vyaire™
MEDICAL

Vyntus® CPX and Vyntus® ECG

Cardiopulmonary Exercise Testing

Vyntus CPX metabolic cart offers a step up in professional exercise diagnostics

The powerful Vyntus CPX is an accurate, reliable system that collects full breath-by-breath data and allows the determination of a subject's metabolic response. It can be used on adults and children, whether patients or athletes.

The Vyntus CPX is the result of over 50 years of experience in the development of CPET devices.

Vyntus CPX offers all essential CPET applications

- True breath-by-breath Cardiopulmonary Exercise Testing
- Spirometry, pre/post, animation and exercise flow-volume loops
- Integrated pulse oximetry with finger, ear-clip or forehead sensors
- High/Low FIO_2 optional
- Indirect calorimetry assessment (REE, FAT...) standard, canopy mode optional
- Combined legacy and new 9-Panel-Wasserman Graph and the possible limitation graph
- Three separate ventilatory threshold determinations, six automatic slope calculations and Tau calculation
- Online entry of RPE scale, blood gas marker, blood pressure or events
- Offline entry of blood gases with automatic calculation of related parameters [$P(A-a)O_2$, VD/VT calculated]
- Comprehensive Protocol Editor program for creating individual ramp, step and weight dependent protocols
- Report Designer program for customized reports
- Layout Editor program for adjusting graphs and parameter sets

Key features of the metabolic cart

Discover more of what the Vyntus CPX metabolic cart offers

9-Panel Wasserman Graph

The Heart of the System –

the highly accurate and proven O_2/CO_2 analyzer

Concurrent drying technology to sample the gas without humidity

Robust high value materials with long time resistance against disinfection fluids and easy to clean

USB port to connect the PC

Status lights for continuous information and automated self-check

O_2 and CO_2 faster analyzer rise time of 75 ms

Extended option port e.g. for indirect calorimetry

Robust medical color-coded connectors

Port/blower for unique, fully automatic volume calibration

Proven Digital Volume Transducer (DVT) for exact determination of ventilation

Integrated SpO_2 / HR measurement

2.4 m TwinTube sample line for maximal freedom of movement

Automatic volume and gas calibration

Step away from the syringe with our fully **automated flow/volume DVT calibration!**

Gas calibration is automated:

- Only one gas tank needed
- No moving of sample line to cal port anymore
- Results include delay and response times

Digital volume transducer

Our **lightweight** digital volume transducer (DVT) with **very small dead space** is the perfect choice for testing patients and high-level athletes.

The DVT flat-vane system doesn't have the lag of a turbine system or the need for laminar airflow like a traditional pneumotach. It adds **minimal resistance** to airflow and **meets the 24-wave form test of ATS/ERS.**

The DVT is comfortable to wear while exercising with **mask or mouthpiece.**

Easily swap out the oxygen analyser of your Vyntus CPX and you're set for another two years.

