

Olfactory system e-Plasma-Nose[®] (Model: COVID-19)

This compact design olfactory system can be used both in R&D laboratories as well as in field work since it has a 3-hour rechargeable battery. It uses a friendly recognition software, very versatile, to adapt to the needs of the user.

Applications:

Acceptance of raw materials, in medicine determination of deviations from gas standards for the **determination of lung diseases caused by COVID-19**, detection of contaminants, freshness of food and determination of shelf life. The data obtained can **be mapped by GPS** for the **visualization of contaminant or infection distribution**.

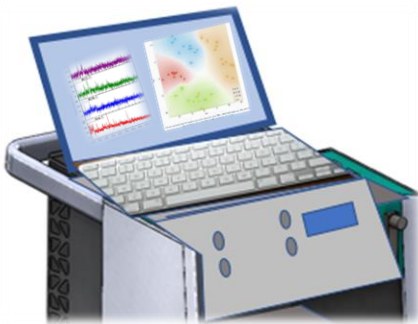


Figure 1: Designing of the e-Pnose system

Operation Scheme :

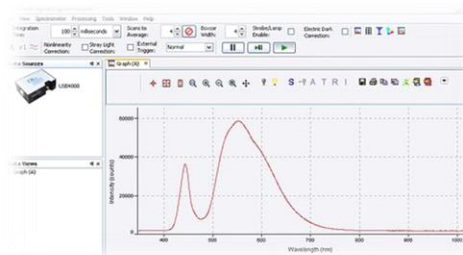
The e-PNose system is connected directly to a nitrogen generator that is used as a carrier to transport the sample to the ionization system. The emission spectrum is analyzed by artificial intelligence and chemometrics techniques. From the results, the group of the analysed sample can be established, whether it is healthy or infected.



Figure 2: Design of the e-PNose system in conjunction with the gas generator (N₂)

Friendly Software:

e-Plasma Nose software version 1.01 enables real-time data acquisition.



It also has an interface that allows the processing of data using advanced classification algorithms (PCA, Fisher and Linear Classifiers)

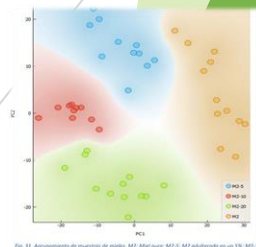
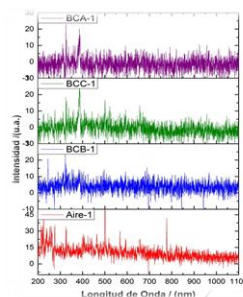


Fig. 31. Agrupamiento de muestras de virus. ABC, BCC, BCB, BCA. Muestreado en un DAQ 1024

Example of patient sampling

Figure 2 shows the e-PNose with the gas generator. The equipment has an acrylic panel (Figure 3) that allows the operator to be isolated from the patient being analyzed.

The patient blows through a disposable nozzle and the sample is immediately analyzed by the e-PNose. Once the patient is analyzed, the mouthpiece is discarded and a new one is used for the next patient.



Figure 3: e-PNose scheme taking sample and analysing.

Technical Features:

Low power consumption 7 Watts , USB PC connection, Access to software functions, 1 gas input channel, Lithium Ion battery, Autonomy 3 hours, rechargeable. Ocean Optics ® STS-UV or HR4000 spectrometers.

Electropump flow rate: 420 cc/min.

Ionization chamber, volume : 7.1 cc.

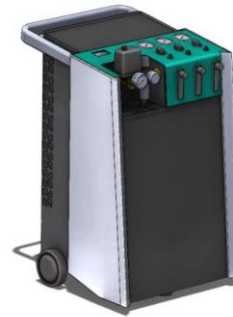
Ionization Source: 4.2kV continuous corona discharge, Carrier Gas N₂, flow 100cc/min. Power control system for 4.2 kV corona discharge.

Fine flow control system by needle valve.

Wi-Fi connection system for data transmission

Optional Features:

- Lithium Ion battery, Autonomy 3 hours
- Battery Charger.
- Transfer box for field measurements.
- NetBook with E-Plasma Nose installed, ready to use.
- Gas purge system with Micro Multigas /M (N₂, O₂, Air) Portable



Micro Multigas /M (N₂, O₂, Air) Portable


- Warranty one year from the date of purchase for any defect other than the correct use of the equipment.
- Any other modifications made by the client are at their own risk.

Note: All specifications and images are general and subject to change without notice.

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