

4 RHINO

4-phase rhinomanometer



SIMPLE TEST. ACCURATE RESULTS.

**Nasal valve collapse, swollen turbinates,
septum deviation, allergic rhinitis ...**

the 4RHINO assists with diagnosis.

4-Phase Rhinomanometry

By adopting digital measurement techniques, high-resolution 4-phase rhinomanometry presents a scientific and technical advancement over “traditional” computerized rhinomanometry.



PRECISE MEASUREMENT

Highly accurate microsensor technology and algorithms monitor nasal breathing disorders to aid your diagnosis.

In contrast to other rhinomanometry devices, **the 4RHINO system creates a realistic representation** of the entire breathing cycle based on nearly 3,000 individual measurements.

Our new precise evaluation of the breathing cycle replaces the older rough estimates of airflow with exact measurements.



RELIABILITY

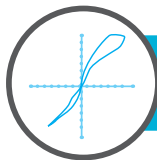
• High correlation

4RHINO has a patented, validated, clinical classification of nasal obstruction. The classification system is based on an evaluation of over 36,000 cases where a high correlation was found between subjective and objective sensation by the patient. This is determined by logarithmic values of effective (log. R_{EFF}) and vertex (log. VR) resistance giving measured values of airflow and obstruction. See table.

• Validated clinical classification of nasal obstruction in 4-phase rhinomanometry

	Log. Value (VR, R _{EFF})	Flow (ccm/s) Inspiration1/ 150 Pa	Obstruction, Resistance
1	<= 0.75	> 500	very low
2	0.75 - 1.00	300 - 500	low
3	1.00 - 1.25	180 - 300	moderate
4	1.25 - 1.50	60 - 180	high
5	> 1.50	< 60	very high

Based on a study with more than 36,000 cases.



IMMEDIATE REPRESENTATION OF NASAL VALVE



The elasticity of the nasal valve is visualized in graphs and may be evaluated numerically. Rhinolab uses airtight tape fixation for nostril closure that can be applied in seconds. This tape does not deform the nasal entrance and it eliminates incorrect measurements given by older foam olive products.



HYGIENE FACTORS

Single-use masks avoid cross-contamination and save time for doctors and nurses. Additionally, they are more convenient and eliminate sterilization costs.

Rhinolab aims to provide clinicians with objective measurement values to reinforce their diagnosis.

Sophisticated software engineering.
Simplicity for you.

Updated Software

The state-of-the-art 4RHINO software package has been developed for maximum ease of use. It contains all the diagnosis tools required for both the specialized ENT hospital department and for use in private practice.

- 1 Simple set-up
- 2 Tape fixation eliminates incorrect measurements by foam olives that deform the nasal entrance
- 3 Detailed results help to design suitable treatment
- 4 Available for Mac and Windows

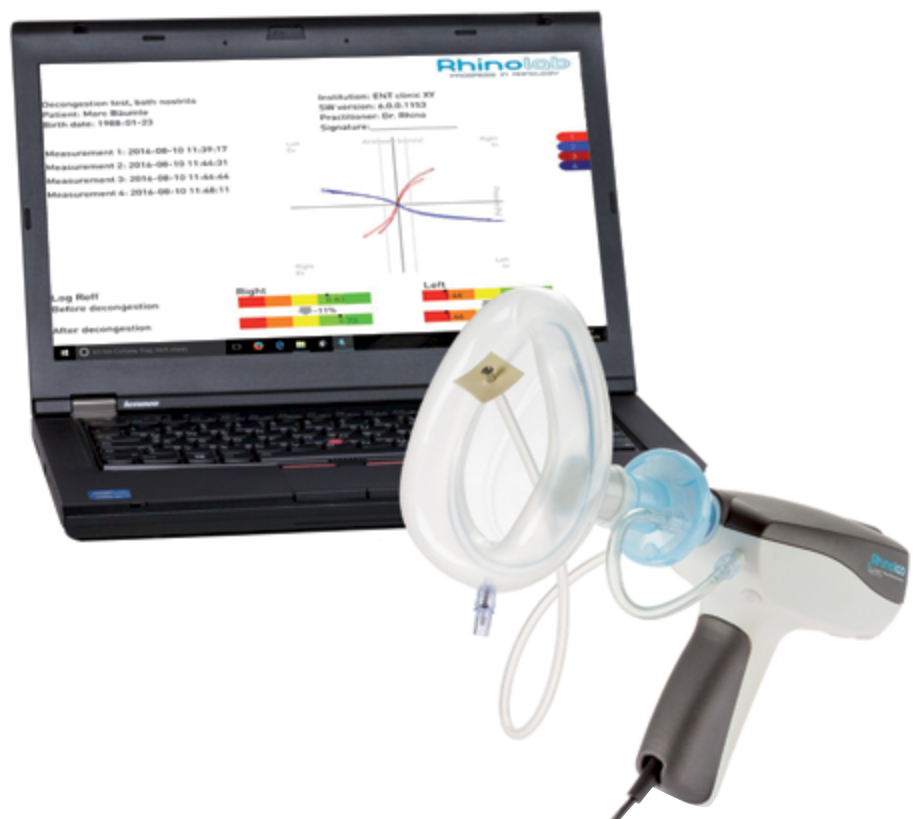


For me 4-phase rhinomanometry is like radiography for a radiologist.

Prof. Dr. med. Dr. h.c. Wolfgang Gubisch, Stuttgart (Germany)
Plastic/Esthetic surgery & ENT



The new single-use mask saves time and eliminates sterilization costs.



ORDERING INFORMATION

STARTER-KIT

Order no.	description	Quantity	
		RH4040	RH4040S
RH4040S	4RHINO – 4-phase rhinomanometer, complete with a box of single-use masks		1 pc
RH4040	4RHINO – 4-phase rhinomanometer, complete with reusable mask	1 pc	

Components

RH2000	4RHINO – 4-phase rhinomanometer	1 pc	1 pc
RH3030	Software upgrade "scientific edition"		
RH4001	Pressure-tube adaptor, single-use	100 pcs	100 pcs
RH4002	Tape, microfoam	12 rolls	12 rolls
RH4003	Pressure tube, single-use	10 pcs	
RH4006	Reference tube, single-use	10 pcs	
RH4007	Mask connector	1 pc	
RH4008	Face mask for young adults, sizes 3/4		
RH4009	Face mask for adults, size 5	1 pc	
RH4013	Single-use filter	10 pcs	
RH4025	4RHINO face mask, single-use, large		10 pcs
RH4030	Storage tray	1 pc	1 pc

Literature: 1. Vogt K., Jalowayski A (Herausgeber) "4-Phase-Rhinomanometry. Basis and Practice 2010", Rhinology, Supplement 21(2010), free download available at: www.rhinologyjournal.com

Literature: 2. Vogt K., Wernecke K-D., Behrbohm H., Gubisch W., Argale M. "Four-phase rhinomanometry: a multicentric retrospective analysis of 36,563 clinical measurements", European Archives of Oto-Rhino-Laryngology and Head & Neck, 2015, free download available at: www.springer.com