

The Mach-1™ offers extensive testing possibilities and meets the distinct needs of groups across a vast array of scientific fields.

Mach-1™ Models

- V500c
- V500cs
- V500ct
- V500cst
- V500css

c = compression/tension
s = shear
t = torsion

Application Examples

- Automatic indentation and thickness mapping
- Wound healing evaluation
- Biaxial stimulation of cultured cells
- Cartilage repair assessment
- Mechanical evaluation of beads and hydrogels

Visit Our Website for:

- Other application examples
- Specifications
- Scientific publications
- Recent and upcoming events
- An interactive approach to configuring your future Mach-1™ equipped with stages and accessories

Contact Us for:

- Configuration suggestions
- Additional information and quotation

MACH-1™

Micromechanical Systems



The Mach-1™ is a micromechanical testing system commercially available since 1999. Originally developed for cartilage testing, this [multiple-axis tester](#) is used in various configurations to evaluate the mechanical properties of [tissues and soft materials](#). Due to its [modular design](#), [small footprint](#) and [customization features](#), the Mach-1™ offers versatility in numerous biological, biomaterial, and material testing applications.

Benefits and Characteristics

- Performs [high-precision, multiple-axis](#) testing in a wide range of experimental configurations.
 - ▷ [Compression, tension, shear, and torsion](#) tests in various modes including dynamic, static, and waveform loading.
- Fits within a [standard culture incubator](#) for characterization and [mechanical stimulation](#) of tissue-engineered constructs.
- [User-friendly software](#) for effective data collection and simplified analysis.
- Deemed an excellent [educational tool](#) for students.
- Occupies little laboratory space, and is easy to lift for convenient re-location.
- Accurately characterizes specimens with [low mechanical properties](#) or with dimensions falling within the micrometer to centimeter range.
- Wide selection of [standard and custom-designed accessories](#).
- Complemented by a [team of scientific experts](#) to assist with Mach-1™ configuration options, protocol preparation, and customized accessory design



Hardware and Software Features

- Unique configuration options allow for [easy upgrades](#) of any model to include additional stages for X-Y displacement, angular orientation, and/or measurement of six components of force and torque.
 - ▷ Up to [three machine-driven stages](#) and numerous [manual stages](#).
- Each Mach-1™ includes complementary software:
 - ▷ [Mach-1 Motion](#) displays real-time measurements of all displacements, forces and torques, controls the user-defined test sequence and saves the results as a text file.
 - ▷ [Mach-1 Analysis](#), which can be installed on several computers, easily processes the collected data.
- Data can also be imported into third-party software for further analysis.
- Product is supported by a [24-month hardware warranty](#), free software upgrades within 2 years of purchase, and on-going customer assistance.
- Biomomentum also offers on-site installation and [specialized training](#).



Model V500cst