



Vyntus™ ONE

The power of ONE – pulmonary function testing and cardiopulmonary exercise testing

VYNTUS™ ONE

 **vyairé**™
MEDICAL

*"Our latest advances
in respiratory diagnostics
will take your
breath away."*



Nothing is more critical to human life than air. When the ability to breathe is compromised, quality of life suffers.

That's what pushes us to create respiratory diagnostic systems that strive for higher levels of accuracy, and are more patient and clinician friendly than ever before.

All-in-ONE

As always, we started from the perspective of the patient. **Because patient comfort isn't just a "nice-to-have."** It's the cornerstone of our human centric design philosophy. How will patients interact with the systems? How will they feel during the tests?

We designed Vyntus™ ONE to be hassle-free for clinicians and people-friendly for patients. **Vyntus™ ONE is incredibly capable with a modular design that possesses an impressive array of features.**

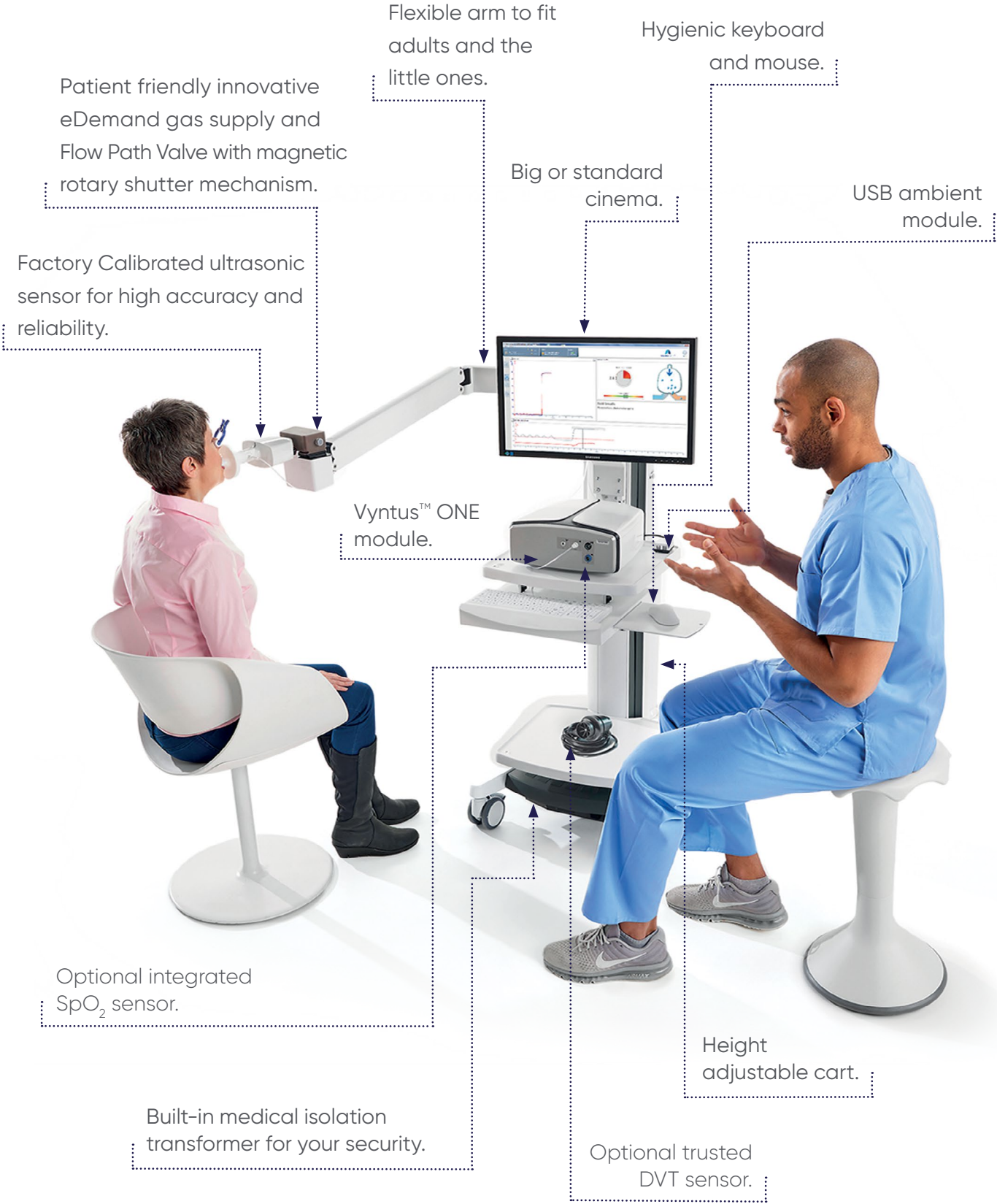
It is designed to make your tests **more accurate, less intrusive and less stressful for patients.**

