



### Technical specification

<b>Width</b>	220 mm
<b>Length</b>	210 mm
<b>Thickness</b>	51 mm
<b>Weight</b>	1450 g (battery pack included)

#### Sensors



miniflowmeter (code 900595)  
for reusable and disposable turbine  
dimension (Ø 30 mm, 42 mm)



Reusable soft, adult, MIR sensor for oximetry tests (code 919024) only for spirolab code 911081

<b>Power supply</b>	Rechargeable battery and mains power Ni-MH, 6 elements
<b>Current capacity</b>	4500 mAh
<b>Consumption</b>	average 250 mA
<b>Backup battery voltage</b>	none
<b>Batteries charger</b>	Output voltage=12 V, current=1A, compliant with EN 60601-1

<b>Autonomy</b>	~10 hours
<b>Connectivity</b>	USB 2.0, Bluetooth® 2.1
<b>Display</b>	7 inch colour touch screen LCD Display with 800x480 resolution

<b>Keyboard</b>	absent, touchscreen
<b>Mouthpieces</b>	Ø 30 mm (1.18 inch)
<b>Type of electrical protection</b>	Internally powered Class II while charging battery
<b>Safety level for shock hazard</b>	Type BF Apparatus

<b>Conditions of use</b>	Apparatus for continuous use
<b>Storage conditions</b>	Temperature: MIN -40 °C, MAX +70 °C

<b>Transport conditions</b>	Temperature: MIN -40 °C, MAX +70 °C
	Humidity: MIN 10% RH; MAX 95%RH

<b>Operating conditions</b>	Temperature: MIN + 10 °C, MAX + 40 °C
	Humidity: MIN 10% RH, MAX 95%RH

<b>Applied norms</b>	Electrical Safety EN 60601-1 Electro Magnetic Compatibility EN 60601-1-2
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<b>Degree of protection against water penetration</b>	IPX1 appliance protected against water leaks
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### Codes and equipments

<b>911080E0</b>	spiro
<b>911080E1</b>	spiro with reusable turbine

<b>911080E2</b>	spiro with 120 FlowMir
<b>911081E0</b>	spiro+oxy
<b>911081E1</b>	spiro+oxy with reusable turbine
<b>911081E2</b>	spiro+oxy with 120 FlowMir

### Spirometry

<b>Flow sensor</b>	bi-directional digital turbine
<b>Volume rate</b>	10 L
<b>Flow range</b>	±16L/s
<b>Volume accuracy</b>	±2.5% or 50 mL
<b>Flow accuracy</b>	±5% or 200 mL/s
<b>Dynamic resistance</b>	<0.5 cm H <sub>2</sub> O/L/s
<b>Temperature sensor</b>	semiconductor (0-45°C)
<b>Test available</b>	FVC, VC, IVC, MVV, PRE-POST
<b>Measured parameters</b>	FVC, FEV1, FEV1/FVC%, FEV1/PEF, FEV1/VC, FEV1/FEF0.5, DTPEF, FEV 0.5, FEV0.5/FVC, FEV0.75, FEV0.75/FVC, FEV2, FEV2/FVC, FEV3, FEV3/FVC, FEV6, FEV1/FEV6, PEF, FEF25, FEF50, FEF75, FEF2575, FEF7585, FET, Vext, ELA, EVOL, FIVC, FIV1, PIF, FIV1/FIVC, FIF25, FIF50, FIF75, R50, MVVcal, PIF, IRV, VC, EVC, IVC, IC, ERV, IRV, FEV1/VC, TV, VE, RR, ti, te, ti/t-tot, TV/ti, MVV

#### Memory capacity

Up to 10000 tests

### Oximetry (on request)

<b>Measurement method</b>	Red and infrared absorption
<b>SpO2 range</b>	0-99%
<b>SpO2 accuracy</b>	± 2% between 70-99% SpO2
<b>Average number of heart beats for the %SpO2 calculation</b>	8 beats
<b>Pulse Rate range</b>	18-300 BPM
<b>Pulse Rate accuracy</b>	± 2BPM or 2% whichever is greater
<b>Average interval for the calculation of cardiac pulse</b>	8 seconds

<b>Signal quality indication</b>	0 - 8 segments on display
<b>Test available</b>	spot
<b>Measured parameters</b>	SpO2% min, max, average BPM min, max, average Test duration % Bradycardia Duration (<40 BPM) % Tachycardia Duration (>120 BPM) % of Time with SpO2 ≤ 90% (T90%, T89%), T5

<b>Memory capacity</b>	about 500 hours oximetry
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### Certificates & Registrations

<b>CE 0476</b>	MED 9826
<b>FDA 510 (k)</b>	K 052140
<b>Health Canada</b>	71191 (class II)
<b>CND code</b>	Z12150102 (spiro) Z1203020408 (spiro + oxy)
<b>GMDN code</b>	46906 (spiro), 45607 (spiro + oxy)
<b>Ministry of Health</b>	1272475/R (spiro) 1272476/R (spiro + oxy) 1645455/R (spiro)