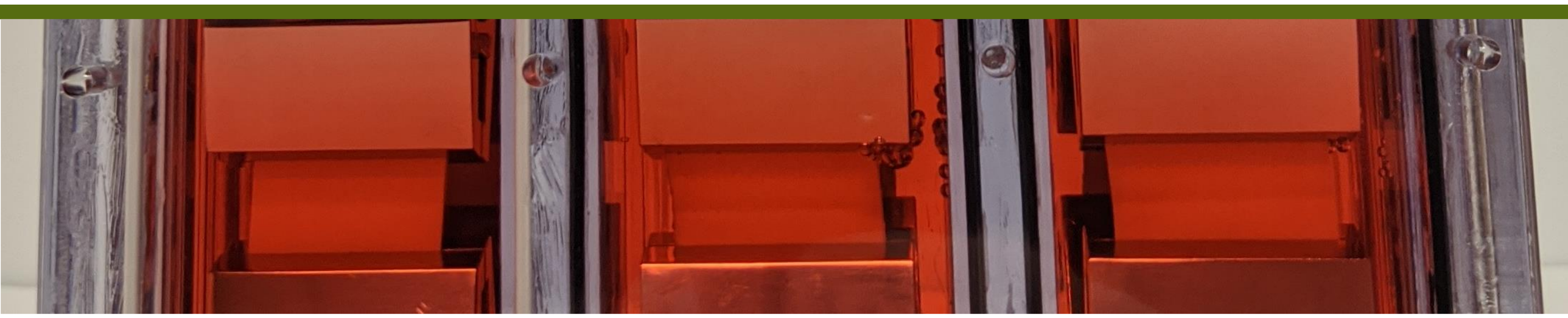
CellScale
biomaterials testing

MechanoCulture J1



The MechanoCulture product group allows researchers to culture cells in a mechanically active environment. On-board controllers enable PC-independent execution of user-defined motion protocols in an incubator environment.

The MechanoCulture J1 is capable of running 6 cyclic mechanical stimulation tests on a variety of tissues, scaffolds, and constructs. Each test chamber is equipped with its own actuator and force sensor running an independent test protocol. During the tensile stimulation, the system can monitor the force-displacement data in order to determine the stiffness profile of each specimen as a function of time. The well plate is highly polished to allow visual confirmation of proper specimen loading during setup and throughout the test.

Key Features:

- 6 independently-programmed test protocols
- 6 force/displacement data outputs with onboard data storage
- Load cell options: 10N, 20N, 50N, 100N
- 25mm actuator travel
- Spring-closure specimen grips with adjustable gripping force
- Ports for fluid exchange in each well
- Autoclavable chambers
- Fluid-cooled incubator-compatible design
- PC-independent operation
- Software for specifying simple, cyclic, and intermittent stimulation protocols

