Whatever pushes you forward: The MetaMax® 3B is a spiroergometry system for professional outdoor use designed to meet your individual needs – no matter how exceptional they might be.

Thanks to sophisticated technical features and constant further development the MetaMax® 3B can be used in all disciplines. Regardless of its location in the field, in the air, on the water or near fire, the MetaMax® 3B offers endless options.

Because of its very low weight, the high wearing comfort and the secure data transmission it ensures the MetaMax® 3B is the first choice for mobile high performance testing.

For more information: http://cortex-medical.com
Using GPS

To determine the velocity and location of a test person in a field test the MetaMax® 3B uses a powerful GPS module. The module allows you to calculate velocity and altitude changes and gives an objective picture of the person’s stress factors during a field test.

Secure Data Communication

The Long Range Bluetooth® module, developed and enhanced by CORTEX, has a range of over 1,000 m. Only very slight disturbances are caused by interference. In case connection is interrupted, the measured results are securely stored in the MetaMax® 3B. In addition, the system is equipped with Bluetooth® Low Energy. This standard guarantees a maximum compatibility with external sensors, for example heart frequency, SpO2 or a power meter.

Highlights

- ultralight, mobile Breath-by-Breath system (580 g)
- telemetric range of over 1,000 m (bi-directional telemetry with Bluetooth® technology)
- chest and back carrying system
- convenient control via Smart Control, laptop or as stand-alone
- 6-hour battery life
- 400 hours data storage
- constant dynamic flow control
- free definable audio signals

Spiroergometry – On your Conditions

With a weight of less than 600 g, the MetaMax® 3B is the most lightweight mobile spiroergometric device on the market. For many disciplines this is a decisive advantage because in field tests the total weight of the test person increases only minimally and has effectively no influence on your test results. Its award-winning ergonomic design in combination with the chest and back carrying system and adjustable Velcro fasteners allows maximal mobility and impress in numerous types of sport.

The MetaMax® 3B can be operated in various ways, either with a laptop, the Smart Control or completely autonomously. Just synchronize the recorded test data with the applica-
tion software MetaSoft® Studio.

Benefit from the full potential of the MetaMax® 3B and add – for example – an optional stationary kit, a back carrying system or an ECG. All options and accessories are listed in the product overview on pages 6 and 7.
Configure your MetaMax® 3B according to your individual needs. A wide range of hard-/software options and benefit packages are available. You can enhance your selected system by adding perfectly matching peripherals.

### Hardware Options
- **stationary kit**
- **performance package**
- **TextControlCenter 2 for CPET devices**
- **performance package for 2 CPET devices**
- **warranty extension**
- **Garage**
- **calibration kit**
- **pedo flow volume**

### Packages
- **CORTEX mobile Plus single monitor**
- **CORTEX mobile Plus dual monitor**
- **CORTEX bike M**
- **CORTEX® High Performance**
- **HE/ECG**
- **PhysioFlow®/BD/SpO2**
- **Software Options**

### Trolley & PC
- **PC **
- **Hardware Options**
- **end trach adjustment mount**
- **integrated BP**
- **integrated SpO2**
- **pedo handlebar**
- **adaptation for pediatric ergometry**
- **Pedestal**
- **multi stop**
- **support arm**
- **HR/ECG**
- **foot-switch**
- **adapter for face mask**
- **software license**
- **Software Options**

### Accessories & Spare Parts
- **face masks**
- **pediatric 1**
- **pediatric 2**
- **5**
- **L**
- **head strap**
- **sample box**
- **6 m**
- **2 m**
- **turbine with sieve - reusable**
- **turbine - disposable**
- **200 pieces**
- **500 pieces**
- **O2 sensor MMX3B**
- **Accessories & spare parts**

### Interfaces
- **TechMarkets**
- **MicroMarkets**
- **Marquette**
- **Quinton**
- **MotorForce**
- **TechnoGym**

### PhysioFlow®/BD/SpO2
- **PhysioFlow®**
- **PhysioFlow® license**
- **PhysioFlow® cable**
- **QRS trigger**
- **custo trigger cable**
- **GRS trigger**

### HE/ECG
- **Polar HSD**
- **BT smart HF sensor**
- **MSS 1-lead kardio**
- **MSS 3-lead guard**
- **custo cardio 100**
- **MC3000 interface**
- **custo cardio 200**
- **MC3000 interface**
- **custo cardio 300**
- **MC3000 interface**

### PhysioFlow® electrodes
- **12-lead ECG interface**
- **Schiller**
- **Micon**
- **Amstradix**
- **DR Schritt**
- **Rigosol**
- **Korax**
- **Deltastick**

### Software Options
- **MSS Energy Metabolism for CPET**
- **MSS Performance Assessment**
- **MSS Exercise Package**
- **MSS Pre-Operative Risk Assessment**
- **MSS Interpretation Assistant for Wasserman**
- **ECG Detection**
- **PhysioFlow® License**
- **MSS Spirometry**
- **MSS Basal- & Resting Metabolic Rate**
- **MSS HEI Interface Activation License**
- **MSS Network License Basic**
- **MSS Network License Extension**

### Accessories & Spare Parts
- **bacteria filter spirometry**
- **Please select**
- **Standard**
- **Option**
- **Other in request**
- **Correction possible**
- **Accessories & spare parts**

### MetaMax® 3B
**The Entire Spectrum of**

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**The Entire Spectrum of**

### MetaMax® 3B
**The Entire Spectrum of**
**The Service Package for Major Security of Investment**

The service package includes all consumables (calibration gas, O2 sensors etc.) for the first three years. It gives you high planning reliability for your projects and test studies thanks to an extended warranty period of three years. In addition, your operating costs are much lower by purchasing the service package.

