Vyntus™ CPX

Cardiopulmonary exercise testing at its finest

vyaire™ MEDICAL

Vyntus™ CPX metabolic cart

Striking the perfect balance between high tech flexibility that is easy-to-learn and easy-to-perform.

The versatile Vyntus™ CPX Metabolic Cart combines Vyaire's pioneering experience with the latest innovations, to deliver the newest generation of clinical cardiopulmonary exercise testing. Utilizing highly accurate sensors to collect full breath-by-breath gas measurement data, the system provides helpful guidance and tools to make it easier for technicians. And, the fully workflow-driven evaluation helps simplify and standardize data reporting for physicians.

- **Digital Volume Transducer (DVT)** compact, lightweight design with little dead space and minimal resistance to airflow in both cleanable and single-use, disposable options
- **Automatic volume calibration** ensures consistency, saves 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** processes for clinicians such as automatic slope calculations and automatic trending of patient data
- **Utilities for customization** including our extensive, global library of adult and pediatric predicted equations and our comprehensive report generation capabilities

Our CPX module

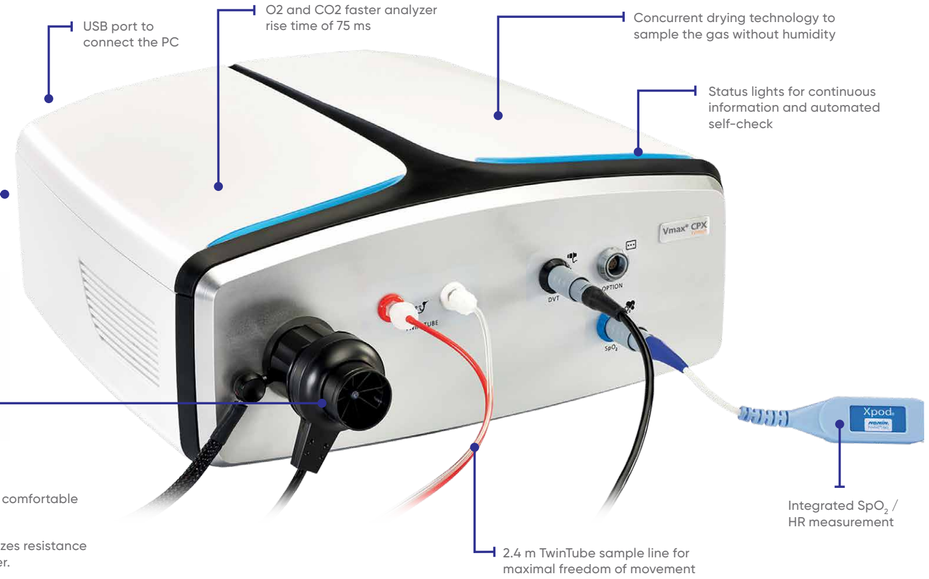
Packed with innovative, robust technologies and features that simplify and improve both testing and maintenance.

"Tool-free" O_2 Cell

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

Digital Volume Transducer (DVT)

- Compact, lightweight design (45 g) is comfortable to wear with Hans Rudolph masks
- Very small dead space (30 mL) minimizes resistance of breathing during exercise maneuver.
- Meets the ATS/ERS 24-waveform test guidelines



No syringe required! CPX automated volume calibration eliminates time-consuming and technique-dependent syringe calibration.

Interface your ECG for comprehensive CPET testing. Seamlessly.

Our flexible Vyntus™ CPX system integrates several commercially available ECG devices; including GE Healthcare CASE™ Exercise Testing System, CardioSoft™, Mortara, Welch Allyn, PBI and others. Vyntus CPX changes everything by changing nothing on your end.

Introducing Vyntus CPX Big Cinema

Vyntus CPX combined with GE Healthcare CardioSoft ECG creates an all-in-one device for a simplified, space saving solution.

