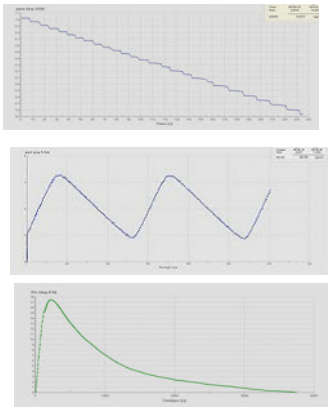
WASTE WATER RESPIROMETRY

RespSys: BMT

Thermostatic control bath *Reactor vessel*



Static Mode: Single D.O. decay curve
Cyclic Mode: Repeated decay curves
Dynamic Mode: Substrate respiration rate curve

Features:

Internal Air compressor
Maintenance free DO probe
Small with carry case
Separate thermostatic control system
"Open" system
Three operational modes

Applications:

Municipal & Industrial ASP monitoring for sludge activity
Toxicity testing
Influent treatability testing
Determination of Kinetic constants for modelling
Nitrification assessment
Determination of easily degradable fractions
Oxygen requirement determination

Benefits:

Not O_2 limiting enabling long term measurement
Easily transportable
Easy to use
Low maintenance
No gas cylinders required
Automatic Respirogram generation
Test substances may be added at any time
Total oxygen uptake and respiration rate at any time may be viewed

Typical Application: ASP process control

RespSys: BMT is a single bottle aerobic respirometer for the laboratory measurement of oxygen consumption rate and derived parameters in aerobic cultures. It is an open system, allowing additions of test substances or nutrients throughout the testing period, unlike those respirometers based on pressure reduction techniques. It also supplies air to the culture, hence never being oxygen limiting like some simpler barometric systems. The measurement principal is that of DO concentration measurement over time. Temperature stability is achieved by circulating water from an external thermostatic bath through a cooling/heating jacket round the reactor.
Three modes of operation are available: a. Static - this just measures a single oxygen decay of a pre-aerated sample, giving the OUR or SOUR for that sample. Very useful for rapid checks on ASP functionality. b. Cyclic – This measures multiple oxygen decay curves between fixed DO set points, allowing construction of a long term respirogram. C Dynamic – This measures the variation in respiration rate through the treatment of a sample. Max respiration rates are determined as are total oxygen demands. It is particularly useful for rapid comparative tests, cumulative oxygen requirement tests, relative bioactivity tests, Kinetic parameter determinations.

System Specification

BMT:	**Batch, closed circulation circuit, laboratory respirometer**
Operational Principle:	**Measurement of DO consumption with time using an electrochemical DO probe.**
Range:	**0-600mg/l.h**
Repeatability:	**+/- 0.5% (under identical conditions)**
Respiration rate accuracy:	**1-2%**
Oxygen uptake accuracy:	**2-5%**
Min response time for Rs:	**1 sec**
Equipment items:	**1 jacketed Reactor vessel** **Optional external thermostatic bath and circulator** **PC + operating software (provided)** **Interface for PC** **Circulating pump** **DO sensor and transmitter (built in)** **Electrical requirement: 230VAC 50 Hz, 3A (excluding water bath)** **Analyser dimensions – 340x330x460mm (wxdxh)**
Thermostatic water bath:	**dimensionslxbxd: 70x40x45mm** **Weight: 25Kg** **Capacity 13l** **Circulation rate: 12l/min max** **Power: 230V/50Hz, 1.5kW** **Temp range: 0-60 deg C – stability 1 deg C**
Computer System:	**Program environment: - Windows 2000, XT, NT, Vista** **File Types: rsn (BM-T) & CSV (Excel) Windows compatible** **Security file generation – Automatic** **Personal file generation – BM-T program storing mode** **Data entry – via PC keyboard**

System Features

- **Individual assay configurations**
- **Open assay system – allowing substance addition during assay**
- **Graphic and tabular data display**
- **Zoom capability on graphics**
- **Respirogram overlay capability – for easy comparisons**
- **Manual input of VSS – to permit SOUR calculation**
- **User programmable data collection rate**
- **Auto temperature control and display**
- **Data export in excel format – for easy manipulation and reporting**

Ordering Information

When placing an order it is important to indicate the following requirements to our sales staff:

1. **Is the application for aerobic, anaerobic or solid phase application?**
2. **Is a water bath required?**
3. **Is heating only or heating and cooling required?**
4. **Is a transportation case required?**

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