

ADVANCED

# MINISPIR<sup>TM</sup>

Handheld, PC-based Spirometer

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



# 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

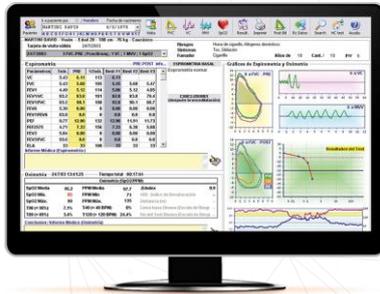
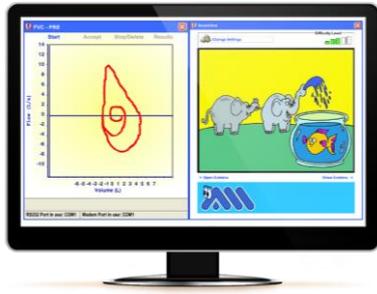
# Always INCLUDED

- Carrying case
- Noseclip
- PC Software license



# Compatible SOFTWARE

## winspiroPRO



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

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

## MAIN FEATURES

Windows-based solution for Spirometry, Oximetry and Telemedicine.

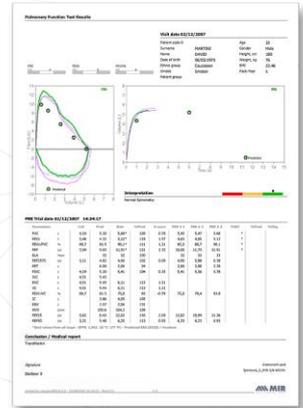
Wide range of predicted sets and values, including **GLI Predicted sets, LLN and Z-score.**

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

**flowMIR™**  
Disposable Turbine



**Reusable Turbine**



Mouthpiece

Included Disposable

Required, Not Included

Turbine Disinfection

Not required

Required

Turbine Calibration

Not required

Required

Packaging

Individually sealed: 60 or 10 units / box

1 unit in Carton box

Antiviral Filter

Available Disposable

Required Disposable

PLAY VIDEO



SCIENTIFIC PUBLICATIONS



# Also available in **MORE CONFIGURATIONS**



## Technical Specification

### Minispir

### Minispir Light

<b>TYPE OF SPIROMETER</b>	PC-Based	PC-Based
<b>COMPATIBLE TURBINES</b>	flowMIR™ Disposable Turbine, Reusable Turbine Flowmeter	flowMIR™ Disposable Turbine
<b>COMPATIBLE SOFTWARES</b>	Winspiro PRO, spiro Connect	Winspiro Light
<b>EXTERNAL CONTROL</b>	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
<b>EHR CONNECTIVITY</b>	Via PC, integration with patient database on your EHR/EMR (in HL7, GDT)	
<b>MEASURED PARAMETERS</b>	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

<b>Width</b>	49.7 mm
<b>Length</b>	142 mm
<b>Thickness</b>	26 mm
<b>Weight</b>	65 g
<b>Turbine</b>	
	Reusable turbine (code 910002)
	Disposable turbine (code 910004)
<b>Supply voltage</b>	5 V d.c. USB connection
<b>Rated electrical power</b>	0.25 W
<b>Rated input current</b>	50 mA max
<b>Backup battery voltage</b>	none
<b>Connectivity</b>	USB 2.0
<b>Display</b>	none
<b>Mouthpieces</b>	Ø 30 mm (1.18 inch)
<b>IP protection level</b>	IPX1
<b>Type of electrical protection</b>	Class II device
<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 -20 °C, MAX +60 °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>Memory capacity</b>	database PC software
<b>PC software</b>	winspiroPRO
<b>Applicable standards</b>	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

<b>Flow sensor</b>	bi-directional digital turbine
<b>Volume range</b>	10 L
<b>Flow range</b>	±16L/s
<b>Volume accuracy (ATS 2019)</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 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 <sub>f</sub> , t <sub>E</sub> , ti/t <sub>TOT</sub> , VT/t <sub>f</sub> , MVV
<b>Measured parameters</b>	

## Oximetry (optional)

<b>Measurement method</b>	Red and infrared absorption
<b>SpO<sub>2</sub> range</b>	0-99%
<b>SpO<sub>2</sub> accuracy</b>	± 2% between 70-99% SpO <sub>2</sub>
<b>Average number of heart beats for the %SpO<sub>2</sub> calculation</b>	8 beats
<b>Pulse Rate range</b>	30-300 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>	SpO <sub>2</sub> % min, max, average BPM min, max, average Test duration % Bradycardia Duration (<40 BPM) % Tachycardia Duration (>120 BPM) % of Time with SpO <sub>2</sub> ≤ 90% (T90%, T89%)

## Certificates & Registrations

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

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