Q-NRG™
Metabolic Monitor

Technical Specifications

Product	Description	REF
Q-NRG	Metabolic Monitor	C09092-01-99
Standard packaging	Q-NRG unit, Canopy Hood with hose, USB cable, power cable, fuses, Q-NRG + cover, User Manual	
Indications for use	Resting Energy Expenditure (REE) measurement with limitations in accordance with labeling, within the following population: Canopy mode: spontaneously breathing subjects >15Kg Mask mode: spontaneously breathing subjects > 6 years and 10Kg	

Measurements		
Indirect Calorimetry in Canopy mode (standard)	Resting Energy Expenditure (REE, RMR) with canopy hood, Respiratory Quotient (RQ), Substrates Analysis (%FAT, %PRO, %CHO)	
Indirect Calorimetry in Mask mode (optional)	Resting Energy Expenditure (REE, RMR) with oro-nasal face mask or mouthpiece, Respiratory Quotient (RQ), Substrates Analysis (%FAT, %PRO, %CHO)	

Main Parameters	Range	Accuracy
VO_2	10-1000 mL/min	$\pm$3% or 5mL/min
VCO_2	10-1000 mL/min	$\pm$3% or 5mL/min
RQ	0-2.00	$\pm$5% or 0.04
REE	0-7200 kcal/day	$\pm$3% or 36 kcal/day

Flowmeter	ID 18	
Type	Bidirectional digital turbine	
Flow range	0-6 L/s	
Flow accuracy	$\pm$2% or $\pm$20 mL/s	
Ventilation range	0-60 L/min	
Ventilation accuracy	$\pm$2% or $\pm$100 mL/min	
Resistance	<0.45 cmH$_2$O s/L @ 1 L/s	
Calibration	With 3L calibration syringe (monthly)	

Gas Analyzers	Oxygen (O_2)	Carbon Dioxide (CO_2)
Sampling mode	Micro Dynamic Mixing Chamber (patented)	
Type	Galvanic Fuel Cell (GFC)	Digital NDIR
Range	0-75%	0-10%
Accuracy	$\pm$0.05% Vol. or $\pm$0.3%	$\pm$0.05% Vol. or $\pm$1%
Resolution	$\pm$0.01% Vol.	$\pm$0.01% Vol.
Calibration	Automatic with gas cylinder (monthly)	

Report		
Export modes	USB, Bluetooth	
Export formats	PDF, CSV, XML	

Hardware		
Dimensions & Weight	31x21x27 cm, 4.65 Kg	
Display	10.1" Transmissive TFT LCD, 1024x600, 65k colors, capacitive touch screen	
Power	Battery: Li-Ion "smart"(3 hours autonomy) Mains: 100V-240V $\pm$10%; 50/60Hz, 100-130 VA	
Wireless Connectivity	Bluetooth 2.1 + EDR Class II (range 10 m line-of-sight)	
Wired Connectivity	1 USB-device (5 kV galvanic insulated), 2 x USB Host, RS-232 (5 kV galvanic insulated), LAN (5 kV galvanic insulated)	
Environmental ranges (operating)	Temp. +10°C to +35°C. Humidity: 5-93% (non condensing). Atmospheric pressure: 700hPa-1060hPa (up to 3011m)	

Embedded Software		
Languages	English, Spanish, Portuguese, Dutch, Polish, Danish, French, Italian, Japanese, German, Chinese	

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PC Software (optional)	OMNIA
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), CPU $\geq$ 2GHz, RAM $\geq$ 4GB, HD $\geq$ 10GB for full installation, Monitor resolution $\geq$ 1366x768 pixel, $\geq$2 USB port

Options	Description	REF
OMNIA	PC Software	C04060-0X-11

Accessories	Description	REF
Cart	Wheeled cart with cylider holder and basket	A-258-900-002
Clamp	Clamp for pole or rail	C04756-01-10
Canopy Kit	Canopy hood (large) + Canopy hose	C03179-01-11
	Canopy hood (small) + Canopy hose	C03179-03-11
Canopy Hose	Reusable hose for canopy testing	C02678-01-07
Mask Kit	Masks (S, M) + Headcap (S/M) + Flowmeter	C04656-02-11
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	C02839-01-20
Headcap	Reusable headcap (Petite/XS, S/M, L)	A-800-900-02X
Flowmeter	Reusable ID18 turbine	C04770-01-04
Filter adapter	Reusable for tests with antibacterial/ antiviral filters	C05085-01-20
Calibration Gas	Gas cylinder 16% O2, 5% CO2, N2 bal	A-860-000-004
Pressure regulator	Pressure regulator for calibration gas cylinder	A-870-155-001
3L syringe	Certified 3L siringe for calibration	C00600-02-11

Consumables	Description	REF
Canopy veil	Sinlge use veils (50 pcs.), large	C04690-01-10
	Sinlge use veils (50 pcs.), small	C04690-02-10
Antibacterial/Antiviral filters	Single use with round mouthpiece (50 pcs.)	A-182-300-004
Sampling line	Single use (100 pcs)	A-180-100-002
Rubber mouthpiece	Single use (200 pcs.)	C00568-01-98
Nose clip	Single use (25 pcs.)	A-662-100-001

Security & Quality Standards

MDD (93/42/EEC Class IIa), MDR (2017/745) pending; FDA 510(k), Safety (IEC 60601-1 Class I), EMC (IEC 60601-1-2), Telemetry (ETSI EN 301 489-1, ETSI EN 301 489-17), FCC, IC

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