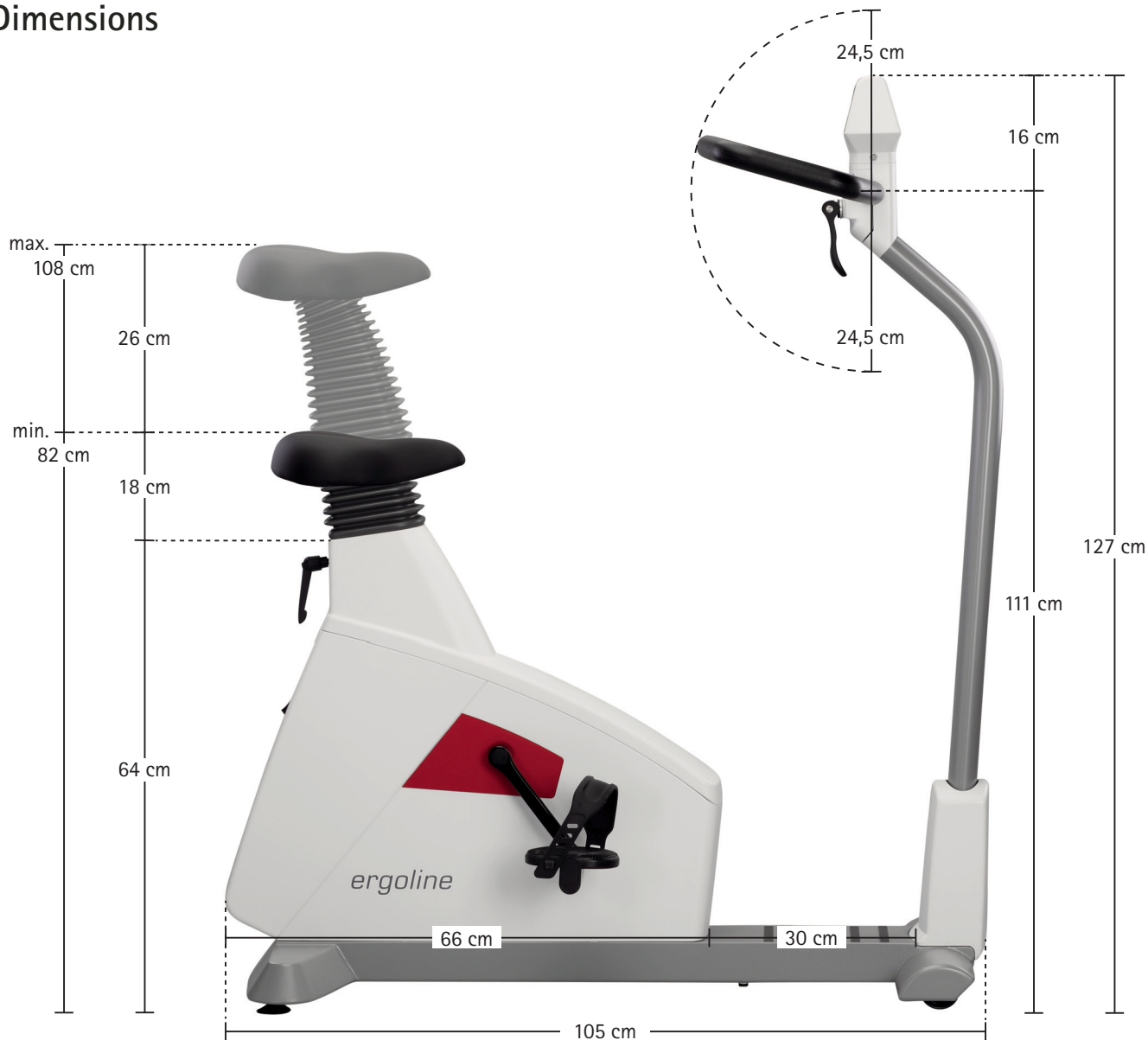


ergoselect 4 – Technical Specifications

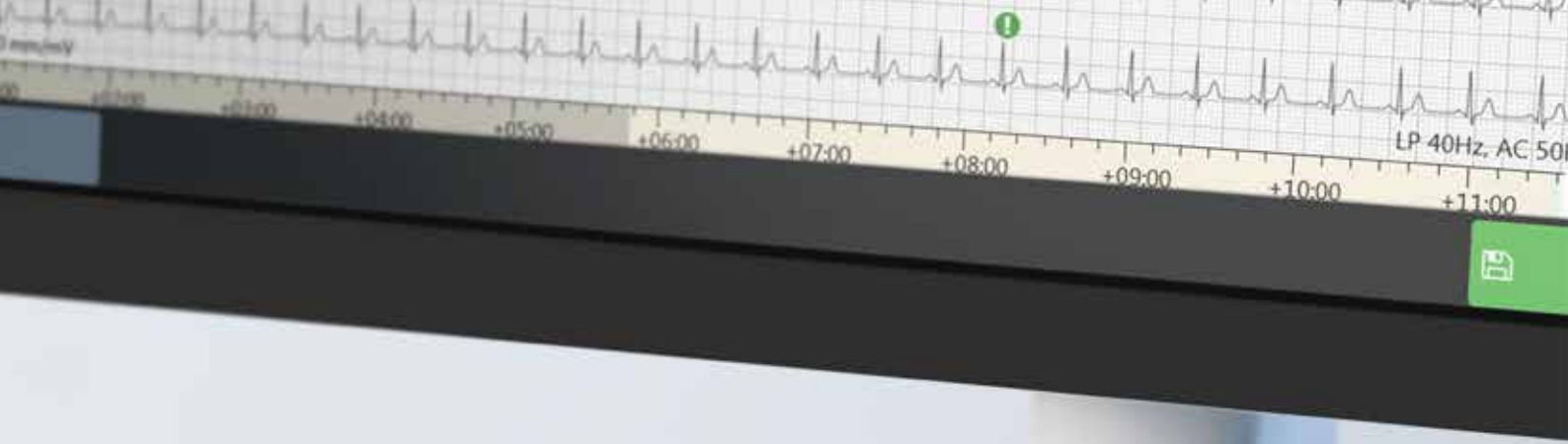
Dimensions



ergoselect 4 – Technical Specifications

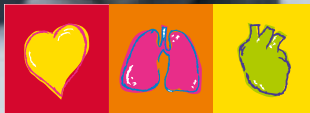
| Ergometer | | ergoselect 4 | | |
|--|--|--|------------------|--|
| Brake system | computer-controlled eddy current brake | | | |
| Drive | special dual-stage belt technology (no slippage, low wear) | | | |
| Load | 6–999 Watt, speed-independent | | | |
| Accuracy | to DIN VDE 0750-238 | | | |
| Speed range | 30–130 rpm | | | |
| Handlebar adjustment | inclination 360° ● / handlebar height with motor ○ | | | |
| Saddle height adjustment | continuously, mechanical ● / with gas pressure spring ○ / with motor (incl. patient) ○ | | | |
| Patient height | for body height from approx. 120 cm to 210 cm | | | |
| Patient weight (max.) | 160 kg ● / 200 kg ○ (For the higher allowed patient weight of 200 kg, the gas-spring or motor assisted saddle height adjustment is required.) | | | |
| Control terminal | M (remote control) | P (ergometry) | T (color touch) | |
| Display, numeric | load, speed (RMP), time, blood pressure, heart rate (LCD) | | 7" color display | |
