



“Calories, you can't manage what you don't measure”



- Resting Energy Expenditure (REE, RMR) by oxygen consumption
- Provided with flow-based-dilution canopy
- Simple and effective monitoring of patient's energy requirements
- Affordable, portable, compact, easy to use with built-in printer
- Automatic calibration and no need of consumables
- Validated vs. Gold Standard technique
- Suitable for subjects from 25 kg and above
- Optional measurement with face mask or mouthpiece

## The world's only portable desktop indirect calorimeter for clinical testing and research

The Fitmate GS is the first portable desktop indirect calorimeter in the market using the dilution technique for accurate and frequent measurements of Resting Metabolic Rate (RMR), making it the ideal solution in a clinical setting.

Fitmate GS comes with a large and comfortable transparent hood connected to a blower that guarantees air flow inside the hood. The blower pumps-in air at a defined flow, chosen among five different flow rates dependent on subject weight.

The patient lies in bed and comfortably breathes inside the hood, where the expired gas dilutes with room air. A sample of this mixture is then conveyed to the turbine and sampling line in order to get ventilation parameters and oxygen concentration.

The Fitmate GS screen prompts messages and security alerts when ventilation is not detected or when oxygen concentration is too low or too high, in this case the flow rate can be regulated by the blower in order to keep a steady concentration of O<sub>2</sub> inside the hood.

The ventilated hood can also be used for longer periods of time with minimal discomfort and no air leaks from the system.

Once assessment is completed, data can be either printed through the thermal printer or downloaded on the PC. Fitmate software interface allows to manage data and review measurements, i.e. selecting custom REE interval for a better steady state detection. The Fitmate software allows also to save all data, make trends and includes additional features like energy balance, diet, physical activity monitor, etc.



## Validation articles

- Vandarakis D, et al. A comparison of COSMED metabolic systems for the determination of RMR. *Res Sports Med* 2013;21(2):187
- 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](http://www.cosmed.com/bibliography)



## Technical Specifications

Product	Description	REF
Fitmate GS	Desktop indirect calorimetry with canopy hood	C09066-04-99
Standard packaging	Fitmate GS unit, AC/DC Adapter, USB cable, Fitmate PC Software (CD-Rom), Body meter, Oxygen sensor, Canopy hood, Canopy blower, control board, Fitmate case, Thermal paper	
<b>Standard Tests</b>		
Nutritional Assessment	Resting Energy Expenditure (REE, RMR). Indirect Calorimetry w/ Canopy Hood, Weight Management Program (Energy Balance), Diet Planner, Standardized Measurements (WHR, BP, RHR, etc), Body composition by Skinfold	
<b>Flowmeter</b>		
Type	Turbine Ø-28mm	
Type	Bidirectional Digital Turbine	
Flow Range	0-16 l/s	
Accuracy	± 2% or 20 ml/s (flow) ± 2% or 200 ml/min (ventil.)	
Resistance	<0.6 cmH2O /l/s @ 14l/s	
Ventilation range	0-300 l/min	
<b>Gas Analyzers</b>		
O2		
Type	GFC	
Range	0-25%	
Accuracy	±2% (REE) ±0.02% (O2)	
Warm-up time	10 seconds	
<b>Canopy Hood</b>		
Dimensions & Volume	46.8x32x22 cm / 18,7 l	
Flow rate range	12-44.4 l/min	
Blower internal battery	4 AA	
<b>Hardware</b>		
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	100-240V ± 10% 50/60 Hz	
<b>Firmware</b>		
Available languages	Italian, English, Spanish, French, German, Portuguese, Greek, Dutch, Turkish, Chinese, Korean, Japanese, Finnish, Polish, Russian, Slovenian	
<b>Software</b>		
Fitmate Suite		
Available languages	Italian, English, Spanish, French, German, Portuguese, Greek, Dutch, Chinese, Finnish, Russian, Slovenian	
PC Configuration	Pentium or faster, Windows XP, VISTA, 7, 8 (32/64 bit), 128 Mb RAM or more, USB, CD-Rom reader, 80 Mb on HD space available.	
<b>Accessories &amp; Options</b>		
Description		REF
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
O2 sensor replacement kit	Includes GFC sensor, sampling line and mounting key	C02748-01-11
<b>Safety &amp; Quality Standards</b>		
MDD (93/42 EEC); FDA 510(k); EN 60601-1 (safety) / EN 60601-1-2 (EMC)		



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