

Vmax Vyntus™ SPIRO

Advance your lung function testing experience

The Vmax Vyntus™ SPIRO with SentrySuite® software is designed to advance the lung function testing experience for both the patient and the operator by offering:

Reliability: Employs the same validated flow sensing principle used for high-end research and clinical lung-function testing.

Effectiveness: Offers users a choice of 10 animated incentives to focus the patient's attention.

Versatility: Features interpretation assistance, disease classification, bronchial challenge testing and Report and Reference Set Designer.

Efficiency: Enables networking, HL-7 compatibility with patient data management systems and web-based remote data access.



Precision spirometry with your PC

The versatile Vmax Vyntus SPIRO device works with a stationary PC to comfortably test subjects in your practice, clinic or hospital, and it configures with a compact notebook, transforming it into a portable spirometry station you can take into the field. All measurement programs are now powered by SentrySuite software with optimized ease of use, flexibility and quality control, and offer the following capabilities:

Performs the essential spirometry tests:

- Flow/Volume-loop (FVC)
- Slow vital capacity (SVC)
- Maximum voluntary ventilation (MVV)
- Pre- and post-medication testing or therapy control
- Bronchial challenge testing

Expands with the following systems:

- Questionnaire Designer app helps create patient questionnaires for tablet and PC use.
- View and report stations network with a structured query language (SQL) database of record.
- Web-based access and patient data reviews transmit through Sentry.NET.
- SentryConnect interface integrates CareFusion pulmonary and sleep diagnostics systems with electronic health record (EHR), hospital information systems and patient care networks.



The Vmax Vyntus SPIRO device with SentrySuite software is a comprehensive solution for use in pulmonary diagnostic labs, respiratory care departments, physician offices, clinical labs, pediatrics, emergency rooms, allergy labs, occupational medicine departments, pulmonary rehabilitation centers, physiology and research, and education.

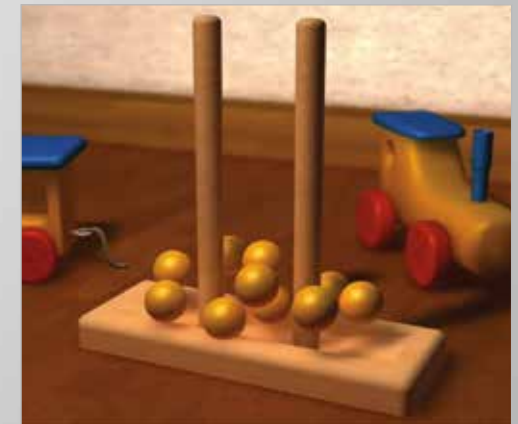
Bronchial challenge testing

Integrated software-controlled, the bronchial challenge testing program assists accurate and safe provocation testing with user guidance throughout the entire protocol. The subject's response is monitored, and the software triggers to "proceed with next step" or "preset provocation level has been achieved."



Animation incentives

SentrySuite software offers a choice of 10 user-definable animated options to assist the operator and coach patients of all ages.