Vyntus CPX big cinema measurement features

Quick patient data access

Tabs to quickly switch to view different graphics

Manual override of bike or treadmill protocol

Edit graph axes to display preferred parameters

Real-time data with color-coded maximum predicted ranges

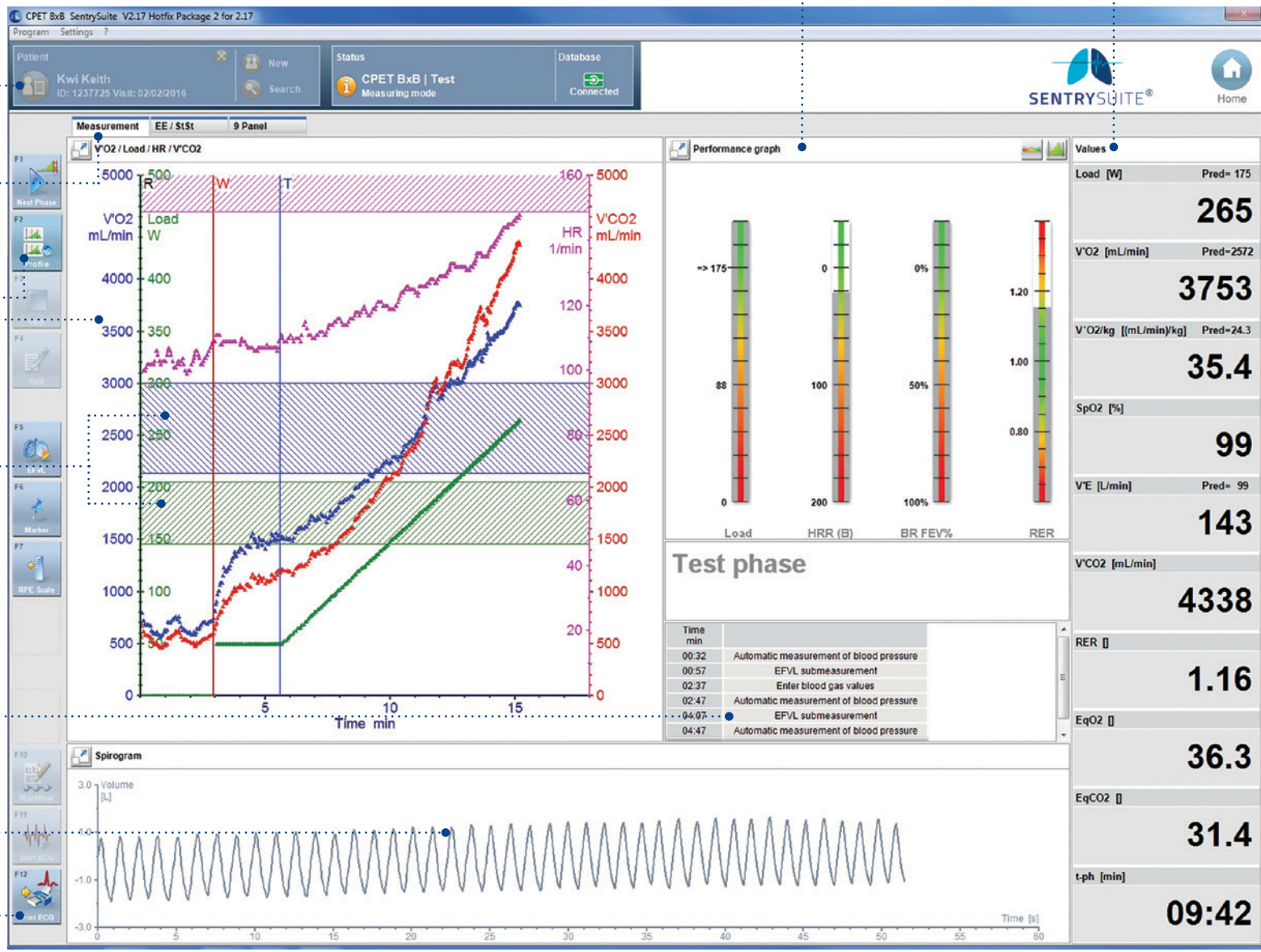
Countdown to upcoming submeasurement programs showing when next programmed events will occur

