



MiniOpticon™

Two-Color Real-Time PCR System



Small on size. Big on performance.

BIO-RAD

Small and Portable Real-Time PCR



With the MiniOpticon system, the most advanced PCR techniques are finally available to the individual researcher. With two-color multiplexing capability, precise thermal control, a thermal gradient feature, and comprehensive analysis software, you will have everything you need for accurate detection and quantitation of your amplification products.

Premium Thermal Control

The MiniOpticon system incorporates an MJ Mini™ 48-well thermal cycler. Like larger high-performance cyclers, the MJ Mini uses Peltier-based thermal control to produce quick ramping and accurate temperatures, for fast, reproducible runs. More importantly, the MJ Mini cycler arrives at thermal uniformity remarkably fast, producing the precision needed for sensitive assays like quantitative PCR.

If you already own an MJ Mini cycler, you can purchase a factory upgrade to a MiniOpticon detector.



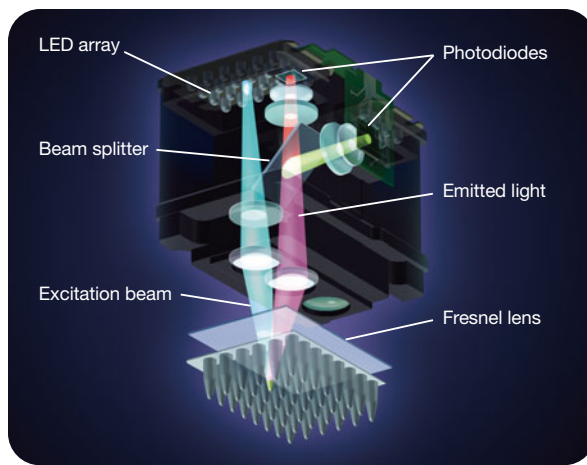
Thermal Gradient Capability

Bio-Rad is the only manufacturer that offers real-time PCR instruments that feature a thermal gradient. For any incubation step in your PCR protocol, you can simultaneously incubate samples at up to eight

temperatures with a range of 16°C. This makes finding the appropriate temperature easy and allows you to optimize your PCR reactions in a single experiment.

Comprehensive Analysis Software

The MiniOpticon system includes Opticon Monitor™ software, a powerful yet easy-to-use package for setting up experiments and analyzing results. In addition to absolute quantitation, the software includes modules for relative gene expression analysis and genotyping. Melt-curve analysis is also available, so you can confirm amplification without having to run a gel.



Durable, Compact, Sensitive Optics

The optics of the MiniOpticon system build on the innovative technology of the DNA Engine Opticon® 2 system. Each well is illuminated by its own blue-green light emitting diode (LED). The 48 LEDs fire in rapid sequence, illuminating a single sample at a time, while a Fresnel lens focuses each beam directly down into the center of the corresponding well, minimizing light loss. Emitted fluorescence is split into two beams that pass through separate filters to two sensitive photodiodes. Every well in the plate is read with high sensitivity and minimal cross talk.

Compact Portability

The MiniOpticon system is one of the smallest and most portable real-time PCR detection systems available. Its small size (18 cm wide x 32 cm deep x 33 cm high) and light weight (6.8 kg) allow it to fit just about anywhere — but chances are you'll want to keep it close at hand.





MiniOpticon System Specifications

Fuses	Two 6.3 A, 250 V, 5 x 20 mm
Weight	6.8 kg (15 lb)
Size (W x D x H)	18 x 32 x 33 cm (7 x 13 x 13")
Fluorescence excitation range	470–500 nm
Fluorescence detection ranges	Channel 1: 523–543 nm Channel 2: 540–700 nm

Thermal Cycler Specifications

Sample capacity	48-well PCR plate or 6 x 8-tube strips
Speed of ramping	Up to 2.5°C/sec
Thermal range	0–99.9°C, but no more than 30°C below ambient temperature
Temperature accuracy	Average temperature within 0.2°C of programmed value at 90°C
Temperature uniformity	±0.4°C within 10 sec of arrival at 90°C
Input range	100–240 VAC, 50–60 Hz, 400 W max
Display	64 x 128 LCD
Ports	USB