CardioSoft™ ECG

- CardioSoft data automatically transfers to Vyntus CPX
- Acquisition module (CAM 14) connects to a standard PC USB port.
- Full Disclosure stores unfiltered, continuous ECG signals.

Vyntus CPX Standard Display

Whether it's the CASE system from GE Healthcare or other existing ECG systems, Vyntus CPX is the perfect compliment. Our standard single monitor display option allows you to view your gas exchange data while leveraging your already existing monitor for ECG.

Vyntus™ CPX Big Cinema.

All gas exchange and ECG information on a single screen. Just look.

1. Display your selected metabolic parameters
2. View ongoing performance relative to predicted max values
3. Quick patient data access
4. Tabs to quickly switch to view different graphics
5. Manual override of bike or treadmill protocol
6. Real-time data with color-coded maximum predicted ranges
7. Countdown to upcoming submeasurement programs showing when next programmed events will occur
8. 60 second view of patient breathing
9. Pertinent ECG data is shared with SentrySuite automatically

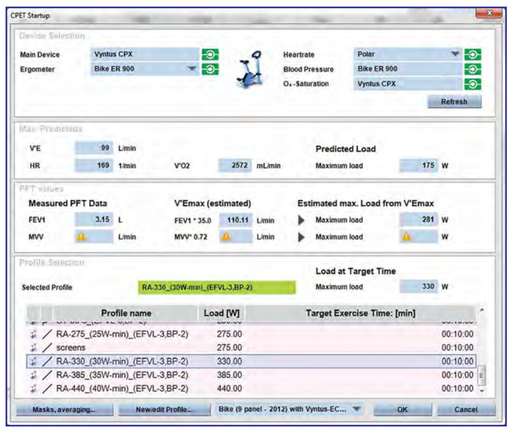
9 panel graph is viewable during the test.

Pain-free, pre-test planning. Brought to you by SentrySuite™.

In CPET testing, pre-test set-up can be detailed and time-consuming. SentrySuite™ provides easy to use tools for pre-exercise decision making and protocol modification. Plus, all pre-test questionnaire information can be collected via iPad and automatically uploaded to SentrySuite. Everything is right where you need it, when you need it most.

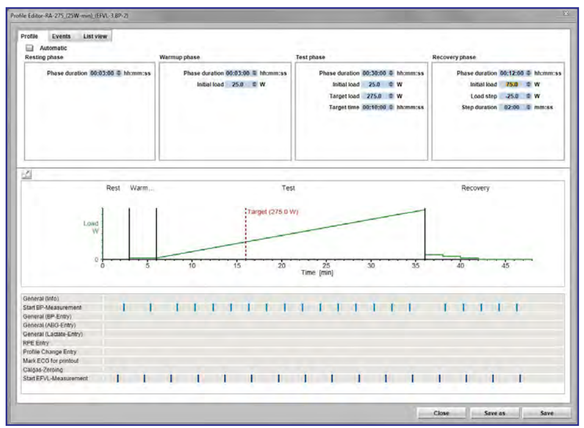
CPET Start-Up Menu: All Pre-Exercise Decisions on a Single Screen.

- Color-coded hardware connection check
- Provides suggested target load and automated protocol selection, based on measured PFT values and max predicted values
- Choose preferred test layouts, mask size, and breath averaging from start-up screen



Profile Editor Tool: Build powerful automated Protocol and Submeasurement Programs

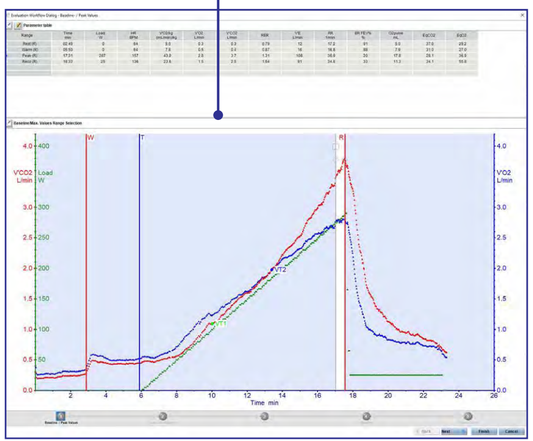
- Easily create individual ramp, step and weight dependent protocols
- Add measurements including automated BP, RPE, exercise flow volume loops, lactates, and blood gas
- Coordinated graphical and tabular representation of events
- Multi-stepdown recovery capability



