POLY-SPECTRUM-8/EX

12-channel Wireless Digital ECG System

Poly-Spectrum-8/EX

Resp   ECG

C1   C6

R   L

N   P

Bluetooth

Neurosoft

✓ 12-channel ECG recording with automatic measurement

✓ portable and wireless

✓ advanced solution for exercise stress testing, CPET and resting ECG

✓ Windows and Android-based software

✓ HRV analysis

ECG

Neurosoft

POLY-SPECTRUM-8/EX — CONFIDENT CHOICE FOR COMPREHENSIVE ECG DIAGNOSTICS

Since the introduction of our first digital system in 1996, we constantly perfect our ECG solutions focusing on your changing needs and latest technologies.

Our Poly-Spectrum-8/EX digital ECG system is an optimum choice for any challenge. It integrates the complete suite of ECG algorithms and allows performing resting ECG test, exercise stress test, heart rate variability (HRV) analysis and also supervising cardiac rehabilitation training.

APPLICATION

▶ STRESS ECG

Bicycle and treadmill exercise tests for diagnosis, risk assessment and follow up in cardiovascular patients.

▶ HRV

Autonomic function assessment in healthy persons and in patients with a wide range of disorders (diabetes, hypertension, congestive heart failure, syncope). It is a reliable tool for treatment and rehabilitation monitoring.

▶ RESTING ECG

Routine 12-lead ECG screening on a PC or Android devices.

▶ CARDIOPULMONARY EXERCISE TESTING (CPET)

Indispensable tool for functional capacity assessment in cardiovascular patients, patients with pulmonary diseases, and athletes. It is the only reliable mean for precise exercise intensity prescription.

▶ REHABILITATION

Controlled physical training, individual or in groups, for patients after myocardial infarction, cardiac surgery or for patients with chronic coronary heart disease, chronic heart failure and diabetes. It is the proven method to decrease morbidity and mortality.
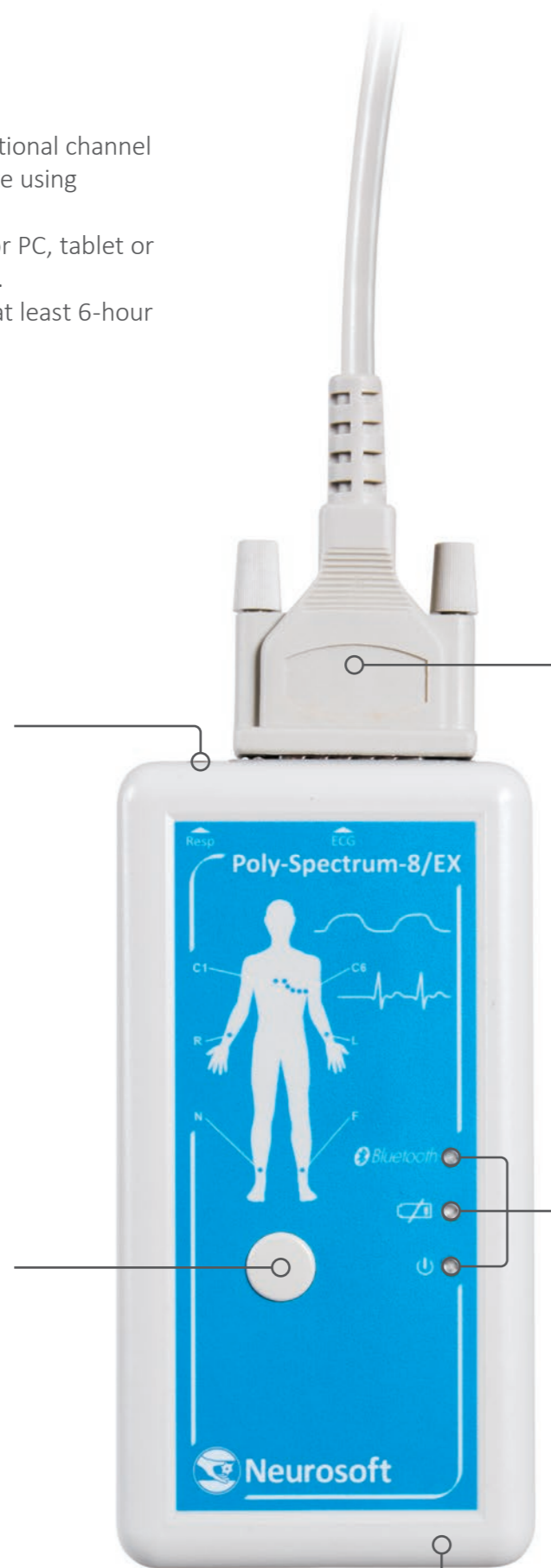
MAIN HARDWARE FEATURES

