

BiSS bioreactors provide a controllable, 3D environment for stimulating physiological conditions in vitro. DynaGen bioreactors provide a controlled, 3D environment for stimulating physiological conditions on your benchtop. The DermiGen system imparts both static and oscillatory tensile stimulation in a unique air/media interface to reveal cell function, to improve the quality of engineered tissues, or to act as a test bed for drug testing.

Chambers

Fabricated out of bioinert, autoclavable materials, the DermiGen bioreactor chamber delivers both static and oscillatory tensile stimulation. The chamber's unique design provides an air/media interface to facilitate cell co-culture and the development of skin-like products. The chamber assists media perfusion/flow along the underside of the construct while deterring media from spilling onto the topside. A unique seal provides a mechanical feed-through into the chamber, while facilitating axial motion in a sterile environment with minimal resistance. Mechanical clamp grips with a soft lining provide secure positioning of the sample.

D70-1 Chamber

- Sample Length - 45 - 70 mm
- Sample Thickness - 0.1 - 2 mm
- Sample Width - 20 mm

Mechanical Stimulator

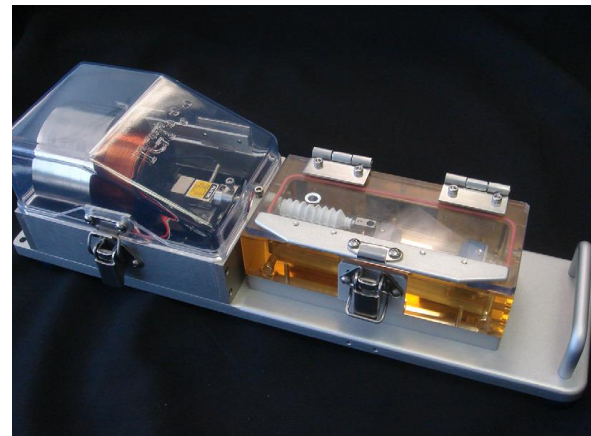
The DermiGen bioreactor system includes the ST tension/compression mechanical stimulator. Featuring a servo electric motor with an integral dry bearing, the stimulator is lightweight, compact, corrosion resistant, and compatible with most standard incubators. The ST stimulator controls both load and displacement, and its compact size allows four stimulator and chamber units to fit on a standard incubator shelf.



DermiGen Bioreactor Chamber

GrowthWorks® Control System

This intuitive software runs on Windows® OS and features a simple user interface. User-defined stimulation profiles are controlled by the software and readily monitored using graphical displays. Integrated data acquisition routine capture and record data at user prescribed intervals. The controller and integrated motor drives, communicates with the laptop using a network cable. GrowthWorks can be configured to run four stimulators and monitor up to 8 transducers, allowing the researcher to customize the system functionality. The controller can be customized with additional modules for applications requiring automation features or additional axes of mechanical stimulation. Simple and adaptable, GrowthWorks provides an ideal control platform for mechanically stimulated tissue growth.



DermiGen Bioreactor Chamber and Stimulator

Stimulator Specifications

Height	mm	72
Foorprint (L x W)	mm	420x115
Peak Force	N	44
Continuous Force	N	20
Weight	kgs	2.2



Tissue Growth Technologies (TGT), a premier supplier of commercial bioreactors to grow and stimulate developing tissues is now part of BiSS. With this, BiSS will be providing solutions for tissue engineering and regenerative medicine fields.

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