



Features of RSA's Pulse Flow aerobic/anaerobic respirometer

RSA's PF-8000 is the most versatile respirometer system available today. It has a number of unique features that make it ideally suited for use in wastewater treatment plants, industrial environmental laboratories, and research laboratories. Specific features include:

1. **Expandable in groups of 8 reactors.** The Pulse-Flow system allows connection of up to 24 reactors to a common computer for efficiency of data collection and storage. The reactors may be arranged in groups of 8, 16 or 24 with independent or combined data acquisition.
2. **Aerobic/anaerobic operation.** All standard systems are capable of operating in aerobic or anaerobic mode without the purchase of additional components. (Units that operate only in the anaerobic or flow measuring modes are available).
3. **Easy cleanup.** Grease is not required to seal the reaction vessels, therefore less time is required for set up and organic solvents are not required for cleanup.
4. **Variable Reactor Volume.** All systems allow simultaneous use of reaction vessels ranging in volume from 250 mL to 1,000 mL.
5. **Windows-Based Graphics Software.** The Windows-XP/VISTA/Win7 computer software is capable of simultaneous display of cumulative oxygen uptake curves and oxygen uptake rates for one to 24 reactors. Data is stored in an ASCII format for ease of import to a variety of data processing programs. Data may be stored at user-set increments ranging from 1 to 720 min.
6. **No-heat Stirring Base.** The DMS stirring base does not transfer heat to the reaction vessels. The stirring base can be operated at rotational speeds ranging from 200 to 1,250 rpm and the speed for each stirring position can be controlled individually or all can be operated at the same speed.
7. **Modular Configuration.** The mixing/reaction base can be separated from the interface module and computer, thereby requiring less bench space and improving operator convenience.
8. **Start and Stop Flexibility.** The system allows addition or removal of individual reactors from the system without interrupting data collection from the remaining reactors. Samples can be removed from individual reaction vessels, or chemicals or nutrients can be added, without interrupting data collection from the remaining reactors.
9. **Standard Glassware and Supplies.** The glassware and supplies are standard and can be purchased from a number of suppliers, thereby allowing the user to optimize costs.
10. **High Sensitivity.** The oxygen uptake increments are variable and can be adjusted from 0.02 to 0.15 mg O₂/input pulse when operating at 25°C and thereby maximize sensitivity. Flow measuring positions are factory calibrated for maximum accuracy and precision. Gas flow increments when operating in anaerobic or anoxic modes range from 0.03 to 0.15 mL/ pulse.
11. **Can Be Operated Without Water Bath.** All systems are capable of being operated in a constant temperature incubator without the use of a water bath or circulatory water system for temperature control.
12. **No Special Computer Boards are Required.** The computer does not require special data acquisition boards, thereby reducing maintenance costs and allowing a number of types of computers to be used for data acquisition.
13. **Flexible Location of Flow-Measuring Cells.** The Pulse Flow system allows connection of extension or modules within 50 ft (20 m) of the Control Module by using conventional cables.
14. **High Oxygen Uptake Rates.** Oxygen transfer rates in excess of 500 mg/L-hr can be achieved without using special vessels or apparatus