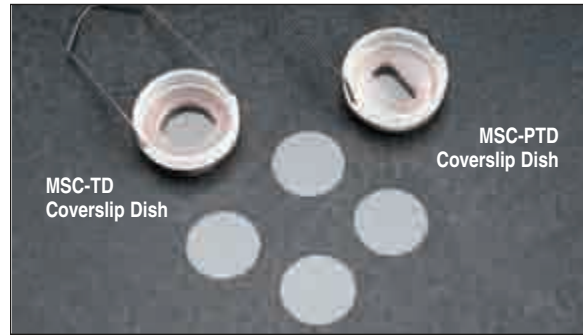


micro-incubators

PDMI-2

Open Perfusion Micro-Incubator

Complete environment on the microscope



- Heats and cools from ~5° below ambient to 50°C
- Maintains pH, O₂ and temperature using Peltier technology
- Flexible chamber option

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 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.

Flexible Temperature Range

The operating temperature range of the PDMI-2 Open Perfusion Micro-Incubator is nominally ~5° below ambient to 50°C when used with the TC-202A Temperature Controller; see page 113. Lower temperatures can be achieved (approximately 10°C below ambient) by using an optional cool water-carrying coil which attaches to the perimeter of the PDMI-2. Temperatures stabilize quickly throughout the operating range and 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 at 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 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.

Specifications

Chamber Options	Corning 35 mm Petri dishes, LU-CSD, MSC-TD or MSC-PTD, LU-CSD Special
Recommended Gas Flow	0.5 to 2.0 L/min
Temperature Range	~5° to 10°C below ambient to 50°C
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
Peltier Device Current Rating	6 A maximum
Media Perfusion Rates	Up to 3.0 ml/min
Overall Dimensions	17 x 152 mm (0.67 x 6.0 in), H x D
Weight	0.5 kg (17.9 oz)
Microscope Stage Mounting	Call for options
Chambers:	
Cover Slips	25 mm D thickness #1 or 2
Overall Dimensions	LU-CSD/MSC-TD: 19 mm D round optical window MSC-PTD: 9.5 x 19 mm (WxL) slotted optical window
Weight	17 g (0.6 oz)
Dish Materials	Teflon® and stainless steel

Order #	Model	Product
W4 65-0043	PDMI-2	Open Perfusion Micro-Incubator, comes with LU-PD and LU-ASP (Stage Adapter not included, see page 175)
W4 65-0058		Copper Cooling Tube for PDMI-2

Micro-incubator Chambers

W4 65-0049	LU-CSD-S	Leiden Multi Well Cover Slip Dish; Special 35 mm D Teflon Dish with two (2) kidney-shaped inner optical window wells, approx. 15 x 8 mm (L x W) (max.) and one (1) 31.50 mm D surrounding well
W4 65-0050	MSC-PTDS	Teflon Glass Cover Slip Dish; 35 mm D, 9.5 x 19 mm (W x L) rectangular optical window, rounded at each end; low volume (less than 1 ml), fast fluid transfer and maximum mixing
W4 65-0051	MSC-TD	Teflon Glass Cover Slip Dish; 35 mm D with Removable Handle, 19 mm D optical window, 31.50 mm D working area, 1 ml approx. fluid volume