**HypAir FeNO**

**Version specific to the FeNO module**
- SQL database with processing tools and backup function
- Historical function
- Comments function
- Reports configuration
- Choice of language
- Pharmacodynamic tests
- Choice of measuring units
- Inbuilt quality control of calibrations
- Phone desk technical support
- Technical toolbox enabling diagnostic function and full program control

**Version integrated to available PFT equipment**

**EXPAIR Software**

The Medisoft factory is a state of the art modern facility with clinical research, precision engineering and computer design departments.

**GENERAL SPECIFICATIONS**
- Dimensions (HxWxD) cm: 14 x 21 x 30
- Weight: ± 10 kg
- Power requirements: 230/115 VAC 50/60Hz
- Power consumption: < 20 VA
- Warm up time: < 30 minutes
- Compatible with electric safety requirements

**DATABASE**
- Cell type: Electrochemical
- Cell life span: min. 2 years
- Measurement range: 1 to 200 PPM (Bronchial) to 1 to 2000 PPM (Naso)
- Response time: 25 seconds
- Analysis time: 25 seconds
- Stability: + drift < 1%/day
- Relative accuracy: Better than 1 PPM
- Linearity: error < 0.5%
- Reproducibility: ± 2 PPM

**MEASUREMENT OF EXPIRED FLOW RATE**
- Pneumotachograph: Lilly cone
- Differential pressure sensor: type Piezo resistive
- Flow rate range: 0.01 to 1 L/sec
- Expired flow rate standardised between 300 to 400 L/sec

**MEASUREMENT OF EXPIRED PRESSURE**
- Pressure sensor: type Piezo resistive protected against overpressures
- Measuring range: ± 50 cm H2O
- Expired pressure range standardised between 10 and 20 cm H2O

**CALIBRATION**
- Analyser: automatic procedure – frequency (min 2 x day)
- Standard gas cylinder at ± 100 PPM
- Consumption: ± 0.25 L
- Pneumotachograph: Flow meter
- Automatic procedure with a 1 L calibration syringe – frequency (min 1 x year)
- Pressure transducer (mouth pressure)
- Automatic procedure with water column - frequency (min 1 x year)

**EXTERNAL PATIENT CIRCUIT**
- Rigid pipe: length 80 cm Ø 10 mm
- Adaptor for MS disposable antibacterial filter
- Dead space ± 20 ml

**CLEANING DISINFECTION**
- Use of an antibacterial filter protects the whole of the patient circuit.

**BIBLIOGRAPHY REFERENCES**
- Am J Respir Crit Care Med
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  DOI: 10.1164/rccm.200406-710ST

**MEASURING SYSTEM**

**ENDOGENOUS EXHALED NO**
HYPAIR Fe\textsubscript{NO}

Endogenous exhaled NO measuring system, using the off-line method

Technique:
- Standardised (ERS/ATS guidelines)
- Simple, fast and non-invasive
- Low cost
- Reproducible results (maximum variation 5PPB)

- \textbf{FeNO measurements}
  - Are the best marker
    - Of the level of inflammation of the airways
    - Of the response to steroids
  - Improve patient care
  - A direct relationship clearly exists between the dose of steroid inhaled and the decrease of the FeNO value measured allowing the steroid dose to be adapted to the patient’s needs.

- \textbf{Competitive advantages}
  - Low operating costs
  - Easy control of the expiratory flow rate and pressure
  - Fully integrated into our PFT equipment range
  - Automatic procedure of the quality control of the analyser
  - Measurement interpretation screen

\textbf{Measurement sequence}

1. **INITIALISATION**
   The patient breathes out.

2. **INSPIRATION**
   Maximum inspiration of air with ambient NO removed, through the equipment.

3. **EXPIRATION**
   Full expiration through a respiratory break.

4. **ANALYSIS TIME < 60 SECONDS**
   Display of results.

\textbf{Display of the results}

\textbf{Measured parameters}

- NO
  Maximum value of exhaled NO in ppb

- VE
  Averaged expired flow rate in litres/min

- VNO
  Averaged expired NO flow rate in mL/min

- Pres.
  Averaged expiratory pressure in cm H\textsubscript{2}O

- Number of tests: maximum 5 per screen
- Results averaging of tests performed

\textbf{Chemical column for the absorption of ambient NO (pollution)}