



Vyntus™
respiratory diagnostics solutions



IRONICALLY, 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.

Vyntus™ Systems represent our latest efforts to reimagine existing boundaries and advance the practice of respiratory diagnostics.

Human centric design is so obvious, it's often overlooked.

Patients must feel at ease for any technology to perform at its best. So, to help patients feel less anxious and more comfortable, we reimaged everything from materials to ergonomics, along with the entire breathing circuit. We've invested enormous energy in innovation to give you the most patient-friendly systems and reliable information from them as possible.

Less down time, more patient time.

We've extended our philosophy to clinicians as well, working hard to make our Vyntus systems incredibly user friendly. Our latest flow sensor is factory calibrated, leaving you with only a simple daily verification. And SentrySuite software offers cues and indications that make navigating through different tests easier than ever. There's more... Hardware components adapt to existing hygiene protocols, require minimal disassembly, and allow for automated or manual cleaning and disinfection. So now clinicians can do what they do best, focus on their patients.

Connectivity isn't just a buzzword to us.

The Power of SentrySuite™ software changes everything by changing nothing on your end. SentrySuite seamlessly connects with your existing network and clinical infrastructures, making collaboration easy from everywhere. And, it provides automated workflow processes that let you keep tabs on the status of every test, simplifying operations in even the busiest labs. All of this happens under an advanced umbrella of cybersecurity, with stringent access controls to keep sensitive patient information safe and protected.

A partnership that goes above, and way beyond "tech support".

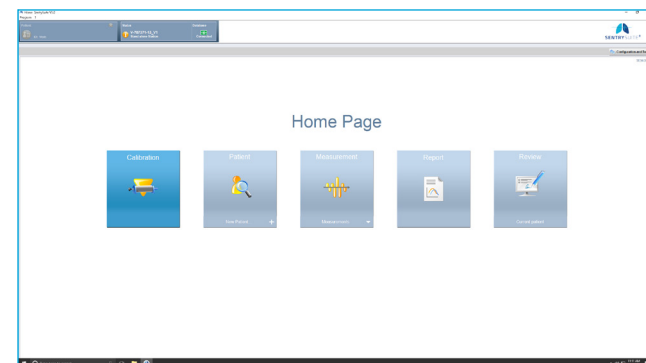
Our extensive support team supports this awesome Vyntus technology. The Vyaire team is one of the largest local support organizations of its kind. Our technical service, field service, training and IT project management teams are focused on only one job – making sure our products perform their best for you, without compromising the needs of your practice. Our team will be there for you every step of the way.

The Power of SentrySuite. Simple to operate, yet sophisticated for your team's wide-ranging clinical needs.

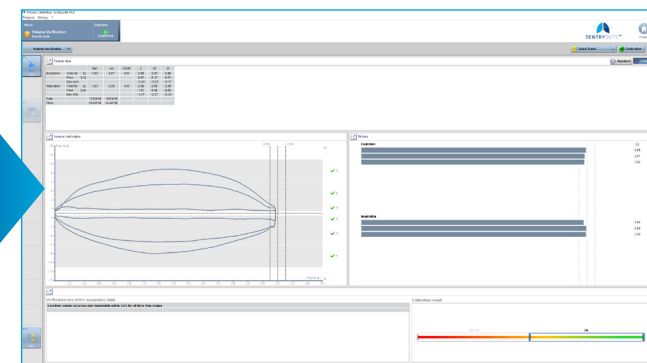
Our SentrySuite software powers all of your Vyntus Systems, making them incredibly easy to operate from system-to-system and test-to-test. We've designed a very simple user interface with guidance cues and QC feedback, ensuring that patient test performance is acceptable and repeatable. All this simplifies operations even in the busiest facilities.

- Supports a comprehensive list of PFT and CPET measurements
- **Meets 2017 ATS standards** for DLCO testing
- **Intuitive, single screen user interface** makes operation and navigating various tests easier than ever
- **Simple-to-follow cues** offer consistent patient guidance
- Provides **immediate Quality Check feedback** on acceptability and repeatability of the measurement
- Customizable settings, data tables, and parameters
- Central deployment ensuring that reports, layouts and norm sets are the same in every location.

