DynaGen® Series - CardioGen

Pressure Stimulation Bioreactor




DynaGen® bioreactors provide a controllable, 3D environment for stimulating physiological conditions on your benchtop. The CardioGen imparts mechanical pulsatile pressure to a heart valve. Applications include investigating cell function, modulating the growth and development of engineered tissues, or acting as a test bed for drug and regenerative medicine technologies.

TGT
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CardioGen Bioreactor System

Chambers: The CardioGen bioreactor chamber accommodates pulsatile and shear stress stimulation for a single valve construct. Standard construct sizes may range from 9 to 21 mm inner diameter and from 50 to 80 mm long. The modular design facilitates scaffold installation and cell seeding separate from the stimulation system. Multiple ports are available for media access, catheter probe insertion, sample collection, or further instrumentation. The autoclavable chamber has a volume of 430 mL.

Grip Options: Grip placement can accommodate both pulmonary valves with straight downstream vessels and aortic valves with angled downstream vessels. The barbed stainless steel fittings utilize either sutures or clamps to fix the construct in place. Standard barb sizes range in size from 9 to 21 mm and are interchangeable using a universal connector system.

DynaGen® Stimulator: The LumeGen bioreactor system includes the 6Vr pulsatile pressure mechanical stimulator. The 6Vr stimulator features a 40 newton linear motor that is lightweight, compact, corrosion resistant and compatible with most standard incubators. This stimulator employs pressure control to deliver user defined sine pressure wave forms of physiological magnitude, with a maximum pressure of 200 mmHg. The 6Vr is integrated with a computer controlled mean flow pump and is capable of low (0 - 100 mL/min) or high-flow (100 - 800 mL/min) configurations.

Stimulator Specifications:

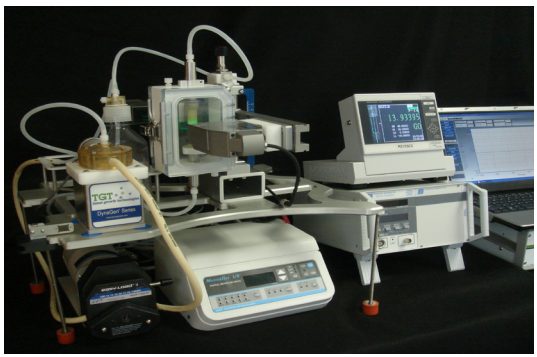
Dimensions: 6"H x 4"W x 4"D Weight: 4.6 lbs.

GrowthWorks® Control System: A fifth generation design, the GrowthWorks® Software and control platform includes advanced capabilities, such as multiple waveform control, data aquisition and multi-motor operation. The intuitive software runs on a laptop computer under Windows XP and features a simple user interface. User defined stimulation profiles are controlled by the computer and readily monitored using graphic displays. Integrated data aquisition routines capture and record data at user prescribed intervals.

Featuring a 32 bit Intel based CPU and integrated motor drives, the control hardware 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.

Straightforward and adaptable, GrowthWorks® provides the ideal control platform for mechanically stimulated tissue growth.

Visit our website for the full line of TGT bioreactors and accessory products: www.tissuegrowth.com



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