**Performance Package MetaMax® 3B**

The MetaMax® 3B already comes with the most widely used hardware and software options in the area of sports and preventive medicine. It also includes the CORTEX GPS module and a stationary kit for optimal use of the MetaMax® 3B in a laboratory with an external electricity supply.

Furthermore, the package includes a calibration kit and a larger supply of consumables.

**CORTEX Warranty Extension**

The warranty extension from CORTEX allows you to extend the warranty for your spiroergometry system at any time and as often as you wish. CORTEX offers you attractive warranty packages for the systems depending on scope and duration. The warranty includes free of charge repair of the device, trouble shooting of hard- and software as well as regular software updates.

For more information on the terms of the warranty extension, please go to:

For more information: http://cortex-medical.com

**CORTEX treadmill TM**

The CORTEX treadmill TM combines functionality and design at an outstanding price-performance ratio. Two basic versions are available: with running surfaces of 53 cm x 161 cm or 73 cm x 172 cm plus various add-ons.

**CORTEX bike M**

Due to its ergonomic design with an open frame, low entry and the stable aluminum platform, the CORTEX bike M is a perfect all-rounder.

**Additional Ergometers and Treadmills**

Connect our systems to more than 40 different ergometers and treadmills. Based on special software interfaces you can easily connect our spiroergometry solutions to a continuously increasing number of bike / arm ergometers and treadmills (such as: Ergoline, Cyclus 2, h/p/cosmos, Woodway or Lode). Upon special request we also offer connections to additional devices. Just give us a call.

**Electrocardiograms (ECGs)**

The perfect symbiosis between spiroergometry and ECG. Benefit from the specific advantages of a bidirectional interface and combine our spiroergometry solutions with the ECGs made by custo med. Numerous advantages such as simplified operational steps, a synchronized cursor or an easier exchange of variables enable an especially intuitive reporting, thereby enhancing your test and diagnostic options.

Besides custo med’s ECGs you can select alternative ECG connections. For more information please refer to pages 6 and 7.

**Wireless 3-lead ECG from custo med**

The custo guard allows a user-friendly 3-lead ECG measurement when performing laboratory and field tests.
**MetaSoft® Studio Makes Complexity Easy**

The MetaSoft® Studio combines the complexity of spirometric examinations with the most intuitive usability in a unique way.

It is impossible to give a feeling of the easy and intuitive data collection and test evaluation MetaSoft® Studio offers. To put it briefly:

*You have to see and test MetaSoft® Studio by yourself.*

Please contact us to arrange an appointment for a product presentation to see what the software is all about. To get a first impression, watch our short video tutorial.

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**Cortex Quality Guarantee**

The top quality of Cortex products and services is the key factor of our success and represents a central brand promise. Since founding our company almost 30 years ago, we stay for: „Fast realization of innovative ideas, supported by excellent services, now and in the future“.

We and all our Cortex partners work according to the worldwide quality and security standards of medical products.

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**The Entire Spiroergometry Variety**

Visit our website www.cortex-medical.com and get to know the wide range of products offered. Or ask for additional brochures. Besides our powerful mobile and portable spirometry systems we also offer customized solutions. Share your ideas with us and tell us what you want!

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You would like to know more about Cortex and our products?

Then contact us!

Please call: +49 341 487 49-0 or send an e-mail to: sales@cortex-medical.com
**MetaMax® 3B – TECHNICAL DATA**

**O2 Sensor**
- type: chemical fuel cell
- range: 0-100 %
- accuracy: < 0.1 Vol %
- T90: < 100 ms
- calibration: every 14 days

**CO2 Sensor**
- type: NDIR
- range: 0-13 %
- accuracy: < 0.1 Vol %
- T90: < 100 ms
- calibration: 1x per month

**Pressure Sensor**
- range: 300-1,100 mbar

**Volume Turbine, Reusable**
- flow: ≤ 20 l/s
- accuracy: 50 ml or +/- 2 %
- resistance: ≤ 0.1 kPa/l/s @ 20 l/s
- calibration: 1x daily

**Volume Turbine, Disposable**
- flow: ≤ 14 l/s
- accuracy: +/- 3 %
- resistance: ≤ 0.06 kPa/l/s @ 14 l/s
- calibration: not necessary

**Heart Rate**
- smart BT | 3-lead ECG (optional)
- 12-lead ECG (optional)

**Telemetry**
- range: > 1,000 m
- PC interface: USB 2.0 with Long Range Bluetooth® receiver or Bluetooth® USB adapter

**Operating Conditions**
- temperature: -10 ° to +40 °C
- ambient pressure: 500 to 1,050 mbar
- at atmospheres: ≤ 25 % O2
- relative humidity: 0 to 100 % (non condensing)

**Physical Specifications**
- dimension (LxWxH): 2x (120 x 110 x 45 mm)
- weight: 580 g (without battery)

**Electrical Specifications**
- PC interface: Bluetooth® 2.1
- power supply: battery with 6 hours operating time

**Quality Management**
- EN ISO 9001, EN ISO 13485

**Conformity**
- guideline 93/42/EWG + 2007/47/EG
- EN ISO 60601-1; 60601-1-2; 10993-1; 15223-1; 1041; 62304; 62366; 23747; 26782

**System Requirements Operating System**
- Windows 7, 8, 10 (32 or 64 Bit)
- Windows Server 2008, 2012 (64 Bit), 2016 (64 Bit)