GANSHORN
SCHILLER GROUP

SpiroScout

Desktop spirometer

Extremely durable ultrasound measuring sensors

MADE IN GERMANY • MADE IN GERMANY •

OVERVIEW

SpiroScout is a precise, mobile spirometer that has been proven for over 15 years and was developed for use in all possible professional applications. SpiroScout is the heart of all GANSHORN diagnostic systems. With the development of ultrasound flow measurement, GANSHORN opened new perspectives for spirometry and lung function testing. Based on simultaneous flow and molar mass determination, SpiroScout precisely measures all spirometric parameters such as flow/volume, spirometry, lung volume, the one-second capacity FEV1 as well as static and dynamic lung function measurements including peak flow measurement.

Reliable, ultra-fast, no warm-up time

Versatile, fast and compatible LFX software platform

Compact and portable

Highly accurate and precise gas analyzers

Calibration free

Maintenance free

SpiroScout is the first and only spirometer in the world that measures flow and gas concentration simultaneously, enabling statements to be made about flow, volume and respiratory gas parameters with a single measurement.

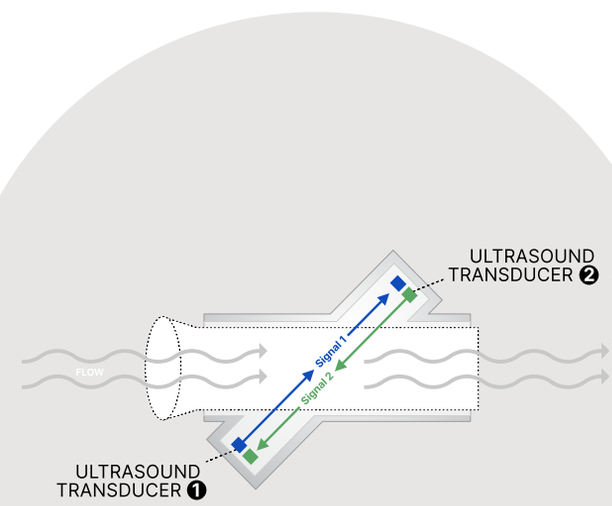
Depending on individual needs, the modern ultrasound hardware will fulfil clinical requirements.

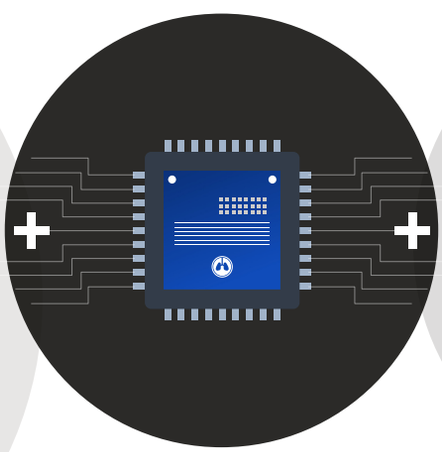
SharpFlow

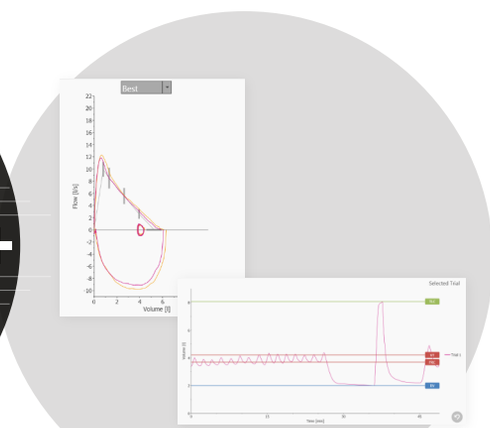
The GANSHORN ultrasound technology

Two diagonally opposite ultrasound transducers alternately send and receive ultrasonic waves. Without any air flow inside the breathing insert, the transit time of the ultrasound waves is the same in both directions. Any air flow inside the insert will accelerate the waves in one direction and decelerate in the other.

