

Fractional exhaled nitric oxide ($F_{E_{NO}}$) monitoring for airway inflammation, asthma and COPD

Measuring $F_{E_{NO}}$ with NObreath allows consistent, non-invasive measurement of expired breath nitric oxide (NO). This can be used as a marker for airway inflammation such as asthma, and aid on-going monitoring of treatment.¹

$F_{E_{NO}}$ is a non-invasive, valid marker of airway inflammation, making analysis and monitoring safe, quick and easy. The relation between elevated levels of $F_{E_{NO}}$ and airway inflammation in asthma sufferers is well established.²

NObreath provides affordable $F_{E_{NO}}$ monitoring that is accessible to many healthcare professionals. The hand-held device enables respiratory specialists, doctors and asthma specialists to largely comply with ATS and ERS guidelines³ when testing $F_{E_{NO}}$ levels in patients. Adults and children can be easily tested, correctly assessed and promptly prescribed the correct treatment regime thus saving time and further reducing costs.

NObreath uses the NObreathFlo™ sample conditioning and entrapment system; a re-usable device that ensures the consistency of each test. Single-use disposable mouthpieces attach to the NObreathFlo™ for cost-effective infection control.



Patent applied for

Benefits

- Provides fast measurement of $F_{E_{NO}}$
- Low cost per test
- Easy to use system
- Applicable to adults and children
- After sales service packages available
- Veterinary application under development



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Product Features

- Integrated ambient air NO filter
- Visual and audible user feedback to ensure correct sample taken
- Unique patent pending NObreathFlo™ system – easy to perform a test.
- Small, lightweight, portable
- Battery powered (3 x AA)
- Colour touch screen
- Simple, graphics driven user interface
- Auto-calibration and ability to perform functional verification
- Single-use disposable mouthpiece for infection control
- Anti-bacterial filter
- Ambient NO monitoring mode

Specification Summary

Concentration range:	5-300ppb
Response time:	<10 sec
Warm up time:	<2 mins
Repeatability:	±5%
Cross interference:	None known
Operating humidity:	10-90% (0-95%) – non condensing
Temperature:	10-30°C
Exhalation time:	10-12 secs with a flow of 50ml/s with a pressure of ≈10cm H ₂ O
Test time:	<30 sec
Sensor:	Electrochemical
Dimensions:	50(D) x 90(w) x 150 (H) mm
Weight:	0.3kg
Sensor shelf-life:	≈1-2 years
Power supply:	3 x AA (4.5V)

Specification subject to development.

1 Markers of Lung Disease in Exhaled Breath: Nitric Oxide; Choi J, Hoffman LA, Rodway GW, Sethi JM. Biological Research for Nursing; 2006 Apr; 7(4):241

2 Markers of Lung Disease in Exhaled Breath: Nitric Oxide; Choi J, Hoffman LA, Rodway GW, Sethi JM. Biological Research for Nursing; 2006 Apr; 7(4):248.

3.ATS/ERS Recommendations for Standardized Procedures for the Online and Offline Measurement of Exhaled Lower Respiratory Nitric Oxide and Nasal Nitric Oxide, 2005; American Journal of Respiratory and Critical Care Medicine; vol. 171: 912-930; 2005

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