- 12-lead ECG plus additional channel to record respiratory rate using thermal airflow sensor.
- Bluetooth interface for PC, tablet or smartphone connection.
- Two AA batteries for at least 6-hour continuous operation.

Airflow sensor connector

Standard ECG cable

On/off button

Status indicators

Poly-Spectrum-8/EX

Two batteries of AA type

Wireless

The ECG data is sent via Bluetooth. At that the communication range within the direct visibility is not less than 8 meters.

≈8 m

<200 g

Standard ECG Patient Cable

The ECG acquisition is done via the high-quality ECG patient cable with the standard lead wires. The cable length is just 130 centimeters that minimizes the noises at the obtained ECG traces.

We do not embed the cables in the device and do not produce our own dedicated ones. You are free to select the accessories!
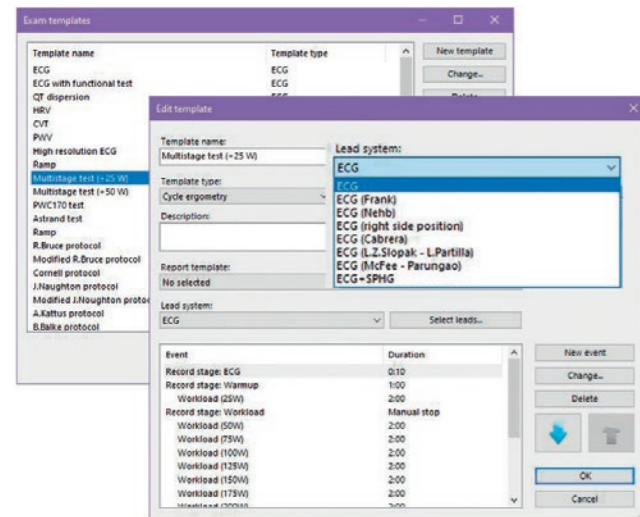
130 cm

Perfect Solution for Outpatient Use

The outpatient cardiac testing can be easily done with Poly-Spectrum-8/EX. The portable device and the set of accessories are supplied in the specially designed case with total weight of 3.5 kg. Using the smartphone or tablet you can record ECG at any site with maximum speed and diagnostic accuracy as all you need is in your hands. Just charge the batteries!

44×35×19 cm

WINDOWS–BASED SOFTWARE FEATURES

Pre-defined Acquisition Templates

The software incorporates the preset templates for the most common ECG tests: resting ECG, exercise stress testing on treadmill or bike, HRV, etc.

The templates are flexible and any of them can be customized by specifying the test duration, lead system, scale and many other parameters

Electrode Placement Quality

Indicators in the bottom part of the screen show electrode-skin contact quality during signal monitoring and recording. Each electrode is matched with the related cell of the color-coded lead bar. The green color indicates reliable contact, red color means the electrode has detached.

ECG Measurement and Printing

Poly-Spectrum-8/EX base delivery set includes Poly-Spectrum.NET/Analysis software module for ECG measurement. This option allows to review the selected QRS complex or the one averaged within a particular ECG fragment. The program automatically arranges the markers in the reference points. The selected QRS complex can be zoom in/out, measured with the special ruler and the markers can be repositioned manually.
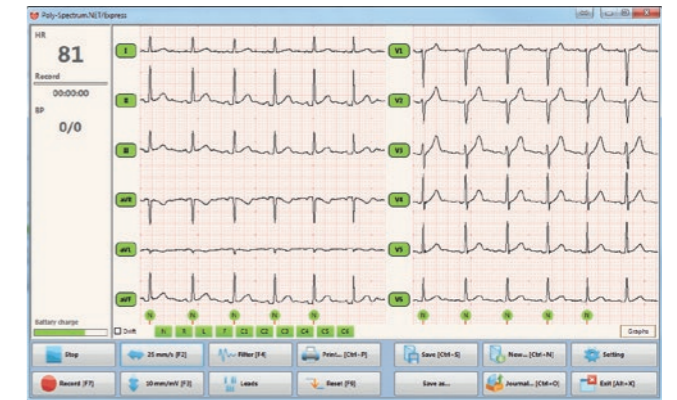