Gradient Specifications

Accuracy	±0.3°C of target at end rows within 10 sec (NIST-traceable)
Row uniformity	±0.4°C in row, well-to-well, within 10 sec of target attainment
Calculator accuracy	±0.4°C of actual row temperature (NIST-traceable)
Lowest programmable gradient temperature	35°C
Highest programmable gradient temperature	99°C
Gradient range	From 1°C up to 16°C (temperature differential)

Computer Specifications

Minimum specifications required for running a MiniOpticon system and Opticon Monitor software version 3.1

Operating system	Windows XP Professional
Processor speed	1.5 GHz
Display	1,024 x 768 screen resolution
Memory	512 MB RAM
Storage	20 GB hard drive
Graphics	Graphics card with at least 64 MB of memory

Catalog # Description

MiniOpticon Real-Time System

CFB-3120	MiniOpticon Real-Time PCR Detector , includes optical housing, thermal cycler, and analysis software
CFD-3121	MiniOpticon Real-Time PCR Upgrade for MJ Mini Cycler , includes optical housing and analysis software
CFO-3202	Optional Desktop Computer , 2.4 GHz processor, 256 MB RAM, 40 GB hard drive, 48 x 24 x 48 CD-RW, Windows XP Professional operating system (complete system requires OCM-3201)
OCM-3201	Optional 15" Flat-Screen Computer Monitor
CFO-3203	Optional Laptop Computer , 2.4 GHz processor, 256 MB RAM, 40 GB hard drive, 24 x 10 x 24 CD-RW, Windows XP Professional operating system

Accessories

MLL-4801	Multiplate™ Low-Profile 48-Well Unskirted PCR Plates , natural color, 25
MLL-4851	Multiplate Low-Profile 48-Well Unskirted PCR Plates , white, 25
TLS-0801	Low-Profile 8-Tube Strips , 0.2 ml, natural color, 10 packs of 12 strips
TLS-0851	Low-Profile 8-Tube Strips , 0.2 ml, white, 10 packs of 12 strips
TCS-0803	Optical Flat 8-Cap Strips , for 0.2 ml tubes and plates, ultraclear, 120

Reverse Transcription Kits

170-8890	iScript™ cDNA Synthesis Kit , 25 x 20 µl reactions
170-8891	iScript cDNA Synthesis Kit , 100 x 20 µl reactions
170-8892	iScript™ One-Step RT-PCR Kit With SYBR® Green , 50 reactions
170-8893	iScript One-Step RT-PCR Kit With SYBR Green , 200 reactions
170-8894	iScript One-Step RT-PCR Kit for Probes , 50 reactions
170-8895	iScript One-Step RT-PCR Kit for Probes , 200 reactions
170-8896	iScript Select cDNA Synthesis Kit , 25 x 20 ml reactions
170-8897	iScript Select cDNA Synthesis Kit , 100 x 20 ml reactions

Real-Time Reagents

170-8880	iQ™ SYBR® Green Supermix , 100 x 50 µl reactions
170-8882	iQ SYBR Green Supermix , 500 x 50 µl reactions
170-8884	iQ SYBR Green Supermix , 1,000 x 50 µl reactions
170-8860	iQ™ Supermix , 100 x 50 µl reactions
170-8862	iQ Supermix , 500 x 50 µl reactions
170-8864	iQ Supermix , 1,000 x 50 µl reactions



Practice of the patented polymerase chain reaction (PCR) process requires a license. The MiniOpticon real-time system and the MJ Mini thermal cycler include an Authorized Thermal Cycler and may be used with PCR licenses available from Applied Biosystems. Their use with Authorized Reagents also provides a limited PCR license in accordance with the label rights accompanying such reagents. Some applications may also require licenses from other third parties.

SYBR is a trademark of Molecular Probes, Inc. Bio-Rad Laboratories, Inc. is licensed by Molecular Probes, Inc. to sell reagents containing SYBR Green I for use in real-time PCR, for research purposes only. Windows XP is a trademark of Microsoft Corporation.

Appearances and specifications are subject to change without notice.



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