

IX-PEAK

Overview

The IX-Peak is suitable for recording and measuring, Basal Metabolic Rate (BMR), Resting Metabolic Rate (RMR), Respiratory Exchange Ratio (RER), Sedentary to light activity VO₂ and VCO₂ and VO₂ Max. These variables can be used to calculate such things as baseline fitness data and to perform analysis of current diet and exercise regiment.

Front Panel Description



Outlet: Expired Samples
Sample in: Fresh sample from subject
Room Air: Sample used for calibration
Flow: The tubing from the flow head connects here
iWire: 2 ports for use with iWire devices
Temp: TM-220 connects here for temperature recordings
HR: PHRMP-100 receiver connects here

Specifications

General	
Sensors	Volume, O2, CO2, Temp, Barometric Pressure, HR
iWire	2 iWire ports
Temp	10 – 50 deg C
HR	Polar Heart Rate
CO2 Sensor	
Range	0-10%
Sense Method	NDIR
Error	< 0.26% CO2
Warm up	5 minutes
O2 Sensor	
Range	0-50 %
Sense Method	Paramagnetic
Linearity	< 0.2% O2
Repeat ability	< 0.2% O2
Drift	< 0.4% in 1st 24 Hours, then <0.2% additional the following week, then < 0.2% additional per each following month.
Warmup	1 minute

Metabolic Cart Setup

1. Turn on iWorx Peak or PeakPro and allow it to warm up until the led stops blinking.
2. Attach the flow head tubing to Flow connectors.
3. Attach the Nafion tubing to the Sample in filter, so that the braided end attaches to the filter. **(Filter should be changed after 5 tests)**
4. Attach smooth-bore tubing to the Mixing Chamber.
5. Attach the clear tubing to the “Out from Analyzer” connector on the mixing chamber next to the smooth-bore tubing.
6. Attach the Flow head to the Mixing Chamber. Note that the red port must be facing the mixing chamber.
7. Attach the clear end of the Nafion tubing to mixing chamber next to the flow head.
8. Attach flow head tubing to flow head making sure the ribbed tubing attaches to the red port.
9. Click on LabScribe short cut on desktop.
10. On the Settings menu click on **FitnessAssessment**.


Quick Flow head Calibration & Gas Calibration

All steps will be prompted by the software

1. Click the Setup that is shown in the window on the left; enter subject's info.
2. Click Quick Flow Calibration
Attach the open end of the smooth-bore tubing to the 3L calibration syringe.
Pull syringe all the way out. Follow the software directions.
3. After the Quick Calibration – a new window will open.
 - a. Enter the following
 - i. Type of Flow head – **Calibrated**
 - ii. **Click Load to load the .iwxgcd file (Flow Calibration)**
 - iii. Baseline: set to use first 10 seconds as zero
 - iv. Calibrate difference between cursors to **3L**
 - v. Move cursors to flat lines before and after the calibration recording.
 - vi. Click **Calibrate difference between cursors** button
 - vii. Click Done
 - viii. Disconnect the Syringe
4. Click Calibrate Gas Analyzer and follow the software directions.
 - a. You will be doing both a room air and know gas calibration
 - b. At the end of the gas calibration, close the regulator and disconnect the ACal-200 and reconnect the Nafion tubing to the Mixing Chamber
5. Follow the directions to enter in room air and gas concentration values.
6. Click OK. You are now ready to start your test.

Starting a Fitness Assessment Test

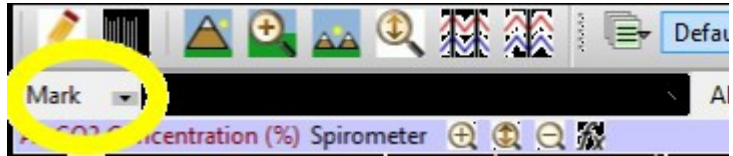
Complete the Metabolic Cart Setup first

1. Attach the head gear to the mask.
2. Instruct the subject to try on the assembly. Adjust the straps so that the mask fits the subject comfortably. Make sure there are no leaks around the mask.
3. Connect the smooth-bore tubing to the outlet of the non-rebreathing valve.
There are arrows on the valve that indicate the direction of air flow
4. Make sure the flaps on the non-rebreathing valve are facing the right way
5. Click in **Setup**. Enter the subject information and settings.
6. Fit the mask on the subject and make sure there are no leaks
7. Remove the smooth-bore tubing from the mixing chamber to record baseline.
8. Click the **Record** Button 
9. Wait at least 10 seconds for the system to zero

10. Reconnect the smooth-bore tubing to the mixing chamber

11. The test has now started.

12. Mark the data for each stage of the exercise protocol you have chosen to use



13. Click Stop  and then Click Save As to save your data

14. Click **Analyze** to pull up the automated metabolic calculations and chart generator

15. Enter any pertinent information

16. Click **Calculate** to generate graphs and a full chart of metabolic parameters

17. Click **Reports** to generate custom, printable reports

Intended Usage

Iworx Systems Inc. instruments, components, and accessories are designed for educational and research oriented life science applications and investigations. Iworx Systems Inc. does not condone the use of its instruments for clinical medical applications. Instruments, components, and accessories provided by Iworx Systems Inc. are not intended for the diagnosis, cure, mitigation, treatment, or prevention of disease.

Company Information:



Headquarters
iWorx Systems, Inc.
62 Littleworth Road
Dover, NH 03820

Phone: (800) 234-1757
Fax: (603) 742-2455
Website: www.iWorx.com