

IonOptix C-Stretch CSU100



Overview

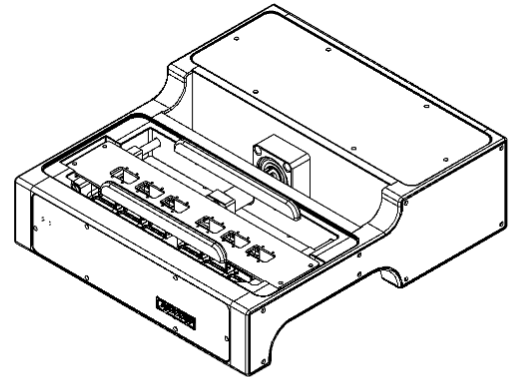
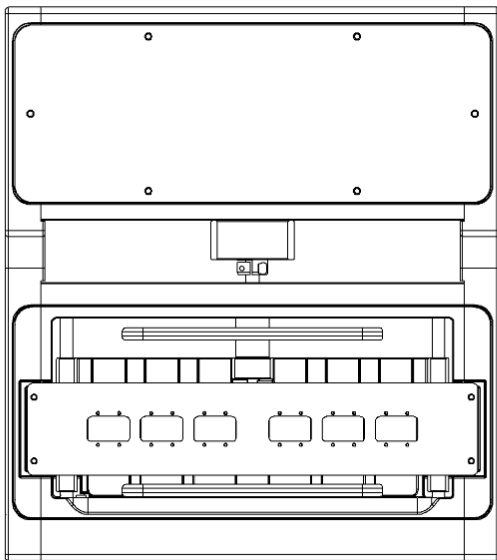
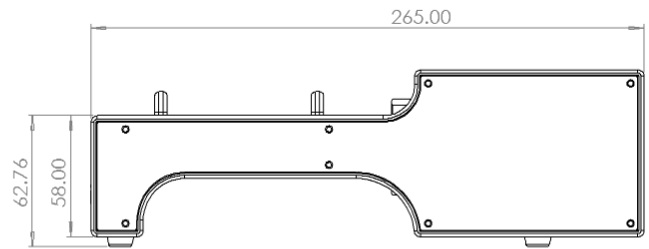
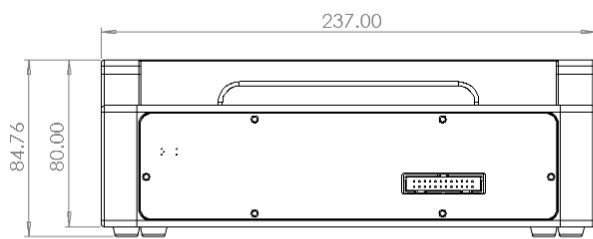
IonOptix culture pacing systems can be equipped with our C-Stretch module to allow simultaneous electrical and mechanical stimulation of cells in culture. Normal muscle tissue develops from immature cells grown under mechanical load and electrical activity. The C-Stretch has been designed to work in combination with our next generation culture stimulator, the C-Pace EM, a multichannel stimulator enabling chronic excitation of bulk quantities of cultured cells in incubators along with control over pulse duration and voltage, insertion of periodic off beats, and programmable frequency changes.

The C-Stretch is composed of a micro-stepping motor driving a tray holding up to 6 PDMS chambers. The motor tray forms the structural support to hold 24 vertical pins (4 per chamber). A circuit board with protruding carbon stimulation electrodes is aligned magnetically in the C-Stretch to position the board and provide electrical contact. The carbon electrodes are attached to the underside of the board, positioning the electrodes in the chamber wells where they sit immersed in the culture media. The 26-pin connector's housing and pins allow voltage to pass from the C-Pace EM high voltage boards to the C-Stretch via a ribbon cable that can be passed between the tissue culture incubator's gasketed door and the incubator itself. When the ribbon cable is plugged in, the motor and electrodes are electrically connected to the culture pacer. Current flow in the chamber is guaranteed to be zero between pulses. Temperature probes are positioned in four regions of the C-Stretch to provide chamber temperature feedback as well as the temperature of critical areas surrounding the electronics and motor of the device.

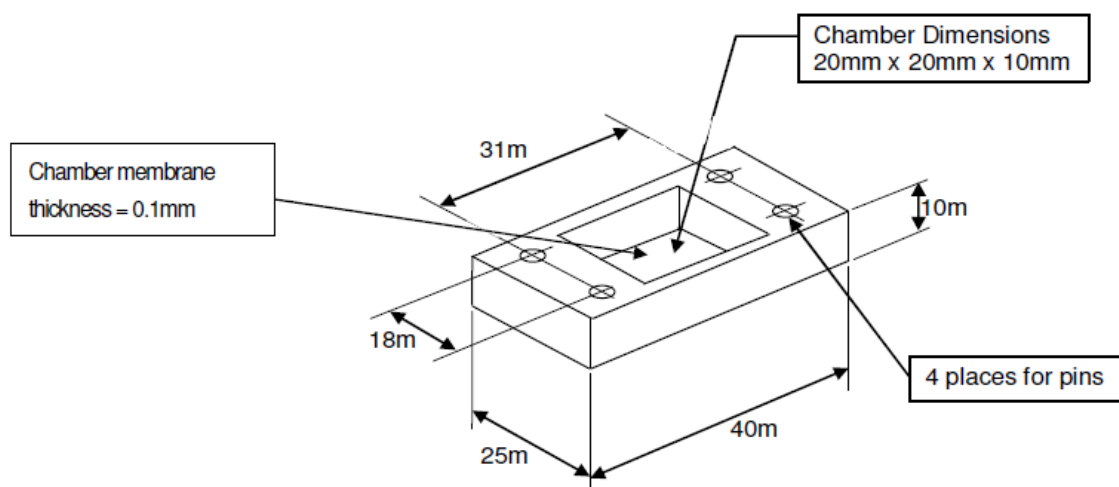
Specifications

Name	Value	Units
Length	265.00	mm
Width	237.00	mm
Height	84.76	mm
Weight	4263.77	g
Voltage	0-40	V
Current	1.3	A

Schematics



C-Stretch dimensions in mm.



The C-Stretch is designed to accommodate the Strex SC-0040 chamber insert shown here.

Accessories

IonOptix provides the following parts upon request.

Part Number	Description
CSU-ELEC	Electrode plate for C-Stretch™ unit
CSU-W10	Strex® PDMS chamber wells for C-Stretch™ unit (10/pack)
Z-PCB-CST-LO	C-Stretch electrode PCB longitudinal orientation
Z-AF-CSU-DON	C-Stretch Dongle
Z-AC-CEM-SD	C-Pace EM to C-Stretch Dongle cable
Z-AC-CSD-CSU	C-Stretch Dongle to C-Stretch unit cable