The difference between the transit times of the ultrasound waves allows to calculate the flow. Flow and gas density are calculated from the measured transit times, allowing changes in the concentration of the exhaled gases to be determined directly and at the same time with the respiratory volume. All other factors like gas properties, humidity and temperature are the same for both directions and cancel each other out.







1 Double ultrasound signal capturing

The ultrasound measuring system captures the signal with two sensors, in both directions simultaneously, for spatially precise recording

2 Measurement hardware acceleration

Devices based on SharpFlow measurement technology run on a sophisticated and proven hardware logic.

3 High-resolution diagram rendering

Based on the multi-layered recorded values, the measurement software LFX is able to render particularly precise and sharp graphics.

Precision + Resolution

The high sampling resolution is a prerequisite for reliable determination of flow

No noticeable resistance during breathing

No detours

No substitute parameters for flow necessary (e.g. Differential pressure)

Direct flow measurement based on digital measurement technology

Room climate-independent

Not affected by changing ambient conditions like temperature or humidity of breathing air

MEASURING OPTIONS

ScoutTube

Mouthpiece

ScoutTube is the disposable mouthpiece of SpiroScout. It is easy to use and a hygienic solution, as you simply change it with every patient. Using the ScoutTube allows to measure without added resistance from a filter. It suits all ages from children to adults, at all levels of health. ScoutTubes are permeable to ultrasound waves. However, due to the small window size of the mesh and its arrangement, contamination of the device is unlikely.

- ✓ Shape encourages tight seal of lips, avoiding leaks
- ✓ Cost-efficient
- ✓ No cleaning needed (single patient use)
- ✓ Disposable but eco-friendly, biodegradable
- ✓ No added resistance
- ✓ SpiroDef ScoutTube mounted at the back of the device, offers protection against cross contamination and protection for operators and technicians

Comfortable lip seal | Indents for teeth avoid slipping | Permeable for ultrasound waves | SpiroDef ScoutTube (back side mounted)

SpiroDef

PFT filter

The SpiroDef contains a filter fleece developed to high quality standards. It provides an effective mechanical barrier, reliably filtering bacteria and viruses from aerosols, preventing contamination of the device as well as protecting the ambient air. The SpiroDef allows a clean, economical workflow and with an ergonomic compact shape, it not only saves space, but minimizes the use of plastic, reducing waste. This filter is used in a SpiroScout fitted with the permanent breathing tube* (picture below).

- ✓ Integrated mouthpiece
- ✓ Shape encourages tight seal of lips, avoiding leaks
- ✓ Very compact design saves storage
- ✓ 30% less plastics used than in comparable products
- ✓ Comfortable to use

SpiroDef fleece with protective membrane

Comfortable lip seal

Fits not only all GANSHORN devices, but also most other PFT devices on the market

*

Sustainability

When you buy ScoutTubes or SpiroDefs, you are also investing in a sustainable future: the climate protection contribution based on the calculated emissions is invested in high-quality myclimate climate protection projects worldwide that meet the highest standards.

myclimate
Engaged for Impact
Product
myclimate.org/01-23-300475

UPGRADES AND OPTIONS

Tidal breathing analysis

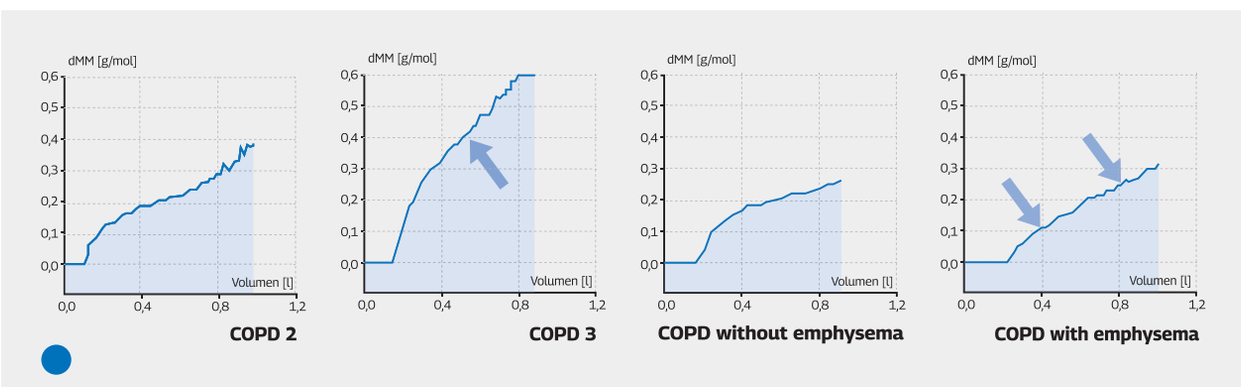
Tidal breathing analysis can be performed on patients who are unable to perform a spirometry measurement, e.g. young children and even neonates.