60 second view of patient breathing

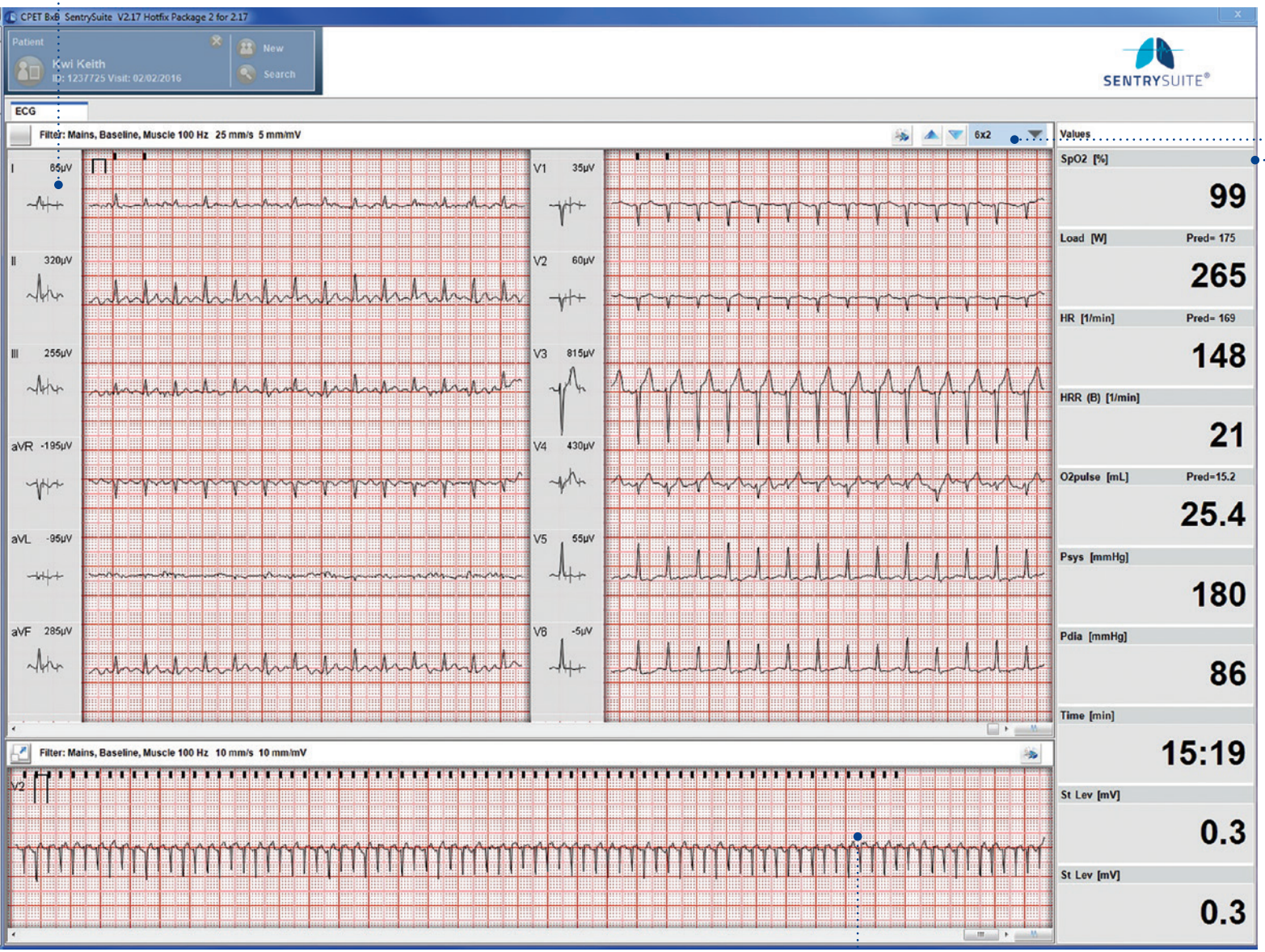
Real-time ECG print button

View ongoing performance relative to predicted max values

Display your selected metabolic parameters



ECG median display



Display ECG real-time:
12 x 1, 6 x 2, 3 x 4, 3 x 1

Display your selected cardiac parameters

Display selected ECG lead as full disclosure

Key post-test reporting features

