

# SpiroScout®

**Pulmonary function testing with ultrasound –  
the new dimension for the simultaneous measurement  
of spirometry and breathing gases**



**GANSHORN**  
**MEDIZIN ELECTRONIC**

# SpiroScout®

The **SpiroScout** is a complete lung function laboratory based on the GANSHORN-ultrasonic-measurement.

It enables the exact determination of all Spirometric parameters.

**But the SpiroScout is much more than only a spirometer.**

As first of its kind the SpiroScout measures **simultaneously flow and gas density** giving **with one single measurement** simultaneously information about volume and gas exchange.

The following options

- **Capno-Volumetry**
- **Emphysema diagnostics**
- **Determination of anatomical and functional dead spaces**

provide in a few seconds important information for a scout diagnosis of lung disorders.

The clear statement of these parameters does not depend on the cooperation of the patients. Even small children can be tested quickly and easily.

**Your benefits: Strong performance – low consumption – easy handling!**

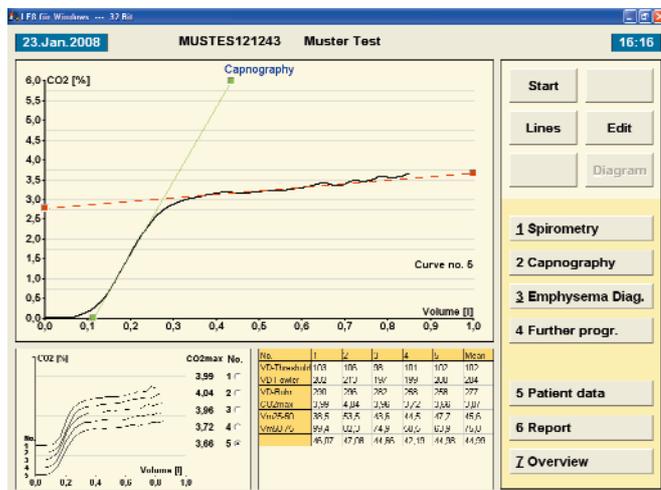
**You save time.** Be prepared: the SpiroScout requires neither a warm-up period nor calibration.

**You save a working step,** that other systems require. The SpiroScout is calibration free during day-to-day-operation – a benefit bringing daily gains.

**You save energy.** The ScoutSensor switches itself off automatically after the measurement even if the base station is left on.

**You save on disposables** and ease the environment. The disposable breathing tube saves bacterial and viral filters, mouth pieces and disinfection substances. Much less rubbish is produced in comparison to most of the other cleaning solutions.

**Gain valuable room** through a clever combination of base station and ScoutSensor



The high precision of 1.000 samples per second enables the exact determination of the expiratory curve shape



Cooperation independent Emphysema diagnostics according to Prof. U. Smidt

## **SpiroScout – Our elegant answer to your hygiene requirements in pulmonary function testing**

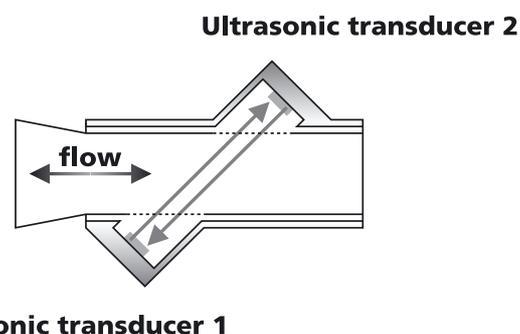
The disposable breathing tube is exchanged in a few seconds – without losing time through assembling or cleaning.

Made from polyethylene PE it is light, environment friendly and water resistant – no gluing on the lips!

The breathing tube provides already an ergonomically formed mouth piece and a round connector Ø 22 mm.



## **Ultrasonic flow sensor**



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## **The ultrasonic measuring principle – the new standard for pulmonary function testing**

Without detour quickly to the aim – using direct flow measurements based on digital measure techniques, substitute parameters for flow (e.g. differential pressure) are no longer necessary.

Flow and gas density are calculated from the ultrasound transit-times. This allows the direct measurement of concentration changes in breathing gas (e.g. CO<sub>2</sub>) simultaneously to the breathing volume – without the necessity of any additional gas analyser.

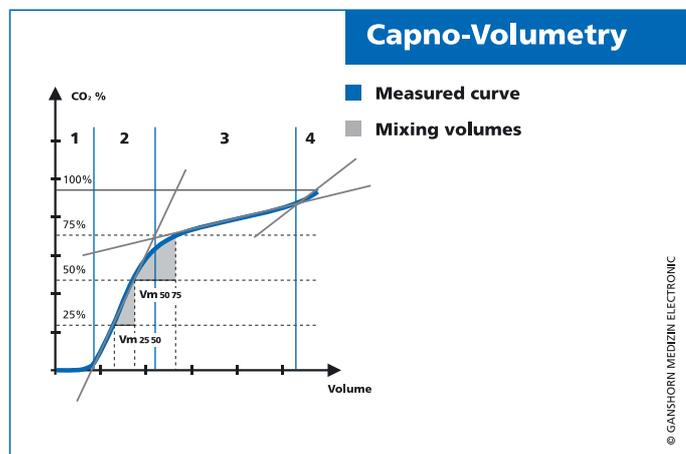
## **Measurements with ultrasound – a safe and stable base for your diagnostics and more comfort for your patients**

In comparison to other equipment there is no perceptible resistance, which can obstruct breathing – very important for patients with pulmonary limitations.

The direct measurement method and the high resolution of 1.000 measurements per second are the precondition for a reliable determination of all testing parameters with highest precision.

## Literature (selection):

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## SpiroScout®

**340 101** PC-based pulmonary function system for the determination of slow and forced spirometry, flow/volume-curve, MVV

## Options:

**340 201** Capno-Volumetry / emphysema diagnostic / Anatomical dead space  
**340 202** Rhinomanometry

## Technical data SpiroScout®

Active medical system of Class IIa  
Measurement principle flow and density: ultrasound transit time measurement  
Sampling rate: 2.000 Hz (1.000 measurement point)  
Flow resistance at 1 l/s: practically negligible  
Measurement range: 0 to ±16 l/s  
Accuracy: ≤ 3 % or 100 ml/s (the larger value applies)  
Volume: 0-10 l, volume resolution: 10 ml  
Technical specification meets or exceeds ATS/ERS clinical performance standard

The SpiroScout measures with a build-in ambient module automatically temperature, ambient pressure and relative humidity

Power consumption: 2,5 Watt max  
Dimensions complete: (T x B x H): 9 x 17,5 x 9 cm  
Total weight: ca. 960 g  
Material housing: ABS  
Material disposable breathing tube: Polyethylen PE

Software: The SpiroScout uses the well proven GANSHORN-PFT-Software LF8.

Minimum requirements for LF8:  
Operating system Windows® 2000 Prof / XP Prof,  
CPU minimum 700 MHz, 256 MB RAM, 20 GB  
(for Windows® Vista Ultimate on request)

Data transfer: USB 2.0 (optional RS232)

**GANSHORN operates with a certified quality assurance system in accordance with EN ISO 9001/12.2000**



Illustrations shown do not necessarily correspond with the basic equipment. Subject to technical modifications and improvements without notice, as well as to the availability of the devices and options mentioned. 1/08