Powered by our trusted SentrySuite™ software platform, the Vyntus™ ONE is **easy to operate, and seamlessly integrated** with your clinical information systems and existing network infrastructures. We also addressed functional aspects. We labored over hygiene and maintenance so clinicians don't have to. The Vyntus™ ONE is **easy to clean** using standard hygiene practices and readily available products like disinfectant wipes. **And your Vyntus™ ONE can scale as your practice grows.**

In the end, all this attention to detail offers a radical leap forward in **patient comfort, accessibility and outcomes.** With unmatched ease of operation for our clinician partners.



Vyntus™ ONE key features



The Power of ONE

- Complete Spirometry (FVC, SVC, MVV) pre/post bronchodilator
- Bronchial Challenge Testing
- Lung Volumes, FRC by N2 washout
- MBW LCI, SnIII, Scond, Sacin
- SB Diffusion Capacity
- SB Diffusion Capacity, Intrabreath
- MIP/MEP
- PO.1
- Rocc
- CPET, breath by breath
- REE, breath by breath
- ECG, rest and exercise



Combine your Vyntus™ ONE with various bikes, treadmills and ECG to be ready for cardiopulmonary exercise tests.



ONE device - Two sensors

Benefit from the trusted sensors for pulmonary function testing and cardiopulmonary exercise testing – each the proper technology to fit your needs



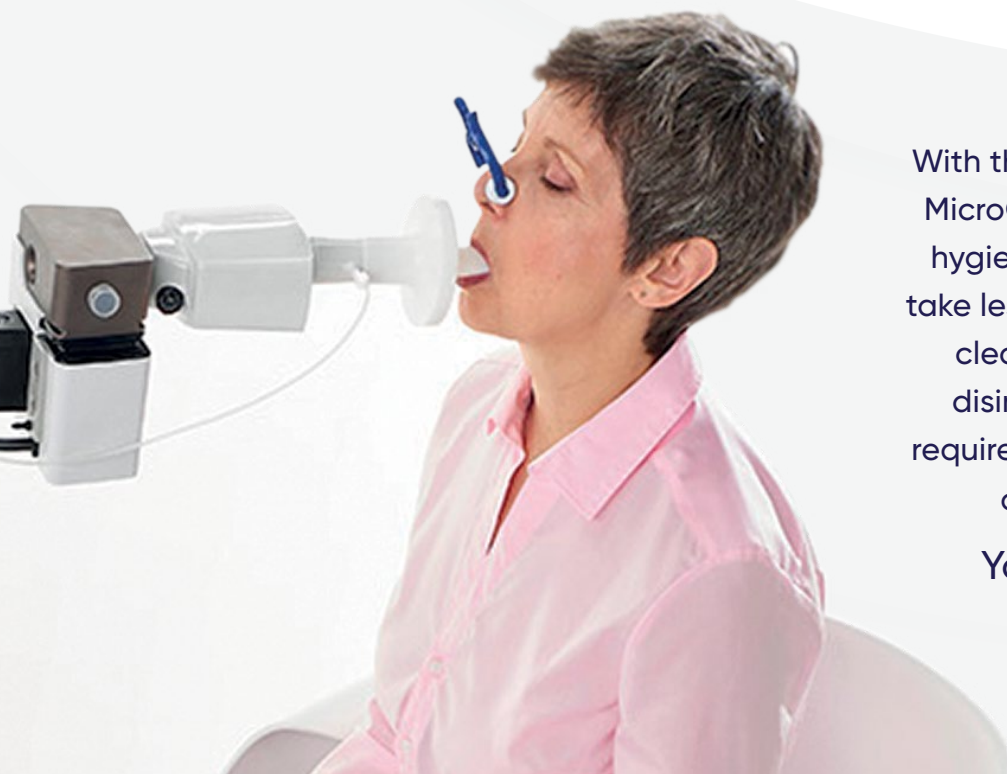
Ultrasonic sensor – for pulmonary function testing