Choose breath or time averaging

Quickly view, print or store reports

Quickly search for stored markers like e.g. lactate or blood gases

Quick patient-data access

Tabs to quickly switch to view different graphics

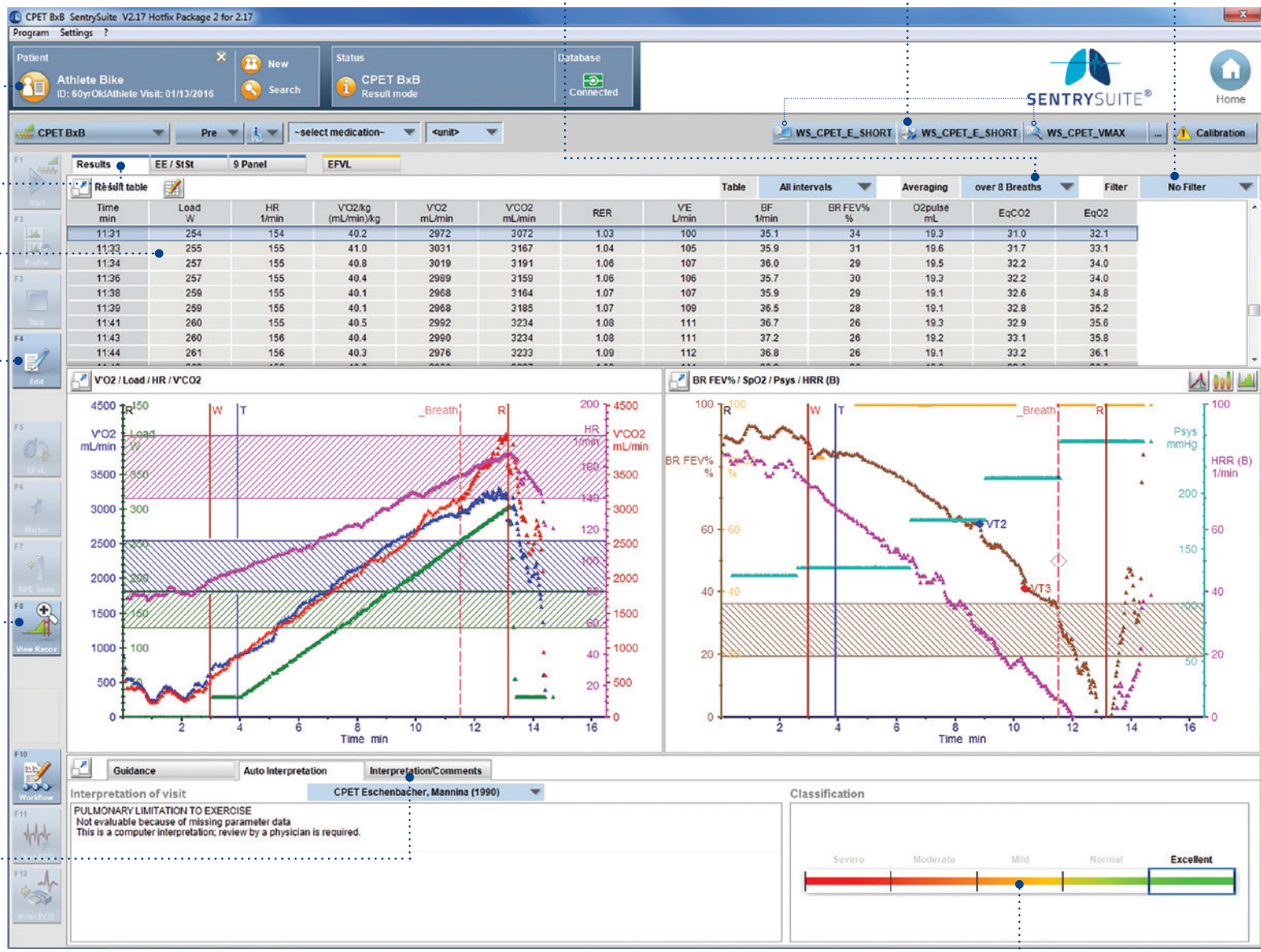
Tabular data with adjustable filtering/averaging

Start edit mode for thresholds, slopes, ranges or exercise flow volume loops (EFVL)