| Display, graphic (e.g., load or pulse curve) | – | – | ● | |
| Patient display | speed (RMP), saddle height (with optional saddle motor) | | | |
| Keyboard | – | membrane keyboard | Touch keyboard | |
| Exercise test protocols | | | | |
| User programmable | – | 10 | 10 | |
| Manual load control | – | ● | ● | |
| Training protocols | | | | |
| User programmable | – | – | 10 | |
| Preprogrammed performance tests | – | – | 3 | |
| Expansion options | | | | |
| Automatic blood pressure measurement | ○ | ○ | ○ | |
| SpO2 measurement | – | ○ | ○ | |
| Cardio set (HR receiver / chest belt) | – | ○ | ○ | |
| Interfaces | | | | |
| digital (RS-232, USB) / Bluetooth / WiFi | | ● / ○ / ○ | | |
| Dimensions and weight | | | | |
| Ergometer | | Ergometer with packaging | | |
| Length: 105 cm | | Length: 116 cm | | |
| Width: 49 cm (width of handlebar approx. 53 cm) | | Width: 60 cm | | |
| Height: 127 cm (114–140 cm with electrically adjustable handlebar) | | Height: 148 cm | | |
| Weight: approx. 66 kg | | Weight: approx. 80 kg | | |
| Miscellaneous | | | | |
| Power supply | | 100–240 V / 50–60 Hz / max. 100 VA (max. 140 VA for ergometers with motor-assisted adjustment of the handlebar) | | |

