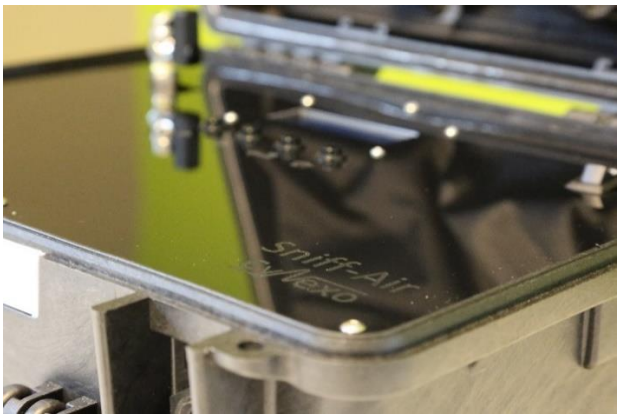
Sniff-Air



Long lasting olfactometer experiments using a constant air flow of compressed air may lead to an uncomfortable sensation of dryness. ***Sniff-Air*** was developed as a solution to regulate air temperature and humidity to enhance the subject's experience by keeping these parameters within a comfort zone.

The system is able to raise incoming air temperature and increase relative humidity through a piezoelectric water atomizer. In this manner ***Sniff-Air*** can maintain, for the duration of the experiment, a set temperature and humidity range above those of the incoming air flow. The set temperature can be selected from room to body temperature, roughly between 25°C and 36°C, while humidity will be maintained within the comfort range of 40-60% RH.

Sniff-Air has been fitted with sensors capable of monitoring output air temperature and humidity. Through an initial autocalibration feature, the unit is able to adjust control parameters to ensure the desired conditions are achieved for the specific experimental conditions at hand (e.g. room temp, air temp & humidity, air flow rate) prior to initiating an experiment. Additional sensors built into the tube bundle, ensure the air temperature reaching the subject is maintained throughout the experiment.

The chosen parameters can be regulated through the frontal panel function buttons or using the serial emulated port through a USB connection. This in turn allows ***Sniff-Air*** to interface with the most common control software packages such as MatLab®, Octave, E-Prime®, LabView®, or PsychoPy.

By developing a control firmware based on Arduino, we have made it possible to customize the unit in case of non-standard requests such as temperature ramping or discontinuous humidity control during the trials. The optional RS232 port can enable more complex operative scenarios, where external devices such as our ***Sniff-0***, can actively drive the parameters, with no need for the unit to be connected to an external control PC.

As a result, ***Sniff-Air*** can be perfectly integrated with our ***Sniff-0*** olfactometer, conditioning the constant flow or clean air channels so as to enhance your subject's experimental experience.

Main features

USB interface which powers the device and communicates to the host PC through an emulated serial port supported by all operating systems

Compatible with the most diffused application frameworks such as MatLab®, Octave, E-Prime®, LabView®, PsychoPy

Open programmable Arduino based architecture, allowing you configure and personalize all aspects: the standard firmware means you will be able to program the unit yourself, or choose to have us build a specific customized solution for your research needs

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Small, portable and robust, packaged in a convenient ruggedized carrying case

Elegant though unobtrusive ergonomic design with 3D printed parts

SPECIFICATIONS Sniff-Air	
OS support	*Windows®, MAC®, GNU/Linux using Arduino Due drivers*
Software compatibility	*Python, MatLab®, Octave, C, C++, E-Prime®, LabView®, PsychoPy*
Communication	*USB 2.0 (USB 3.0 supported)*
Extension ports	*RS232 (Optional)*
Water reservoir	*50 cc – up to 4 hours of comfort humidity starting from 20% RH@20 °C*
Air input-output	*Fast push-to-connect connectors for standard 4 or 6 mm tubes*
Air flow regulation range	*From 3 to 10 l/min*
Max operating pressure	*3 bar – 46 psi*
Temperature regulation range	*25-36 °C (depending on manifold configuration and environmental conditions); Maximum ΔT: 15 °C*
Humidity automatic regulation range	*40-60% RH*
Power	*48V 160W max medical grade power supply, EN60601-1 compliant (included)*
Dimensions	*380 x 270 x 180mm*
Weight	*6,5 kg*

RELETED PRODUCTS	
Olfactometer	*Sniff-0*

OPTIONS / ADD-ONS

- Custom length pneumatic bundle
- RS232 port