



Rhinometry

precision

Over the past decade acoustic rhinometry has become a well established method in rhinological research and practice. Its digital precision, simplicity, speed and non-invasive nature are its prime assets. The RhinoScan software module enables you to objectively detect and monitor both the degree and location of mucosal changes. It provides immediate area/distance mapping of the nasal cavity. In a matter of seconds, it measures the cross-sectional areas and volumes, and provides a two-dimensional graphic display of the degree and location of constrictions and expansions.

As well as being suitable for the detailed diagnosis of nasal abnormalities, RhinoScan is ideal for quick-screening purposes, and for verifying normal dimensions and studies of physiology in adults, infants and children.



The RhinoScan *Module*

- Efficient Rhinometry

Method

RhinoScan provides immediate area/distance mapping of the nasal cavity. In a matter of seconds, it measures the cross-sectional areas and volumes, and provides a two-dimensional graphic display of the degree and location of constrictions and expansions.

RhinoScan measures the nasal airway dimensions by emitting wide-band noise into the nose. The incident and reflected waves are recorded by a microphone, and digitally analysed at a rate of 20 times per second. The mean of five measurements is displayed as one curve which is updated four times per second - a method that ensures dependable results.

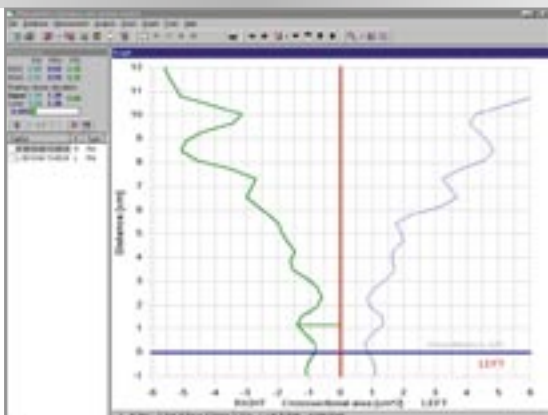


RhinoScan enables you to:

- Explore the normal physiology of nasal mucosa
- Diagnose nasal allergies
- Monitor the effects of surgical and medical therapy
- Detect, monitor and document the effects of environmental irritants (both indoor and outdoor)
- Diagnose and follow the evolution of nasal polyps
- RhinoScan is a complementary supplement to rhinomanometry (RhinoStream)
- Document pre- and post-surgical assessment
- Document pathology



The nose adaptors, tailored to fit right and left nostrils.



Fast Reliable Data

Aquisition

The RhinoScan software module acquires reliable data within seconds. It is particularly useful when diagnosing infants and children, who are neither able nor willing to cooperate. The only requirement for a successful assessment is that the child remains calm for a few seconds. The probe is gently pushed up to (not into) the nostril. If required, measurements can be performed during sleep.

The Windows® based interface is fast and intuitive. Saving information is simple, as is the process of recalling patient records from the database. During any subsequent patient consultation, the customizable on-screen display makes an ideal tool for comparing and discussing analyses in detail.



A mini probe for infant screening is available (optional).



Patient Goup

As well as being suitable for the detailed diagnosis of nasal abnormalities, RhinoScan is ideal for quick-screening purposes, and for verifying normal dimensions and studies of physiology in adults, infants and children.

Easy-to-use Hardware

The Hardware - SRE2000

The SRE2000 basic hardware platform is a digital signal-processing unit that can be connected via a serial cable to your own external computer to any personal computer via serial or USB connection.

Software Installation

The RhinoScan module is easy to install. It automatically guides you through the simple calibration procedure.

The RhinoScan Probes

The RhinoScan probes are unique, as they are available in two sizes to fit both adults and children.

The Standard Nose Adapters

The standard nose adapters are tailored to fit right and left nostrils, with a pleasant, non-slip surface that is anatomically designed to offer maximum patient comfort and a perfect fit. These units can also be used with the RhinoStream module. Applying sealing gel avoids sound leaks between the adapter and the nostril.



A standard probe for adult testing and a calibration tube are included with the RhinoScan software.

General Technical Specifications

Approvals:

CE approved 93/42/EEC.
510(K) K000406.
UL E179307.

RhinoScan Description:

Provides acoustic rhinometry measurements according to International Standards.

- Real time measurement and live display of the cross-sectional area of the nasal cavities allows interactive ideal fitting to the patients nose.
- Automatic, unsupervised determination of MCA1/MCA2 minimum cross sectional areas 1 & 2 reduces examination time.
- Advanced average/mean functions supports diagnosing the patient.
- Advanced patient database with fast searching, grouping, filtering and sorting facilities.
- Export/import of measurements for easy exchange of results with colleagues.
- Flexible built-in report generator for quick documentation of obtained results.

Patient Group:

Patients with nasal pathologies.

Measurement Duration:

Measurement of right and left nostril can be performed in less than one minute.

Specific Indications:

- Diagnosing nasal decongestion.
- Septum deviation.
- Polyps or enlarged adenoids.
- Evaluating changes in the volume of the nasal passage due to allergies.
- Surgical procedures or medications.

Method:

Acoustic Reflectometry.

Measuring Signal:

- Wide Band Noise 0.1-10 KHz.
- Signal Level: 92 dB SPL
- High Background Noise immunity.
- Readings based on 20 measurement curves / sec.

Probe Description:

Standard Probe Adults:

Hand-held and made of light weight aluminium for fast and easy fitting of adaptor to patient's nostril.
Length: 56 cm / 22".
Weight: 180 g / 6.4 ounces.
Patient Age: > 7 years.

Mini Probe Infants:

Light, aluminium infant probe. Hand-held with flexible tube for fast and easy fitting to infant's nostril.
Length: 11 cm / 4.3".
Weight: 140 g / 5 ounces.
Patient Age: < 3 years.

Probe Connection:

The probe is connected to a computer with an insulated 2.0 m / 59" connection cable.

Anatomic Nose Adapters:

- Disposable adult nose adapters, made of polystyrene. Designed to fit left and right nostril. Available in medium and large.
- Infant acrylic reusable nose adapters available in three sizes.

Hardware Platform:

SRE2000 - a compact basic digital signal processing unit, which can be connected either serially or via USB to your own external computer.

Operating System

SRE2000: Windows® 98/ME/NT4/2000/XP.

Database Facilities:

Individual patient database function for clinical use.

Relational database.

Database system: Paradox.

Database engine: BDE 5.1.

Capacity: Depends on hard disk.

Import / Export Functions:

All measurements, incl. patient / diagnosis
Export to ASCII text for import: to SPSS, Excel etc.

Hard Copy Output:

Results can be printed in colour on all Windows® based printers. Style and appearance is configurable.

For US Customers:

Caution:

Federal law restricts this device to sale by the order of a physician.

Included Parts:

Standard probe
Calibration tube
10 Sets of disposable nose adapters in two sizes
RhinoScan user manual
Certificate with software license code(s)
Probe Cable
Seal Gel

Optional Parts:

Probes:

Standard probe /
Extra standard probe for RhinoScan
Mini probe for RhinoScan

Standard Nose Adapters:

Medium, 100 sets
Large, 100 sets
Medium & large, 100 sets

Miniprobe Nose Adapters:

Small - 3 pieces nose adapters
Medium - 3 pieces nose adapters
Large - 3 pieces nose adapters

Modules available for the SRE2000 basic unit:

- RhinoScan Rhinometry
- RhinoStream Rhinomanometry

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