

English



Innovation in Spirometry Oximetry Telemedicine

www.spirometry.com
www.oximetry.com

MIR Group Organization

MIR Medical International Research

(Headquarters)

Rome - ITALY

Research & Development

Designing

Marketing

Warehouse

Distribution (Worldwide)

MIR PRODUCTION

Teramo - ITALY

Warehouse

Assembling

Testing

MIR SERVICE

Rome - ITALY

Quality Control

Service

MIR Medical International Research USA, Inc.

Wisconsin - USA

Warehouse

Distribution (US Market)

Service

MIR FRANCE (Partnership)

Montpellier - FRANCE

Distribution (France and North Africa)

Service

MIR
USA



MIR
Teramo



MIR
France



MIR
Rome



About MIR

MIR is a global medical device company founded in 1993, and today is present in more than 93 countries worldwide.

For more than 20 years the company has been internationally recognized for its numerous innovations and advancements in three different market areas: Spirometry, Oximetry and Telemedicine.



MIR offers advanced technological solutions and manufactures accurate and reliable medical instruments which have become milestones in Pulmonary Function Screening and Clinical Trials.



reddot design award

One of the distinctive features of the MIR products is their exclusive design which has been awarded repeatedly at an international level with the prestigious Reddot design award.



The cornerstone of our Spirometry technology is the FlowMIR the first and only internationally patented DISPOSABLE TURBINE.

Telemedicine



Spirometry

Oximetry

The new range of MIR products meet the needs of clinicians, physicians and patients. In addition to connecting to PC-Windows via USB and Bluetooth[®], MIR provides the ability to connect to Tablets and Smart Phones, an ideal solution for customers who wish to use these technologically advanced devices combined with our diagnostic instruments.

MIR is able to provide customizable solutions and tools which empower systems integrators involved in Home Care and Clinical Trials projects.

INTERNATIONAL
PATENT



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



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

Spirolab[®] Bluetooth[®]

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



Always included:

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



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



Direct connection to an external USB printer



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

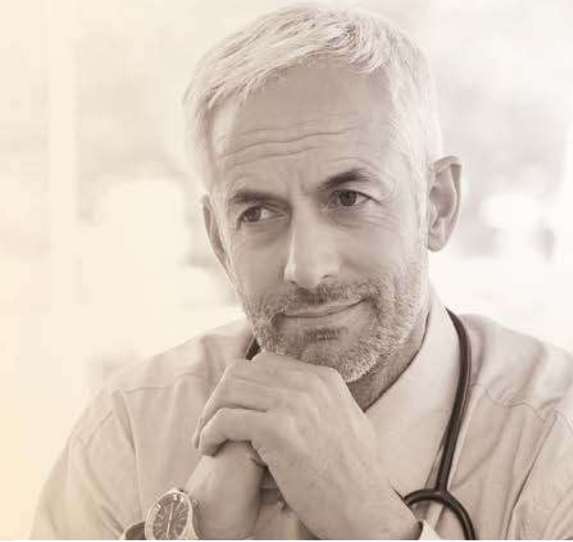
Oximetry parameters

only available with oximetry option (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)



reddot design award



Detachable flowmeter head to facilitate Oximetry test during 6 Minute Walk Test

Spirodoc[®] Bluetooth[®]

4 in One: Touchscreen Spirometer, 3D Oximeter[®], Triaxial Accelerometer and eDiary

Wireless Real Time test on PC via Bluetooth[®]

Long life Rechargeable Battery

Unique feature: can be configured for both Doctor's Office or for Patient Home use



Fully featured stand alone Oximeter



eDiary with on-screen Symptoms entry



Always included: Winspiro PRO[®] PC software with free update



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



Optional function available:
3D Oximeter[®] with adult or paediatric finger probe including device holder with belt for easy Sleep test Desaturation Analysis, 6 Minute Walk Test and daytime Physical Activity Measurement coupled with Desaturation Events

Spirometry parameters

FVC, FEV1, FEV1/FVC, FEV1/VC, PEF, FEF25, FEF50, FEF75, FEF25-75, Lung Age, Extrap. Volume, FET, FEV3, FEV3/FVC, FEV6, FEV1/FEV6, FIVC, FIV1, FIV1/FIVC, PIF, VC, IVC, IC, ERV, Rf, VE, VT, t_i, t_E, VT/t_i, t_E/t_{OT}, MVV measured, MVV calculated

