



“When Heart and Lungs meet together”



- Maximal oxygen uptake (VO_2 max) and measured METs.
- Classification of Exercise Capacity & Anaerobic Threshold
- Nutritional Assessment and resting VO_2 for Fick equation
- Full Spirometry (FVC, SVC, MVV, etc.)
- Multiple scores for Cardiovascular and Pulmonary Risk analysis
- Body composition & Weight Management software
- Interfaces with conventional stress testing ECG
- Affordable, compact & easy to use

Compact diagnostic solution for complete Cardiopulmonary Assessment

The Fitmate MED is the first diagnostic equipment designed to provide a complete picture on cardio pulmonary function. Fitmate MED measures maximal oxygen uptake, the “Gold Standard” for measuring exercise capacity and quantify aerobic fitness.

Fitmate MED is a compact desktop device with internal rechargeable battery, a large LCD screen and inbuilt printer that allow testing without a computer or mains power lead. Fitmate MED processes test results and stores all information inside its internal memory, ready for upload to PC software (included).

Fitmate MED has been validated for measuring VO_2 max and for predicting maximal oxygen consumption with a sub-maximal protocol. VO_2 max and sub max tests can be performed with most of cycleergometers and treadmills available in the market. Warnings and quality

control messages (mask leaks, breathing pattern etc.) are displayed during test.

In combination with traditional stress ECG, the Fitmate MED can assess the patient’s functional capacity, overcoming limits of conventional cardiovascular stress test without the need of expensive equipment. This desktop equipment also provides multiple scores for cardiovascular risk analysis, useful for better classification of the patient. Patient rehabilitation is then managed with exercise prescription and weight management software according to established international guidelines.

Fitmate measures accurate oxygen consumption at rest (REE, RMR), comparable with conventional metabolic carts.

Complete spirometry testing (FVC, SVC, MVV, Pre/Post bronchial dilator response) is available with full compliance with latest ATS/ERS guidelines.



Validation articles

- Vandarakis D, et al. A comparison of COSMED metabolic systems for the determination of RMR. *Res Sports Med* 2013;21(2):187
- Lee J et al. Validation Of The Cosmed Fitmate For Predicting Maximal Oxygen Consumption *Medicine & Science in Sports & Exercise*: May 2009 - Volume 41 - Issue 5 - p 260
- Nieman DC, et al. Validation of Cosmed's FitMate in measuring exercise metabolism. *Appalachian State University, Boone, North Carolina, USA. Res Sports Med.* 2007 Jan-Mar;15(1):67-75
- Nieman DC, et al. Validation of Cosmed's FitMate in measuring oxygen consumption and estimating resting metabolic rate. *Appalachian State University, Boone, North Carolina, USA. Res Sports Med.* 2006 Apr-Jun;14(2):89-96
- More scientific studies on www.cosmed.com/bibliography



Technical Specifications

Product	Description	REF
Fitmate MED	Clinical Desktop metabolic monitor	C09066-03-99
Standard packaging	Unit, Carrying Case, PC Software, Battery Charger, USB Cable, Oxygen Sensor, Roll of thermal paper, Measuring Tape, RMR Flowmeter ID18, VO ₂ Flowmeter ID28, Reusable VO ₂ mask (Medium size), HR probe and belt, Head cap for VO ₂ testing, AB filters (15 pcs).	
Standard Tests		
Cardio Pulmonary Exercise Test (CPET)	Pulmonary Gas Exchange (VO ₂ , VCO ₂), VO ₂ max, Sub-max VO ₂ , Thresholds (AT, RCP), Heart Rate with HR belt	
Nutritional Assessment	Resting Energy Expenditure (REE, RMR). Indirect Calorimetry (w/ Face Mask or w/ mouthpieces-antibacterial filter), Weight Management Program (Energy Balance), Diet Planner, Standardized Measurements (WHR, BP, RHR, etc), Body composition by Skinfold	
Spirometry	Forced Vital Capacity (FVC) Pre/Post, Slow Vital Capacity (SVC) Pre/Post, Maximum Voluntary Ventilation (MVV), Bronchochallenge - Bronchial Dilator/Constrictor test	
Fitness Assessment	Standardized Measurements (WHR, BP, RHR, etc), Body composition by Skinfold	
Exercise Prescription	VO ₂ /HR Training Zones (based on AT), Recommended Exercise Intensity for Cardiac Rehab	
CV Risk Analysis	Framingham Index, Duke Score, Bode Index, European Cardio Score	
Flowmeter	VO₂ max (Turbine Ø-28mm)	RMR/REE (Turbine Ø-18mm)
Type	Bidirectional Digital Turbine	Bidirectional Digital Turbine
Flow Range	0-16 l/s	0-8 l/s
Accuracy	± 2% or 20 ml/s (flow) ± 2% or 200 ml/min (ventil.)	± 2% or 20 ml/s (flow) ± 2% or 100 ml/min (ventil.)
Resistance	<0.6 cmH ₂ O /l/s @ 14l/s	<0.7 cmH ₂ O/l/s @ 3l/s
Ventilation range	0-300 l/min	0-50 l/min
Gas Analyzers	O₂	
Type	GFC	
Range	0-25%	
Accuracy	±2% (REE) ±0.02% (O ₂)	
Warm-up time	10 seconds	
Hardware		
Dimensions & Weight	24 x 20 x 8 cm / 1.5kg	
Interface ports	USB A-B, RS-232, HR-TTL, Flowmeter	
Display	Colour LCD 320 x 240 pixel	
Printer	High speed thermal printer 12 cm	
Battery	Rechargeable Li-ion batteries (autonomy 6h; charging time 2h10)	
Electrical Requirements	220V ± 10 %;50/60Hz 110V ± 10%; 50/60Hz	
Firmware		
Available languages	Italian, English, Spanish, French, German, Portuguese, Greek, Dutch, Turkish, Chinese, Korean, Japanese, Finnish, Polish, Russian, Slovenian	
Software		
Fitmate Suite		
Available languages	Italian, English, Spanish, French, German, Portuguese, Greek, Dutch, Chinese, Finnish, Russian, Slovenian	
PC Configuration	Pentium or faster, Windows XP, VISTA (32/64 bit), Windows 7 (32/64 bit) 128 Mb RAM or more, USB, CD-Rom reader, 80 Mb on HD space available.	
Accessories & Options		
REE with Canopy Hood	Kit including transparent canopy hood and blower for "gold standard" indirect calorimetry measurements at rest	C03950-01-11
Fitmate cart	Fits Fitmate unit, printer, masks, printouts, carrying case	C02950-01-11
Calibration syringe	3L syringe for accuracy check of flow volume measurements	C00600-01-11
O ₂ sensor replacement kit	Includes GFC sensor, sampling line and mounting key	C02748-01-11
Activity Monitor Fitmate Lifecorder PLUS	Integrated one-axial, solid state accelerometer	C03580-01-04
Pulse Oximetry	Nonin Oximeter with integrated finger probe	C02390-01-05
Safety & Quality Standards		
MDD (93/42 EEC); FDA 510(k); EN 60601-1 (safety) / EN 60601-1-2 (EMC)		



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To know more:

