Fitmate is a desktop indirect calorimeter, ideal choice for commercial weight management purposes with its large LCD screen and built-in printer that allow the user to perform tests without the use of a computer.

Fitmate allows affordable, simple and quick measurement of metabolism, a fundamental component of any individual weight management program. Tests can be taken with silicone multi-use face masks or with the “mouthpiece & Antibacterial Filter” technique. Only a few minutes are needed to measure energy requirements at rest (Kcal/day) and to define nutrition plans based on energy balance (calories in – calories out). Fitmate gives also the possibility to manage other measurements (body composition, anthropometrics, etc.).

Scientifically validated for the measurement of oxygen consumption (VO₂) and Resting Energy Expenditure (REE, RMR), Fitmate measures VO₂ and assumes a constant Respiratory Quotient (RQ), which is set by default at 0.85 or can be user defined. Strong scientific evidence demonstrates that, in a steady state, the RQ is always in the range of 0.84 ±0.04. This allows Fitmate to be used either in research or clinically on malnourished and obese patients.

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

- More scientific studies on www.cosmed.com/bibliography

Technical Specifications

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitmate</td>
<td>Desktop indirect calorimetry</td>
<td></td>
</tr>
<tr>
<td>Standard packaging</td>
<td>Fitmate unit, RRH Flowmeter ID18, AC/DC Adapter, USB cable, Body meter, Oxygen Sensor, Thermal paper, Antibacterial filters (10 pcs), Nose clips (2 pcs), Rubber mouthpieces (5 pcs), Fitmate PC Software (CD-Rom), Fitmate case</td>
<td></td>
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</tbody>
</table>

Standard Tests

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

Flowmeter

- Turbine Ø-18mm
- Type: Bidirectional Digital Turbine
- Flow Range: 0-8 l/s
- Accuracy: ≤ 2% or 20 ml/s (flow) ≤ 2% or 100 ml/min (ventil.)
- Resistance: <0.7 cmH₂O/s @ 3l/s
- Ventilation range: 0-50 l/min
- Gas Analyzers: O₂
  - Type: GFC
  - Range: 0-25%
  - Accuracy: ±2% (REE) ±0.02% (O₂)
- Warm-up time: 10 seconds

Hardware

Dimensions & Weight: 24 x 20 x 8 cm / 1.5kg
- Interface ports: USB A-B, Flowmeter. RS-232
- 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

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, 7, 8 (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
- O₂ 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. Records up to 60 days of data, steps , distance, energy expenditure, and classify Physical Activity Levels according to METs C03580-01-04

Safety & Quality Standards

MDD (93/42 EEC); FDA 510(k); EN 60601-1 (safety) / EN 60601-1-2 (EMC)