Cortex Gas Analyser User Guide
Initial Setup

• Power on Cortex 30 minutes prior to use to warm up
• Equipment required:
  - Face mask
  - Head net
  - Heart rate monitor
  - Calibration gas canister
  - Mouthpiece turbine
Metasoft Setup

- Load Metasoft 3 program, icon on desktop
- Select calibration tab
Pressure Setup

- Select Pressure Tab
- Enter Room Pressure
- Select Start
- Select Transfer
- Close once complete
Gas Calibration

- Select Gas tab
- Remove gas sensor from holder
Gas calibration

- Place gas sensor in open air
- Select Start Gas 1, dots will appear on the two lines and wait until calibration is complete
Gas Calibration

- Connect gas sensor to gas bottle
- Select Start Gas 2
Gas Calibration

- Once complete select transfer and close
Turbine and Sensor Connection

• To connect both parts, twist the bottom of the turbine until the small ridge at the bottom is almost totally obscured.
• Then slide in the sensor and twist the bottom of the turbine once again to lock it in place. Note the groove in the sensor needs to be facing the bottom of the turbine.

![Sensor](image1.png)

- Locking groove

![Turbine](image2.png)

- Twist this part
Volume Calibration

- Connect Hans-Rudolph device to gas turbine and sensor
Volume Calibration

• Insert plug into gas sensor before calibrating volume
Volume Calibration

- Ensure that the inspiration (pull lever out) and expiration (push lever in) are kept between the green boundaries.

- 5 good strokes need to be registered and need to be on the green line for the most accurate readings.

- Once completed select Transfer and close.
Connecting Mask and Turbine

- Remove the plug from the gas sensor
- Connect turbine to a face mask and head net
- Plug in gas sensor
Adding a Test Subject

- Select the Medical Diagnostics tab
- Select CPX Testing
Adding a Test Subject

- Select Prepare
- Select New Test Subject
Adding a Test Subject

- Enter Test Subjects details
  - Name
  - Sex
  - Date of birth
  - Height (cm)
  - Weight (kg)
  - Physical Activity
  - Cortex mask size

- Select save and close
Adding a Test Subject

• When the test is ready to begin, select the green play button to start measurement
Extras

• On the navigation pane at the top, you can add markers which will highlight a certain point in time that may be of interest (e.g. the beginning of a test)

• The screens tab at the top can change the appearance of the data collection screen (field being the most common view – as seen in lab classes)
Saving Data to Excel

- Select Test
- Select Export
- Select Spreadsheet interface
Saving Data to Excel

- Select the parameters you require
- Select the > to move the parameters selected in the left box across or >> to transfer all the parameters
- Excel will then open with all the data from that test
- Ensure that you click save as and change the save type to excel 97-2003 so it is compatible with your computer
- Email to yourself as USB sticks can carry viruses which can be transferred onto University PC’s and cause them to run slowly
Cleaning up afterwards!

- Once you have finished testing fill a bowl with warm water and add a small amount of Neutracon detergent (10ml is enough so no need to pour a large amount in)
- Place everything in this bowl – Heart rate monitors, hair nets, face masks, turbines
- NOTE: Do NOT rinse turbines under a tap as this may break them, but flushing them in the bowl is fine
- Once washed, empty the bowl or use another bowl to disinfect the turbines and face masks ONLY, head nets and heart rate straps will lose their elasticity if left too long. Fill the bowl with cold water and add a small amount of Milton disinfectant. Then leave for 15 minutes as this is the time it takes to fully disinfect the items.
- Shake off as much water as possible as this will reduce the time it takes to dry off in the drying cabinet. NOTE: do not put anything on the very bottom and do not change the temperature as this may cause things to melt.
- Spray the handlebars/treadmill with Virkon solution (pink spray bottles) and wipe with tissue to ensure that any blood/sweat is cleaned off for the next person to use it.