

Quark CPET

Cardio Pulmonary Exercise Testing



Technical Specifications

Product	Description	REF
Quark CPET O2 Paramagnetic	Metabolic cart	C09073-02-99
Quark CPET O2 GFC	Metabolic cart	C09073-01-99
Standard packaging	Quark CPET unit, flowmeter, sampling line, masks (XS, S, M), headcaps (Petite/XS, S/M), ANT® HR module, 3L calibration syringe, adapters, tubes, cables, OMNIA® Software, user manuals	
Standard Measurements		
Cardio Pulmonary Exercise Test (CPET)	Pulmonary Gas Exchange ($\dot{V}O_2$, $\dot{V}CO_2$), $\dot{V}O_2$ max, Sub-max $\dot{V}O_2$, Thresholds (VT1/LT1, VT2/LT2), EFVL, Heart Rate	
Indirect Calorimetry	Resting Energy Expenditure (REE, RMR) with mouthpiece or face mask, Respiratory Quotient (RQ), Substrates Analysis (%FAT, %PRO, %CHO)	
Optional Measurements		
Spirometry	Forced Vital Capacity (FVC) Pre/Post/Challenge, Slow Vital Capacity (SVC) Pre/Post, Maximum Voluntary Ventilation (MVV)	
Gas Analyzers		
	Oxygen (O_2)	Carbon Dioxide (CO_2)
Type	Paramagnetic/GFC	NDIR
Range	0-100%	0-10%
Response time t90	120 ms	100 ms
Accuracy	$\pm 0.05\%$ Vol. or $\pm 0.3\%$	$\pm 0.05\%$ Vol. or $\pm 1\%$
Flowmeter		
	Turbine 2000/T3 (standard)	ID 18 (REE/RMR)
Type	Bidirectional digital turbine	Bidirectional digital turbine
Flow range	0-16 L/s	0-6 L/s
Flow accuracy	$\pm 2\%$ or 20 mL/s	$\pm 2\%$ or 20 mL/s
Ventilation range	0-300 L/min	0-60 L/min
Ventilation accuracy	$\pm 2\%$ or 100 mL/min	$\pm 2\%$ or 100 mL/min
Resistance	< 0.6 cmH ₂ O/L/s @14L/s	< 0.45 cmH ₂ O/L/s @1L/s
Hardware		
Dimensions & Weight	16x33x41 cm / 11 Kg (depending on configuration)	
Ports	USB A-B, RS-232, HR-TTL, SpO ₂	
Electrical requirements	100-240V, 50/60 Hz	
Environmental sensors	Temperature 0-50°C (32-122°F); Barometric pressure 400-800 mmHg; Humidity 0-100%	
Environmental ranges (operating)	Temperature +10°C (50°F) to +35°C (95°F); Humidity: 30-90% (non condensing) Barometric pressure: 700mbar (525 mmHg) to 1060mbar (795 mmHg)	
Software		
	OMNIA	
Available languages	English, Chinese (Traditional & Simplified), Czech, Danish, Dutch, French, German, Greek, Hebrew (interpretation only), Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Romanian, Russian, Spanish, Swedish, Turkish.	
PC Requirements	Windows 8.x (32 bit, 64 bit), Windows 10 (32 bit, 64bit), Windows 11 (64bit)	
OS Requirements	CPU \geq 2Ghz, RAM \geq 4GB, HD \geq 10GB for full installation, Monitor resolution \geq 1366x768 pixel, \geq 2 USB port	
Options		
	Description	REF
Mixing Chamber	Physical Mixing Chamber	C03261-02-11
Pulse Oximetry	Oximeter (several probes available)	C02600-01-05
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

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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
Aquatrain®	Snorkel to test swimmers	C04470-01-11 (unit) C04480-03-11 (CPET kit)
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
	X3+	A-258-900-003
	X3	A-258-900-004
Face Masks	Reusable oro-nasal mask (Petite, XS,S, M, L)	A-800-1X0-002
		A-800-20X-001
Mask adapter	Adapter for face masks	C02466-01-20
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
Sampling Line	Reusable gas sampling line	C02210-02-08
Antibacterial/Antiviral filters	Single use with round mouthpiece (50 pcs.)	A-182-300-004
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); MDR (2017/745) pending; FDA 510(k); EN 60601-1 (safety) / EN 60601-1-2 (EMC)		

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