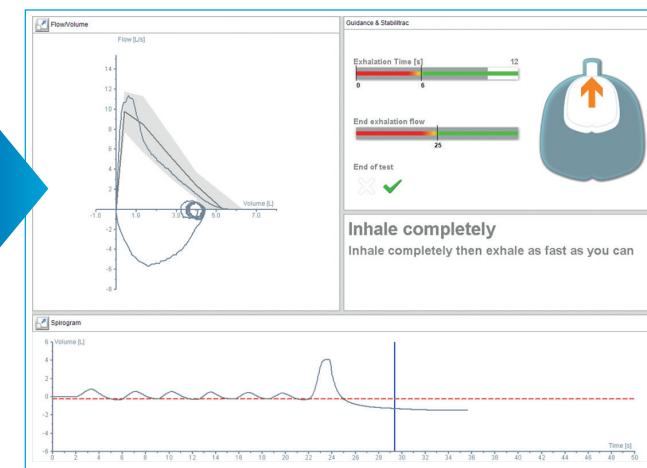
Simple User Interface



USS Verification Screen



Real-Time Cues & Guidance



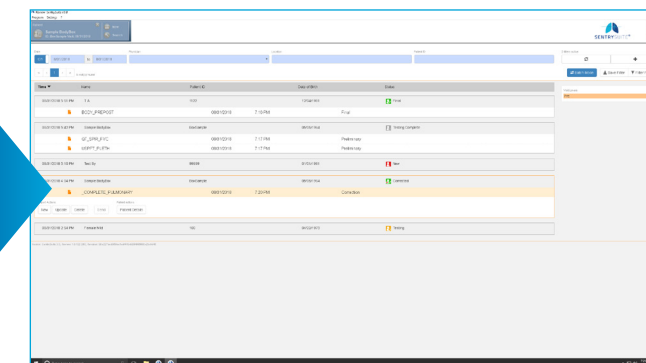
And, with equally powerful workflow and reporting functionality.

When it comes to workflow processes, SentrySuite packs even more punch. With simple patient icons, it's easy to visually track each patient through their laboratory visit. SentrySuite is highly adaptable with customization and filtering capabilities to suit your team's specific needs. And, our web-based **Sentry Mobile Review** supports everywhere viewing and interpretation from virtually any device.

Comprehensive reporting tools

- **Unlimited Patient Trending** and comparison reports
- **Global Lung Index (GLI)** reference value equations
- **Meets 2017 ATS DLCO guidelines** for reporting
- Supports PDF uploads from other programs to any patient visit and provides addition of comments
- Numerical and graphical Z-score capability including colored Quanjier bars for severity

SentrySuite Review



Comprehensive Reporting

Sample Pulmonary Function Laboratory
 Anytown, Anywhere
 555-345-6789
 pftests@lunglab.com

Last Name: Sample
 First Name: Ses
 ID: CFNSP_J0750209
 Sex: male
 Birth date: 2/1/1975
 Age: 35 Years
 Ethnicity: Caucasian
 Smoking: Yes

Referred by: Black Stephan
 Visit date: 07/21/10
 Reason: Short of breath
 SpO2: 93%
 Height: 174 cm
 Weight: 80.0 kg
 BMI (kg/m2): 26
 Pred. Module: GLI predicts

Pre-Bronchodilator				Post-Bronchodilator				Predicted		Author
VC [L]	FEV1 [L]	FEV1%FVC [%]	FET [sec]	VC [L]	FEV1 [L]	FEV1%FVC [%]	FET [sec]	z-score	%Pred	Quanjier GLI (2012)
4.85	4.06	-0.36	96 %	4.87	-0.33	96 %	0.02	0 %	0 %	Quanjier GLI (2012)
4.07	3.29	-0.16	98 %	4.05	-0.20	98 %	-0.02	-1 %	0 %	Quanjier GLI (2012)
84	71	0.33		83	0.20					Quanjier GLI (2012)
6.2				6.4						

