

EC-12S Resting and Stress ECG System

Technical specification



TECHNICAL SPECIFICATIONS OF EC-12S RECORDER

Leads	I, II, III, aVR, aVL, aVF, V1, V2, V3, V4, V5, V6, NEHB
BP measurement method	Auscultational
BP interval of measurement	30-260 mmHg; Device's measuring limit: 20-280 mmHg
BP measurement's accuracy	± 3 mmHg
PC connection	Bluetooth (wireless type)
Patient protection	EN 60601 (IEC-601-1), CF type
Power supply / Can be exchanged during recording! /	2 x 1,2 V rechargeable batteries (or 2 x 1.5 V AA alkaline battery)
Dynamic interval	±20 mV
DC offset range	±1000 mV
Frequency response	0.05 Hz ... 150Hz
Sampling rate	1000 Hz
A/D resolution	16 bit
Input impedance	≥ 120 MΩ
Common Mode Rejection Ratio	> 120 dB
Size	125 x 70 x 33 mm
Weight	~ 200 g (wireless type)

STRESS SOFTWARE FUNCTIONS

• Lead-off warning	• Precise QRS classification	• colour-coded ST level, slope and ST loop graphs
• Store the Indication and medication of the patient	• SAECG	• Smoothing, baseline, mains filters
• MET and VO2 computation	• HR, BP, LOAD, MET graphs	• Customizable alarm and stop criteria
• Ergometer and treadmill database	• Show T-wave deviation: QT, QTc trends	• Vectorcardiography in stress-continuous test
• Arrhythmia analysis	• Weber and Morris function classification	• Bayes theorem in the analysis
• Duke-nomogram	• Borg rank	• QRS frontal axis
• Exercise and condition plan	• Pacemaker detection	• Paper speed: 5-12,5-25-50-100-200 mm/s
• Amplitude: 2,5, 5-10-20-40 mm/mV	• Gender and age-specific ECG analysis software	• Full Disclosure ECG recording
• Modifiable protocols under Load	• standard stress protocols, custom protocols	• Automatic, manual, end of stage blood pressure measure
• Speed measure km/h and mph	• BMI and BMI prime	• Adjustable infoboxes
• Rhythm curves	• Templates analysis	• Event screen
• QT, QTc, QT%	• QRS Axis	• Ectopic rate
• Average view	• ECG contrast	• Milimeter paper settings
• Display channels: 3, 6, 12, additionally: Cabrera, Custom	•	•

REST SOFTWARE FUNCTIONS

• 5, 10, 20 sec and long ECG record	• Rhythm curves	• Lead-off warning
• Precise QRS classification	• Store the Indication and medication of the patient	• Smoothing, baseline, mains filters
• Arrhythmia analysis	• QRS frontal axis	• Full Disclosure ECG recording
• Paper speed: 5-12,5-25-50-100-200 mm/s	• Amplitude: 2,5, 5-10-20-40 mm/mV	• BMI and BMI prime
• Automatic diagnosis	• Average vire	• ECG contrast
• Milimeter paper settings	• Display channels: 3, 6, 12, additionally: Cabrera, Custom	

BASIC FUNCTIONS OF SOFTWARE

DATABASE FUNCTIONS		
• Common database for all Labtech system	• Record recycle bin function	• Search records
• Acquire Patient ID from barcode reader	• System log	• Local database, Network database: Microsoft SQL Server database, SQLite database
• Acquire Patient ID using magnetic card reader	• Filter records	• Different date format
• Medical record for patients	• Import – export records	• Password protected software starting
• Access control	• Import – export records by date	
BASIC FUNCTIONS		
• Automatic update	• Normal and MSI install	• Full screen mode
• HIS integrations: GDT, DICOM MODALITY WORKLIST, Cardiospy SDK	• Two display mode	• Cubios HRV export
• FTP integration	• Email function	• AHA / IEC electrode placement
PRINT AND EXPORT FUNCTIONS		
• Report printing and exporting	• Automatic print	• Selectable reports
• Color and Black and white reports	• Contrast settings	• Resizable resolution
• Customizable company logo	• Automatic diagnosis	• Custom report
• Adjustable paper speed and amplitude	• Import /Export settings	• Export ECG data to CSV, SCP, Dat format
• Export QRS data	• Export N-N intervals	• Export R-R intervals

