

SPIROLAB SPIROMETER: 7" TOUCHSCREEN AND SPO₂ OPTION



Health Canada



Dimensions: 220x210x51 mm
(8,66x8,26x2")
Weight: 1450 g (3,1lb)
(battery pack included)



Miniflowmeter for reusable and disposable turbine (Ø 30 mm)

- 7" TOUCHSCREEN DISPLAY
- PEDIATRIC INCENTIVE SYSTEM
- DATABASE FOR 10,000 TESTS
- USB 2.0, BLUETOOTH

33519

- 33519 SPIROLAB® SPIROMETER WITH 7" TOUCHSCREEN
 - 33520 SPIROLAB® SPIROMETER WITH 7" TOUCHSCREEN AND SpO₂
- Fast, simple, durable diagnostic spirometer with Miniflowmeter.

Features

- FVC, VC, MVV, PRE/POST Bronchodilator comparison with a wide range of selectable parameters
- long life rechargeable battery
- colour Touchscreen 7" display
- direct connection to external USB Printer PostScript
- 10,000 Spirometry tests or 500 hours of oximetry recording
- fast and silent built-in B/W printer with customizable printout format

- selectable internal software languages: GB, FR, IT, ES, DE, PT
- Oximetry option (only 33520)**

Adult (standard) and pediatric (optional) reusable finger probe available.

Fast and user friendly

Each function can be activated by a simple touch.

FlowMIR® disposable turbine

- complies with ATS/ERS standard

Totally disposable (mouthpiece, turbine) guarantees 100% hygiene, no cross contamination.

No calibration required.

MDR certified



Each turbine is factory calibrated with a computerized system and is individually packed in a clean room

33507

Suitable for children

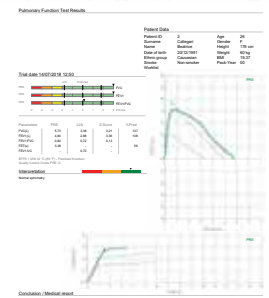
Patented pediatric incentive directly on the screen.
No need of adaptor.

MIR Spiro Basic PC software

High performances PC software for spirometry. See page 320.

Multilingual software:

GB, FR, IT, ES, DE, PT, PL, HU, RO, NL, LV, SE, CZ, RU, TR, JP, CN.



Printout: spirometry report

STANDARD ACCESSORIES

- Battery charger
- 1 roll thermal paper
- Reusable turbine
- Carrying case

MIR Spiro basic PC software
USB port and cable
SpO₂ adult sensor (33520 only)
Manual: GB, IT, FR, ES, DE, PT available on www.gimaitaly.com



TECHNICAL SPECIFICATIONS - SPIROMETRY

Power supply:	Rechargeable battery, approx. 10 hours autonomy
Battery charger:	100-240 V, 50-60 Hz, 400-200 mA
Temperature sensor:	semiconductor (0-45°C)
Flow sensor:	bi-directional digital turbine
Flow range:	±16L/s ±5% or 200mL/s
Volume accuracy:	±2.5% or 50mL
Dynamic resistance:	<0.5 cm H ₂ O/L/s
Connectivity:	USB 2.0, Bluetooth®
Display:	7" colour touch screen LCD, 800x480 resolution
Mouthpieces:	Ø 30 mm (1.18 inch)
Electrical protection:	Class II
Norms:	Electrical safety standard EN 60601-1 Electromagnetic compatibility EN 60601-1-2

SPIROMETRY PARAMETERS

FVC, FEV1, FEV1/FVC, PEF, FEF25, FEF50, FEF75, FEF25-75, FEF75-85, Lung Age, Extrapolated Volume, FET, Time to PEF, FEV0.5, FEV0.75, FEV0.75/FVC, FEV2, FEV2/FVC, FEV3, FEV3/FVC, FEV6, FEV1/FEV6, FEV1/PEF, FEV1/FEV0.5, FIVC, FIV1, FIV1/FIVC, PIF, FIF25, FIF50, FIF75, FEF50/FIF50, VC, IVC, IC, ERV, IRV, Rf, VE, VT, tI, tE, VT/tI, tE/tTOT, MVV (measured), MVV (calculated).

MIR SPIRO BASIC SOFTWARE REQUIREMENTS

Windows 7 (32/64 bit), 8 (32/64 bit), 10 (32/64 bit), 11 (32/64 bit).
iOS operating system 10.13. See page 320 for details.

