



NANOMECHANICAL TESTING

Hysitron TI Premier II

Streamlined Flexibility for Evolving
Nanomechanical Testing Needs



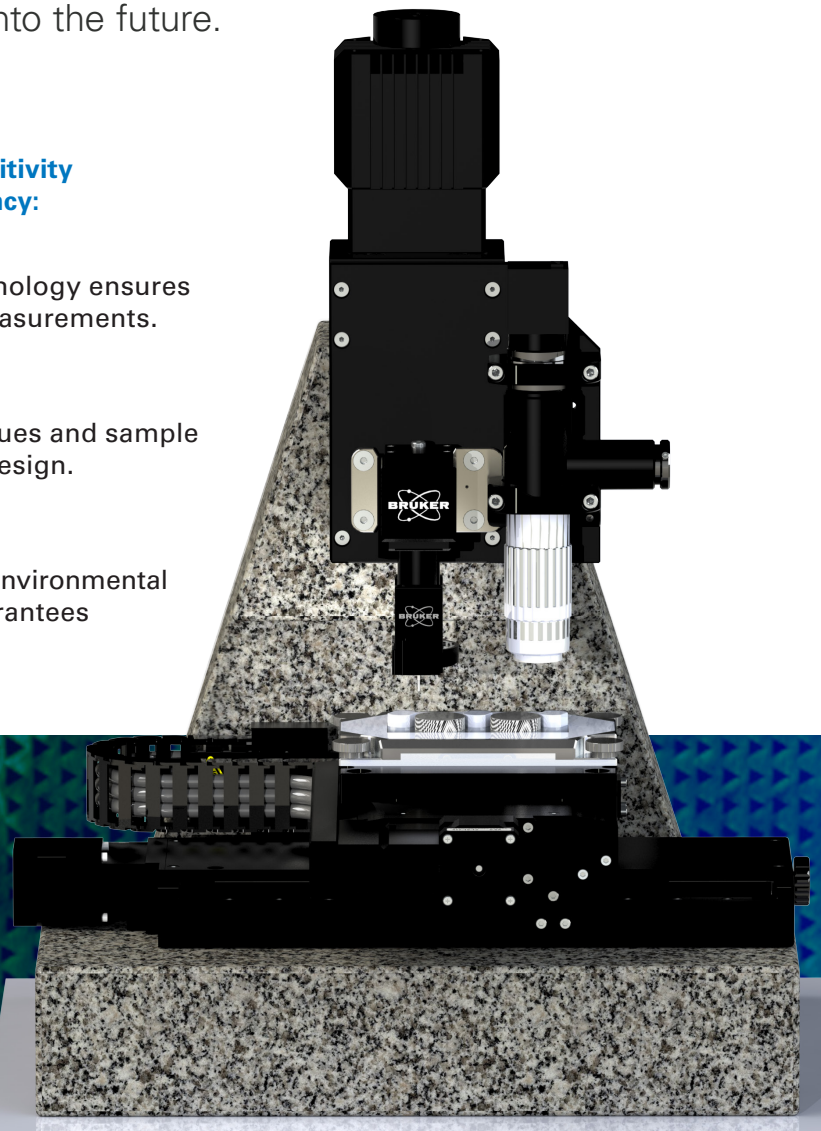
TI Premier II

Powerful Versatility for Widest Range of Testing Applications

The TI Premier II Nanoindenter offers a broad suite of mechanical and tribological techniques, delivering precision in nano- to microscale characterization. Leveraging proven Hysitron technology, TI Premier II provides a reliable and adaptable toolkit for comprehensive material testing and analysis. Its base configuration features advanced testing capabilities, the intuitive TriboScan 12 control software, and universal sample mounting. A modular design makes the system easily upgradable to include more specialized testing methods and environmental control as the needs arise. This makes TI Premier II an excellent value for researchers to meet the most challenging measurement needs today and into the future.

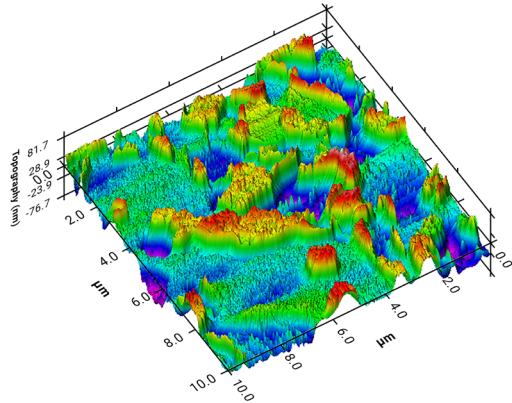
Only TI Premier II combines leading sensitivity and adaptability with automated efficiency:

- Advanced capacitive transducer technology ensures the most accurate and repeatable measurements.
- Best-in-class range of testing techniques and sample compatibility simplifies experiment design.
- New control software and integrated environmental isolation streamlines testing and guarantees reliable results.

