

English



Innovation in Spirometry Oximetry Telemedicine

www.spirometry.com
www.oximetry.com



Each function can be activated by a simple touch on the intuitive bar menu always present on the screen



Spirolab®

7 inch Touchscreen

All in one portable Desktop Spirometer with Oximetry option

Wireless Real Time test on PC via Bluetooth® 

Database up to 10,000 Spirometry tests or 900 hours of Oximetry recording coupled with powerful and flexible search services

Fast and silent built-in printer with customizable printout format

Long life Rechargeable Battery



Optional function available:
Oximeter with adult or paediatric finger probe



Available with both DISPOSABLE or REUSABLE turbine flowmeter



Spirometry test:
FVC, VC, IVC, MVV, PRE/POST Bronchodilator comparison with a wide range of selectable parameters



Always included:

- Elegant and robust carrying case
- Winspiro PRO® PC software with free update



MIR exclusive patent:

Paediatric incentive system directly on the screen, helpful to improve patient compliance during a Spirometry test

Spirometry parameters

FVC, FEV1, FEV1/FVC, FEV1/VC, PEF, FEF25, FEF50, FEF75, FEF25-75, FEF75-85, Lung Age, Extrap. Volume, FET, Time to PEF, FEV0.5, FEV0.5/FVC, 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, t_i, t_E, VT/t_i, t_E/t_{TOT}, MVV (measured), MVV (calculated)

Oximetry parameters (Optional)

%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)

INTERNATIONAL
PATENTED



FlowMir®

Disposable Turbine Flowmeter
MIR exclusive product
International patent

Each turbine, which includes a cardboard mouthpiece, has been individually factory tested with a computerized system

It comes standard in a dispenser of 50 pcs

FlowMIR® is an inexpensive alternative to a costly reusable flowmeter and replaces the need for an antibacterial filter

A full Spirometry session can be performed, including a Bronchial Challenge and POST Bronchodilator test

For each patient, after the Spirometry test, both turbine and mouthpiece are thrown away

Two types of turbine
flowmeters available:



MIR Disposable Turbine



MIR Reusable Turbine

The reusable turbine is manufactured with **high-tech materials** - including special alloys and synthetic sapphires - for durability while retaining the features of reproducibility and accuracy even after many years of use



Comfortable
Packaging



Singularly Tested
and Packed



Eliminates staff
clean-up time



No Sterilisation



No Calibration



No Cross
Contamination



No Antibacterial
Filter



Always 100%
accurate and hygienic



ATS/ERS Compliant
for accuracy



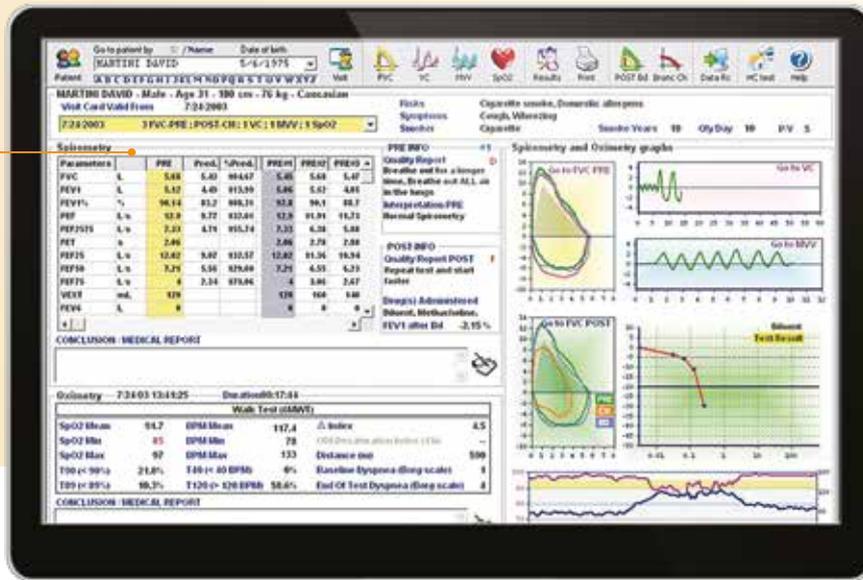
Not affected by Vapour
Condensation



Not affected by
Ambient conditions



The Best Sensor
for Spirometry



Screenshot summary of all tests carried out



Windows based

WinSpiro PRO® & WinSpiro PRO NET®

Complete and powerful software package for Specialists
Includes Telemedicine and Home Care Management