GIMA code	MIR code	ACCESSORIES AND SPARES	Minimum order
33695	-	SpO ₂ probe - adult - spare	
33696	-	SpO ₂ probe - paediatric - optional	
33697	910595	Miniflowmeter with cable - spare	
33410	-	Adult mouthpiece - Ø 30 mm ext	box of 500
33493	-	Thermal paper - 112 mm x 25 m	box of 10
33525	-	Antibacterial filter - disposable	box of 50
33507	910004	Disposable turbine with integrated mouthpiece	box of 60

TECHNICAL SPECIFICATIONS - OXIMETRY (33520 only)

SpO ₂ range:	0-99%
SpO ₂ accuracy:	± 2% between 70-99% SpO ₂
Pulse Rate range:	18-300 BPM
Pulse Rate accuracy:	± 2 BPM or 2% whichever is greater
Memory capacity:	up to 500 hours oximetry

OXIMETRY PARAMETERS (33520 only)

%SpO₂ and Pulse Rate (Min, Max, Average), Test duration, Total SpO₂ Events, T90% (SpO₂ time ≤89%), T89% (SpO₂ time ≤88%), T40 (Bradycardia duration with Pulse Rate <40 BPM), T120 (Tachycardia duration with Pulse Rate >120 BPM)

MIR Spirolab datasheet

cod. 911080x (spiro) cod. 911081x (spiro+oxy)



Technical specification

Width	220 mm
Length	210 mm
Thickness	51 mm
Weight	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

Power supply	Rechargeable battery and mains power Ni-MH, 6 elements
Current capacity	4500 mAh
Consumption	average 250 mA
Backup battery voltage	none
Batteries charger	Output voltage=12 V, current=1A, compliant with EN 60601-1
Autonomy	~10 hours
Connectivity	USB 2.0, Bluetooth® 5
Display	7 inch colour touch screen LCD Display with 800x480 resolution
Keyboard	absent, touchscreen
Mouthpieces	Ø 30 mm (1.18 inch)
Type of electrical protection	Internally powered Class II while charging battery
Safety level for shock hazard	Type BF Apparatus
Conditions of use	Apparatus for continuous use

Storage conditions	Temperature:	MIN -40 °C, MAX +75 °C
	Humidity:	MIN 10% RH; MAX 95%RH
Transport conditions	Temperature:	MIN -40 °C, MAX +75 °C
	Humidity:	MIN 10% RH; MAX 95%RH
Operating conditions	Temperature:	MIN + 0 °C, MAX + 40 °C
	Humidity:	MIN 15% RH, MAX 95%RH
Degree of protection against water penetration	IPX1 appliance protected against water leaks	

Spirometry

Flow sensor	bi-directional digital turbine
Volume rate	10 L
Flow range	±16L/s

MIR Spirolab datasheet
cod. 911080x (spiro) cod. 911081x (spiro+oxy)

Volume accuracy	±2.5% or 50 mL
Flow accuracy	±5% or 200 mL/s
Dynamic resistance	<0.5 cm H ₂ O/L/s
Temperature sensor	semiconductor (0-45°C)
Test available	FVC, VC, IVC, MVV, PRE-POST
Measured parameters	FVC, FEV1, FEV1/FVC%, FEV1/PEF, FEV1/VC, FEV1/FEV0.5, PEF Time, 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, V _{ext} , 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, t _i , t _e , t _i /t _{tot} , TV/t _i , MVV
Memory capacity	Up to 20000 tests

Oximetry (on request)

Measurement method	Red and infrared absorption
SpO₂ range	0-99%
SpO₂ accuracy	± 2% between 70-99% SpO ₂
Average number of heart beats for the %SpO₂ calculation	8 beats
Pulse Rate range	18-300 BPM
Pulse Rate accuracy	± 2BPM or 2% whichever is greater
Average interval for the calculation of cardiac pulse	8 seconds
Signal quality indication	0 - 8 segments on display
Test available	spot
Measured parameters	SpO ₂ % min, max, average BPM min, max, average Test duration % Bradycardia Duration (<40 BPM) % Tachycardia Duration (>120 BPM) % of Time with SpO ₂ ≤ 90% (T90%, T89%), T5
Memory capacity	about 500 hours oximetry

Certificates & Registrations

CE 0476	MDR 2017/745
FDA 510 (k)	K 052140
Health Canada	71191 (class II)
EMDN liv.4	Z121501
CND code	Z12150102 (spiro) Z1203020408 (spiro + oxy)
GMDN code	46906 (spiro), 45607 (spiro + oxy)
Ministry of Health	2572528 /R (cod. 911080T) 2620983 /R (cod. 911081T) 2629696 /R (cod. 911080) 2629708 /R (cod. 911081)

Applied standard	Electrical Safety IEC 60601-1:2005 + A1:2012 + A2:2020 Electro Magnetic Compatibility IEC 60601-1-2:2014 + A1:2020 ISO 80601-2-61:2017 ISO 26782: 2009 ISO 23747: 2015 ATS/ERS:2005, 2019(update) IEC 60601-1-6:2010 + A1:2013 + A2:2020 IEC 60601-1-8:2006+ A1:2012 IEC 60601-1-9:2007+A1:2013 IEC 62304:2006 + A1:2015 ISO 10993-1:2018 Direttiva 2014/53/UE RED IEC 62311:2019
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