- Factory Calibrated sensor requires only simple verification so that clinicians can **stay focused on patients.**
- Waterproof: **makes hygiene routines fast and easy.** There is no need to disassemble the sensor for the cleaning process.
- No mesh or screens mean a low resistance and **very comfortable breathing feeling** for the patient.
- Expert accuracy and stability over a wide range of **flow rates.**



Digital volume transducer – for cardiopulmonary exercise testing

- Light weight and compact size for your **patients' wearing comfort.**
- **Ideal for high ventilation.**
- **Highly accurate**, being insensitive to water vapor and breathing gases.
- **Minimal dead space ventilation** due to the low mechanical dead space.
- **Your flexibility:** for use with mask and mouthpiece.



With the use of the MicroGard™ filter, hygiene routines take less time, since cleaning and disinfection is required only twice a year.¹



You can clean or replace,
your choice.

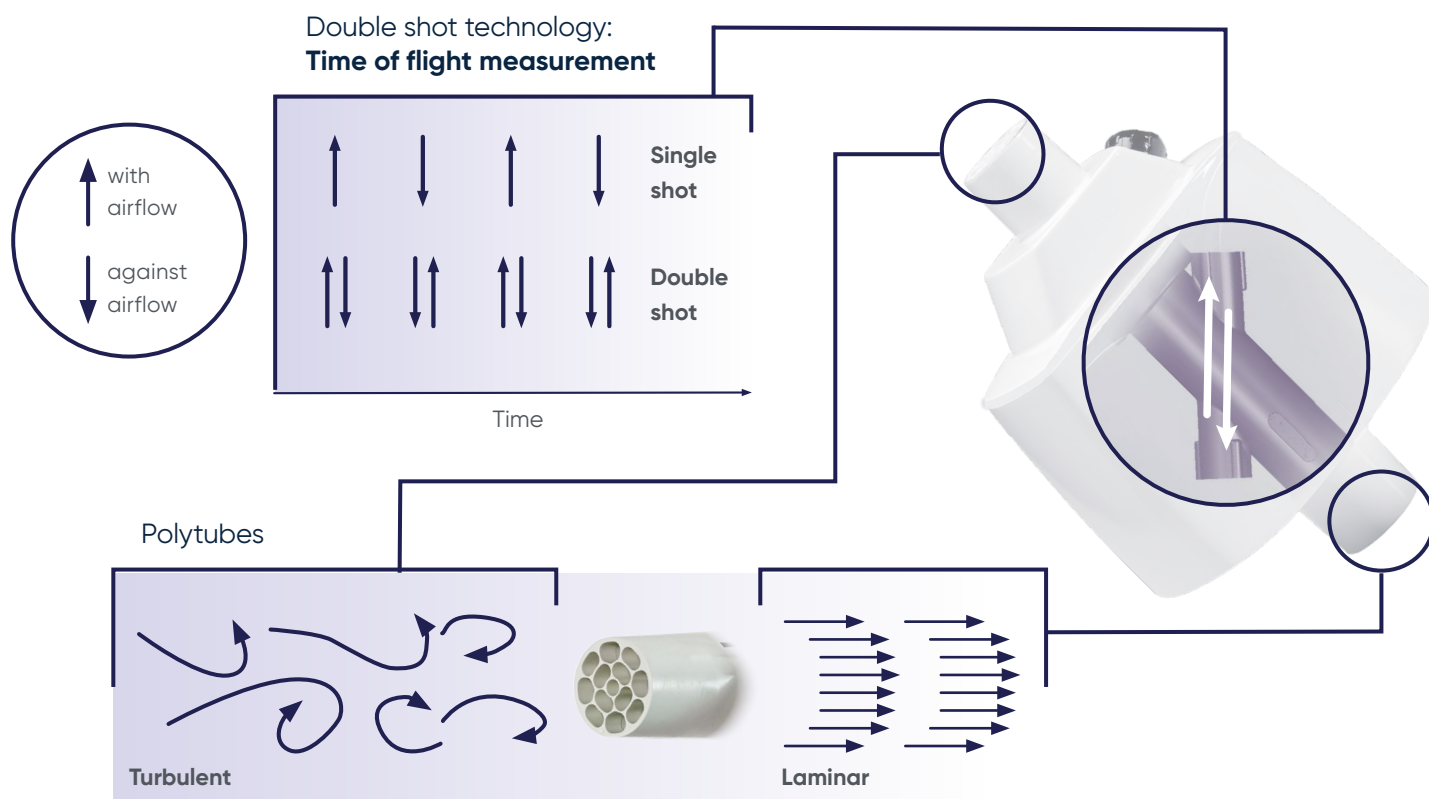
We re-engineered every facet of Vyntus™ ONE's breathing circuit, achieving significant improvements in efficiency and accuracy.

