



Vyntus™ ONE

comprehensive system for pulmonary function testing and CPET

Ultrasonic flow sensor – PFT application

Flow measurement

Type	Ultrasound
Sample rate	1000 Hz, achieved by 2000 ultrasound transit time measurements (double shot technology)
Range	0 to 18 L/s bidirectional
Accuracy	Exhalation 0 to 14 L/s: 1.5% or 0.05 L/s (whichever is greater) Inhalation 0 to 14 L/s: 2.0% or 0.05 L/s (whichever is greater)
Total resistance (MicroGard® II filter + USS Module + FPV block eDemand)	<0.150 kPa*s/L (<1.53 cmH ₂ O*s/L) at 14 L/s
Dead space USS Module	66 mL

Volume integration

Principle	Software volume integration of flow signal (ultrasound)
Range	30 L (software limited)
Accuracy	Exhalation and inhalation 0.5 to 14 L/s: 2.5% or 0.075 L (75 mL)
Precision	1% or 50 mL (whichever is greater)

O₂ analyzer

Type	Fully digital, high speed analyzer, based on electrochemical principle
Range	0 – 100 vol%
Accuracy	0.05 vol% or 0.2%
Resolution	0.01 vol%
Service life	2 years

CO₂ analyzer

Type	Fully digital, high speed analyzer, based on infrared absorption
Range	0 – 15 vol%
Accuracy	0.05 vol% or 1%
Resolution	0.01 vol%

Multigas analyzer (CO/CH₄) – Diffusion measurement

Type	Infrared
Range	0 – 0.4 vol%
Accuracy	0.003 vol% or 2% relative (whichever is greater)
Resolution	0.0005 vol%

Gas exchange CPET (physiological measurement)

Parameter	Measurement range	Accuracy
Ventilation (V'E)	0 to 300 L/min	2% or 0.5 L/min
O ₂ uptake (V'O ₂)	0 to 7 L/min	3% or 0.05 L/min
CO ₂ production (V'CO ₂)	0 to 7 L/min	3% or 0.05 L/min

Volume sensor CPET DVT (physiological measurement)

Type	Flat vane system
Weight	45 g
Dead space	30 mL
Resolution	3 mL
Resistance	< 0.1 kPa/L/s (0.75 mmHg/L/s) at 15 L/s

Parameter	Measurement range	Accuracy
Volume	0 – 10 L	2% or 0.05 L
Flow	0 – 15 L/s	3% or 0.07 L/s

Ambient measurement

Sensor	Measurement range	Accuracy
Temperature sensor	– 10 to 50 °C (14 to 122 °F)	± 0.5 °C at 20 °C (68 °F) ± 1 °C at 10 to 34 °C (50 to 93.2 °F)
Humidity sensor	0 – 100% relative humidity	4% relative humidity at 20 – 80% relative humidity
Air pressure sensor	500 to 1100 hPa (375 to 825 mmHg)	± 2.5 hPa (1.88 mmHg) at 700 to 1060 hPa (525 to 795 mmHg)

Vyntus ECG

Bandwidth	0.05 – 150 Hz digital
Sampling rate per channel	500 Hz
Pacemaker detection	4000 Hz
Resolution	< 2.5 µV/bit
Connection to the PC	Wireless, Bluetooth®
Supply voltage	1.5 V DC AA battery or 1.2 V DC AA NiMH rechargeable battery, at least 2500 m

Calibration syringe

Volume	3 L
Accuracy	±0.4%

Dimensions / Weight

Vyntus CART standard cart

Dimensions total	145 cm W × 118 cm D × 175 cm H (57.1" × 46.5" × 68.9")	
Weight total	82 kg (180.8 lbs) inclusive 27" LCD monitor	
Shelves	Number	2
	Load capacity	20 kg (44 lbs) distributed load
Keyboard drawer with mousepad (left/right)	Keyboard platform area	40 cm W × 20 cm D (15.7" × 7.9")
	Mechanical height adjustment for keyboard/mouse and monitor	Range
Mains voltage	115 V AC/230 V AC, 50/60 Hz	
Power input	690 VA	
Electrical safety	Protection class I	
Monitor mount	Load capacity	8.5 kg (18.7 lbs)