WinSpiro PRO®

Customizable PC software for Spirometry, Oximetry and Telemedicine projects

- FVC, VC, IVC, MVV, Bronchodilator Reversibility, Bronchial Challenge with FEV1-response curve with protocols for both Methacholine and Mannitol
- Paediatric Incentive for Spirometry
- Home Care and Telemedicine management
- Quanjer 2012-GLI Predicted values with LLN and Z-score
- Patient Trend Charts for easy follow-up
- Search engine for instant access to data
- Specialized and customizable Printout
- Wide choice of communication protocols ... and more
- 3D Oximeter® management, O2Gap Index,
- Sleep Desaturation Analysis, 6 Minute Walk Test, Daytime Physical Activity Report coupled with Desaturation Events

Sleep test



Events and Body Position recording

WinSpiro PRO NET®

Network version of WinSpiro PRO® PC software for Spirometry, Oximetry and Telemedicine

Complements the features of the client version, by providing the capability to share a single Database between different Network users

6 Minute Walk Test (6MWT)



Events and Physical Activity recording

WinSpiro PRO® is compatible with Windows: XP, VISTA, 7 and 8 WinSpiro PRO®, it includes free updates, and is provided with Spirolab, Spirodoc, Spirobank II, Spirotel, Minispir, Spirobank G, Spirolab III

WinSpiro PRO NET® includes free updates, and is provided on request.



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
	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® 2.1
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	Class II device
Safety level for shock hazard	Type BF Apparatus
Conditions of use	Apparatus for continuous use
Storage conditions	Temperature: MIN -40 °C, MAX +70 °C Humidity: MIN 10% RH; MAX 95%RH
Transport conditions	Temperature: MIN -40 °C, MAX +70 °C Humidity: MIN 10% RH; MAX 95%RH
Operating conditions	Temperature: MIN + 10 °C, MAX + 40 °C Humidity: MIN 10% RH, MAX 95%RH
Applied norms	Electrical Safety Standard EN 60601-1 Electro Magnetic Compatibility EN 60601-1-2
Degree of protection against water penetration	IPX1 appliance protected against water leaks

Codes and equipments

911080I0	spiro
911080I1	spiro with reusable turbine
911080I2	spiro with 100 FlowMir
911081I0	spiro+oxy
911081I1	spiro+oxy with reusable turbine
911081I2	spiro+oxy with 100 FlowMir

Spirometry

Flow sensor	bi-directional digital turbine
Volume rate	10 L
Flow range	±16L/s
Volume accuracy	±3% 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 FVC, FEV1, FEV1/FVC%, 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, Lung Age, EVOL, FIVC, FIV1, PIF, FIV1/FIVC, FIF25, FIF50, FIF75, R50, MVVcal, PIF, IRV, VC, IVC, IC, ERV, FEV1/VC, VT, VE, Rf, ti, te, ti/t-tot, VT/ti, MVV
Measured parameters	FVC, FEV1, FEV1/FVC%, 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, Lung Age, EVOL, FIVC, FIV1, PIF, FIV1/FIVC, FIF25, FIF50, FIF75, R50, MVVcal, PIF, IRV, VC, IVC, IC, ERV, FEV1/VC, VT, VE, Rf, ti, te, ti/t-tot, VT/ti, MVV
Memory capacity	Up to 10000 tests

Oximetry (on request)

Measurement method	Red and infrared absorption
SpO2 range	0-99%
SpO2 accuracy	± 2% between 70-99% SpO2
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	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
Memory capacity	up to 300 hours oximetry

Certificates & Registrations

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



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