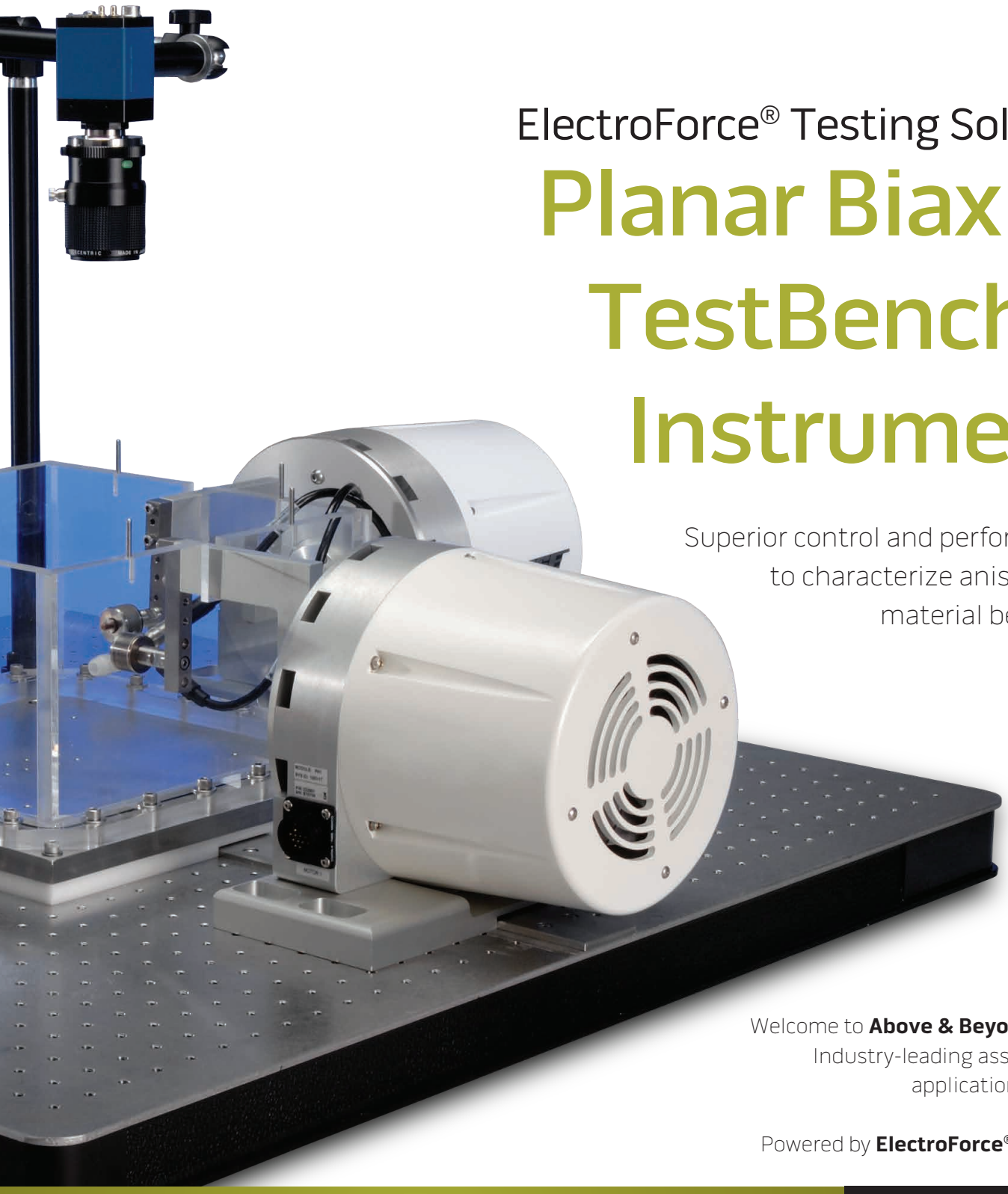
ElectroForce® Testing Solutions

Planar Biaxial TestBench Instrument

Superior control and performance
to characterize anisotropic
material behavior



Welcome to **Above & Beyond**™ Support
Industry-leading assistance from
application specialists.

Powered by **ElectroForce®** Technology

Your success. Our mission.™

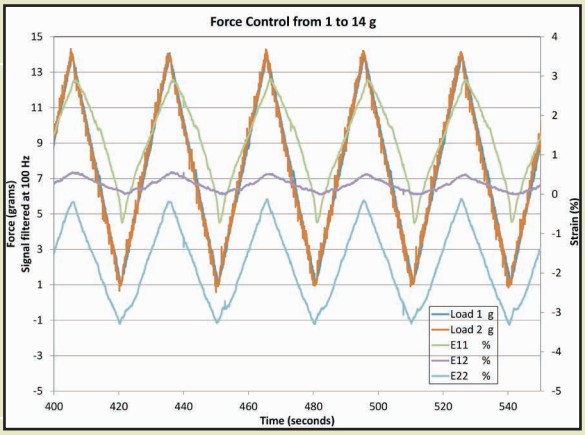
TA ElectroForce®

The ElectroForce® Planar Biaxial TestBench instrument offers unparalleled performance for material and soft tissue characterization. Assess mechanical anisotropy and non-linear stress-strain relationships in samples that range from engineered devices, including wearable sensors and wound repair meshes, to tissues such as skin, pericardium, and heart valve leaflets.