Precise data management

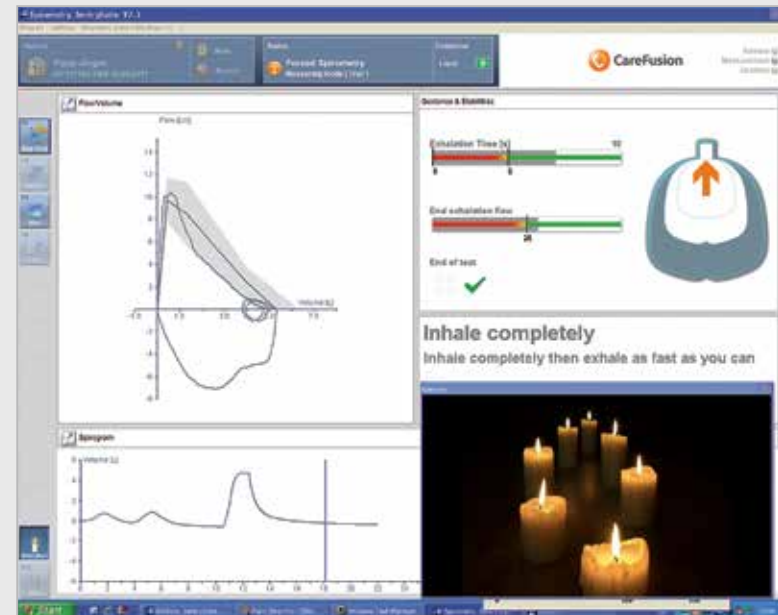
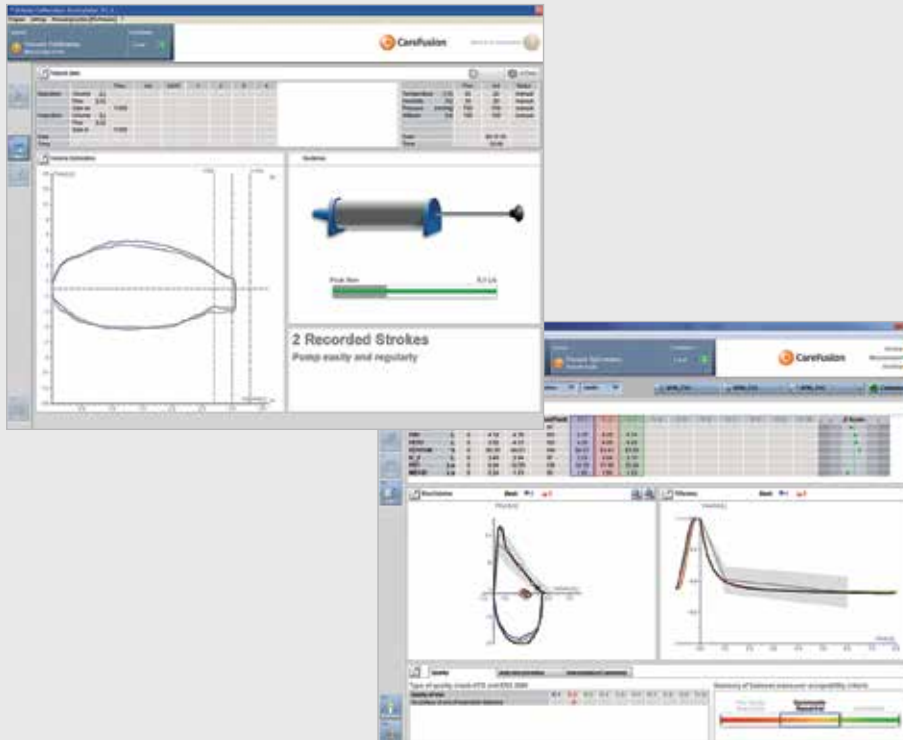
CareFusion SentrySuite software acts as your powerful assistant that will help guide and coach you from calibration to test completion and report generation. Built on the latest American Thoracic Society/European Respiratory Society (ATS/ERS) recommendations for optimal clinical output and performance, SentrySuite software provides:

Standards that matter

- Color-coded repeatability graph enables direct visual feedback on test quality.
- Intuitive animated calibration program helps to ensure measurement quality.
- Calibration and verification log stores and reports data based on ATS/ERS recommendations.¹

Enhanced learning experience

- Choice of 10 user-definable animated options assists the operator and coaches patients of all ages.
- Guidance tool through text and animation assists the operator and coaches the patient.



Quality	Auto-interpretation	Interpretation/Comments
Type of quality check-ATS and ERS 2005		
Quality of test	3x1 3x2 3x3 3x4 3x5 3x6 3x7 3x8 3x9	Summary of between maneuver acceptability criteria
No plateau at end of expiration selected	■	