● Standard ○ Option



CARDIOVIT CS-104

The exercise ECG of the future in an integrated system

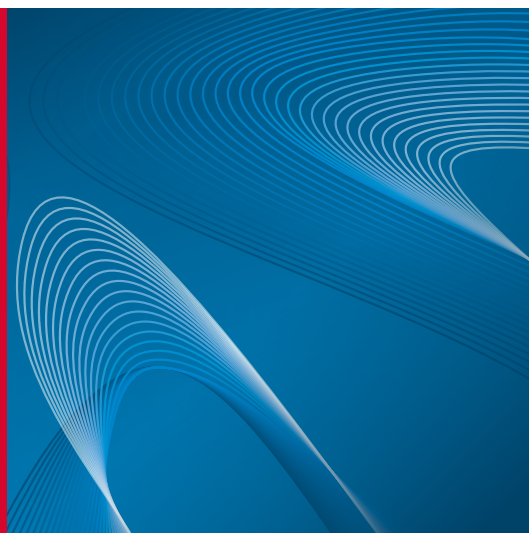


SCHILLER
The Art of Diagnostics

CARDIOVIT CS-104

Everything you need in
one system:

- ∴ Wireless ECG acquisition
- ∴ Optional ultrasound spirometry with SpiroScout SP plus
- ∴ Integrated workstation for data review



ALL POSSIBILITIES IN A SINGLE SYSTEM

- ∴ Resting ECG with the SCHILLER ECG analysis program ETM as well as ETM Sport, the automatic interpretation for athletes
- ∴ Resting rhythm recording up to 20 minutes, with optional arrhythmia detection
- ∴ ECG Framer: 10-second resting ECG from resting rhythm
- ∴ Exercise ECG with optional arrhythmia detection
- ∴ Vector ECG (optional)
- ∴ Spirometry, based on the ultrasound technology of the SpiroScout SP plus (optional)



WORKSTATION FOR DATA REVIEW

The CARDIOVIT CS-104 provides extensive review features for both data locally acquired and recordings from all SCHILLER devices connected to the SCHILLER Server. Bi-directional connectivity (including worklist and PDQ) to EMR, HIS and PACS systems is given.

WIRELESS ECG

The wireless module MS-12 blue greatly simplifies ECG acquisition, allowing the user to freely operate in any environment and minimizing motion artefacts. Whether laying on the bed or running on the treadmill, the patient has the greatest possibility to move and will hardly notice this small and light device (115 g).

SWISS QUALITY - READY-TO-USE

With the CARDIOVIT CS-104, SCHILLER offers a complete ECG system, ready for use in practices, clinics and hospitals.

The unit includes a PC, a monitor, a trolley and a wireless (MS-12 blue) or wired (MS-12 USB) acquisition module. Optionally, the CARDIOVIT FT-1 can be used for ECG acquisition. Everything is pre-installed and tested by SCHILLER, ready to be used in the clinical practice.

CARDIOVIT CS-104 is also available as resting ECG PC software and spirometry PC software.

Ultrasound spirometer
SpiroScout SP plus

Intuitive and customizable user interface

Soft handle positioned at an adjustable height

Small but powerful wireless ECG acquisition module with on-screen signal view and hook-up advisor

Transparent bin to store and transport medical items

Easy-glide wheels to smoothly maneuver the trolley





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Device availability in your market is subject to regulatory approval.