Follow-up ECG

Easy short- and long-term ECG follow-up is done using a special ECG comparison feature. Compare superimposed ECG traces and measurement data on one screen.

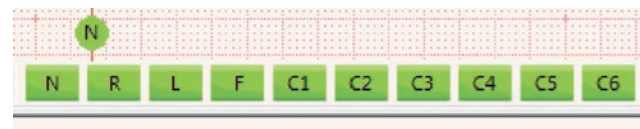## Exam Manager and Database

All patient cards with obtained ECG data are stored in the database managed with Exam Manager software. Using Exam Manager, a patient information, ECG findings including post-acquisition review, reports and conclusions can be reviewed. Software database features seamless integration into your hospital information system via HL7, DICOM and GDT interface engines.
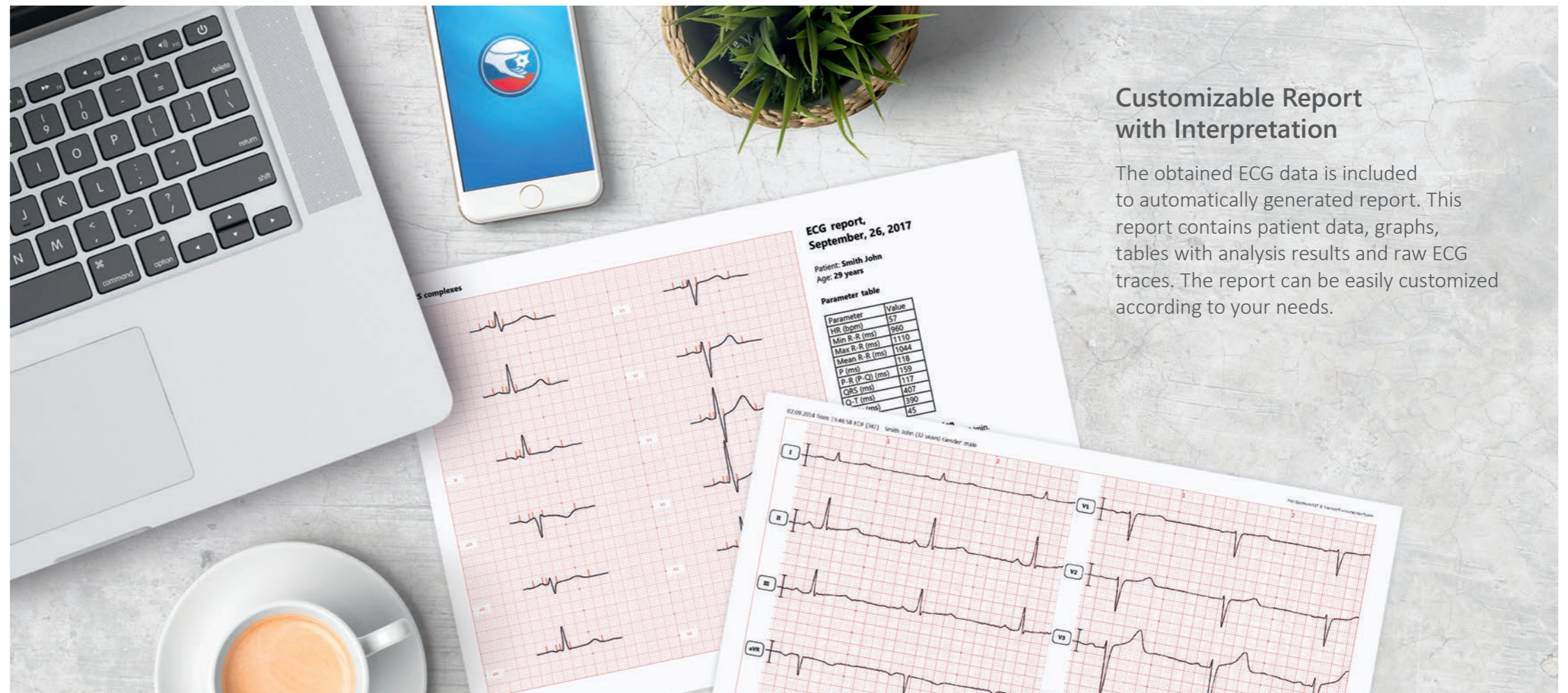

