

ENABLING
MICROSCALE
RESEARCH



MicroRespiration System

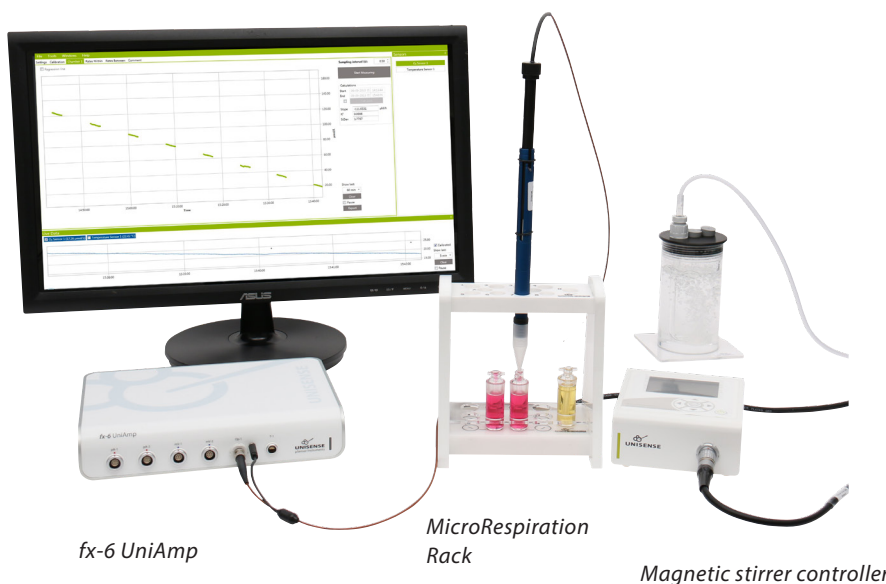
Complete system to study O₂, H₂, H₂S, N₂O and NO, pH, Redox and temperature in sealed systems

Regardless of whether you are measuring metabolism of copepod eggs, H₂S production in macrophages or oxygen consumption of specialized brain tissue the MicroRespiration System will be an excellent tool for you. The closed system enables you to measure minute changes in analyte concentration and makes the MicroRespiration System an ideal solution in numerous types of applications.

- Respiration rates for each sample online and in real time
- Sealed chambers in pressure equilibrium with the environment
- SensorTrace Rate software for data acquisition and processing
- Measure several samples during one experiment
- All our MicroRespiration chambers are autoclaveable
- Protected stirring of fragile samples

The design of the MicroRespiration chambers gives you a closed system to study production or consumption of a broad range of analytes. Correct insertion of sensor into chambers is secured by the sensor guide and the rack, making the MicroRespiration system easy to use and also suitable for teaching purposes. Included in the Rack is stirring of each sample and even very fragile samples can be studied due to separation of sample and magnet by a small metal net. Our amplifier portfolio guarantee that you can find an amplifier that meets your choice of microsensor and study requirements. The matching software SensorTrace Rate provides real-time and online PC inspection of data and enables measurement and calculation of the respiration or metabolism rates in several samples simultaneously.

MR-Microsensor



fx-6 UniAmp

MicroRespiration
Rack

Magnetic stirrer controller

MICROSENSORS FOR THE MICRORESPIRATION SYSTEM

OX-MR

H₂-MR

SULF-MR

N₂O-MR

NO-MR

pH-MR

RD-MR

TP-MR



MicroRespiration Microsensors

- Fast responding Clark-type and optical microsensors
- Low detection limits
- Available for measurement of O₂, H₂S, H₂, NO, N₂O, pH, Redox and temperature
- Correct positioning of the sensor tip facilitated by the aluminium sensor guide
- Excellent for teaching purposes due to the easy handling of the sensor



MicroRespiration Chambers

- Handmade and autoclaveable glass chambers
- Chambers made of glass prevent gas exchange with the environment
- Available in following sizes: 400 µL, 750 µL, 1000 µL, 2000 µL, 4000 µL, 20 mL, 40 mL, 50 mL, 200 mL, 400 mL. Larger sizes available upon request
- Double chambers available for continuous measurement of two different analytes in one solution
- Injection lids allowing for injection of substance during measurement



MicroRespiration Rack

- Holds up to 8 chambers and facilitates easy and correct positioning of the sensor into chambers
- Comes with chamber fitters for small (400-1000 µL), large (2-4 mL) and double chambers
- Integrated and individual stirring of each chamber
- Fragile samples are separated from stirring magnet by metal net



Unisense µSensor Instruments

- **Opto-F1 or Opto-F4 UniAmp** for optical oxygen sensor with automatic temperature compensation
- **Multi Channel UniAmp** for maximal flexibility and measurement of up to four parameters
- **Single Channel UniAmp** measures one analyte in combination with temperature
- All Unisense amplifiers has built-in analog-to-digital converter and online PC data acquisition is obtained via a USB communication
- The amplifier portfolio can be combined with other solutions like the MicroProfiling System

SensorTrace Rate

The SensorTrace Rate software solution enables you to measure consumption and production rates in the MicroRespiration Chambers. SensorTrace Rate records analyte concentration measurements from one sample at a time while the sensor is moved between consecutive samples. The software solution interpolates between measurements and allows you to measure multiple samples with only one microsensor.



FOR MORE INFORMATION
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