ADVANCED

MINISPIR™

Handheld, PC-based Spirometer

Real-Time Flow/Volume and Volume/Time curves on your PC for a comprehensive Spirometry.

MIR
MEDICAL INTERNATIONAL RESEARCH

www.spirometry.com

MAIN features

REAL-TIME TEST

Spirometry: FVC, VC, IVC, MVV, PRE/POST Bronchodilator comparison

PLUG AND PLAY

Power via USB, no internal memory, no display, no maintenance, carrying case included

COMPLIANCE ATS/ERS 2019

And other Standards including ISO 26782 (for Spirometry), ISO 23747 (for PEF), and more. CE0476, FDA 510 (k)

SPIROMETRY PARAMETERS

Spirometry: FVC, FEV1, FEV1/FVC%, FEV3, FEV3/FVC%, FEV6, FEV1/FEV6%, PEF, FEF25, FEF50, FEF75, FEF2575, FET, ELA, EVOL, FIVC, FIV1, PIF, FIV1/FIVC%, PIF, IRV, VC, IVC, IC, ERV, FEV1/VC%, VT, VE, Rf, tI, tE, ti/tTOT, VT/tI, MVV

PC CONNECTION VIA USB

Real-time test on PC screen, connect with your EHR/EMR, print Medical Report and more

DISTINCTIVE features

PREDICTED SETS & VALUES

Large Selection, including comparison %Pred, Z-score and LLN. Include GLI equations

GENERAL PRACTICE

Easy-to-Use, real time spirometry curve and complete test results available in PC-mode

EHR/EMR CONNECTIVITY

Via PC, integration with patient database on your EHR/EMR (in HL7, GDT)

COVID-19 PREVENTION

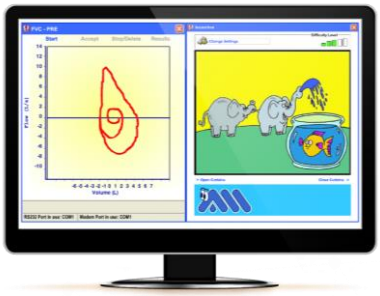
Complete Disposable Set with Antiviral filter available, to reduce risk of cross-contamination

Always INCLUDED

- Carrying case
- Noseclip
- PC Software license

Compatible SOFTWARE

winspiroPRO



Pediatric Incentive (PATENTED) to improve patient compliance during the test.

Acceptabilty Messages, Test interpretation and Quality Control Grade according to the latest **Spirometry Standards**

MAIN FEATURES

Windows-based solution for Spirometry, Oximetry and Telemedicine.

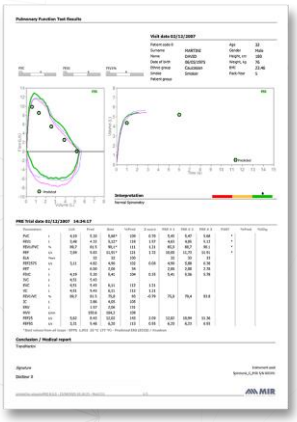
Wide range of predicted sets and values, including **GLI Predicted sets, LLN and Z–score**.

Embedded **EHR/EMR connectivity.**

NET VERSION available, share one database between different PC workstations.

MEDICAL REPORT

Specialized and **customizable printout**



spiro Connect

MAIN FEATURES

Windows-based solution, **direct integration** with your EHR/EMR.

Real time test include **Spirometry**

Standardized communication in **HL7 or Exchange Protocol**.

Select patient info directly from your own **EHR/EMR**

Spirometry test: FVC-Pre, FVC-Post, VC-Pre

GO-TO-MARKET TOOLKIT

Software Development Kit available for System Integrators and App Developers.
OEM service available for Spirometry and Oximetry.