Rhinomanometry

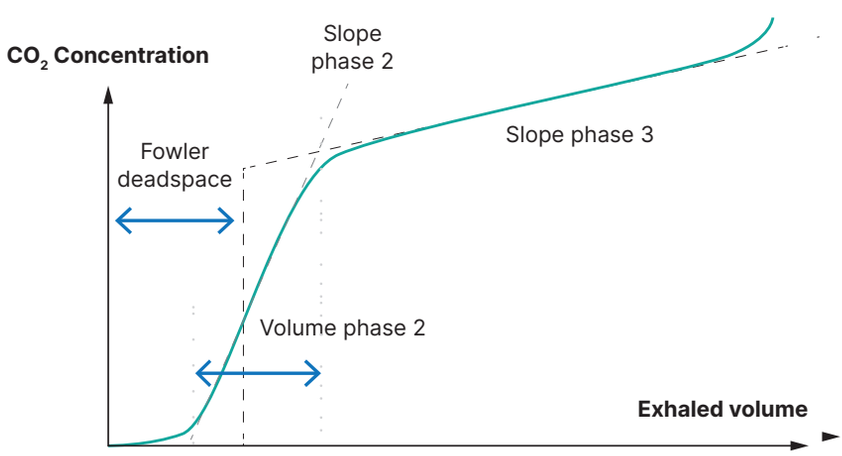
Rhinomanometry is a form of manometry used to help evaluate the nasal cavity and the respiratory function of the nose. It measures pressure and flow during normal inspiration and expiration through the nose.

Capnovolumetry

Capnovolumetry* analyzes exhaled CO_2 relative to volume, determining anatomical and functional airway dead space. It doesn't require patient cooperation, making it useful for monitoring respiratory diseases in pediatric and geriatric patients.



Example graphs of capnovolumetry in patients with COPD of GOLD 2 and 3 severity, and in patients with and without emphysema. With increasing severity as well as the presence of emphysema, phase 3 becomes steeper and the difference in the slope to phase 2 becomes smaller, correspondingly the quotient s3/s2 becomes larger. [1]



*** works only with ScoutTube**

1 Klütsch et al.: Wertigkeit der Ultraschall-Kapnovolumetrie in der Differentialdiagnose von obstruktiven Atemwegserkrankungen in der klinischen Praxis, TU Munich, Munich

CONNECTORS, CONTROLS, INDICATORS

On/off switch

USB port for USB cable to PC

Sensor Port Connector for sensor cable

Power indicator and operating status

PROGRAMS AND FEATURES

Programs	Standard	Option
Microsoft SQL / MySQL	✓	
Customizable repors	✓	
Multiuser license		✓
Worklist		✓
DICOM/GDT/HL7		✓

Features	Standard	Option
Forced spirometry	✓	
Slow spirometry	✓	
MVV	✓	
Provocation		✓
Rhinomanometry		✓
Capnovolumetry		✓
Measurement with filter		✓
Tidal breathing analysis		✓

