



"I have found the people at Qubit Systems to be an extremely valuable resource in getting three different systems up and running. Their knowledge, experience and unfailing good humor helped me work through a number of issues. They have provided the best service that I have ever received from a company" *Dr. Diane Robertson, Biology Department, Grinnell College, Grinnell, Iowa*

Q-BOX SERIES Q-BOX HR1LP HUMAN RESPIRATION PACKAGE



The Q-Box HR1LP Human Respirometry Package allows users to conduct numerous safe, exciting investigations in respiratory and cardiovascular physiology. Exhaled air is sub-sampled from a breath mixing bag and pumped through the gas analysis system at a known flow rate. The percentages of O₂ and CO₂ in the exhaled air are measured and metabolic rate (VO₂, VCO₂) is calculated. Simultaneous spirometry measurements allow calculations of lung volume and capacity. Measurements of the heart rate complement the data. *Note: this package is not for use in clinical and medical applications..*

Features:

- CO₂ Infrared Analyzer (0 - 10% Range)
- Fuel Cell O₂ Analyzer (0 - 100% O₂ Range)
- Mass Flow Monitor (2 LPM)
- Gas Pump (3 LPM no load)
- Pneumotach Spirometer
- Wireless Exercise Heart Rate Monitor
- Face Masks
- Breath Mixing Bag
- Six Channel Data Interface
- Data Acquisition Software
- Rugged Weatherproof Case

Applications:

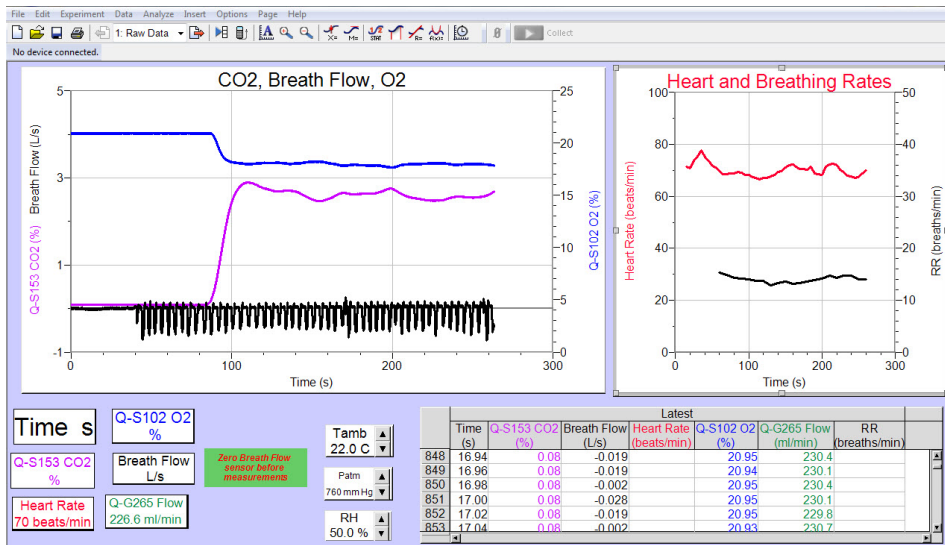
- Human Respirometry
- VO₂ and VCO₂ calculations (rest and exercise)
- Heart Rate Measurements
- Lung Volumes and Capacity calculations
- Breathing Frequency Monitoring
- Effects of Diet, Caffeine on Metabolism

Q-Box sensors and analyzers are compatible with the ADI Powerlab interface and LabChart Software. These may be supplied as options to our standard interface and software.



1573 John Counter Blvd., Kingston, Ontario, Canada K7M3L5
www.qubitsystems.com / info@qubitsystems.com
World Wide 01.613.384.1977
North America 888.262.2219

SOFTWARE



Sample Data from a Human



All of Qubit's Q-BOX Packages include the same data acquisition software. You do not need to learn a different program for each suite of instruments. The software is powerful but intuitive so that novices are collecting and manipulating data within minutes of set up. Qubit supplies set-up files for each Q-BOX configuration with default displays, experimental periods and all calculations in place. Defaults can be changed quickly and easily as required. You need to buy the software only once, no matter how many types of Q-BOX packages you purchase. Free upgrades are provided on request. *Q-Box sensors and analyzers are compatible with any data acquisition system you may already possess.*

SOFTWARE FEATURES

- 6 Data Channels
- Variable Data Acquisition Rate
- Graph, Table and Meter Displays
- Suite of Analysis Functions: (Statistics, Curve Fit, Integration etc.)
- Control of Devices Using Data Input
- Multi-Page Reporting
- Data Replay Function
- Simple Equation Input and Editing
- Numerous Mathematical Functions
- Automated Calculations On-the-Fly

STANDARD Q-BOX PACKAGES

- RP1LP Low Range Respirometry
- RP2LP High Range Respirometry
- CO650 Plant CO₂ Analysis
- SR1LP Soil Respirometry
- NF1LP Nitrogen Fixation
- HR1LP Human Respirometry
- AQUA Aquatic Respirometry
- BBB1LP Human Exercise Physiology
- OX1LP Dissolved O₂

CUSTOMIZE YOUR Q-BOX

The Q-BOX concept is all about flexibility. Do you want a system that can be used to measure insect respirometry, photosynthesis, human metabolic rate and atmospheric monitoring? Do you need to share your Q-BOX with a colleague from another discipline? Please contact us and we'll show you how the various components required for diverse studies can be configured in a common system.



Each Q-BOX component is easily removed from the Q-BOX and replaced with whatever new component you require. All of the analyzers, pumps and sensors etc. can also be used as stand-alone items independent of the Q-BOX. You may use our software and interfaces for collecting data from analyzers in stand-alone mode.



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