Q G FVC A Q G FEV1 A Q G FVC A Q G FEV1 A

VC [L] z-score Pre
 FEV1 [L] z-score Post
 FEV1%FVC [%] z-score Post

VC [L] z-score Post
 FEV1 [L] z-score Post
 FEV1%FVC [%] z-score Post

SLOW VITAL CAPACITY (Pre-Bronchodilator)				Predicted		Author
VC MAX [L]	IC [L]	FEV1%FVC [%]	Z-Score	%Pred	Quanjier GLI (2012)	
5.06	4.06	6.09	-0.02	100 %	Quanjier GLI (2012)	
4.40	3.51	3.51	126 %		ECCS calculated...	
80	71		-0.27		Quanjier GLI (2012)	

Measurement capabilities:

- Complete Spirometry (FVC, SVC, MVV) pre/post dilator
- Bronchial Challenge Testing
- Lung Volumes, FRC by N2 Washout
- Body Plethysmography (FRC pleth, Raw)
- SB Diffusing Capacity
- SB Diffusing Capacity, Intra-breath
- MIP/MEP
- IOS
- CPET, breath-by-breath
- REE, mask
- ECG, Rest & Stress

Vyntus ONE goes places other PFTs don't; like to the future.

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 makes your tests more accurate, less intrusive and less stressful for patients. And because hygiene and maintenance are necessary tasks, we simplified disassembly and made sure that Vyntus ONE can be cleaned and cared for using your existing procedures and practices.



Vyntus Mobile Cart

enables you to take PFT testing on the go, including room for all the things you need to have with you.



We reengineered every facet of Vyntus ONE's breathing circuit, achieving significant improvements in efficiency and accuracy.

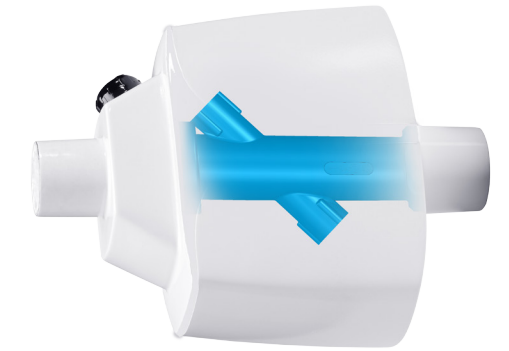
Ultrasonic Flow Sensor

Factory calibrated sensor requires only simple verification so that clinicians can stay focused on patients.

Dynamic Flow Correction compensates for variables in real time for fast, reliable and accurate results. Accounts for and eliminates signal drift during measurement.

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

Ultrasonic Flow Sensor



Flowpath Valve

Simple, maintenance free, magnetically-controlled shutter is highly responsive to patient effort. For an easier testing experience and testing it right the 1st time.

eDemand Valve

The electronically controlled demand valve reduces cracking pressure. And, since it's closer to the patient this maintains ease of breathing throughout the testing maneuvers.

"Tool-free" O₂ Cell

Notifies you when replacement is needed (*typically ~2 years*). Effortlessly changed by you; no need for a service call.

"Tool-free" O₂ Cell



Vyntus BODY Plethysmography now available without that “middle seat” feeling.

People come in all sizes and shapes, so we designed Vyntus BODY to accommodate any patient of any size, without increasing the footprint of the cabin.

- **Sleek cabin design with 28% more volume** reduces claustrophobia without compromising accuracy or reading sensitivity
- Reinforced bench **supports up to 551 lbs**
- Less than 3" step-in clearance, easy-grab bar, and an anxiety-reducing, magnetic internal door release mechanism
- **Clear glass and LED lighting** throughout for better visibility and a more welcoming environment
- **Best-in-class “range of motion”** of the breathing apparatus allows easy and precise placement for every patient situation



Flexible, Telescoping Arm

Extends 25" outside the cabin, delivering exceptional maneuverability to the patient's unique position.



