, number of measurements, scan sizes, and the choice of PeakForce Tapping® or tapping scan modes.

Engineer Mode

AutoMET's Engineer mode provides functionality to create a recipe for a detailed test process that can be recalled for use on demand. A Teach feature allows a user to replicate a workflow, including probe setup, sample setup, create/edit scan sites, create/edit measurements, assign measurements, select devices, and recipe review. Once the recipe is set up and saved, a simple, one-button "click" is all that's needed to start the measurement session.

Operator Mode

AutoMET's Operator mode consists of two simple functions: the probe setup and running a pre-defined recipe. The operator simply moves through the probe setup procedure, makes the appropriate selections, and clicks on the Run Recipe button to start data collection.

Easy and Efficient Recipe Transfer

AutoMET provides all the functionality an engineer needs for complex sample measurements. Recipes created by an engineer on one Bruker system, can be easily transferred to other Bruker AFM systems throughout a facility, simplifying test setup for any system operator. Even complex measurement routines can be run with the push of a button. AutoMET brings portable AFM efficiency to industrial research and manufacturing.

Figure A: Recipe window showing grid-based layout for user-defined measurement locations on rectangular or square scan areas.

Figure B: Recipe window showing wafer-based layout for precise, user-defined X,Y measurement locations within a wafer.

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Note: AutoMET is available for all Dimension FastScan and Dimension Icon systems running a Windows 7 OS.