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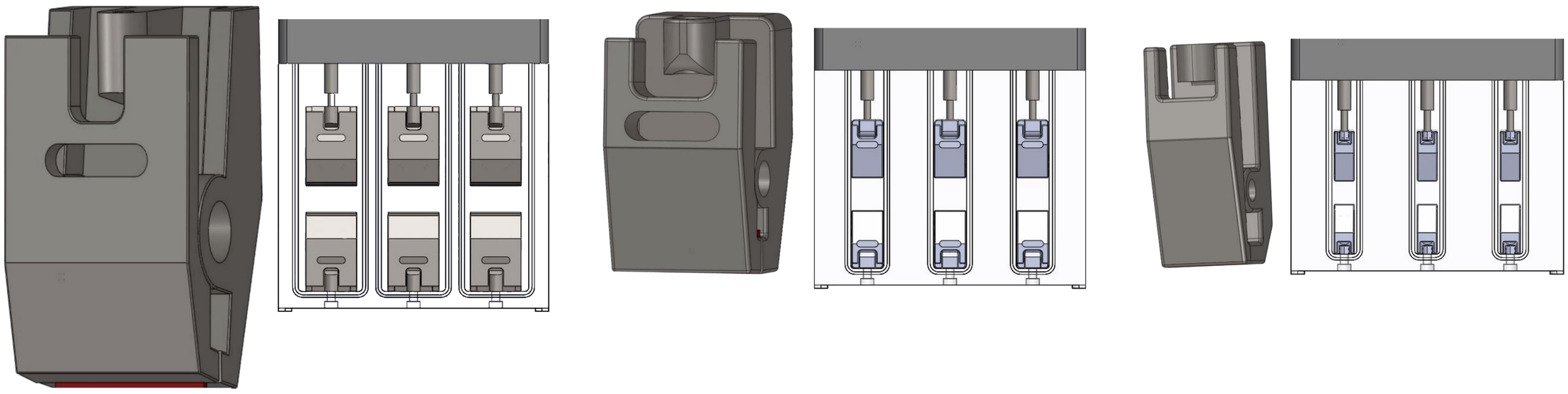
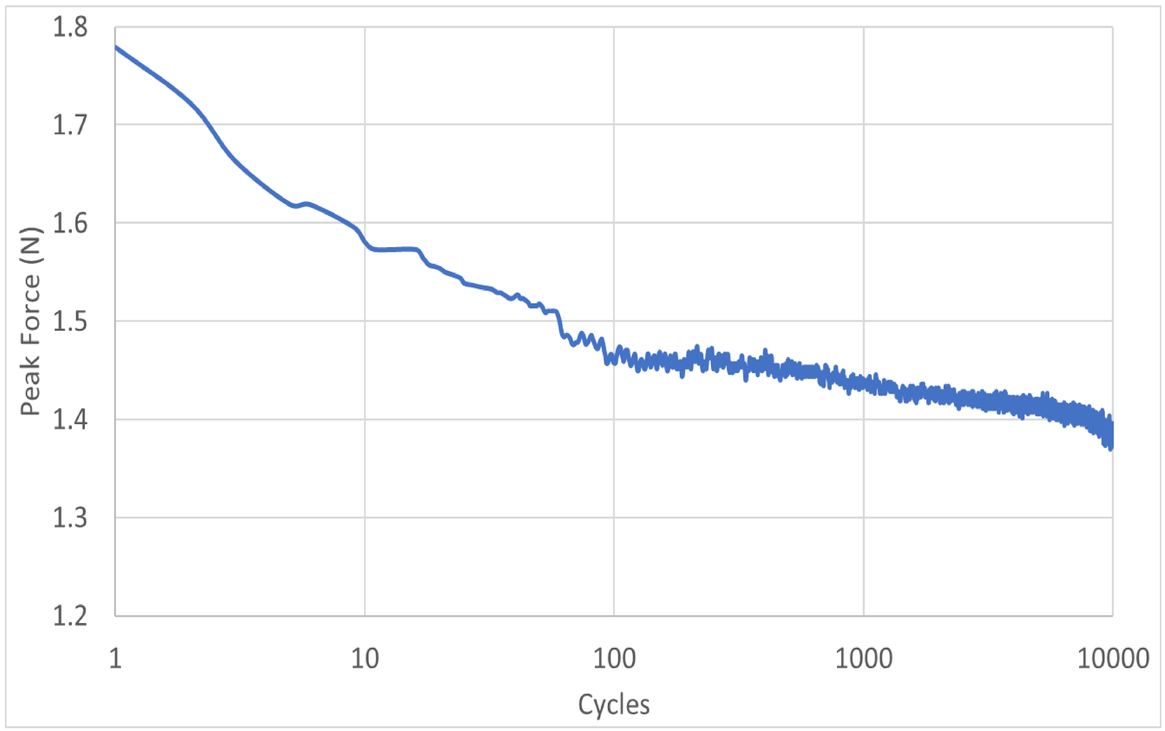


The MCJ1 Specimen Grips come in 3 standard sizes that are paired with matching specimen chambers. The clamping force of each grip can be adjusted by changing out the grip spring. Spring-closure grips ensure consistent clamping force from test-to-test and during each test. Customizations to the standard grips and chambers is readily available to meet research needs.

	Large	Medium	Small
Width (mm)	38	19	12
Clamping Force Range (N)	1-120	1-55	1-20
Well Volume (mL)	150	60	30
Maximum Grip Separation (mm)	55	42	39
Maximum Grip Opening (mm)	7.5	4.0	3.0
Grip Jaw Surface (other options available)	Smooth	Smooth	Smooth

The MCJ1 Specifications are shown in the table below on the left. On the right is a graph showing the peak force vs number of cycles for a viscoelastic polymer specimen during a cyclic displacement-controlled test. This graph highlights the MCJ1's capability to measure mechanical properties such as stiffness, peak force, or cycles to failure.

Dimensions	16.5 x 11.5 x 30 cm
Weight	7 kg
Actuator Stroke	25mm
Available Load Cells	10, 20, 50 and 100 N
Force Accuracy	0.2% of transducer capacity
Maximum Velocity	4 mm/s
Maximum Cycle Frequency	2 Hz



CellScale Biomaterials Testing is the industry leader for precision biomaterial and mechanobiology test systems. Our products are being used at world-class academic and commercial organizations in over 30 countries around the globe.

Our mechanical test systems allow researchers to characterize the mechanical properties of biomaterials. Our mechanobiology technologies provide insights into the response of cells to mechanical stimulation.

CellScale's technologies are improving human health by helping researchers discover the causes of disease, improve medical treatments and devices, and advance regenerative medicine and other basic science research.

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