Mobile Cart

Dimensions total with arm	96 cm W × 73 cm D × 117 cm H (37.8" × 28.7" × 46.1")	
Weight total	131.5 lbs. (59.8 kg)	
Drawer	Number	1
	Shelf	Number
Gas bottle mount	Load capacity	10 kg (22 lbs) distributed load
	Load capacity	3 × 6.5 kg (14.3 lbs)
Gas bottle mount	Bottle diameter	max. 111 mm

Ambient conditions

Temperature	+10 °C to +34 °C (+50 °F to 93.2 °F)
Relative humidity	20 to 80 % RH, non-condensing
Ambient pressure	700 to 1060 hPa (600 to 795 mmHg)
Altitude	IP 20

Moisture Protection

Vyntus ONE	IP 20
Ultrasonic sensor (USS Module)	IP 67
Vyntus carts (standard and mobile)	No IP protection
Vyntus ECG	IP 20

Classification of applied parts

Vyntus ONE	Applied Part Type B
Vyntus ECG	Applied Part Type CF, defibrillator proof

Category according to MDD 93/42/EEC (2007)

Complete system	Active class IIa medical product
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Operating mode

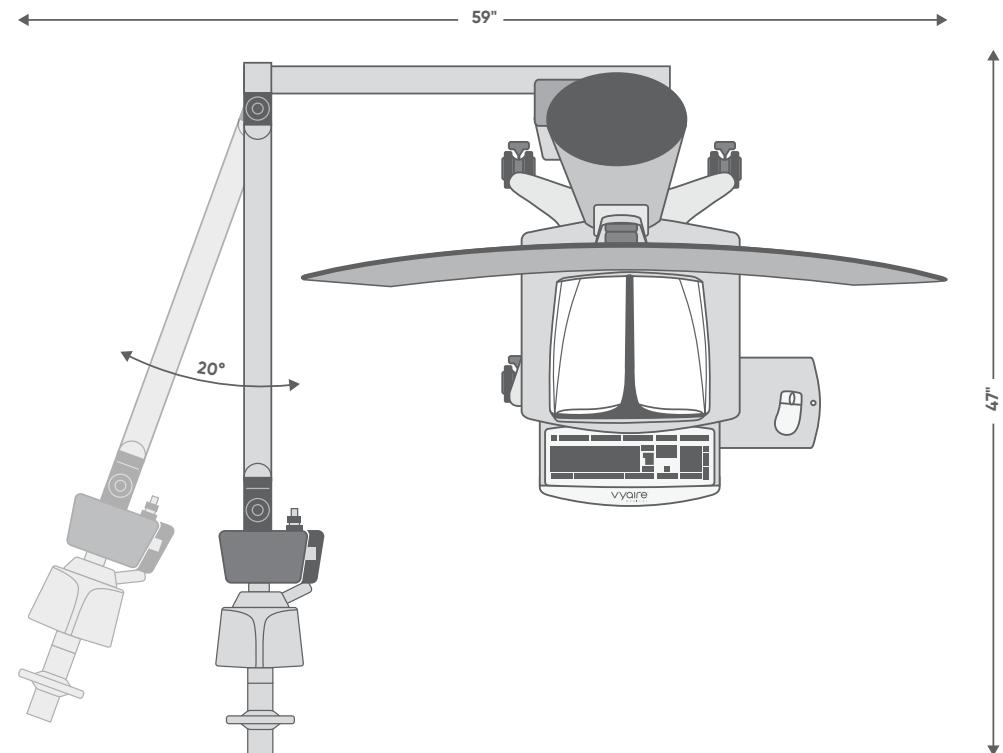
Complete system	Continuous operation
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Standards, directives and market clearances

Standards	EN 60601-1, EN 60601-1-2, EN 60601-2-25 (for Vyntus ECG only), EN 62304, EN 62366, EN ISO 14971, EN ISO 10993-1
Directives	93/42/EEC amended by 2007/47/EC, RoHS 2011 / 65 / EU compliant
Market clearances	CE, FDA 510(k) clearance

Required space

Vyntus ONE with standard cart





GLOBAL HEADQUARTERS

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