

# ADITUS™ Medical CythorLab™

## Technical Specifications

<b>Progress Monitor</b>	Patented method for continuous impedance measurement determines the degree of electroporation and stops the electroporation process consistently, at the exact right time, in vivo or in vitro.
<b>Modes of Operation</b>	The electroporation is based on the information from the Progress Monitor and stops the process automatically when either or all of several different criteria has been met: <ul style="list-style-type: none"> <li>• The absolute impedance has reached the specified target</li> <li>• The relative impedance has reached the specified target</li> <li>• The Z-difference has reached the specified target</li> </ul>
<b>Built-in Safety Features</b>	Separate microprocessor for fault management will shut down high voltage module during: <ul style="list-style-type: none"> <li>• Short circuit</li> <li>• Arcing</li> <li>• DC offset</li> <li>• High temperature</li> </ul> High voltage output relay will electrically insulate the external connector from the internal high voltage generator when not in use. Double enable required to active high voltage relay
<b>Output Voltage Range</b>	0 – 600 Vpp 0 – 3000* Vpp
<b>Output Pulse Lengths</b>	0 – 600 Vpp: up to 400 ms 0 – 3000* Vpp: up to 5 ms
<b>Pulse Charge Time</b>	0 – 600 Vpp: None, as long as the total pulse sequence is shorter than 400 ms 0 – 3000* Vpp: None, as long as the total pulse sequence is shorter than 5 ms
<b>Output Pulse Types</b>	Bipolar (minimizing the risk of electrolysis) or Mono-polar
<b>Output Wave Forms</b>	Any, not limited to the regular mono-polar square- or exponential decay pulses. An on-line library, PulseLib™ is available with a large selection of the most common pulse shapes. Using the optional PulseEdit™ module, the user can create any arbitrary pulse shape that an experiment requires
<b>Cell Types</b>	Any
<b>Cuvette Connection</b>	Standard
<b>Control Software</b>	CythorLab comes with a Powerful and Easy-to-Use control software running under standard MS-Windows. The software can be upgraded with optional software modules (see below).
<b>Connectivity</b>	Electroporation: LEMO 1S.306 connector, supporting IP50 protection index Computer: USB Accessories: RS-232 (serial)
<b>Warranty</b>	12 months limited warranty
<b>Compliances</b>	CE Approval, FCC Class A subpart B
<b>Environment</b>	10 – 40°C, 15 – 85% relative humidity, non-condensing
<b>Input Voltage</b>	Auto-sensing 95 – 250 VAC, 47 – 63 Hz
<b>Power consumption</b>	200 W (fuse 115 VAC 2.5A Slowblow)
<b>Dimensions (W x D x H)</b>	395 x 442 x 126 mm (15.6 x 17.4 x 5.0 in), shipping: 900 x 600 x 300 mm (35.4 x 23.6 x 11.8 in.)
<b>Weight</b>	16 kg (35.3 lb.), shipping: 25 kg (55.1 lb.)
<b>Host System Requirements</b>	IBM PC compatible with USB connection and CD-ROM drive Pentium processor, 400 MHz or better with at least 64 MB RAM running Windows 2000 or XP
<b>Included Equipment</b>	CythorLab electroporation unit, User Guide, CD-ROM containing software and electronic user guide, power cord, 1.5 meter (5 ft.) USB cable
<b>Optional Equipment</b>	Cuvette chamber with connection cable for use with standard 12 x 12 mm cuvettes Pre-sterilized cuvettes (package includes 50 units – please specify 1, 2 or 4 mm gap) Electroporation electrode High Voltage Module PulseLib™ - On-line library with pre-defined pulse shapes PulseEdit™ - Software module used to create and edit your own unique pulse shapes CythorPlan™ - Simulation module to visualize the effect of electroporation prior to the experiment

\*) Optional voltage range using the High Voltage Module, HVM