Ultrasonic sensor

Double Shot Technology measures twice the number of signals across the flow path providing **enhanced data resolution and precision**.

Dynamic Flow Correction: gas temperature is measured with each breath. With this information an on-line BTPS correction is carried out **minimizing drift and providing higher accuracy**.

Polytubes on both sides of the ultrasonic sensor for flow conditioning.



Flowpath valve

Simple, maintenance free, magnetically-controlled rotary shutter is **highly responsive to patient effort**. This means an **easier and noise reduced testing experience**.

eDEMAND

With the electronic patented demand valve the patient no longer needs to maintain a significant under-pressure during gas supply to keep the valve open. **This improves the patient experience during gas inhalation, making the measurement less demanding**.



Pulmonary Function Testing with your Vyntus™ ONE

Benefit from both trusted and innovative measurement methods.

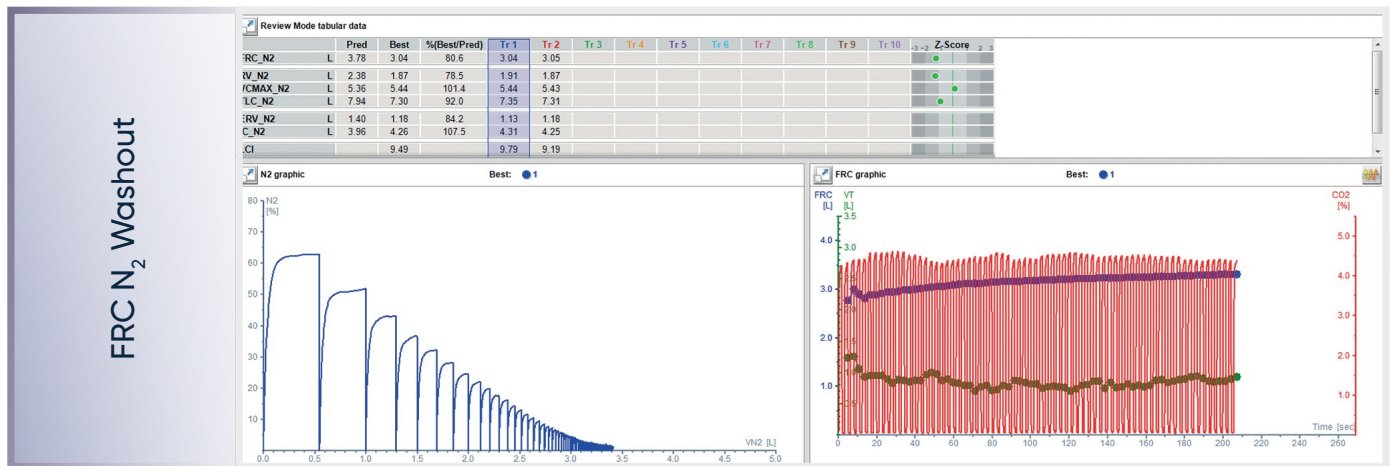
Your Vyntus™ ONE is able to perform Spirometry, Diffusion SB Realtime and IntraBreath as well as FRC N2 Washout measurements.