View/Hide recovery data from graphical displays

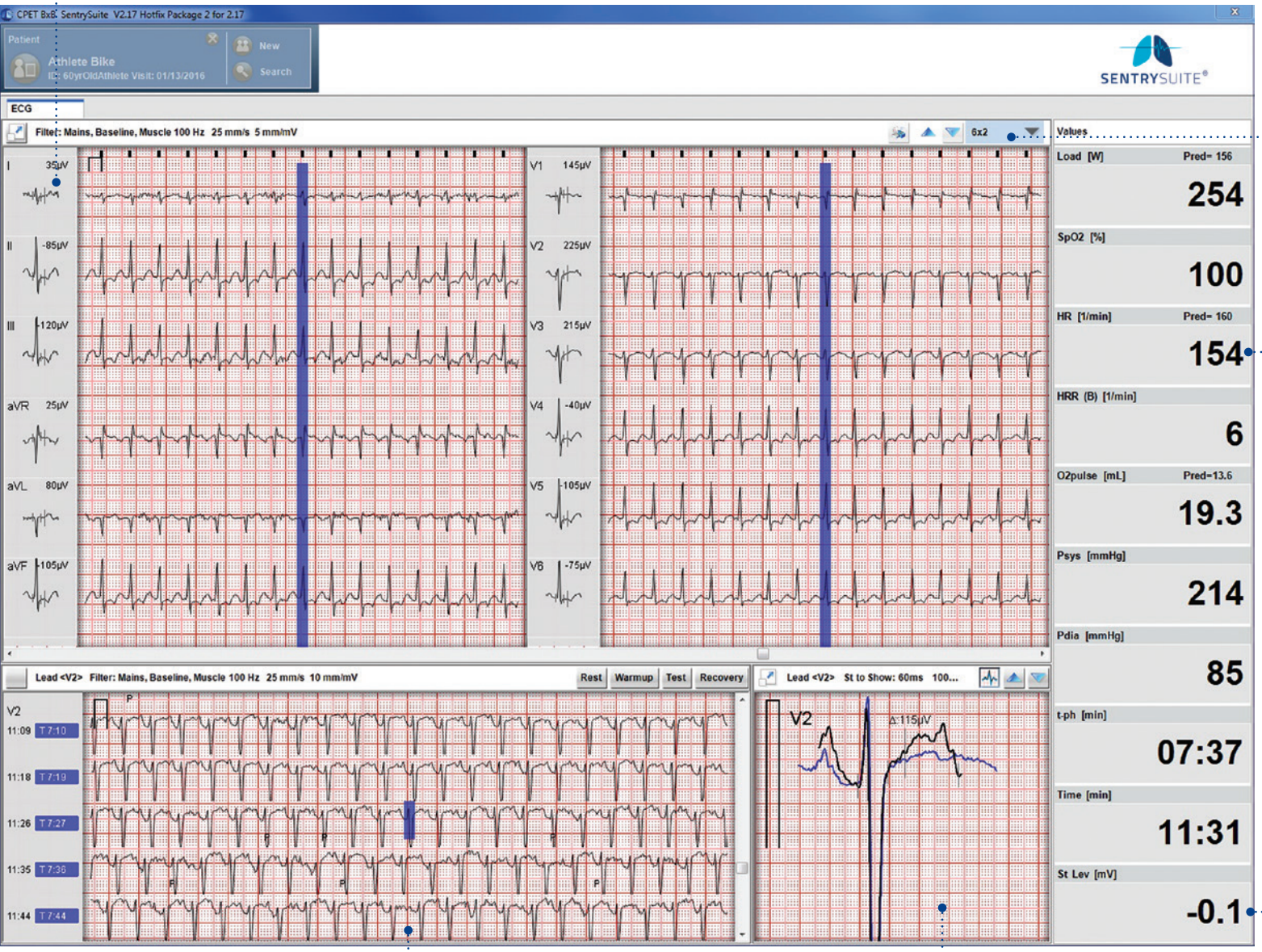
Comments/interpretation tool with user-definable templates and automated CPET interpretation included

Color-coded classification bar based on $V'O_2$ Max predicted[1]



CPET result and evaluation screen

The CPET result and evaluation screen is designed so that the data and evaluation tools are laid out on one viewing screen, allowing faster and comprehensive CPET interpretations.



