

Product /Comparison Matrix



Features	Quark RMR	Fitmate
Type of product	Stationary	Desktop
Type of Gas Exchange Analysis	Breath by Breath or Dilution Technique (Canopy)	Dynamic Mixing Chamber or Dilution Technique (Canopy)
Gas Sensors	O ₂ (Paramagnetic), CO ₂ (Infrared NDIR)	O ₂ (Galvanic Fuel Cell)
Flowmeter	Bi-directional digital turbine (0 18mm)	
Standard face mask	RMR disposable face mask	
Optional face mask	Silicon re-usable face mask (5 different sizes: 3 adult, 2 paediatric)	
Canopy Hood	Dims. 32x50x30 cm (Weight 0.6 kg)	
Printer	PC printer	Built-in high-speed thermal printer or PC
Display	PC Monitor	Color LCD 320x240 pixel
PC Interface	USB, RS-232	
PC Software	Quark Software, Fitmate Nutrition 2.0 (option)	Fitmate Nutrition 2.0
Cart	Medical grade (120 Vac) - 1 cylinder holder (option)	Fitmate cart (option)
Weight	8 kg	1,5 Kg
Dimensions	17x30x45 cm	24x20x8 cm
Sensors Calibration	With gas cylinder	Room air only (self-calibration in 20 seconds)
Flow Calibration	3L syringe	3L syringe (option)
Quality Control	Automatic during test through random checks on gas concentration	Real-time signals (mask leaks, inappropriate breathing patterns)
Ethanol burning kit	○	
Electrical requirements	110-240V ± 10%; 50/60 Hz	
Battery	Emergency only (12V; 1,2 Ah)	Li-Ion (2150 mAh)
Tests	Quark RMR	Fitmate
Indirect Calorimetry	VO ₂ , VCO ₂	VO ₂
- with Face Mask	●	●
- with Canopy Hood (Dilution Technique)	●	○
- with Ventilator	○	
Resting Energy Expenditure (REE, RMR)	●	●
Respiratory Quotient (RQ), Non-Protein Respiratory Quotient (NPRQ)	●	
Metabolism Substrate Utilization (FAT, CHO, PRO)	●	
Enriched FIO ₂	● (up to 60%)	
Weight Management Program (Energy Balance)	○	●
Integrated Physical Activity Monitoring	○	○
Weekly Meal / Diet Planner	○	●
Body Composition Assessment (skin-fold)	○	●
Application Fields	Quark RMR	Fitmate
Clinical Artificial Nutrition (Enteral & Parenteral Nutrition)	★	★
Mechanically Ventilated Patients (ICU), Burn Units	★	
Post-surgery, Cancer, Chronically Ill	★	★
Clinical Treatment of Obesity, Bariatric Surgery, Diabetes TII	★	★
Eating Disorders (Anorexia, Bulimia, etc)	★	★
Commercial Weight Management		★
Fitness & Wellness Centers or Personal Trainers		★
GPs & Family Practice		★

★ Recommended purpose of use ● Standard ○ Option