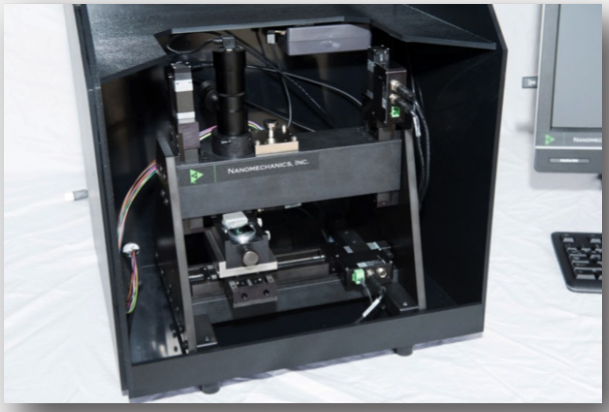
iMicro™

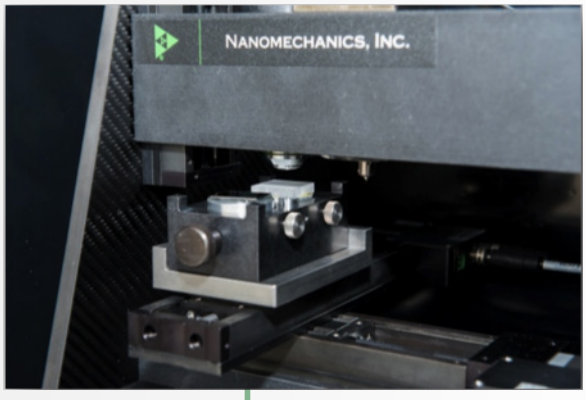
High Force, High Resolution Nanoindentation

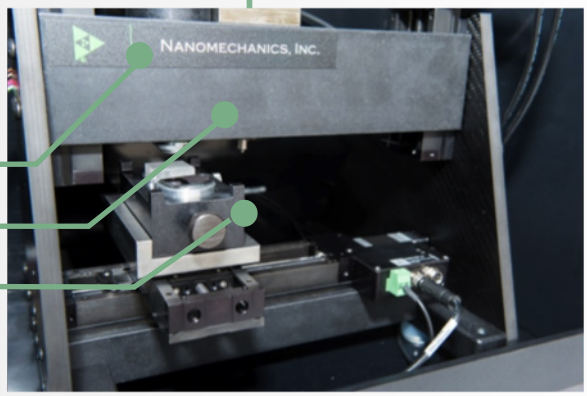
The iMicro™ nanoindenter is made easy and affordable by offering repeatability, accuracy and precision at a price that puts high force nanoindentation capability into reach for any lab's budget, from leading universities to high tech companies.

By offering the highest performing and most capable mechanical characterization on the market, at an affordable price, we offer our customers the capability to perform accurate testing on a wide range of materials, while remaining true to the principle of getting more for less.

iMicro by Nanomechanics, Inc. brings cutting edge technology to research labs across the world in a user-friendly, small footprint, dynamic package that can have you running precise experiments at large loads with highly accurate data in less than 2 hours.







Remote Operation

Automatic Tip Calibration

InForce 1000 Actuator

Optical Microscope

Sample Mounting

NANOMECHANICS, INC.

iMicro Capabilities

Ease of Use

Every element of the iMicro is designed to provide lab technicians and researchers with an easy-to-use tool for characterizing their materials and products. From its innovative magnetic sample loading system to its industry leading software, iMicro makes experiments simple and allows for mistake-free, high throughput mechanical testing that is required by today's leading labs.

By eliminating the need for advanced test setup and complicated software exchanges, iMicro is perfect for the first time user looking to prove their product or the seasoned scientist trying to unlock the best results for their research all while offering the best quality data available on the market. iMicro was built with the sole purpose of keeping world-class nanoindention **simple.**

Great Return on Investment

For users in industry, the important questions is always "how will my lab tools make me money?" iMicro answers the call by providing a device for characterizing both materials and products to give researchers the capability to control the quality, characteristics and performance of their products. Its cost effective design allows labs to stretch their budgets by eliminating the need to use third party contract laboratories to get the data they need, and allows for an unlimited number of tests to be done in-house. This also eliminates the lengthy time delays of shipping samples and waiting for results.

High Performance

Researchers worried that an easy-to-use, affordable nanoindenter is a de-tuned tool can rest assured that iMicro is anything but. iMicro uses leading edge technology developed by the inventors of the nanoindenter and provides for world-class specifications and best-in-industry performance. With available data acquisition speeds of 100 kHz and industry leading 20 micro second time constants, iMicro not only gives you the best data but also the most data points per dynamic experiment. With 1000 mN of force and 80 microns of displacement, iMicro also offers the best possible range of experiments and applications.

Flexible Applications

Whether you are a scientist in an industrial laboratory or a researcher in an academic environment, iMicro provides a wide range of applications including:

- Coatings and surface treatments
- Metals, ceramics and polymers
- Composites
- Biomaterials
- MEMS and Nanostructures

Multi-Purpose Instrument

With flexibility in mind, iMicro allows for a wide range of tests including, but not limited to:

- Modulus and Hardness (Oliver and Pharr Model)
- Crack initiation and growth
- Frequency specific testing
- Constant Strain Rate and Constant Loading Rate
- High load indentation with dynamics

Robust Design

Downtime is a killer and iMicro helps you avoid it. Built to be robust and dependable, iMicro's design will hold up for test after test, giving you the confidence to run your system like you run your lab — at maximum capacity. With an industrial aluminum gantry, capable high force actuator and reliable software, iMicro won't let you down when your research needs require high accuracy experiments or long-term repeatability.

ACTUATOR SPECIFICATIONS	
Displacement Measurement	Capacitive Gauge
Displacement Range	80 microns
Displacement Resolution (electronic)	0.04 nm
Typical Noise	< 0.25 nm
Load Application	Electromagnetic
Maximum Load	1000 mN
Load Resolution	6 nN
CONTROLLER SPECIFICATIONS	
Data Acquisition Rate	100 kHz
Closed Loop CPU Control Rate	500 Hz
Dynamic Excitation Frequencies	0.1 Hz – 1 kHz

Contact Nanomechanics, Inc. today to find out how you can add the capabilities of nanoindentation to your lab in as little as 3 days.

NANOMECHANICS, INC.

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