MiniOpticon™
Two-Color Real-Time PCR System

Small on size. Big on performance.

BIO-RAD
Small and Portable Real-Time PCR

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.

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.
MiniOpticon System Specifications

- **Ports**: 1 x 9-pin (D-sub), 4 x 10-pin (D-sub), optical housing, thermal cycler, and analysis software
- **Display**: 1,024 x 768 screen resolution
- **Processor speed**: 2.4 GHz processor, 500 x 50 µl reactions, 100 x 50 µl reactions, 25 x 20 ml reactions, 100 x 20 ml reactions, 25 x 20 µl reactions, 100 x 50 µl reactions, 200 reactions, 50 reactions, 100 x 20 µl reactions
- **Operating system**: Windows XP Professional, 256 MB RAM, 40 GB hard drive, 24 x 10 x 24 CD-RW, optical housing, thermal cycler, and analysis software
- **Accuracy**: ±0.3°C of target at end rows within 10 sec
- **Gradient Specifications**: Speed of ramping: Up to 2.5°C/sec
- **Thermal Cycler Specifications**: detection ranges:
  - Channel 2: 540–700 nm
  - Fluorescence: 470–500 nm
- **Temperature uniformity**: ±0.4°C within 10 sec of arrival at 90°C

Other specifications include:

- **Automation**: Optional Laptop Computer (2 GHz processor, 500 x 50 µl reactions, 100 x 50 µl reactions, 25 x 20 ml reactions, 100 x 20 ml reactions, 25 x 20 µl reactions, 100 x 50 µl reactions, 200 reactions, 50 reactions, 100 x 20 µl reactions

For more information, please refer to the catalog provided.