



Gemini X2 and X2 HT Twin Wave Electroporators

The Gemini Twin Wave Electroporators are flexible systems allowing both square wave and exponential decay wave electroporation in a single unit. Prokaryotic cells typically respond well to exponential decay wave pulses and eukaryotic cells are transfected most efficiently with square wave pulses. Combining these two waveforms gives researchers total flexibility to achieve the highest efficiency for their applications.

Gemini X2 and Gemini X2 HT

The Gemini X2 system provides the ultimate experimental flexibility. This one easy setup allows for transfections in cuvettes or high throughput plates, or the capability to utilize the wide variety of BTX specialty electrodes for specific applications. In addition, Gemini X2 electrical output specifications are wide-ranging, making it the most versatile electroporation system available today.

Key Features

- Square wave and exponential decay wave electroporation in a single unit
- Multiple pulsing capabilities in both square and exponential decay waveforms
- Large, easy-to-use touch screen interface
- Universal electroporation – transfects cells in vitro, in vivo, in ovo and adherent forms
- Preset protocols for the most common eukaryotic and prokaryotic cell types and the ability to add and modify protocols
- Safety—displays resistance measurements for each pulse with three layers of arc protection
- Data management—stores logs of every pulse delivered for QC and troubleshooting

Applications

- CRISPR transfections
- Suspension cells and adherent cells
- Transfection of eukaryotic cells and transformation of prokaryotic cells
- In vivo, In ovo, and In utero gene and drug delivery
- Tissue explants
- High-throughput electroporation

Specifications

| | Gemini X2 |
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| Voltage Range | LV Mode: 5 to 500 V in 1 V steps HV Mode: 505 to 3000 V in 5 V steps |
| Capacitance (Exponential Decay Wave) | LV Mode: 25 to 3275 μ F in 25 μ F steps HV Mode: 10, 25, 35, 50, 60, 75, 85, μ F |
| Resistance (Exponential Decay Wave) | LV Mode: 25 to 1575 Ω in 25 Ω steps HV Mode: 50 to 1575 Ω in 25 Ω steps |
| Maximum Time Constant (Exponential Decay Wave) | 5 s at 500 V peak 133 ms at 3,000 V peak |
| Pulse Length Range w(Square Wave) | LV Mode: 10 to 999 μ s in 1 μ s steps LV Mode: 1 to 999 ms in 1 ms steps HV Mode: 10 to 600 μ s in 1 μ s steps |
| Operational Status | Internal self-test upon start-up |
| Interface | 7 in color touchscreen |
| Input | 100 to 240 VAC |
| Charge Time | LV mode <7 s, HV mode <4 s |
| Programmability | Store over 1000 protocols |
| Safety | Pre-pulse sample resistance check, pulse over current protection , instrument arc control |

Ordering Info

| Item No. | Description | Included Items |
|----------|---|---|
| 45-2040 | Gemini X2 Electroporation System | Gemini X2 Generator, Safety Dome, Cuvettes 1 mm, 2 mm, 4 mm, pkg. of 30 (10 each), and Cuvette Rack 660 |
| 45-2041 | Gemini X2 Electroporation Generator Only | Gemini X2 Electroporation Generator Only |
| 45-2044 | Gemini X2 High Throughput System, 96-well with HT-200 | Gemini X2 Generator, Safety Dome, Cuvettes 1 mm, 2 mm, 4 mm, pkg. of 30 (10 each), and cuvette Rack 660, HT-200 Plate Handler, 2 mm gap HT plate, and 4 mm gap HT plate |