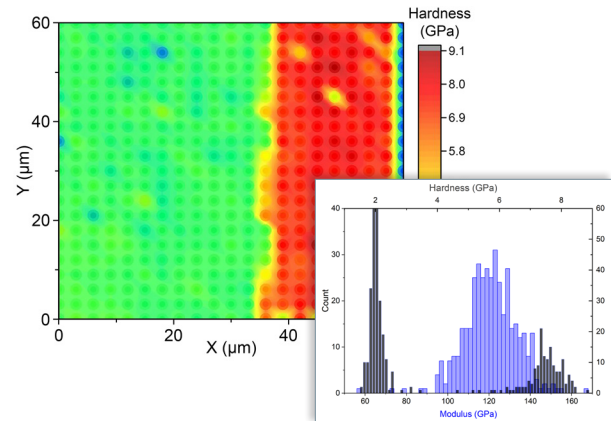


Integrated Capabilities for Your Experimental Flexibility

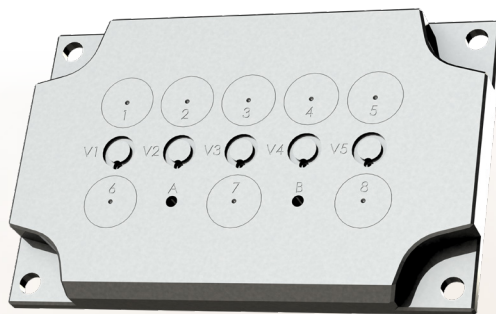
Nanoindentation testing on TI Premier II is highly sensitive and accurate due to proprietary capacitive transducer technology. It is capable of precisely and quantitatively measuring modulus, hardness, fracture toughness, strain rate sensitivity, creep, and stress relaxation.



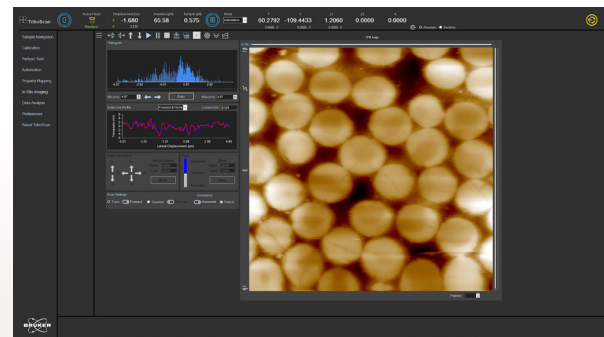
In-situ scanning probe microscopy (SPM) imaging allows for accurate test positioning and evaluation of material deformation. User-definable force setpoints enable imaging of both hard and soft materials.



XPM accelerated property mapping quickly maps mechanical inhomogeneity and provides statistically relevant datasets within minutes. Displacement-limited indentation ensures consistent sampling volumes and high-resolution data.

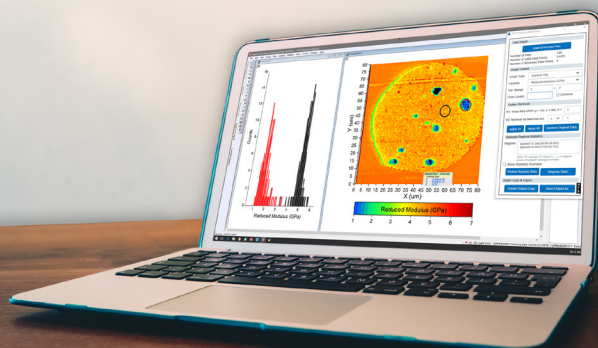


Universal sample mounting supports magnetic, mechanical, and vacuum mounting for a wide range of sample types. TI Premier II's stage accommodates various sample sizes and shapes, with pre-defined sample locations available to simplify system setup.



TriboScan™ 12 control software streamlines operation with an easy-to-use interface and customizable testing routines. The software includes pre-programmed tests and the ability to easily create custom tests for specific research needs. It also supports automated workflows for efficient operation.

Tribo iQ™ data analysis toolkit is built on a leading scientific analysis and graphing software engine. There are over 15 technique-specific applications available, including Indentation Explorer, Scratch Explorer, and Mechanical Property Mapping with Clustering.



Advanced Modules and Accessories to Expand Your Research

Nanoscratch	Simultaneous high-precision normal and lateral force measurements enable quantitative thin-film adhesion and friction measurements
nanoDMA® III	Dynamic testing technique with CMX provides quantitative measurements of elastic-plastic and viscoelastic properties as a function of indentation depth, frequency, and time
xSol® Heating	Patented 400°C, 600°C, and 800°C heating stages deliver high thermal stability, short stabilization times, and customizable gaseous atmospheres
xSol Cryo	Extends the xSol stage's temperature range to -120°C, featuring a purged micro-chamber to prevent sample condensation and icing
xSol Humidity	Enables precise nanomechanical testing under controlled temperature (25-75°C) and humidity (5-75% RH) conditions
Extended Force Transducers	High-bandwidth transducer expands testing range up to 10 N force and 80 µm displacement for micromechanical characterization of rough, thick, or hard films
nanoECR®	In-situ conductive nanoindentation correlates nanomechanical properties, material deformation behavior, and electrical characteristics of materials
xProbe	Rigid-probe MEMS transducer delivers ultra-low force and displacement noise floors typically associated with atomic force microscopes
Modulus Mapping™	Scanning dynamic nanoindentation mode creates quantitative, high-resolution maps of viscoelastic properties across a surface
Electrochemical Cell	Quantitative, in-situ measurements of nanoscale mechanical and tribological behavior under oxidizing and reducing conditions
Sample Chucks	Diverse range of magnetic, mechanical, and vacuum chucks secure almost any sample for testing
TriboAE™	Transducer with an acoustic sensor provides in-situ monitoring of acoustic signals generated from fracture and deformation events during nanoindentation

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