



Innovation in Environmental & Process Technology

We **Understand** Water & Waste Water Monitoring

Pulse-Flow Respirometers - PF-4000 & PF-8000



PF-4000



PF-8000

Applications:

- Biogradation assessments
- Activated Sludge Respiration (ASR) Tests
- OUR Fingerprinting (OUR Respirograms)
- Biomass Activity Tests
- Extant Kinetic Measurements
- Performance Evaluations
- Toxicity Assessments
- Short-Term BOD Measurements

RSA's PF-8000 and PF-4000 Pulse-Flow respirometers are designed specifically to measure oxygen uptake for aerobic biological reactions and gas production from anaerobic and anoxic biological reactions. Modular system design allows easy expansion. The 8-position PF-8000 units can be expanded easily to 16 and 24-position units. Oxygen uptake is measured at rates as low as 0.03 mg/sec and as high as 1,200 mg/hr. Units can be used in a constant-temperature incubator or can be fitted with optional water bath and heating/cooling units.

Features

Accuracy and Precision

High accuracy and precision are accomplished through quality design and construction. Each system is factory-calibrated to ensure accuracy.

Data Collection

Oxygen or gas flow data are monitored by computer and stored in convenient spread-sheet format for ease of data evaluation. The PF Systems software was designed for user convenience and provides on-screen tabular and graphical indications of the cumulative oxygen uptake and gas flow rates. Data record intervals can be set at intervals ranging from 1 to 720 minutes.

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Operation

The operation of PF respirometer systems is simplified through the use of standard laboratory glassware. No grease or specialized lubricants are required to seal the reaction vessels, thereby reducing the set-up and clean-up time. Gas or liquid samples can be withdrawn easily from reaction vessels at any time during a test.

Flexibility

PF respirometers allow maximum flexibility in application. Operation in the low-flow mode provides maximum sensitivity for monitoring low-rate aerobic or anaerobic reactions. Operation in high-flow modes allows measurement of oxygen uptake or gas production for large laboratory-scale pilot plants at rates in excess of 1200 mL/hour. Reactor volumes for normal respirometric applications are 500 mL, but can range from less than 50 mL to 1-L or larger.

System Specification	
Equipment items:	<ul style="list-style-type: none">• 4- or 8-position flow measuring base• USB output to any computer for data acquisition• Accessories kit• 4 or 8-position magnetic stirring base• Readout interval (1 to 720 minutes)• Electrical requirements (110 to 240 VAC, 50-60Hz)
Reaction vessel size:	(50 mL to 1-L)
Temperature of operation:	(5 to 740°C)
Min. oxygen uptake	as low as 0.03 mg O ₂
Min. gas flow	~ 0.35 ml/min anaerobic O ₂ /hr
Sensitivity (low models)	< 0.04mg O ₂ (aerobic) < 0.07 ml (anaerobic)
Max. flow capacity	> 1,200 mg O ₂ /hr (aerobic) > 2,500 ml/hr (anaerobic)
Calibration precision:	< 2% C _v aerobic and anaerobic
*Requires Computer with 500mb+ HD, CD, USB port and Windows™ 7 to 10	



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