BTX®
HARVARD APPARATUS

ECM® 630 Generator

TECHNICAL SPECIFICATIONS

FEATURES

- The generator utilizes the new BTX Power Platform Technology design and novel digital user interface
- The revolutionary Precision Pulse™ System provides the researcher unparalleled power in controlling the time constant
- With the ability to deliver a maximum of 6000 A in the Low Voltage Mode, the ECM® 630 is the most powerful generator in its class
- Voltage range of 10 V to 500 V with 1 V resolution and 1 µF, 25 µF to 3275 µF in 25 µF increments. 25 µ to 1575 µ, 25 µ resolution with "none" setting
- Voltage range of 50 V to 2500 V with 5 V resolution and either 25 µF or 50 µF, 25 µ to 1575 µ with 25 µ resolution
- Over 300 BTX protocols may be duplicated with this instrument
- The additional ECM® 630 resistor selection "none" will allow researchers to reproduce protocols from competitive systems lacking resistor settings or reporting "unlimited" resistance
- The ECM® 630 will perform the widest range of electroporation applications among commercially available electroporation generators

APPLICATIONS

- Transformation of Bacteria and Yeast
- Transfection of Mammalian Cells
- Transfection of Plant Tissue & Plant Protoplasts
- High Throughput 96- & 25-Well Electroporation

The ECM® 630 is an exponential decay wave electroporation generator providing a broad range of voltage and time constant for full flexibility in varying applications. The ability to select the resistance and capacitance values and adjust the range of voltages is the key to achieving the optimal time constants and field strengths needed for efficient transformation of prokaryotes and eukaryote transfection. This system is an outstanding value for researchers working with bacteria, yeast, stem cell transfection, plant transformation and insect transfection. Flexibility is important to a researcher, so BTX has designed a plug and play system for our ECM® 630 system to transition between standard cuvettes and to a 96-well electroporation plate using our High Throughput plate handler.

96-WELL ELECTROPORATION

Transition from standard cuvette work using the safety stand to multi-well electroporation is quick and simple with the addition of the High Throughput (HT) plate handler and plates. The HT plate handler accommodates either 96- & 25-well electroporation plates and it operates with an existing ECM® 630 generator or is offered as an ECM® 630 HT System for easy scale up. The HT System offers the researcher the advantage of multi-well technology. High Throughput electroporation permits for large numbers of samples to be quickly processed or easy optimization of electroporation conditions for the highest possible efficiencies.

MONTIORING OPTION

The ENHANCER 3000 allows the researcher to monitor and track key electrical parameters used in electroporation applications. The electrical pulse data is captured as both a graphic display of the wave form and electrical output values following each experiment. This data can be stored on a memory stick or downloaded to a computer easily by using the USB port for potential analysis, documentation and validation purposes.

ECM® 630 Generator TECHNICAL SPECIFICATIONS

COMBINATION SYSTEM

The combo system includes the power and flexibility of the ECM® 630 Exponential Decay Wave Generator to provide the highest transformation efficiencies for a wide range of bacteria and yeast strains. The combo system includes the gentle strength and versatility of the ECM® 830 Square Wave System to provide high transfection efficiencies with equally high cell viabilities in mammalian cells and in vivo tissues. BTX offers the ECM® 630/ECM® 830 Combo System complete with two safety stands and sample cuvettes. These systems may be used together or separate as independent systems for operation in different labs with no extra components needed.

REFERENCES

1. Kurth, M. et al. Reporter gene expression in cell culture stages and oocysts of Eimeria nieschulzi (Coccidia, Apicomplexa), 2009, Parasitology Research
2. Lama, A. et al., Glyceraldehyde-3-Phosphate Dehydrogenase Is a Surface-Associated, Fibronectin-Binding Protein of Trichomonas vaginalis, 2009, Infection & Immunity
3. Thyagarajan, B. et al., Creation of Engineered Human Embryonic Stem Cell Lines Using phiC31 Integrase, 2008, Stem Cell
4. Donoho, G. et al., Analysis of Gene Targeting and Intrachromosomal Homologous Recombination Stimulated by Genomic Double-Strand Breaks in Mouse Embryonic Stem Cells, 1998, Molecular & Cellular Biology

TECHNICAL SPECIFICATIONS

Standard Capabilities:

Display	Type: 20-character by 4-line liquid crystal Display. LED backlit and Cuvette Rack 660
Voltage	100 to 240 Vac, 50 to 60 Hz, CAT II Power 500 W (Pulsed), 50 W (Idle)
Fusing	2.5 A, T rating 250 V

ENVIRONMENTAL CHARACTERISTICS

Intended Use	Indoor use only
Operating Temperature	10° C to + 40° C
Cooling	Convection through metal case

MECHANICAL CHARACTERISTICS

Footprint	12.5" x 12.25" x 5.5" in (W x D x H)
Weight	10° C to + 40° C
Cooling	Single rotary encoder with integrated push button

ORDERING INFORMATION

Order #	Product
45-0001	Electroporation System includes ECM 630 Generator, 630B Safety Stand, Cuvettes 1 mm, 2 mm, 4 mm pkg. of 30 (10 each) and Cuvette Rack 660 pkg. of 30 (10 each) and Cuvette Rack 660
45-0051	Generator Only
45-0422	Includes ECM 630 Generator, 2 x 96-Well Plates (2 mm), Plate Seals and HT-100 Plate Handlerplates (4 mm) and a plate adaptor
45-0412	Includes ECM 630 Generator, 6 x 25-Well Plates (2 mm), Plate Seals, and HT-100 Plate Handler plates (4 mm) and a plate adaptor
45-0061	Combination package includes ECM 830 Generator, ECM 630Generator, 2 x Safety Stands, 30 Cuvettes (10 each: 1 mm, 2 mm and 4 mm) and Cuvette Rack
45-0071	ENHANCER 3000 Probe, ENHANCER Interface Box, Oscilloscope, Communications Module, ECM 630 Generator, Safety Stand, 30 Cuvettes (10 each 1 mm, 2 mm and 4 mm) and Cables

TROUBLESHOOTING

Please contact BTX Technical Support at 800-272-2775 in the event of any failure.

TECHNICAL & CUSTOMER SERVICE

For further references regarding specific applications and optimization, please contact BTX Technical Support:

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