

Quark RMR

Indirect Calorimetry



Technical Specifications

Product	Description	REF	
Quark RMR	Indirect Calorimetry Laboratory	C09074-01-99	
Standard packaging	Quark RMR unit, canopy, flowmeter, sampling line, rubber mouthpiece, ANT® HR module, calibration syringe, adapters, pipes, cables, OMNIA® Software, user manual		
Standard Measurements			
Indirect Calorimetry	Resting Energy Expenditure (REE, RMR) with canopy, mouthpiece or face mask, Respiratory Quotient (RQ), Substrates Analysis (%FAT, %PRO, %CHO)		
Optional Measurements			
Indirect Calorimetry for ICU	Quark RMR measurement in mechanically ventilated patients		
Cardio Pulmonary Exercise Test (CPET)	Pulmonary Gas Exchange (VO_2 , VCO_2), VO_{2max} , Sub-max VO_2 , Thresholds (AT, RC), EFVL, Heart Rate		
Spirometry	Forced Vital Capacity (FVC) Pre/Post/Challenge, Slow Vital Capacity (SVC) Pre/Post, Maximum Voluntary Ventilation (MVV)		
Gas Analyzers		Carbon Dioxide (CO_2)	
Type	Oxygen (O_2)	NDIR	
Range	Paramagnetic	0-10%	
Response time t90	0-100%	100 ms	
Accuracy	120 ms	±0.02% Vol.	
Accuracy	±0.1%		
Flowmeter		Flow-REE (ICU)	Turbine 2000 (CPET)
Type	ID 18 (standard)	Single use pneumotach	Bidirectional digital turbine
Flow range	Bidirectional digital turbine		
Flow accuracy	0.02-6 L/s	0-1.7 L/s	0.08-20 L/s
Ventilation range	±2% or 20 mL/s	±2%	±2% or 20 mL/s
Ventilation accuracy	0.04-50 L/min	--	0-300 L/min
Resistance	±2% or 100 mL/min	--	±2% or 100 mL/min
Resistance	<0.27 cmH2O/L/s @1L/s	<2.35 cmH2O/L/s @1L/s	<0.6 cmH2O/L/s @14L/s
Hardware			
Dimensions & weight	16x33x41 cm / 8 Kg		
Ports	USB A-B, RS-232, HR-TTL, SpO2		
Electrical requirements	100-240V, 50/60 Hz		
Internal emergency battery	12V, 1.2 Ah		
Environmental sensors	Temperature 0-50 °C; Barometric pressure 400-800 mmHg; Humidity 0-100%		
Software		OMNIA	
Available languages	English, Chinese (Traditional & Simplified), Czech, Dutch, French, German, Greek, Hebrew (interpretation only), Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Romanian, Russian, Spanish, Turkish		
PC requirements	Windows 7 SP1 (32/64 bit) or Windows 8.x (32/64 bit) or Windows 10 (32/64bit), CPU ≥ 2Ghz, RAM ≥ 4GB, HD ≥ 10GB for full installation, Monitor resolution ≥ 1366x768 pixel, ≥2 USB port		
Options	Description	REF	
ICU Module	REE measurements in mechanically ventilated patients	C04436-01-11	
CPT Module	CPET measurements	C03740-01-11	
Pulse Oximetry	Oximeter (several probes available)	C02600-01-05	
Mixing Chamber	Physical Mixing Chamber	C03261-02-11	
Quark C12x	12 lead stress test ECG with USB interface	C09080-01-99	
Quark T12x	12 lead stress test ECG with wireless interface	C09081-01-99	
Tango	Automated non-invasive blood pressure monitor	A-661-200-035	
High/Low FiO ₂ Kit	Kit for CPET test with enriched gas mixture	C03471-01-11	
Physioflow Q-Link	Non-invasive cardiac output monitor with USB interface	A-661-200-069	
Physioflow Enduro	Non-invasive cardiac output monitor with wireless interface	A-661-200-067	

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Accessories	Description	REF
Medical Grade Cart	1 cylinder holder (120V or 240V)	C03550-0X-04
	3 cylinder holder with drawer (120V or 240V)	C02900-0X-04
Face Masks	Reusable oro-nasal mask (Petite, XS,S, M, L)	C0370X-01-10
Headcap	Reusable headcap (Petite/XS, S/M, L)	A-800-900-02X
Filter adapter	Reusable for tests with antibacterial/antiviral filters	C05085-01-20
Calibration Gas	Gas cylinder 16% O ₂ , 5% CO ₂ , N ₂ bal	A-860-000-004
Pressure regulator	Pressure regulator for calibration gas cylinder	A-870-150-005
Consumables	Description	REF
Canopy veil	Single use veils (50 pcs.)	C04690-01-10
Antibacterial/Antiviral filters	Single use with round mouthpiece (50 pcs.)	A-182-300-004
Sampling Line	Reusable gas sampling line	C02210-02-08
Rubber mouthpiece	Single use (200 pcs.)	C00568-01-98
Mouthpiece w/saliva trap	Reusable	A-800-500-001
Nose clip	Single use (25 pcs.)	A-662-100-001
Safety & Quality Standards		
MDD (93/42 EEC); FDA 510(k); EN 60601-1 (safety) / EN 60601-1-2 (EMC)		



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