Express ECG Acquisition and Analysis

During routine ECG it is important to achieve optimum performance along with reliable results and reduce patient discomfort as well as the examination time. It is easy with Poly-Spectrum.NET/Express software!

The software interface is user-friendly and simple both for desktop PC and touchscreen devices. You can review the record, save and print ECG data using several buttons on your desktop or tablet PC.
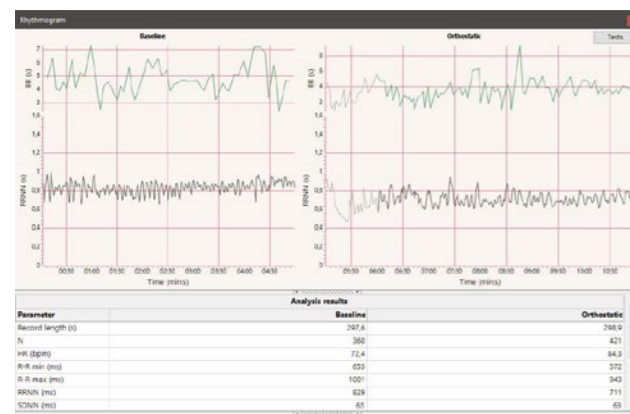
Customizable Report with Interpretation

The obtained ECG data is included to automatically generated report. This report contains patient data, graphs, tables with analysis results and raw ECG traces. The report can be easily customized according to your needs.

OPTIONAL ANALYSIS MODULES
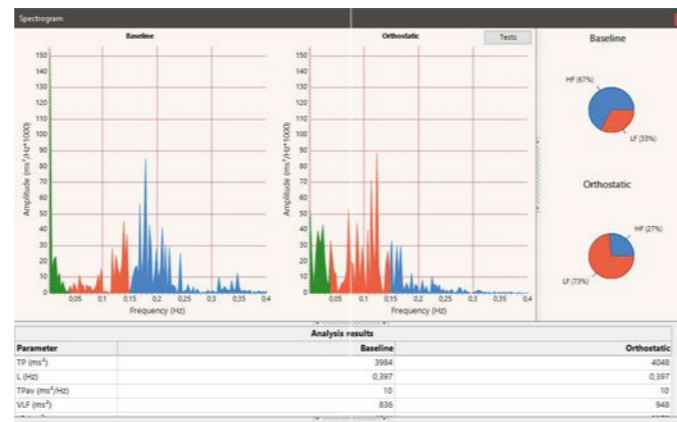
Poly-Spectrum-Rhythm

The software and equipment to evaluate the neurohumoral regulation of the heart function. It is done with HRV analysis and Ewing test battery to clarify the diagnosis, select the treatment approach and optimize the therapeutic efficiency in a wide range of patients (including hypertensive and diabetic patients) and also to define the reserve capabilities of apparently healthy individuals.
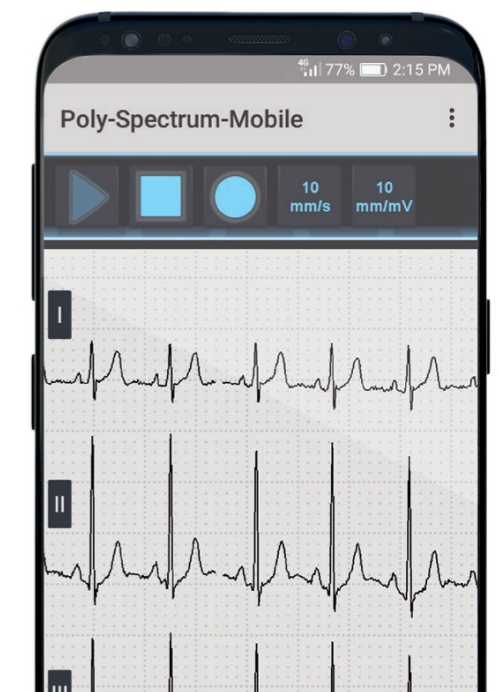
Android Compatible