Superior performance

Choose parameters for your test protocol without compromising accuracy, including:

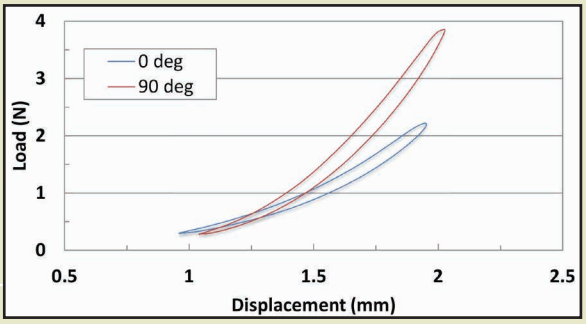
- Force
- Displacement
- Frequency
- Wave shape (loading profile)



Controllability

Precisely characterize different materials by controlling specific experimental parameters, including:

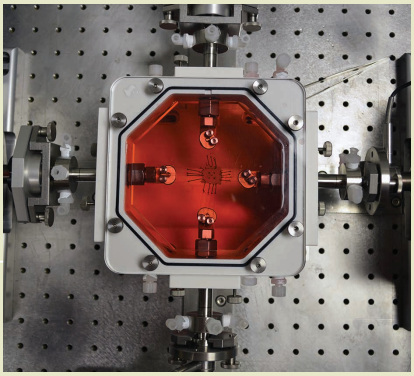
- Load control
- Displacement control
- Strain control with Digital Video Extensometer (DVE)
- Independent or synchronized control of actuators



Tailored for specific research needs

Integrate 2 or 4 frictionless linear motors on a baseplate and add accessories such as:

- Hook or clamp tensile grips
- Heated saline bath
- Sterile BioDynamic® chamber
- Extended stroke and torsion actuators



Integrated non-contact strain measurements

Perform two-dimensional strain measurements in a physiologically-relevant environment with the DVE:

- Primary, secondary, and transverse strains
- Strain marker coordinate data output for modeling

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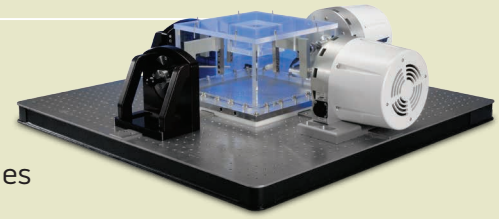
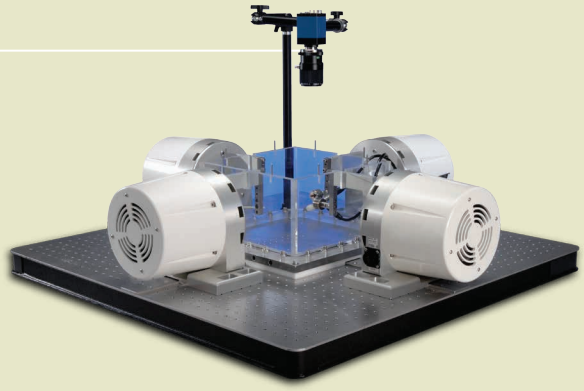
Versatility



Perform a variety of tests, whether you are studying biomedical, mechanical, or material engineering, such as:

- Develop constitutive models to better predict material behavior
- Compare mechanical properties of biomaterials to biological tissues
- Assess anisotropy, nonlinear stress-strain relationships, and viscoelasticity
- Perform fatigue testing on medical devices and sensors over billions of cycles

Product specifications (4-motor configuration)*



- Dynamic force: ± 200 N (± 400 N option available)
- Static force: ± 140 N
- Displacement: 25 mm
- Frequency: 0-100 Hz
- Calibrated sensor accuracy
  - Displacement calibrated to ASTM E2309, Class A Displacement Measurement error
  - Force calibrated to ASTM E4
- Baseplate dimensions: 914 mm x 914 mm x 50 mm

Above & Beyond™ support

Experience industry-leading assistance from application specialists, including:

- 10-year motor warranty
- Unlimited phone technical support
- Protocol development assistance
- Calibration and data control
- Free online training sessions

**Specifications subject to change.*

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The Planar Biaxial TestBench Instrument is versatile and has several accessories to further customize the instrument to align with your research needs. Find out more at electroforce.tainstruments.com

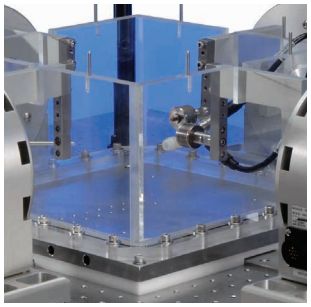
Grips

Hook and clamp tensile grips

Digital Video Extensometer

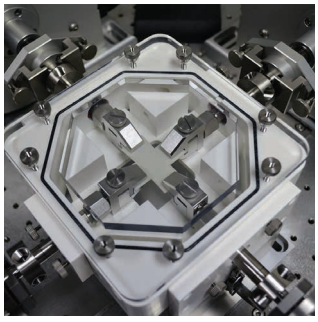
Standard (640 x 480) and high (1024 x 1024) resolution options

Heated Saline Bath



Temperature control from ambient to 45° C

BioDynamic® Chamber



Sterile cell culture bioreactor

Specifications subject to change.

WinTest® software add-on packages are available, including Dynamic Mechanical Analysis (DMA) and custom waveform importation. Accelerometers for dynamic load compensation can also be added.

The ElectroForce® friction-free moving-magnet linear motor provides high performance across a wide force and displacement range, and offers the only 10-year warranty in the industry. Bose test instruments are designed to accommodate creep and stress-relaxation testing, monotonic tensile and compression testing, high-cycle fatigue and durability testing, and multi-sample and multi-axis testing.

Ask your ElectroForce representative for more information about ElectroForce test instruments and software.

Testing Solutions for

Biomaterials ▪ Medical Devices ▪ Engineered Materials

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