Technical Data

CARDIOVIT CS-104

CARDIOVIT CS-104 Configurations

CARDIOVIT CS-104 System

ECG: MS-12 blue or MS-12 USB or FT-1 ECG recorder and:

- Trolley with PC, monitor and software installed
- Resting/Rhythm ECG
- Exercise ECG

Dimensions Trolley: approx. 1400 x 631 x 590 mm (height with monitor attached 1600mm)

Weight: approx. 24kg (with monitor 28kg)

Integrated power supplies and cabling: 100 - 240 VAC, max. 4.5 A, 50-60Hz (fully equipped)

CARDIOVIT CS-104

ECG: MS-12 blue or MS-12 USB or FT-1 ECG recorder and:

- Software (without PC)
- Resting/Rhythm ECG

CARDIOVIT CS-104 Spirometry

Spirometry software (without PC) and SpiroScout SP plus sensor (see next page)

PC Specification

CARDIOVIT CS-104 System

Operating system: Windows® IoT

Network: Intel® Wi-Fi 6 AX201 2x2 (Gig+) + Bluetooth 5.1 and 1x nLAN (RJ-45)

Working RAM: 8 GB

Bluetooth: Bluetooth 5.1

Interfaces:

- 1 USB 3.2 Gen2 Type-C port (front)
- 1 USB 3.2 Gen2 Type-A port with PowerShare (front)
- 1 Universal Audio Jack (front)
- 1 Line-out port (front)
- 2 USB 3.2 Gen2 Type-A ports (rear)
- 1 USB 3.2 Gen1 Type-A port (rear)
- 1 USB 3.2 Gen1 Type-A port with Smart Power on (rear)
- 1 USB 3.2 Gen1 Type-A port (rear) (for Discrete graphics)
- 2 Display Port 1.4 ports (rear)
- 1 RJ-45 port 10/100/1000 Mbps (rear)
- 2-pin Connector for external switch on

MS-12 Blue

Device

Dimensions: 90 x 58 x 20 mm

Weight: 118 g incl. batteries

Electrical data

Power: 2 x AA NI-MH rechargeable batteries

Charging time: 3 h

Battery capacity: 36 hours of continuous display

Interface

Bluetooth 2.0 and 2.1 + EDR

Profile: SPP

Module type: class 2

Safety: Pairing to ensure data transfer to the correct addressee. Smart pairing is supported.

Display

OLED

ECG Amplifier

Complies with IEC standard 60601-2-25 and ANS/I/AAMI EC11.

MS-12 USB

Device

Dimensions: 95 x 62 x 14 mm

Weight: 140 g incl. USB cable

Cable Length: 2.5 m

Controls and Indicators

Function button: Button for initiating a resting ECG with Integrated LED for:

- indicating PC connection and on/off status (light blue)
- indicating function button active for auto ECG recording (blinking light blue)

Interface

USB interface for data transmission and unit power

Patient Input (applied part)

Fully floating and isolated, defibrillation protected (with original SCHILLER patient cable), type CF.

ECG Amplifier

Complies with IEC standard 60601-2-25 and ANS/I/AAMI EC11.

FT-1 ECG Recorder

CARDIOVIT FT-1

see separate technical datasheet (Art. No. 2. 500684)

ECG

Filter

User set filter: Low pass 25 Hz, 40 Hz, or 150 Hz and RNSF for Exercise ECG

Recording functions ECG

Analysis: Simultaneous 12 channels, on-screen review of ECG

Rhythm recording: Resting Rhythm up to 20 minutes

Lead order: Standard or Cabrera

QT correction: Bazett, Fredericia, Framingham or Hodges

Re-measurement tool

ECG framer

Lead selection: Standard 12-lead, Standard with C4r, Right precordials, Left posterior, Balanced, Nehb, paediatric, XYZ (Frank and Bipolar)

Spirometry

Recording functions Spirometry

Sensor: SpiroScout SP plus (see over)

Tests: FVC (with incentive screen), SVC, MVV

Standards: Normal standards selected for predicted value calculation

Review: On screen review of PRE and POST measurements

Interpretation: Automatic interpretation of FVC



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CARDIOVIT CS-104

Environmental Conditions

Temperature

Operation: 10 to 40°C

Transport: -10 to 50°C

Storage: 5 to 50°C

Humidity

Operation: 15 to 95 % non-condensing

Transport/storage: 10 to 95% non-condensing

Pressure

Operation: 700 to 1060hPa

Transport/storage: 500 to 1060 hPa

Standards

Classification

Safety and performance standard: Conforms with IEC/EN 60601-1 and IEC/EN 60601-2-25