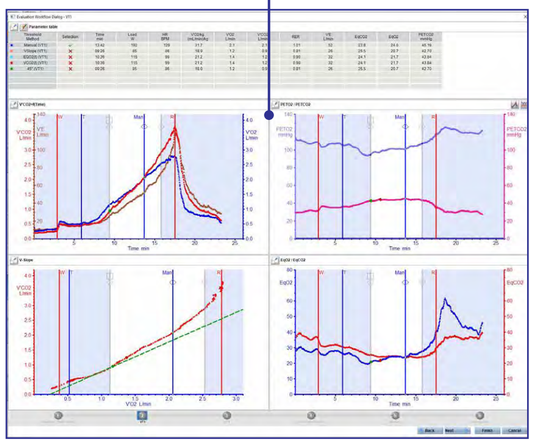
And, intuitive step-wise evaluation for occasional and frequent users.

Using step-by-step guidance, SentrySuite™ makes post-test evaluation simple and systematic. Now, evaluation and interpretation can be standardized, reducing time to result. And, workflows can be configured for individual users in relation to desired tasks and sequences. For experts, SentrySuite also provides a easy post-test way to enter offline blood gases for automatic P(A-a) O_2 and VD/VT calculation.

Workflow Steps



Accept SentrySuite's automatic selection of baseline and peak data, or manually over-ride with simple click and drag.