Learn more about available SDK and OEM

Compatible TURBINES

		Mouthpiece	Turbine Disinfection	Turbine Calibration	Packaging	Antiviral Filter
flowMIR ™ Disposable Turbine		Included Disposable	Not required	Not required	Individually sealed: 60 or 10 units / box	Available Disposable
Reusable Turbine		Required, Not Included	Required	Required	1 unit in Carton box	Required Disposable

PLAY VIDEO

SCIENTIFIC PUBLICATIONS

Also available in **MORE CONFIGURATIONS**

Technical Specification	Minispir	Minispir Light
TYPE OF SPIROMETER	PC-Based	PC-Based
COMPATIBLE TURBINES	flowMIR™ Disposable Turbine, Reusable Turbine Flowmeter	flowMIR™ Disposable Turbine
COMPATIBLE SOFTWARES	Winspiro PRO, spiro Connect	Winspiro Light
EXTERNAL CONTROL	Real time test on PC screen, connect with your EHR/EMR, back-up database on PC memory and much more Connect to your PC via USB	Real time test on PC screen, print visit report, back-up database on PC memory and much more Connect to your PC via USB
EHR CONNECTIVITY	Via PC, integration with patient database on your EHR/EMR (in HL7, GDT)	
MEASURED PARAMETERS	Spirometry: FVC, VC, IVC, MVV, PRE/POST Bronchodilator comparison Spirometry: FVC, FEV1, FEV1/FVC%, FEV3, FEV3/FVC%, FEV6, FEV1/FEV6%, PEF, FEF25, FEF50, FEF75, FEF2575, FET, ELA, EVOL, FIVC, FIV1, PIF, FIV1/FIVC%, PIF, IRV, VC, IVC, IC, ERV, FEV1/VC%, VT, VE, Rf, tI, tE, ti/tTOT, VT/tI, MVV	Spirometry: FVC, VC, PRE/POST Bronchodilator comparison Spirometry: FVC, FEV1, FEV6, FEV1/FVC, PEF, FEF2575, ELA, FIVC, IVC, EVC

COMPARE ON WEBSITE

TECHNICAL datasheet

PRODUCT CODES – 911006E0 - Spirometer; 911006E1 - Spirometer with reusable turbine

Technical specification

Width	49.7 mm
Length	142 mm
Thickness	26 mm
Weight	65 g

Turbine

Reusable turbine (code 910002

Disposable turbine (code 910004)

Supply voltage	5 V d.c. USB connection
Rated electrical power	0.25 W
Rated input current	50 mA max
Backup battery voltage	none
Connectivity	USB 2.0
Display	none
Mouthpieces	Ø 30 mm (1.18 inch)
IP protection level	IPX1
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 -20 °C, MAX +60 °C Humidity: MIN 10% RH; MAX 95%RH
Operating Conditions	Temperature: MIN +10 °C, MAX +40 °C Humidity: MIN 10% RH MAX 95%RH
Memory capacity	database PC software
PC software	winspiroPRO
Applicable standards	IEC 60601-1:2005 + Amd1:2012 EN 60601-1-2: 2015 ISO 26782: 2009 ISO 23747: 2015 ATS/ERS: 2005, 2019 update ISO 80601-2-61: 2017

Spirometry

Flow sensor	bi-directional digital turbine
Volume range	10 L
Flow range	±16L/s
Volume accuracy (ATS 2019)	±2.5% or 50 mL
Flow accuracy	±5% or 200 mL/s
Dynamic resistance	<0.5 cm H2O/L/s
Temperature sensor	semiconductor (0-45°C)
Test available	FVC, VC, IVC, MVV, PRE-POST
Measured parameters	FVC, FEV1, FEV1/FVC%, FEV3, FEV3/FVC%, FEV6, FEV1/FEV6%, PEF, FEF25, FEF50, FEF75, FEF2575, FET, ELA, EVOL, FIVC, FIV1, PIF, FIV1/FIVC%, PIF, IRV, VC, IVC, IC, ERV, FEV1/VC%, VT, VE, Rf, t_I, t_E, ti/t_{TOT}, VT/t_I, MVV

Oximetry (optional)

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	30-300 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%)

Certificates & Registrations

CE 0476	MED 9826
FDA 510 (k)	K 122384
Health Canada	71191 (class II)
CND code	Z12150102
GMDN code	13680
Ministry of Health	678828/R

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