ACCURATE FeNO MEASUREMENTS

ANALYZER CLD 88 SERIES WITH DENOX 88

ECO MEDICS

THE KEY TO ACCURATE FeNO MEASUREMENTS

Analysis of nitric oxide (NO) is a well established method in clinical practice. Measurement of fractional exhaled nitric oxide (FeNO) is a convenient and non-invasive method to measure eosinophilic airway inflammation in asthma diagnosis and monitoring, while the measurement of nasal NO has gained recognition as Primary Ciliary Dyskinesia (PCD) screening tool.

The **ANALYZER CLD 88 SERIES** with **DENOX 88** offers a very accurate and highly sensitive method for FeNO and nasal NO detection. Based on chemiluminescence technology, the reference method, the device delivers fast results and is independent from expensive consumables. It is approved for clinical use in Europe and fully compliant to the ATS/ERS recommendations.[1,2,3,4]

ANALYZER CLD 88 SERIES WITH DENOX 88

⇢ Used in research studies and clinical studies around the world

⇢ Fulfilling the latest ATS/ERS standards and technical statements

⇢ Reimbursement of FeNO testing by health insurances in several countries

References:

1. ATS/ERS Recommendations for Standardized Procedures for the Online and Offline Measurement o Exhaled Lower Respiratory Nitric Oxide and Nasal Nitric Oxide, 2005. Am J Respir Crit Care Med 171, 912–930 (2005).
2. Lucas, J. S. et al. European Respiratory Society guidelines for the diagnosis of primary ciliary dyskinesia. Eur Respir J 49, (2017).
3. Horváth, I. et al. A European Respiratory Society technical standard: exhaled biomarkers in lung disease. Eur Respir J 49, (2017).
4. Shapiro, A. J. et al. Nasal Nitric Oxide Measurement in Primary Ciliary Dyskinesia. A Technical Paper on Standardized Testing Protocols. Annals ATS 17, e1–e12 (2019).
5. Högman, M et al. A practical approach to the theoretical models to calculate NO parameters of the respiratory system. J. Breath Res. 8, 016002 (2014).

ANALYZER CLD 88 SERIES WITH DENOX 88

HIGH ACCURACY AND SENSITIVITY

The **ANALYZER CLD 88 SERIES** with **DENOX 88** employs the chemiluminescence method for FeNO detection, which is the only ATS/ERS recommended technology for exhaled nitric oxide analysis to fulfill the requirements for detection limit, response time and measurement range.[1]

FAST RESPONSE TIME

The device measures nitric oxide, flow rates and volume continuously and displays results in real time. Non-compliant measurements are spotted immediately.

WIDE APPLICATION RANGE IN ONE INSTRUMENT

With the new **SPIROWARE®** software version, the application range has been extended, including numerous tests for nitric oxide analysis and general lung function assessment, suitable for infants, children and adults.

> **EXHALED NO (FeNO)** is a quick and easy test to detect airway inflammation, to monitor response to treatment and to predict exacerbations.

> **NASAL NO** is a reliable test used for primary ciliary dyskinesia (PCD) screening. The **ANALYZER CLD 88** Series fulfils the ATS/ERS guidelines, demanding a chemiluminescence analyzer for nNO measurement.[4]

> Measurement of **ALVEOLAR NO** allows the differentiation between inflammation in the large and peripheral airways.[5]

> **OFFLINE NO** measurement offers device independent NO testing - anytime and anywhere.

> **SPIROMETRY** is widely used to assess and monitor overall lung function.[1]

LOW CONSUMABLE CONSUMPTION

FeNO tests with the **ANALYZER CLD 88** Series do not require any pricy consumables or cartridges, except a standard bacteria filter, resulting in an attractive total cost of ownership.

IDEAL TEST CONDITIONS

The **DENOX 88** module supplies NO free air to the subject for a consistent test environment. It also enables expiratory flow control, which can be adjusted to customer needs (e.g. 20, 50, 100, 200, 300 ml/s) and is used to control the expiratory flow during the single breath test. In multiple breath test conditions, the module provides a continuous NO free air flow reducing the breathing work of infants.

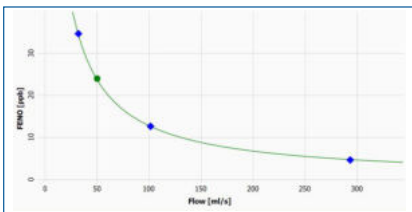# ANALYZER CLD 88 SERIES APPLICATIONS

FeNO TEST
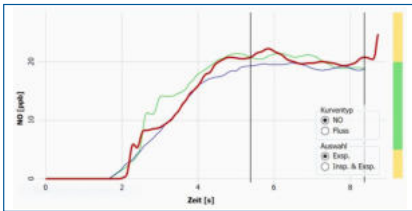
FeNO plays an important role in the diagnosis of airway inflammation. Bronchial FeNO by single breath or multiple breath technique, nasal NO and offline NO detection are possible.

SELECTED PARAMETERS

⇢ $FeNO_{50}$	⇢ Exp. Time	⇢ Plat. Avg. Flow
⇢ FeNOnasal	⇢ Plat. Duration	⇢ V'NO
⇢ FiNO		

ALVEOLAR NO

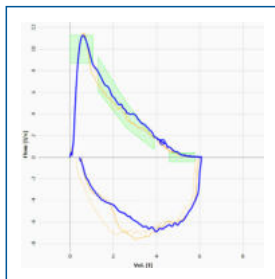

Alveolar NO is measured to differentiate between alveolar and bronchial inflammation.

SELECTED PARAMETERS

⇢ CaNO	⇢ $FeNO_{50c}$	⇢ Plat. Duration
⇢ CawNO	⇢ FeNO	⇢ Plat. Avg. Flow
⇢ DawNO	⇢ FiNO	⇢ V'NOk
⇢ J'awNO	⇢ Exp. Time	

SPIROMETRY

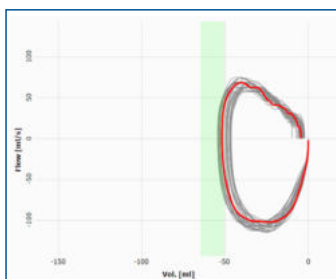

Spirometry is the most common pulmonary function test and measures the volume and flow of the inhaled and exhaled air.

SELECTED PARAMETERS

⇢ FVC	⇢ $FEV_{0.75}/FVC$	⇢ Time to PEF
⇢ FEV_1	⇢ $FEV_{0.5}$	⇢ FEF_{25-75}
⇢ FEV_1/FVC	⇢ $FEV_{0.5}/FVC$	⇢ FEF_{25}
⇢ PEF,	⇢ Insp. VC	⇢ FEF_{50}
⇢ $FEV_{0.75}$	⇢ FET	⇢ FEF_{75}

TIDAL BREATHING ANALYSIS

The analysis of tidal flow and volume is a simple, yet very valuable method to study lung function even in non-cooperating infants and children.

SELECTED PARAMETERS

⇢ VT	⇢ $TEF_{75\%}$	⇢ TEF_{50}/TIF_{50}
⇢ RR	⇢ $TEF_{50\%}$	⇢ TEF_{75}/PEF
⇢ PIF	⇢ $TEF_{25\%}$	⇢ TEF_{50}/PEF
⇢ PEF	⇢ $TEF_{10\%}$	⇢ TEF_{25}/PEF
⇢ MV	⇢ $TIF_{50\%}$	⇢ TEF_{10}/PEF