SET-UPS

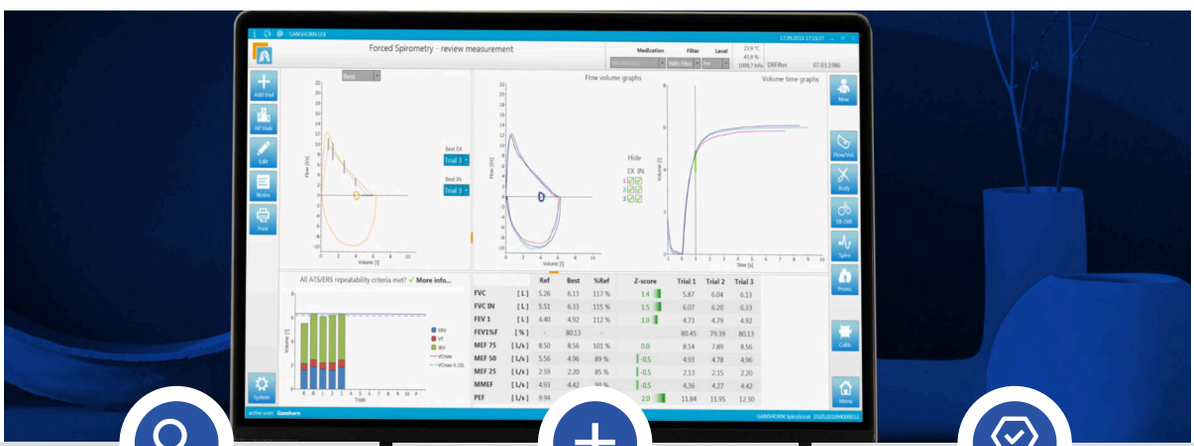
ScoutSensor used with PowerCube Diffusion+

ScoutSensor used in PowerCube Body+

ScoutSensor used in PowerCube Spiro+

LFX Software platform

The LFX software is our user-friendly interface, developed with the physiologist in mind. The patient management interface provides all the tools necessary to perform every task done in the laboratory, while remaining easy to operate. Built on state-of-the-art Windows tools like .net, C# and SQL database, the LFX software is the future of modern respiratory diagnostics. The LFX software has built-in quality control monitoring based on ATS/ERS guidelines, which are accessible during and after the measurements are performed.



Reference values

Flow/Volume: Flexible selection of best in/ex curves from any chosen trials

GLI, ECCS, NHANES, ATS and many more reference values available and editable

Efficiency

Automatic offset correction

Online BTPS compensation

No volume calibration

Graphical visualisation tools for evaluation

Maneuvre animations for children

High quality

Clean and modern interface

Quality control via ATS/ERS criteria

Improved speed diagnosis

Customizable templates and reports

Comprehensive service and support

Intuitive workflow

Connect all GANSHORN devices to one software system

Large-format displays enable quick and correct evaluation of measurements and breathing maneuvers at first glance. The use of modern Windows tools such as .NET enables platform and language-independent communication. A modern database concept that uses both Microsoft SQL and MySQL offers the perfect approach – both for general practitioners and for large hospital networks.

- HIS integration
- DICOM
- GDT communication
- Full network compatibility
- SQL Database system
- Export of PDF and raw data files

WHY GANSHORN?

For 40 years GANSHORN has been manufacturing a complete state-of-the-art portfolio of pulmonary function testing systems for spirometry, bodyplethysmography, diffusion, bronchial provocation and cardiopulmonary stress testing. With its technological innovations, the company has been a leader in the diagnostics market since 1982.

Many of these are now perceived as gold standards. In order to meet our high quality standards, it is important to us that all key components are made in Germany. Our devices are created in modern processes in Bavaria, from the initial idea to distribution. In the meantime GANSHORN is represented worldwide, with strong markets in Europe, Asia, North and South America.

PowerCube Body+
Body Plethysmography

SpiroScout
Spirometry

PowerCube Diffusion+
Diffusion measurement

Provo.X
Provocation testing

PowerCube Ergo
Cardiopulmonary exercise testing (CPET)

Vivatmo pro
FeNO monitoring

tremoflo®
Airwave oscillometry

EucapSys
EVH provocation

AltiTrainer
Hypoxic challenge testing, hypoxia training

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019950151 – Rev 3.0