



GENE TRANSFER: ELECTROPORATION

# MicroPulser™ Electroporator

- Compact, space-saving design
- Audible and visible pulse indicators
- Display of time constant and actual voltage delivered to monitor reproducibility
- 3,000 V capability for improved efficiency in cuvettes with larger volume

## An Ideal Gene Transfer Tool for Bacteria, Fungi, and Other Microorganisms

### Advantages of Electroporation

The MicroPulser electroporator is a simple yet versatile electroporator that provides a safe and reproducible way for you to transform bacteria, fungi, and other microorganisms. Transformation efficiencies much higher than those obtained by chemical methods can be achieved by electroporation.

The MicroPulser electroporator's compact, space-saving design comes with preset optimized programs for transformation of commonly studied bacteria and fungi. Its audible and visible pulse indicators display time constant and actual voltage delivered (200–3,000 V with 10 V precision) to monitor reproducibility and ensure accuracy, while its arc-quenching (ARQ) system protects valuable samples. A broad range of parameters is available for manual optimization.

The MicroPulser electroporator offers safe operation, rapid optimization, and outstanding results.

### Unique Features

- ARQ system that reduces arcing, protecting against loss of valuable samples
- Rapid program selection — preset optimized programs for commonly studied bacteria and fungi
- Efficient sample handling with one-button pulse delivery, rapid charge time, and attached cuvette chamber



**BIO-RAD**

# MicroPulser Electroporator

## Preprogrammed Settings

The MicroPulser is preprogrammed with settings for electroporation of a number of commonly used organisms. The table below lists programs that are available under Bacteria Settings and Fungi Settings.

Mnemonic	Organism	Parameters		
		Voltage (kV)	Number of Pulses	Time Constant* (ms)
<b>Bacteria</b>				
Ec1	<i>E. coli</i> (0.1 cm cuvette)	1.8	1	—
Ec2	<i>E. coli</i> (0.2 cm cuvette)	2.5	1	—
StA	<i>S. aureus</i> (0.2 cm cuvette)	1.8	1	2.5
Agr	<i>A. tumefaciens</i> (0.1 cm cuvette)	2.2	1	—
Ec3	<i>E. coli</i> (0.2 cm cuvette)	3.0	1	—
<b>Fungi</b>				
Sc2	<i>S. cerevisiae</i> (0.2 cm cuvette)	1.5	1	—
Sc4	<i>S. cerevisiae</i> (0.2 cm cuvette)	3.0	1	—
ShS	<i>S. pombe</i> (0.2 cm cuvette)	2.0	1	—
Dic	<i>D. discoideum</i> (0.4 cm cuvette)	1.0	2	1.0
Pic	<i>P. pastoris</i> (0.2 cm cuvette)	2.0	1	—

\* Unless the pulse time is truncated below 5 ms, the unit will deliver the optimal time constant of ~5 ms to samples in high-resistance media.

## Cuvettes

Bio-Rad's high-quality electroporation cuvettes are available in three different gap widths — 0.4, 0.2, and 0.1 cm — for optimal field strength delivery to a wide range of cell types. The cuvettes ensure maximum electroporation efficiency and reproducibility between experiments, are color-coded, and have been sterilized by gamma irradiation.

## Specifications

Input voltage	100–120 V or 220–240 V
Maximum output voltage and current	3,000 V peak into >600 W load; limited at 100 A peak maximum
Output waveform	Decaying or truncated-decaying exponential waveform with RC time constant
Output voltage and pulse duration adjustment	Voltage adjustable in 200–3,000 V range with 10 V precision; 5 ms default or 1–4 ms with 0.1 ms precision; 5 bacterial and 5 fungal preset programs
Ambient operating temperature	3.5–35°C
Dimensions (W x D x H)	29 x 21 x 8 cm
Weight	2.9 kg

## Ordering Information

Catalog # Description

### MicroPulser Electroporator

165-2100 **MicroPulser Electroporator**, includes a cuvette chamber with leads, 10 sterile cuvettes (5 each of 0.1 cm and 0.2 cm gap)

### Cuvettes

#### Standard Packs

165-2088 Gene Pulser®/MicroPulser Cuvettes, 0.4 cm gap, 50 (regular pack)  
 165-2086 Gene Pulser/MicroPulser Cuvettes, 0.2 cm gap, 50 (regular pack)  
 165-2089 Gene Pulser/MicroPulser Cuvettes, 0.1 cm gap, 50 (regular pack)

#### Jumbo Packs\*

165-2091 Gene Pulser/MicroPulser Cuvettes, 0.4 cm gap, 500 (jumbo pack)  
 165-2092 Gene Pulser/MicroPulser Cuvettes, 0.2 cm gap, 500 (jumbo pack)  
 165-2093 Gene Pulser/MicroPulser Cuvettes, 0.1 cm gap, 500 (jumbo pack)

#### Mini Packs

165-2081 Gene Pulser/MicroPulser Cuvettes, 0.4 cm gap, 5 (mini pack)  
 165-2082 Gene Pulser/MicroPulser Cuvettes, 0.2 cm gap, 5 (mini pack)  
 165-2083 Gene Pulser/MicroPulser Cuvettes, 0.1 cm gap, 5 (mini pack)

\* Please inquire about volume pricing.

For more information, visit us on the Web at  
[www.bio-rad.com/genetransfer/](http://www.bio-rad.com/genetransfer/) or  
[www.bio-rad.com/rnai/](http://www.bio-rad.com/rnai/)



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