SI 782

Dissolved Oxygen Measurement and Respirometry System

- Operates with 1 or 2 oxygen electrodes
- Interfaces to respirometry/monitoring software, or use as stand alone meter
- Use any unit of PO2 or oxygen concentration
- Closed cell, flow-through respirometry and O2 monitoring software included

Strathkelvin Instruments dissolved oxtgen respirometry systems are based on ultra precise microcathode oxygen electrodes. The oxygen meters and interfaces are supplied with dedicated respirometry software. A choice of respirometer cells, with volumes from 50 microlitres to 3ml, are availabe to meet most biomedical reserach applications.

# Model	Product
782	2-Channel Oxygen Meter

Specification

Resolution	0.01% of full scale
Repeatability	0.01%
Logging Capacity	2000 readings
Computer Interface	USB1
Power requirements	5V, 1A from external plugtop power supply,100-230 VAC, 47-63 Hz
Dimensions	185 x 135 x 105 mm

1302 Electrode

Microcathode Oxygen Electrode

- May be used with or without stirring
- High output stability
- Very low rate of oxygen consumption
- Compatible with all Strathkelvin accessories

The 1302 is a Clark-type polarographic electrode with a 22 micron diameter platinum cathode and silver/silver chloride anode connected by a buffered potassium chloride electrolyte solution. In the normal configuration the cathode is covered with a relatively low permeability polypropylene membrane to allow the electrode to be used in unstirred solutions or where minimal stirring is required. This membrane gives a relatively slow response time. For rapidly respiring enzyme preparations, an electrode with a thin FEP membrane (W4 69-3004) is used. Rapid stirring is necessary. Electrodes are not temperature compensated and require thermally controlled environments to within 0.1˚C. Electrodes are specificality designed for use in the MT-200 or MT200A. Electrode service kits provide all tools and parts, including membranes, needed to repair the electrodes. We recommend the purchase of an electrode kit with the purchase of the electrode.

# Model	Product
SI130	1302 Oxygen Electrode with Polypropylene membrane
SI132	1302 Oxygen Electrode with FEP membrane
SI020	Polypropylene electrode service kit
SI021	FEP electrode service kit

Accessories and Replacement Parts

SI030	Electrolyte
SI045	Box of 6 polypropylene jackets
SI035	Electrode jacket with hole (FEP)
SI040	Electrode jacket with hole (PP)
SI025	Box of 12 FEP membranes

Specification

Response time at 37˚C:

Polypropylene Membranes	18 sec for 90% change
FEP Membranes	6 sec for 90% change
Oxygen Consumption (Polypropylene Membranes)	0.5 to 3x10-10 mg O2/min
Temperature Coefficient	2% per ˚C

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- Miniature respirometer for mitochondria and cell suspensions
- Integral magnetic stirrer
- Glass chamber with volumes of 50/100 μl (MT200) or 0.3/0.5/1.0 ml (MT200A), and good visibility of contents
- Transparent polycarbonate plunger
- Substrate and inhibitors may be injected directly into chamber

MT200/ MT200A

Mitocell Miniature Respirometer

This MT200 and MT200A Mitocell Miniature Respirometer has a chambervolume of only 50 μl and was introduced for measurements on mitochondria isolated from biopsy samples. It can be used in any situation where sample size is limited. The base section contains an integral solid state, fixed speed magnetic stirrer. The 1302 microcathode electrode(W469-3006) is inserted from beneath the unit, and its projecting tip forms the base of the respirometer chamber. The glass chamber unit is surrounded by a water jacket through which constant temperature water is circulated. The respiration cell has a polycarbonate plunger with a central capillary through which solutions may be added during the course of a respiration run. Stainless steel magnetic spinbars are supplied together with a special 1 μl syringe supplied with MT200 and a 5 μl syringe with the MT200A for solution additions.

Model	Product
MT200	Mitocell Miniature Respirometer, 50/100
MT200A	Mitocell Miniature Respirometer, 0.3/0.5/1.0 ml
SK205	Replacement Glass for MT200
SK206	Replacement Glass for MT200A
SI068	6 spinbars for MT200A
SI069	6 spinbars fro MT200
SI056	MT200A plunger and collar
SI057	MT200/ A collar only
SI058	MT200 plunger and collar

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