

PDMI-2 Open Perfusion Micro-Incubator



PDMI-2 Micro-Incubator
Typical Setup



PDMI-2 with TC-202A
Temperature Controller

The PDMI-2 operates equally well under static or perfused conditions. When operated with perfusion, the micro-incubator's unique design places flexible tubes carrying inflowing perfusate in contact with a temperature regulated Peltier heat pump driven plate, thus heating or cooling the incoming fluid to a command temperature. This eliminates the need for auxiliary preheating or cooling. The Peltier plate heats or cools the cell carrying central chamber uniformly when no perfusate is flowing.

- Heats and cools
- 0° to 50°C
- Maintains required cell environment for hours:
 - pH and O₂
 - temperature
- Peltier heat pump
- Flexible chamber option
- Easily change perfusion fluid
- Makes temperature cycle experiments easy

Flexible Temperature Range

The operating temperature range of the PDMI-2 Open Perfusion Micro-Incubator is nominally 0° to 50°C when used with the TC-202A Temperature Controller. Lower temperatures can be achieved by using an optional cool water-carrying coil which attaches to the perimeter of the PDMI-2. Temperatures stabilize quickly throughout the operating range; temperature uniformity across the chamber is excellent.

Optimal and Flexible Perfusion

Two temperature controlled perfusion lines deliver perfusates through the micro-incubator into the chamber a nominal rate of 3 ml per minute each. Fluid level is maintained by placing an aspirator (model LU-ASP) in the chamber. Fluid height is easily adjusted via a simple screw mechanism; a cleverly designed suction port eliminates fluid flutter thus making aspiration quiet; a magnetic base secures the aspirator to the micro-incubator at a user selectable convenient location.

Excellent pH Control

The PDMI-2 also provides gas flow over the top of the chamber for pH control and improved temperature uniformity. The open design provides excellent mechanical and optical access to the media.

Low Noise Conditions

A teflon well is provided with an Ag/AgCl electrode at its base to allow for the formation of a salt bridge when making low noise electrophysiological recordings.

Specifications

Chamber Options	Corning 35 mm Petri dishes, LU-CSD, MSC-TD or MSC-PTD
Recommended Gas Flow	0.5 to 2.0 L/min
Temperature Range	0° to 50°C with TC-202A
Temperature Stability	±0.2°C with TC-202A, at 37°C with 1 ml/min perfusion
Temperature Gradient Across Chamber	2°C with 1.5 ml media volume, 1 ml/min perfusion
Built-In Temperature Sensor	Thermistor, 100 kΩ at 25°C - YSI 44011
Peltier Device Current Rating	Maximum 6 A
Media Perfusion Rates	Up to 3.0 ml/min
Overall Dimensions, H x D	17 x 152 mm (0.67 x 6.0 in)
Weight	0.5 kg (17.9 oz)
Microscope Stage Mounting	Call for options

Catalog No. Product

CGS 8702.75	PDMI-2 Open Perfusion Micro-Incubator, comes with LU-PD and LU-ASP
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