Poly-Spectrum-8/EX has Android app for a tablet or a smartphone. ECG traces and some analysis results are shown on the device screen in user friendly software which allows storing, printing and sending data via the Internet.

Poly-Spectrum-Mobile

The software to record ECG on an outpatient basis and transmit the data to a medical center in order to analyze the findings and print them out using the office printer. The software is compatible with Android OS and can be installed on any smartphone or tablet.

The Spectrogram Window

Displays the spectrum amplitude charts at frequencies from 0.003 Hz up to 0.4 Hz. According to the international standard of 1996, three frequency ranges are represented on the charts: high frequency oscillations – HF (0.15–0.4 Hz frequency range, blue filling), low frequency oscillations – LF (0.04–0.15 Hz frequency range, red filling) and very low frequency vibrations – VLF (0.003–0.04 Hz frequency range, green filling).

The results of power spectrum analysis are displayed at the drop-down panel at the bottom of the screen.

The Rhythmogram Window

It shows RR interval traces (marked in black color) and the intervals between respiratory cycles (marked in green color) on the same time axis. The table of statistical analysis of the results is displayed at the drop-down panel at the bottom of the screen.

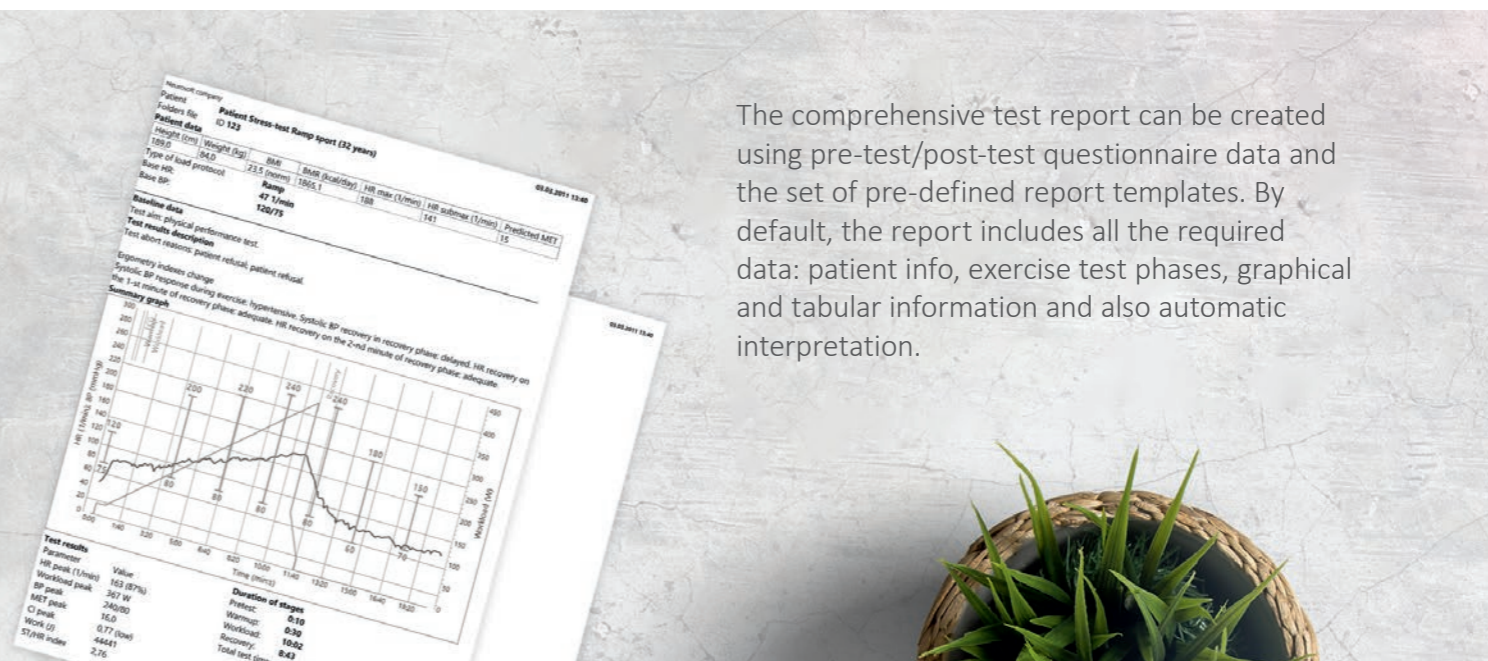# ERGOSPIROMETRY. CARDIOPULMONARY EXERCISE TESTING (CPET)