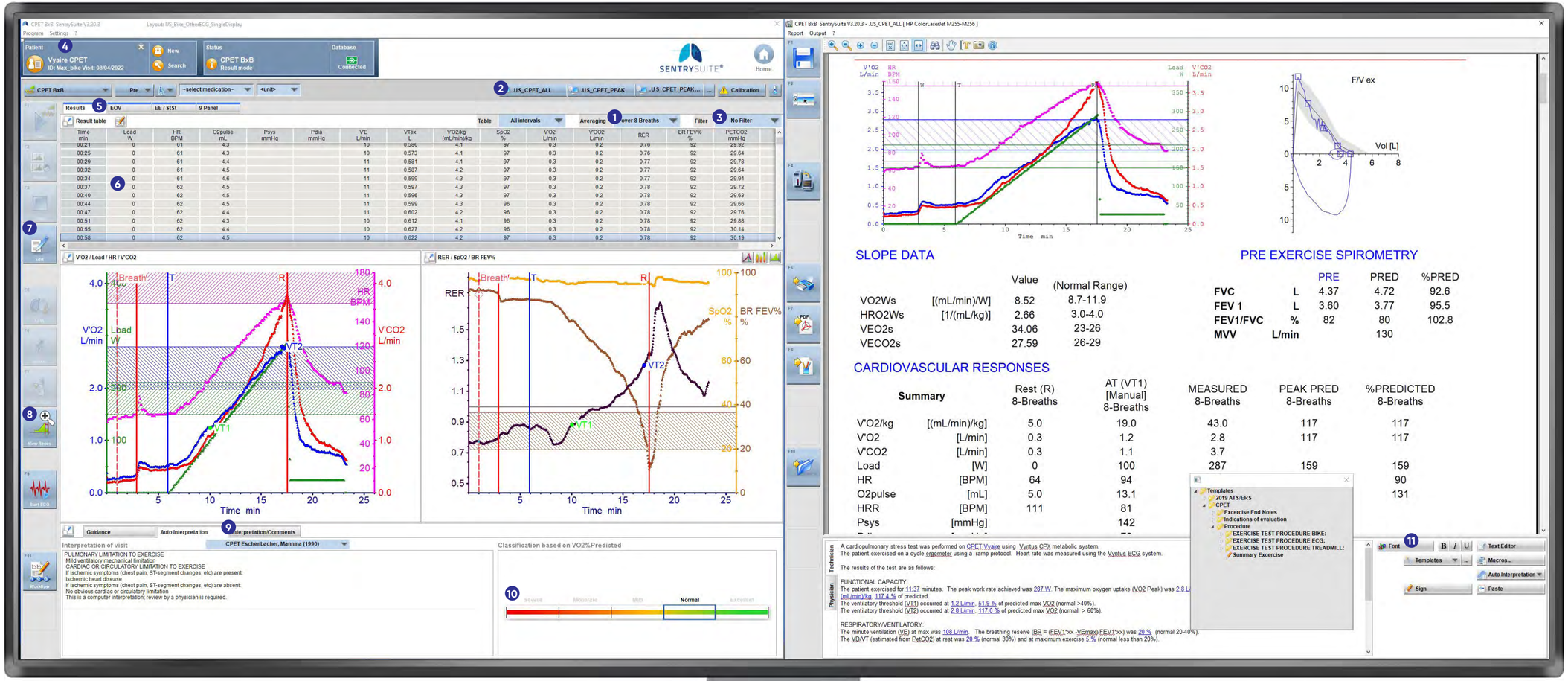


Side-by-side graphics with plausibility checks makes viewing ventilatory thresholds accurate and easy. Adjust the range of interest in one graph; all subsequent graphs and tabular values adjust automatically.

Focused and integrated.

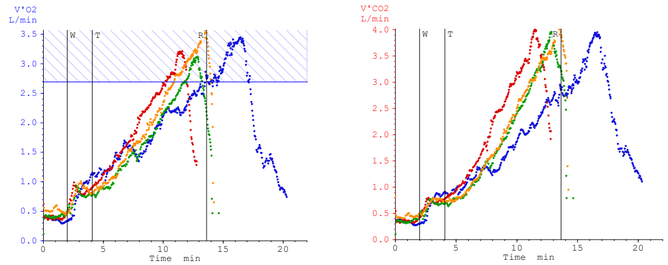
Complete data review and reporting is both intuitive and automated.

1. Choose breath or time averaging
2. Quickly view, print or store reports
3. Quickly search for stored markers like e.g. lactate or blood gases
4. Quick patient-data access
5. Tabs to quickly switch to view different graphics
6. Tabular data with adjustable filtering/averaging
7. Start edit mode for thresholds, slopes, ranges or exercise flow volume loops (EFVL)
8. View/Hide recovery data from graphical displays
9. Comments/interpretation tool with user-definable templates and automated CPET interpretation included
10. Color-coded classification bar based on V'O_2 Max predicted[1]
11. Post-test Templates and Macros



CARDIOPULMONARY EXERCISE DATA COMPARISON- CURRENT TO PREVIOUS

Identification:	TEST 2	Last Name:	OD	First Name:	B
Date of Birth:	5/18/1977	Height:	69.0 Inch	Gender:	male
Age:	41 Years	Weight:	180.0 lbs	BMI:	27 kg/m²