ECG median display

Display ECG real-time:
12 x 1, 6 x 2, 3 x 4, 3 x 1

Display selected cardiac parameters

Compare current median to baseline median

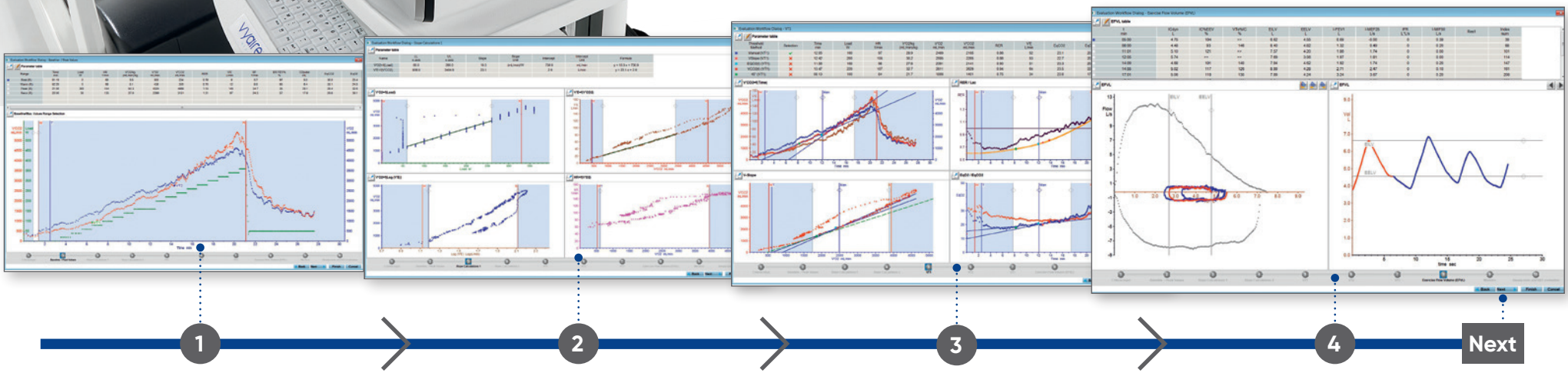
Full disclosure of ECG data – is time aligned with all other gas exchange measurements

Vyntus CPX evaluation workflow – from beginners to experts

After a measurement is completed, the evaluation workflow will automatically guide you step-by-step through the post-test evaluation.
This helps standardize evaluation/interpretation and reduce time-to-result. Workflows can be configured for individual users in relation to their desired tasks and sequence.

The complete workflow includes entry of end-of-test criteria, manually or from predefined templates. It also includes editing:

- Ranges of rest, warm-up, test and recovery phase
- Ranges of the slopes
- Three ventilatory thresholds
- Measured EFVL (exercise flow/volume loops), EELV and EILV
- Various markers, including editing/entering of RPE, blood gases, lactate and blood pressure values



New interpretation features

Ventilatory thresholds

- Multiple threshold evaluations (VT1, VT2, VT3)
- Automatic or manually set calculation of each threshold with different methods in one view
- Ability to modify upper and lower VT range
- Plausibility check by viewing the threshold parameters

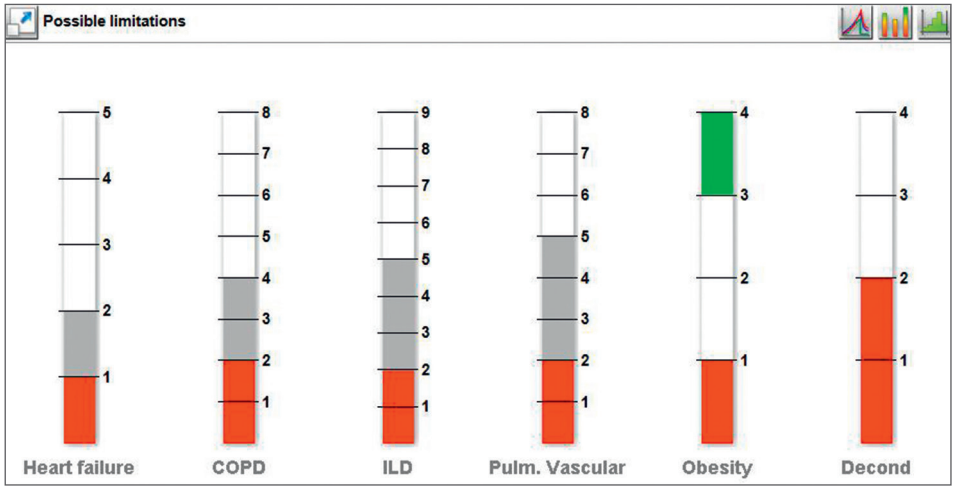
Possible limitations graph

Chart with six types of physiological conditions based on the inter-relationship of nine parameters[2].