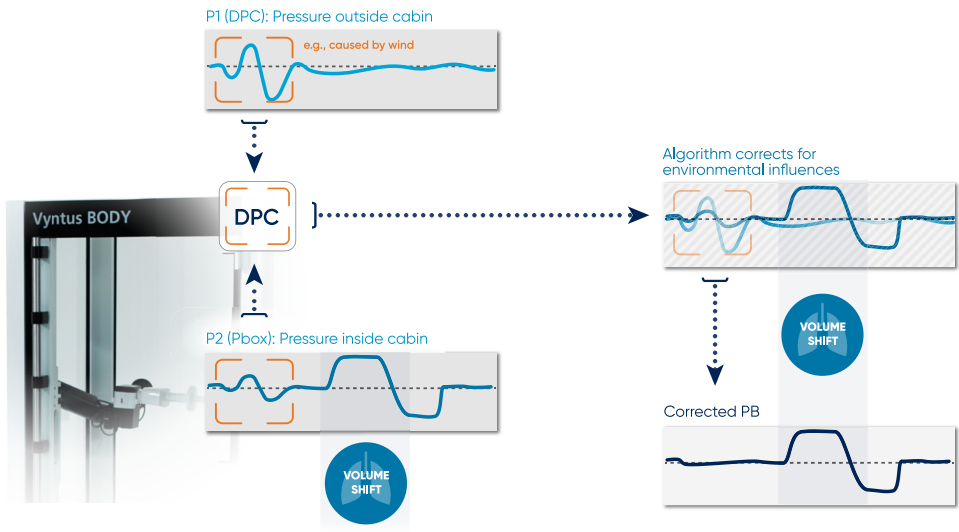
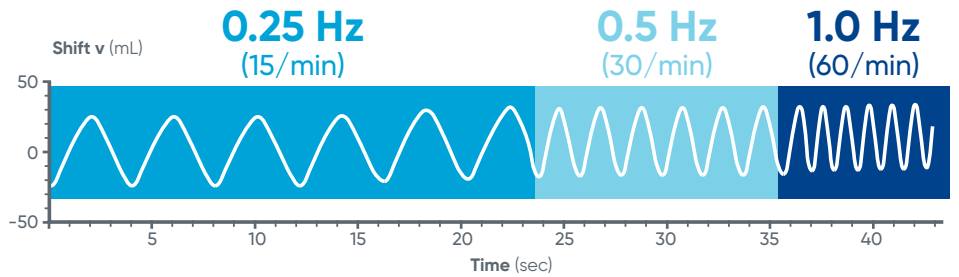
Vyntus BODY enhances your diagnostic capabilities... right out of the box.

Employing much of the same breakthrough technology found in Vyntus ONE, the Vyntus BODY delivers on patient and clinician friendliness in a big way. Our reinvented breathing circuit is also featured in the Vyntus BODY. And beyond that, we've innovated Vyntus BODY specific technology that makes it easier for patients and improves measurement accuracy. Like:

Three Frequency Calibration Compensates for different patient breathing rates, making clinician coaching easier and improving patient “best effort” repeatability.

Responsive Demand Valve Minimizes patient effort required to complete the test.

Digital Pressure Compensation Monitors environmental fluctuations in real-time, providing a cleaner signal for more precise measurements.



Vyntus CPX. Metabolic testing that's now easy to learn and easy to perform.

- **Digital Volume Transducer (DVT)** combines compact, lightweight design with little dead space and minimal resistance to airflow
- **Automatic volume calibrations** save time and hassle
- **On-board pulse oximetry** with finger, ear-clip and forehead sensors
- **Powered by SentrySuite** with cues and guidance during measurement and post-test workflow, to help standardize evaluations and reduce time to results
- **Smart tools automate pre-test setup** and provide guided event timing during the test (e.g.: blood pressure, RPE signaling, exercise flow volume loops, etc.)

Vyntus ECG. Integrated gas exchange and ECG reporting with SentrySuite's single user interface.

- **Integrated 12-Lead Bluetooth ECG**
- **Single SentrySuite report for gas exchange and ECG**
- Two alternative configurations:
 - Combined Vyntus ECG with gas exchange for full CPET testing
 - Stand-alone for rest and stress ECG testing



Vyntus Systems have plenty of room to grow, even if you don't.

Vyntus ONE packs a full PFT offering into a very small footprint. And with a simple software expansion, it provides even more capability, incorporating cardio-pulmonary exercise testing all in the same device. This is especially beneficial for facilities that don't have the testing volume or space to justify a completely separate CPET system. You'd be hard pressed to find another pulmonary testing system that delivers so much performance and utility in a single package.