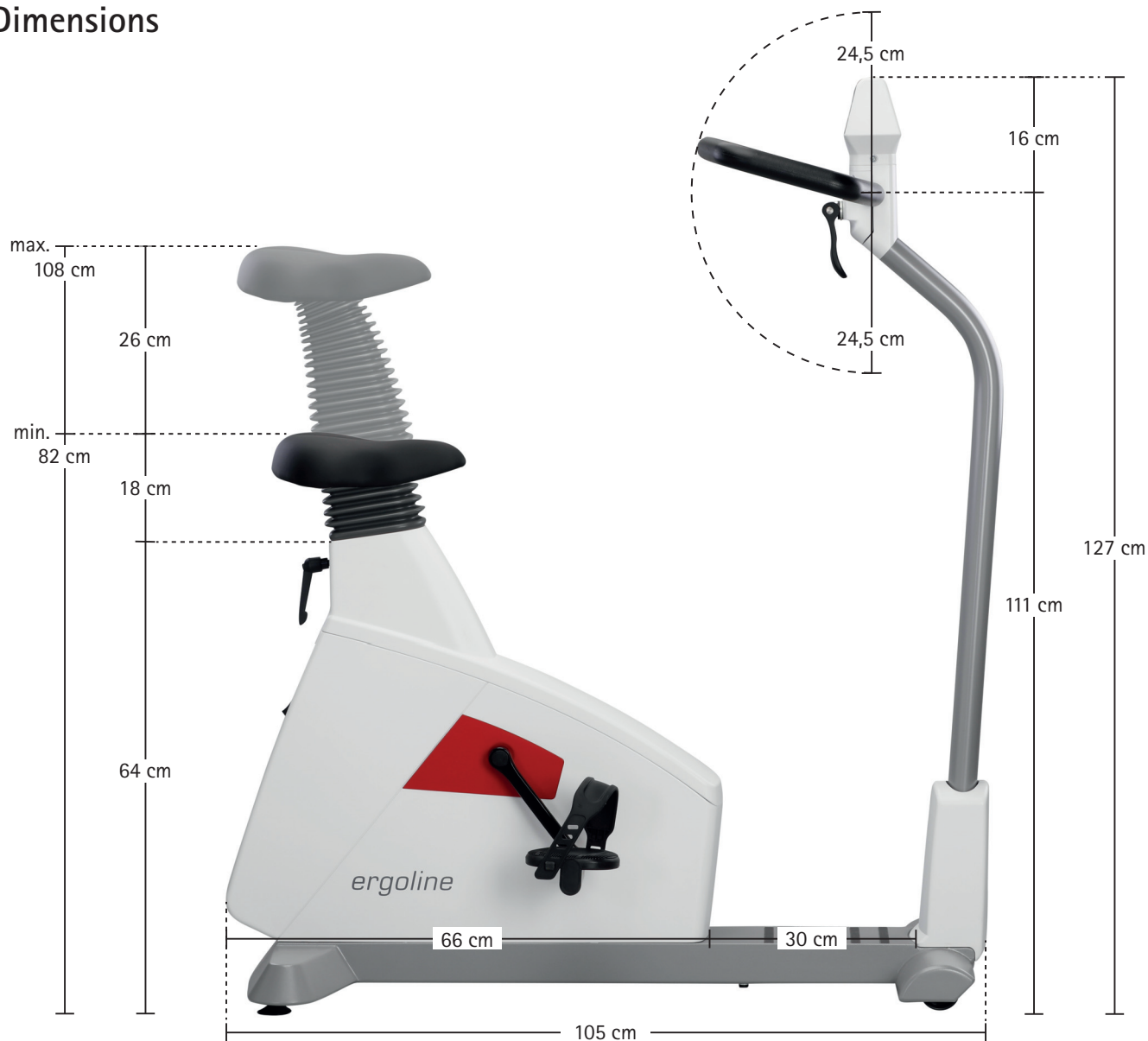
SOFTWARE MINIMUM CONFIGURATION

Processor	minimum: Intel® Core™ i3 recommended: Intel® Core™ i5 or better (Sandy Bridge or newer architecture)
RAM	minimum: 4 GB; recommended: 8 GB
Graphics card	DirectX 10 compatible, min. 128 MB video memory
Display	minimum: min. 1280x800 resolution recommended: 22" monitor 1920 x 1080 resolution (Full HD)
HDD	500 GB (SATA II or newer recommended)
Interface	1 USB port for the EC-2H/3H/12H/ABP recorder 1 USB port for the USB-02 key 1 USB port for the printer
Printer	Laser (printing speed: 15-20 page/min, color printer recommended)
Operating system	Windows 7, Windows 8, Windows 8.1, Windows 10 (32-bit or 64-bit versions)

*Windows XP is no longer supported by Microsoft. Labtech provides only limited support for previously installed systems.

ergoselect 4 – Technical Data

Dimensions



ergoselect 4 – Technical Data

Ergometer		ergoselect 4	
Brake system	microprocessor controlled eddy current brake		
Drive	two-stage brake system with special drive belts (no slippage, low wear)		
Load	6 – 999 Watt, speed independent		
Accuracy	according to DIN VDE 0750-238		
Speed range	30 – 130 rpm		
Handlebar adjustment	inclination 360° ● / handlebar height with motor ○		
Saddle height adjustment	continuously mechanical ● / with gas spring ○ / with motor (incl. patient) ○		
Patient height	approx. 120 cm – 210 cm		
Patient weight (max.)	160 kg ● / 200 kg ○		
Control panel	M (Remote control)	P (Ergometry)	T (Color-Touch)
Display, numerical	Load, rpm, time, blood pressure, heart rate (LCD)		7" color display
Display, graphical (e.g. load, heart rate)	—	—	●
Patient display	Speed (rpm), saddle height (with optional saddle motor)		
Keyboard	—	Foil keyboard	Touch keyboard
Exercise protocols			
User programmable	—	10	10
Manual load control	—	●	●
Training protocols			
User programmable	—	—	10
Predefined test protocols	—	—	3
Options			
Automatic blood pressure measurement	○	○	○
Oxygen saturation measurement	—	○	○
Cardio set (heart rate receiver / chest belt)	—	○	○
Interfaces			
digital (RS-232, USB) / Bluetooth / WiFi		● / ○ / ○	
Dimensions and Weight			
Ergometer		Ergometer with packaging	
Lenght: 105 cm		Lenght: 116 cm	
Width: 49 cm (Width handlebar approx. 53 cm)		Width: 60 cm	
High: 127 cm (114– 140 cm with electrically adjustable handlebar)		High: 148 cm	
Weight: approx. 66 kg		Weight: approx. 80 kg	
Miscellaneous			
Power		100 – 240 V / 50 – 60 Hz / 50 VA max.	

● Standard ○ Option