Exercise F/V loops graph

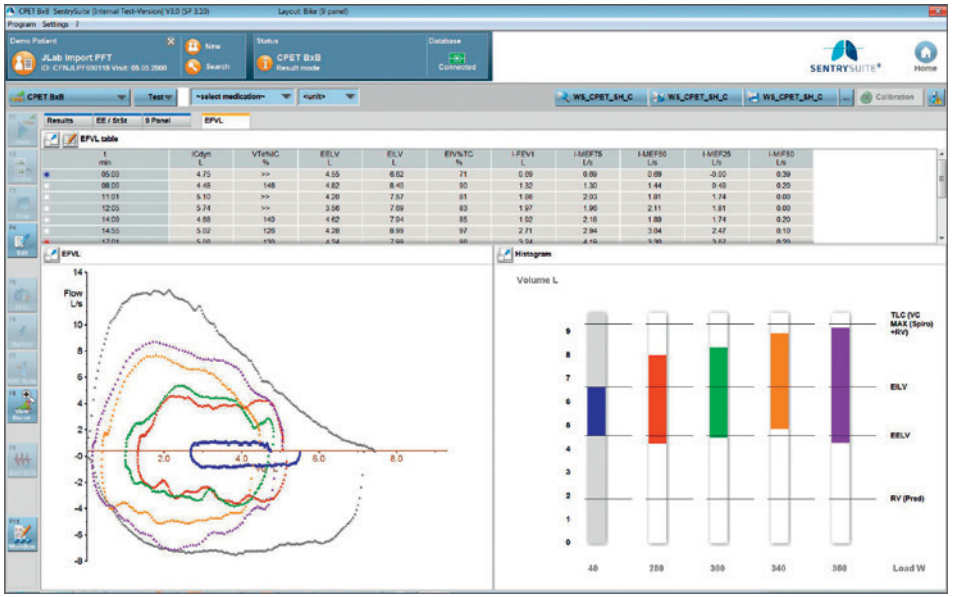
Evaluation of Exercise F/V loop (EFVL) including useful EELV/EILV trend graph for dynamic airway hyperinflation and flow limitation.

Possible limitations graph



Ventilatory threshold VT2

Exercise F/V loops graph



Vyntus ECG – Integrate ECG data into a single database

When you combine our Vyntus CPX with our Bluetooth Vyntus ECG you enjoy the power, functionality and ease-of-use of two comprehensive devices in **ONE** integrated diagnostic and monitoring solution.

ONE

- user interface
- network interface
- HIS connection
- combined report
- program to train
- central database

- Wireless and cable-free Bluetooth communication improves patient comfort.
- Full disclosure for storing unfiltered, continuous ECG signals with ability to look back during real-time data collection on any lead.
- Linked gas exchange data and ECG is time-aligned so you can move anywhere in study review and all screens follow.
- Go paperless! All data is available as a review station and can also populate into your EMR.