Vyntus SPIRO. Easy to operate, portable, powerful clinical spirometry.

- **All Essential Spirometry Tests** including Slow Spirometry, Forced Spirometry, Maximum Voluntary Ventilation, Pre- and Post- Bronchodilator Testing, Bronchial Challenge Testing.
- **Powered by SentrySuite:** Common testing platform offers cues and indications that make navigating through different tests easier than ever.
- **Automatically incorporates ATS/ERS standards.** Records all breathing maneuvers, automatically incorporating the best patient effort into reports.



Vyntus WALK. The right approach to a 6-minute walk test. Plus, it's simple.

- **No Technician Influence.** Sensors record heart rate and SpO₂ values in real time without walking with the patient. Wireless Bluetooth® communicates data to a tablet PC.
- **Standardized Instruction Matters.** Provides technicians with ATS recommended wording and timed coaching statements to ensure consistent instruction – not influence – each and every test, each and every time.
- **Simplified Workflow.** Powered by SentrySuite, patient demographics are downloaded to the tablet, eliminating manual entry and errors. On test completion, results are uploaded to the Patient Visit, making interpretation and reporting effortless from everywhere.



Simple, validated hygiene & maintenance routines mean unmatched confidence and less hassle for you.

You've shared that maintenance and hygiene aren't the most productive or exciting parts of a clinician's day. So, we've spent a lot of time minimizing what our Vyntus Systems require. Our latest flow sensor requires no calibration. Instead, just a simple verification. We've accomplished a lot when it comes to hygiene and maintenance. So you can do what you do best, focus on your patients.

Designed for easy hygiene & maintenance

- **Smartly designed** hardware does not utilize balloons or valves. Just a few robust parts, making disassembly and reassembly a snap.
- Components tolerate manual and automated cleaning and disinfection processes. The **Ultrasonic Sensor is waterproof** and dishwasher safe up to 140°F.
- **'Tool free' O₂ cell** notifies you when replacement is needed (*typically ~2 years*). Effortlessly changed by you; no need for a service call.



MicroGard™ II means confidence

- **MicroGard II stands for patient and operator safety** without compromising system performance or clinical results.
- MicroGard II filters are manufactured to strict specifications, **optimizing filtration efficiency** with minimal resistance to airflow.
- With the use of the MicroGard filter, hygiene routines take less time, since cleaning and disinfection is required **only every 3 months.***



* based on the Bio Burden DIN EN ISO 11737-1: Report 18AA0088

Secure connectivity. The Power of SentrySuite changes everything, by changing nothing on your end.

The SentrySuite software platform seamlessly connects with your existing network and clinical infrastructures, making data transfer to and from the EMR that much easier. Plus, our security features help ensure that your patient data remains protected. Our experienced IT project management team will perform an assessment to ensure that your existing systems coalesce with ours. And, they'll be there for you every step of the way.

Connectivity

- **SQL database**
- **Easier Installation and Network Maintenance** via centralized tools that apply changes across the system
- HL7 Messaging with discrete data and PDF graphics provides **full visual clinical reporting**

Role-based System Security

- Authentication Authorization, and Audit **protects key patient health information** and provides an audit trail of important data access.
- Active directory interface provides **facility-level password management** so users don't have to remember multiple passwords.
- **User Administration and Group Rights** can restrict rights so not everyone has access to everything; a role-based NIST cybersecurity standard.



WE HELP PEOPLE CATCH THEIR BREATH BUT WE'RE NOT STOPPING TO CATCH OURS.

Vyaire 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'll keep pushing the technical boundaries.

Vyaire's Vyntus Systems offer bold examples of what can be accomplished when embracing human-centric design, delivering everything for your pulmonary function testing needs.

And since SentrySuite software powers all of them, it's easy to navigate from system to system and test to test.

What's more, future Vyntus innovations will follow this same approach. So, keep up with every Vyntus innovation, even the ones we haven't dreamed up yet.

We're not slowing down now and we'll continue to evolve and expand the complete Vyntus line of testing devices.



GLOBAL
HEADQUARTERS

Vyairē Medical, Inc.
26125 North Riverwoods Blvd
Mettawa, IL 60045, USA

vyaire.com/Vyntus

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