ECG STRESS TESTING

Poly-Spectrum-8/EX with Poly-Spectrum-Ergo equipment is a complex solution designed to solve the multiple tasks such as diagnostics of coronary artery disease (CAD), assessment of exercise tolerance, study of rhythm disturbances under workload, diagnostics of heart and respiratory failures and evaluation of exercise performance in apparently healthy individuals.

Poly-Spectrum-Ergo includes the scalable software with simple, user-friendly interface. The battery of integrated pre-defined templates consists of the cycle ergometer protocols (ramp, multistage, (+25 W and +50 W), PWC170, Astrand) and treadmill protocols (ramp, Bruce, Cornell, Naughton, Cattus, Balke). The number of possible tests is not limited as you can create your own ones!

All what is needed to see during stress testing is clearly presented on the screen during the test: heart rate, percent of threshold heart rate, total and elapsed time, name and time of the current test stage, workload, blood pressure, metabolic equivalent of task (MET), rotation rate for cycle ergometer or belt speed and elevation for treadmill, battery charge. The panel at the bottom of the screen displays the charts of heart rate, workload, arterial blood pressure and marks of each stage onset. Averaged QRS complexes are shown to the right overlapped with baseline ECG.

Poly-Spectrum-8/EX is the Best Choice for CPET

• powerfull electronic unit allows obtaining high-precision data
• short ECG cable virtually eliminates recording noise
• fixing the electronic unit on the patient improves recording quality
• Poly-Spectrum-8/EX ensures integration with METALYZER 3B (Cortex, Germany), Ergostik (Geratherm Respiratory, Germany) and VO2max Finder (MES, Poland) gas analysis systems to perform cardiopulmonary stress test. It is also compatible with bikes and treadmills of the world-known manufacturers (GE Healthcare, HP Cosmo, Lode, Kettler, etc.).

CPET is a highly informative technique applied in respiratory medicine, cardiology, sports medicine, occupational medicine, rehabilitation, intensive care and nutrition.

The comprehensive test report can be created using pre-test/post-test questionnaire data and the set of pre-defined report templates. By default, the report includes all the required data: patient info, exercise test phases, graphical and tabular information and also automatic interpretation.

ECG PRODUCT LINE

	ECG leads	Transe-sophageal Leads	Automatic Interpreta-tion	Detection of Cardiac Pacemaker Pulses	Interface	Application
Poly-Spectrum-8	12	–	–	+	Wire: USB	Resting ECG
Poly-Spectrum-8/E	12	–	+	+	Wire: USB	Resting ECG, evaluation of autonomic status (HRV), excersize stress testing, CPET, QT, PWV, CVT, VLP
Poly-Spectrum-8/EX	12	–	+	–	Wireless: Bluetooth	Resting ECG, evaluation of autonomic status (HRV), excersize stress testing, CPET, CVT
Poly-Spectrum-8/G	12	–	+	–	Wireless: Bluetooth, GSM	Telemedicine, resting ECG
Poly-Spectrum-12/E	14	2	+	+	Wire: USB	Resting ECG, transesophageal ECG stress ECG, QT, PWV

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