Resting ECG

Proven technology

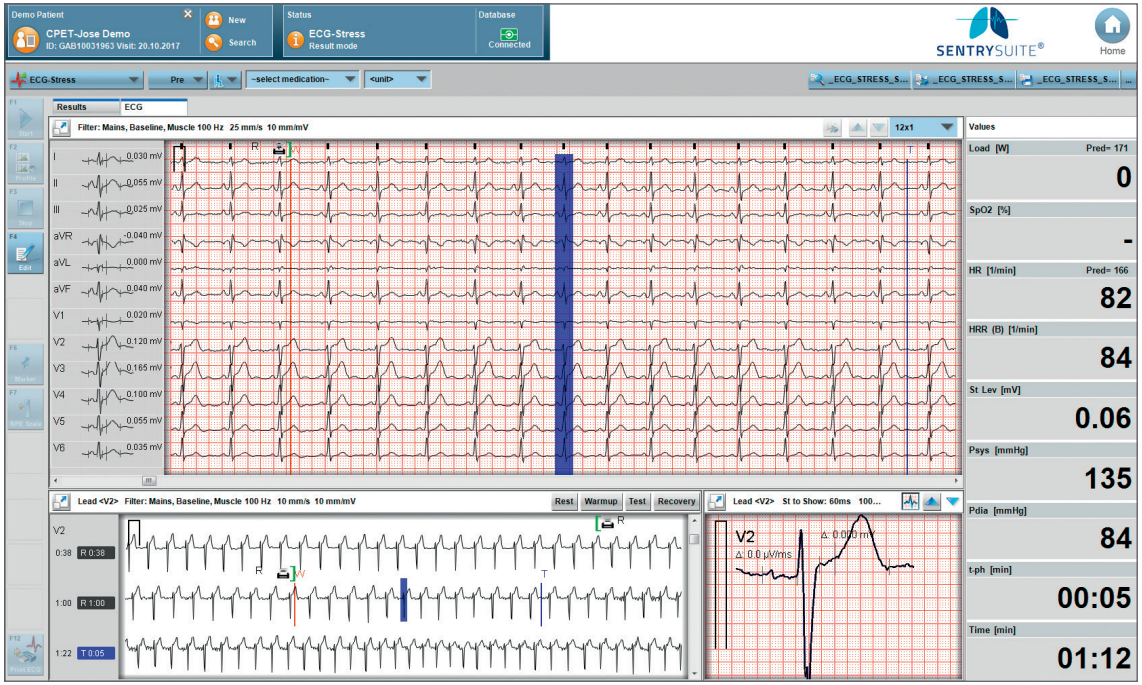
Utilization of the proven Hannover ECG System® (HES-stress) for automatic evaluation and analysis of signals.

Repeatability check

Multi-trial resting ECG standard with Vyntus ECG.

Multiple configurations

Standard within the Vyntus CPX / ECG combo and available as stand-alone device or as option to each Vyaire device running SentrySuite software.



Stress ECG

Improved patient comfort

Bluetooth technology, small and light (220 g) ECG amplifier.

Flexible ergometer interface

Controls ergometers, treadmills as well as Tango blood pressure device.

Easy handling

All 12 channels with ST measurement, rhythm and complex window to scroll through.

Optional canopy module for indirect calorimetry

Resting energy expenditure

Resting energy expenditure (REE) by mask, including fats, proteins, and carbohydrates contribution, is included in the software package.

Easily view when patient reaches steady-state conditions.

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

Optional mixing chamber module

- The standard for exercise testing in athletes
- Patient friendly setup, accommodates temporary disconnection of patient for a drink
- Integrated and stackable to your Vyntus CPX
- Easy to disassemble and clean

The last missing puzzle piece in Cardio-Pulmonary Exercise testing.

Combine Vyntus CPX with other devices

Vyntus ECG

Tango® blood pressure monitor

GE CardioSoft® ECG

Polar® Bluetooth® interface

Ergoselect 600P recumbent bike

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

Treadmill

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REFERENCES

1 Löllgen H, Erdmann E, Gitt AK. Ergometrie, Belastungsuntersuchungen in Klinik und Praxis. 3rd ed. Springer Medizin Verlag Heidelberg; 2010. doi: 10.1007 / 978–3–540–92730–3.

2 Progress in Respiratory Research. Basel. Karger. Weisman IM, Zeballos RJ eds. Clinical Exercise Testing. 2002;(32)300–322. doi:10.1159/000062230

⚠ Where applicable – country availability is dependent on the successful product registration with the National Authority of that country. Please read the complete Instructions For Use that come with the product.

GLOBAL HEADQUARTERS

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

Vyaire Medical GmbH
Leibnizstrasse 7
97204 Hoechberg
Germany

CE 0123

vyaire.com

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