Summary of between maneuver acceptability criteria

High Quality: Repeat test

Questionable: Repeat test

Good Quality

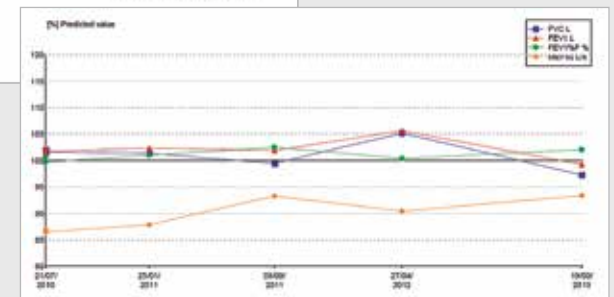
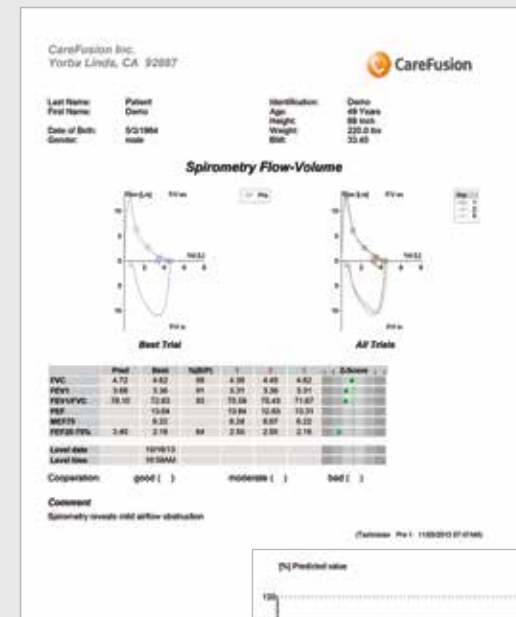
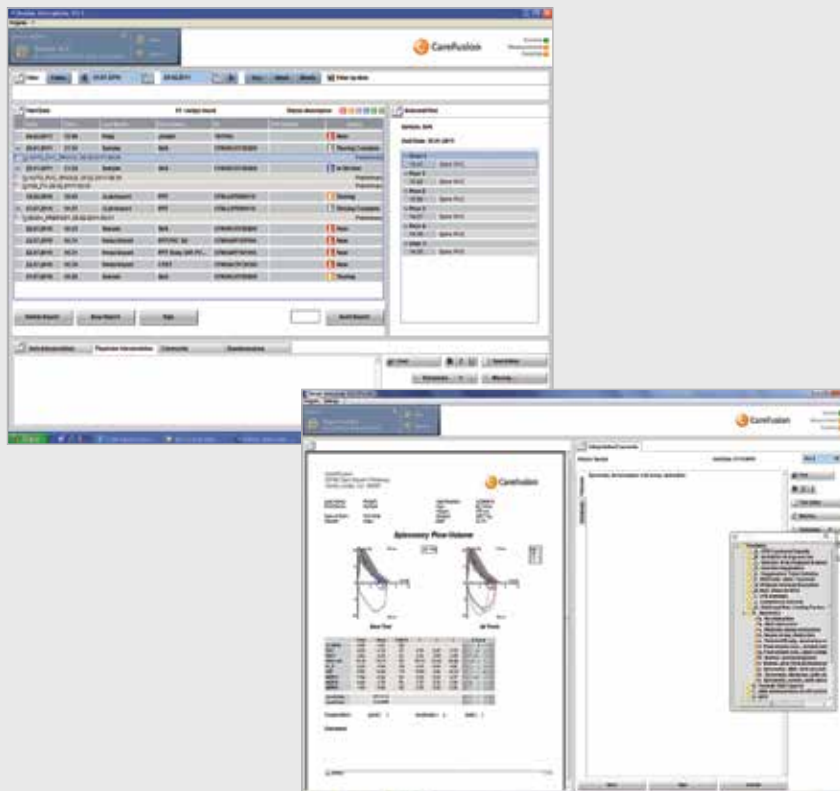
Precise data management (continued)

Optimized workflow

- Review program helps efficiently complete test procedures.
- Quick filters effectively sort patient visits.
- Split-screen displays reports and interpretation tools.
- Pre-set and definable text macros and templates offer quick interpretive and narrative statements.
- Direct shortcuts link to the measurements.

Reporting options

- Relevant reports automatically link test procedures with Auto Report.
- SQL export and parameter trending are ideal for clinical trials use.
- Comprehensive library of published reference equations.
- Designer apps for customized reports and reference sets.
- Multi-format report output: PDF, TIF, JPG or RTF.



Additional diagnostic solutions

CareFusion offers additional products that help enhance the testing experience and outcome for both the patient and the healthcare professional, including:

- Micro Medical spirometers: Imported data helps follow patients at home and complete their clinical profile.
- Vmax Encore Premium edition: Complete pulmonary function testing (PFT) product line shares the same SQL as the Vmax Vyntus SPIRO.



Flow/Volume measurements		
Flow	Type	High-quality pneumotach
	Range	0.1 to ± 16 L/s
	Resolution	1 mL/s
	Accuracy	0.1 to 14 L/s: $\pm 5\%$ of reading or 0.2 L/s, whichever is greater
	Resistance	< 0.51 cmH ₂ O/L/s at 10 L/s
Volume	Type	Digital integration
	Range	± 8 L
	Resolution	1 mL
	Accuracy	0.5 to 8 L: $\pm 3\%$ of reading or 0.05 L, whichever is greater

Ambient conditions	
Altitude	6,400' (2,000 m)
Temperature	+10 ° C to +34 ° C (+50 ° F to +93.2 ° F)
Humidity	20 to 80% RH, non-condensing
Pressure	600 to 795 mmHg

Power supply	
Main voltage	5 V DC via USB

Additional product benefits

The Vmax Vyntus SPIRO device offers many benefits, including:

- Stationary and portable modalities for a broad range of testing environments and conditions.
- No warm-up time requirements.
- Color-coded repeatability graph based on ATS/ERS standards.
- Automated SVC and FVC maneuver detection for non-cooperative or anxious subjects.
- Interactive animated calibration program.
- 10 parameter-linked animated incentives.
- A broad choice of authors for reference equations, such as GLI, ECCS and NHANES.
- Choice of numerical and graphical standard scores, including Z-score and standard deviation.
- Multilingual software.
- Customizable reference modules and equations.
- Manual data entry from other PFT devices, blood gas analyzers and 6-minute walk test data.
- Expansive data storage.
- Integrated daily back-up feature.
- Comprehensive online tutorial.
- Direct PC connection through USB interface for a compact system.





References

1 Miller, M., Crapo, R., Hankinson, J., Brusasco, V. et al. ATS/ERS: Considerations for lung function testing. *Eur Respir J*, July 2005, 26(1):153-161.

 **Caution**—U.S. Federal Law restricts this device to sale by or on the order of a physician.

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