Key Success Factors for DLCO Measurement

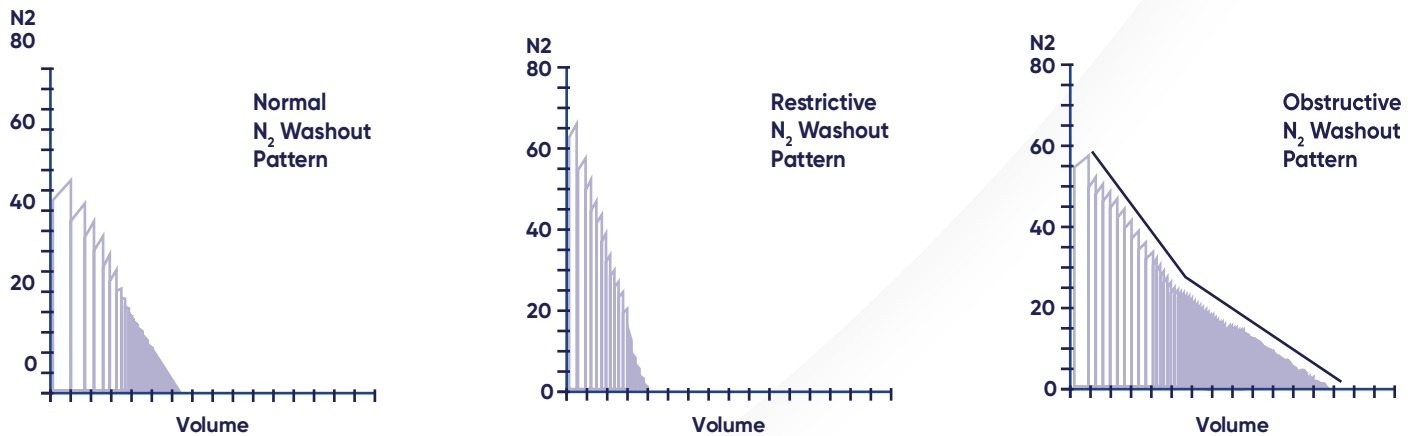
ERS/ATS 2017 requirements	Vyntus ONE for SB Diffusion	
Flow Sensor Accuracy (3L Syringe Check) +/-2.5%	USS accuracy: Exhalation +/- 1.5% or.05L/s (whichever is greater) Inhalation +/-2.0% or.05 L/s (whichever is greater)	✓
Inspiratory flow resistance <0.9 kPa @ 6 L/s	Average inspiratory pressure @ 6 L/s below 0.5 kPa	✓
RealTime Analyzer response time < 150 ms	Multigas response-time 130 ms	✓

Lung Volumes by Nitrogen Washout

- **Minimizes your disposables spend** as no rebreathing bag, CO2 absorber or tubes are needed.
- Automatic leak detection.
- **Workflow-driven:** No preparation time before starting the test and switch automatically to the next sequence during the measurement.
- Differentiation of fast and slow lung compartments.
- Measurement of **Lung Clearance Index (LCI)** to help in the detection of small airway abnormalities.



Easy visualization of potential abnormalities



FRC N₂ Washout allows the determination of the functional residual capacity (FRC) using the N₂ Washout method as well as the determination of the absolute volumes TLC and RV by combining it with slow spirometry measurements.



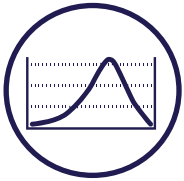
Cardiopulmonary Exercise Testing with your Vyntus™ ONE

Don't have the testing volume or space to justify a completely separate CPET system?

Combine PFT and CPET testing in to a single device. You'd be hard pressed to find another pulmonary testing system that delivers so much performance and utility in one single package.

- Real-time 9-Panel-Wasserman graph with dynamic predicteds and the possible limitation graph.
- Multiple threshold evaluations (VT1, VT2, VT3), six automatic slope calculations and Tau.
- Individual pre-programmed EFVL (exercise flow/volume loops) measurements.
- Online entry of RPE scale, blood gas marker, blood pressure or events.
- Offline entry of blood gases with automatic calculation of related parameters.
- Customizable evaluation workflow.
- 12-lead ECG.
- Integrated pulse oximetry with ear-clip or forehead sensors.