		NOW	PREV	% DIFF	PREV -1	PREV -2	PREV -3	PREV -4	PREV -5
Measurement date		10/25/18	10/25/18		03/29/16	12/16/15			
Age		41 Years	38 Years		38 Years	38 Years			
SLOPES									
VECO2s		23.08	31.16	-25.9	31.65	27.48			
VO2Ws	(mL/min)/W	5.63	10.71	-47.4	10.02	10.40			
SPIROMETRY									
FVC	L	4.81	4.81	0.0	5.52	5.46			
FEV1	L	3.85	3.85	0.0	4.24	4.23			
MVV	L/min				203	189			
PEAK CARDIOVASCULAR RESPONSES									
V'O2	L/min	3.4	3.2	6.3	3.1	3.5			
V'O2/kg	(mL/min)/kg	41.8	34.5	21.1	33.0	37.7			
V'CO2	L/min	3.9	4.0	-2.3	3.9	4.0			
Load	W	415	284	46.1	292	312			
HR	BPM	171	162	5.6	171	181			
O2pulse	mL	20.0	19.8	0.7	17.9	19.3			
Psys	mmHg	150	187	-19.8	195	140			
Pdia	mmHg	80	92	-13.1	87	86			
PEAK VENTILATORY RESPONSES									
V'E	L/min	94	123	-23.6	124	132			
VTex	L	3.286	3.924	-16.3	3.677	3.709			
RR	1/min	28.7	31.5	-8.8	33.7	35.5			
BR FEV%	%	39	8	359.4	16	11			
PEAK GAS EXCHANGE RESPONSES									
RER		1.14	1.24	-8.0	1.26	1.14			
SpO2	%	93	98	-5.1	100	100			
EqCO2		23.2	30.1	-22.8	31.0	31.8			
EqO2		26.4	37.3	-29.0	39.1	36.3			
PETCO2	mmHg	47.13	36.17	30.3	35.89	35.17			
PETO2	mmHg	103.31	117.10	-11.8	117.50	117.59			

Trending patient data over time is key.

SentrySuite™'s ability to compare a patient's metabolic data longitudinally, in both graphical and tabular forms, has taken on a whole new meaning in the post COVID-19 era. SentrySuite's unique ability is more powerful than ever.

Report Generation, our unique report designer, is both simple to use, and extremely comprehensive.

With SentrySuite™, eye-catching results available on every page.

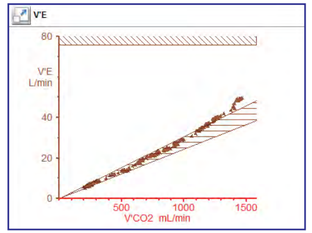
Of course SentrySuite provides all standard reports, including the 9-panel graph. But where it really shines is its capacity to redefine how you visually present your data in more powerful and meaningful ways. Three great examples include our Exercise Flow Volume Loops, CPET comparison graph, and Dynamic Predicted Ranges.

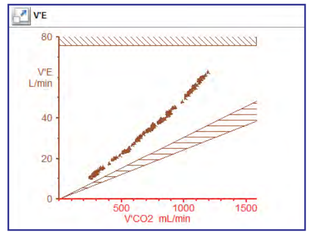
Exercise Flow Volume Loops

Quickly see dynamic airway hyperinflation and flow limitation by trending Flow/Volume and EILV/EELV throughout exercise.

Dynamic Predicted Ranges

Continually monitor VE/VCO_2 data during test.





Graph 1 shows a normal response to exercise and graph 2 shows an elevated response to exercise

Wide-ranging data viewing including easy selection of steady state data.

The ability to easily and quickly trend data is equally important when performing ongoing, routine QA protocols to assess the health status of your device. Here we are showing a Bio-QC bike 3-stage steady state protocol that is standard to SentrySuite™ profiles.

Resting Energy Expenditure

Simple mask methodology; no new hardware

Easily view when patient reaches steady-state conditions

Select up to four areas of steady-state showing data averages with coefficient of variation (CV)

Steady State Qualitative Analysis

Perform monthly as part of routine QA plan

3 simple bike steps under AT or use any published treadmill QA protocol

Average last 2 minutes of each step and compare to published norms

Expand your capability by combining Vyntus™ CPX with other devices.

GE CardioSoft® ECG

Tango® blood pressure monitor

Polar® Bluetooth® interface

Ergoselect 600P recumbent bike

Treadmill

VIAsprint® 150 / 200P cycle ergometer with / without BP

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