Protection class according 60601-1: II

Applied part according 60601-1: CF

Classification according Directive 93/42/EEC: IIa

Notified body: CEC 0123

Environmental protection class: IP20

Options ECG

CS-104 System and CS-104

ETM (computer-aided ECG interpretation): (5.111002) for adults and children and ETM sport - Seattle Criteria

Advanced interpretation editor: (5.111003) - (standard in CS-104 System)

Exercise ECG: (5.111006) 12 Lead ECG EXEC Expert (standard in the CS-104 System)

Advanced Arrhythmia detection: (5.111004) exercise and rhythm ECG

Vector ECG: (5.111005)

Worklist: (5.111008) - (standard in the CS-104 System)

Spirometry: Spirometry software application activated with SpiroScout SP plus sensor 1.500041

Options Spirometry

CS-104 Spiro

Worklist: (5.111008)

Options Communication

Communication

SCHILLER server required

- HIS/EMR/PACS order import for Worklist (5.111008)
- DICOM/HL7 ECG export to HIS/PACS (5.602101)
- HIS/EMR patient import for ADT (5.602102)
- HIS / EMR Results Export (5.602103)
- HIS/EMR/PACS order import for Worklist (5.602104)

Data Export

Export Formats: SEMA3, PDF, GDT

Spirometry Sensor

Sensor

Name: SpiroScout SP plus

Dimensions: 14 cm x 5 cm x 9 cm

Weight: 185g

Electrical data

Power: Powered via USB 2.0, 4.5 to 5.25VDC, 500mA

Power consumption: Standby: 275 mA, 5VDC (1.4 W), Measurement: 500mA, 5VDC (2.5W)

Temperature

Operation: 15 to 35°C

Transport/Storage: -20 to 50°C

Humidity

Operation: 10 to 95 % non-condensing

Transport/storage: 10 to 95 % non-condensing

Pressure

Operation: 700 to 1060 hPa

Transport/storage: 600 to 1060hPa

General

Measurement Method: Ultrasound

Patient protection and hygiene: ScoutTube: single patient use, disposable breathing insert ergonomically shaped mouthpiece and standard cone 22 mm

Respiratory resistance: 0.002 kPa/l/s = approx. 0.02 cmH₂O/l/s

Dead space, complete: 18 cm³

Measurement Ranges:

- Flow: 0 to 18 l/s
- Volume: no limit

Measurement Accuracy:

- Flow: ± 2 % or 50 ml/s (for Flow from 0 to 16 l/s)
- Volume: ± 2 % or 50 ml
- Temperature Drift: ± 2 %



Počítačové EKG

Technické parametry počítačového EKG

EKG pro klidové vyšetření, klidový rytmus, ergometrii, s možností připojení podtlakových elektrod. Vyhodnocovací počítačová sestava. Vše umístěné na pojízdném stoku.

EKG:

- EKG s USB připojením do počítače, hmotnost max. do 140 g
- záznam 12 svodů pro klidové i zátěžové EKG s kontinuálním záznamem
- vzorkovací frekvence EKG min. 8000 vzorků/min pro každý svod
- systém musí umožnit kompletní ovládání klidového i zátěžového vyšetření z počítače
- Full disclosure – ukládání a záznam všech 12 svodů ergometrie
- přepínání zobrazovaných svodů na monitoru
- výběr rychlosti zobrazení 6.25, 12.5, 25, 50 mm/s a citlivosti 5, 10, 20, 40 mm/mV
- záznam klidového rytmu EKG s detekcí arytmií s klasifikací
- počítadlo ektopických VES komplexů
- 3D vektorové zobrazení EKG
- QT disperze dle kritérií: Bazett, Fridericia, Framingham or Hodges
- vyhodnocení Duke Treadmil Score
- analýza klidového EKG s opakovanou interpretací dle změněných kritérií,
- analýzy a diagnostika klidového EKG sportovců dle Seattle kritérií
- podtlakový systém přísavných elektrod, rozsah podtlaku 60 – 200 mbar, min. 4 úrovně podtlaku, profouknutí při vypnutí a zapnutí, samostatný na kolečkách
- součástí dodávky bude stolek pro umístění celé sestavy
- stolek na brzděných kolečkách s držákem monitoru, s policemi pro umístění EKG, pc sestavy, držákem láhve s kal. plynem, ...
- podpora standardů HL7 a GDT pro integraci do informačních systémů