Your Vyntus™ ONE is equipped with our trusted SentrySuite™ software platform



Ease-of-use measurement concept

Keep the overview without any program switches. All important steps; calibration, patient data entry, measurements, interpretation and reporting can be navigated within ONE screen.



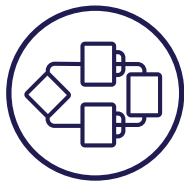
SentrySuite™ networking

Connect all your measurement devices and review workplaces in one network and benefit from one central patient database and the possibility of a HIS interface.



Guidance and quality

- Coaching for operator and patient
- Acceptability and repeatability check against ATS/ERS
- Biological and mechanical quality control



Workflow driven review

Save time with the stationary or web-based physician's review tool.



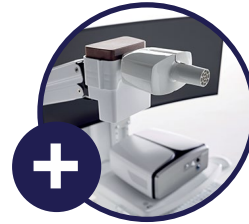
Security

- Authentication
- Authorization
- Audit

ONE device, your flexibility – now it is your choice!

We offer the highest flexibility to match your individual needs.

Your Vyntus™ ONE can expand as your needs change, delivering high performance and utility in a single package.



Vyntus™ ONE DL

Vyntus™ ONE PFT

Vyntus™ ONE

Standard testing capabilities

Spirometry, Diffusion, SB Realtime and Intradbreath	✓	✓	✓
Lungvolumes with N ₂ Washout method and LCI		✓	✓
CPET Breath-by-Breath			✓



Vyntus™ Mobile Cart

Enables you to take PFT testing on the go, including room for all the things you need to have with you. The mobile cart is an option for the Vyntus™ ONE DL and Vyntus™ ONE PFT models.

The power of ONE



Patient centricity

The Vyntus™ ONE helps all patients to easily perform the maneuver.

Innovation

The Vyntus™ ONE technology drives high quality results, accuracy and repeatability.

Hygiene

The Vyntus™ ONE combined with MicroGard™ filters makes hygiene routines fast and easy.

Keep up with every Vyntus™ innovation

The right diagnostics for each individual patient.

The Vyaire Vyntus™ systems deliver everything for your pulmonary function testing needs. And since SentrySuite™ software powers all of them, it's easy to navigate through all systems and tests with a consistent and intuitive user interface.

What's more, future Vyntus™ innovations to come will follow this same approach.



Vyntus™ WALK

a complete mobile solution for the 6-minute walk test.



Vyntus™ CPX

the specialist for cardiopulmonary exercise testing, high/low FIO₂ REE measurement.



We help people catch their breath,
but we're not stopping to catch ours.

Vyair represents a powerful force dedicated to the simple act of breathing. Today, you'll find **our unique products are giving clinicians all across the world the power** to diagnose, treat and monitor respiratory conditions like never before.

And we're not about to slow down now. We will continue to evolve and expand the complete Vyntus™ line of testing devices. Tomorrow and all the days after.



Vyntus™ BODY

for body plethysmography as stand alone device or in combination with the Vyntus™ ONE.



Vyntus™ SPIRO

for all essential spirometry tests including, medication testing and animation incentives.



ATS/ERS guideline implementation - Your base for high quality results



✓ ERS/ATS 2019
spirometry guidelines²



✓ ERS/ATS 2017
diffusion guidelines³




✓ ATS standardized PFT
reports⁴

REFERENCES

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2. Graham B, Steenbruggen I, Miller M, et al. Standardization of spirometry 2019 update. An official american thoracic society and european respiratory society technical statement. *Am J Respir Crit Care Med.* 2019; 200:e70–e88.
3. Graham BL, Brusasco V, Burgos F, et al. 2017 ERS/ATS standards for single-breath carbon monoxide uptake in the lung. *Eur Respir J* 2017; 49: 1600016.
4. Culver BH, Graham BL, Coates AL, Wanger J, Berry CE, Clarke PK, et al.; ATS Committee on Proficiency Standards for Pulmonary Function Laboratories. Recommendations for a standardized pulmonary function report: an Official American Thoracic Society technical statement. *Am J Respir Crit Care Med* 2017;196: 1463–1472. Culver et al., 2017. SentrySuite version 3.20 or higher

GLOBAL HEADQUARTERS

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