6 Minute Walk Test (specific parameters)

O₂-Gap, Estimated Distance, Walked Distance, Predicted Distance (Min, Standard), TΔ2% (SpO₂≥2%), TΔ4% (ΔSpO₂≥4%), Time (Rest, Walking, Recovery), Desaturation Area/Distance Optional dataentry: BorgDyspnea(Baseline,End,Change), BorgFatigue(Baseline, End, Change), Arterial blood pressure (Systolic, Diastolic), Oxygen administered

Main Oximetry parameters

SpO₂ and Pulse Rate (Baseline, Min, Max, Average), T90% (SpO₂<90%), T89% (SpO₂<89%), T88% (SpO₂<88%), T5% (ΔSpO₂>5%), ΔIndex (12s), SpO₂ Events, Pulse Rate Events (Bradycardia, Tachycardia), Step counter, Physical Activity (VMU), Recording time, Analysis time

Sleep analysis (specific parameters)

Body position, SpO₂ Events, Desaturation Index (ODI), Desaturation (Mean Value, Mean duration, Longest duration, Nadir Peak), ΔSpO₂ (Min Drop, Max Drop), Total Variations, Pulse Rate Index, NOD89% (SpO₂<89%; >5min), NOD4% (SpO₂ Basale-4%; >5min), NOD90% (SpO₂<90%; Nadir<86%; >5min)



reddot design award



Embedded GSM Module with SIM Card to send the test results via Email

Bluetooth® wireless communication

Spirotel® Bluetooth®

4 in One for Home use:
Touchscreen Spirometer, 3D Oximeter®,
Triaxial Accelerometer and eDiary

3D Oximeter® with triaxial accelerometer allows to correlate SpO2 Desaturation Events, patient Physical Activity and Body Position during data recording

The best solution for remote management in Asthma, COPD, Cystic Fibrosis and Lung Transplant

Ideal for Clinical Trials with customizable protocols

Long life Rechargeable Battery



On screen Plethysmographic Curve



Always included: Winspiro PRO® PC software with free update



Optional function available: Oximeter with adult or paediatric finger probe; Bluetooth module, GSM module



Customizable eDiary



Easy integration in third party Telemedicine Platforms

Integrated with
2net
by Qualcomm Life



Large selection of languages

Spirobank II®

Spirometer with Oximetry option
4 versions available



SPIROBANK II® BASIC Simplified Spirometer

Essential spirometry for primary care.
Stand alone and real-time tests
on PC via USB.



SPIROBANK II® ADVANCED Spirometer with Oximetry option

Complete respiratory analysis.
Stand alone and real-time tests
on PC via USB or Bluetooth®.



SPIROBANK II® ADVANCED PLUS Spirometer and Oximeter

Minilab for respiratory specialists.
SpO2 and pulse rate directly on screen
with plethysmographic curve.
Stand alone and real-time tests
on PC via USB or Bluetooth®.

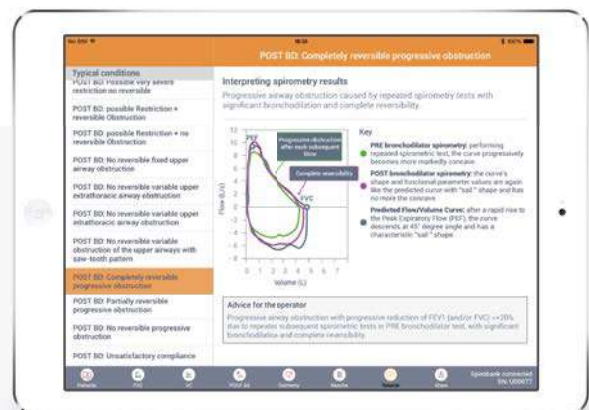


SPIROBANK II® SMART Spirometer with Oximetry option for iPad

A smarter way to perform spirometry!
Includes a virtual assistant supporting
the operator before, during and after
spirometry test.
Stand alone and real-time tests
on iPad via Bluetooth® Smart.
Also connectable to the PC via USB.



Spirometry report



Virtual Assistant



Spirobank II[®]

Memory up to 10.000 Spirometry tests or 900 hours of Oximetry (optional)
 On screen results and curves preview for immediate data assessment
 Long life rechargeable battery

	Smart	Basic	Advanced	Advanced plus
iPad Software	✓	—	—	—
PC Software	✓	✓	✓	✓
High resolution display	✓	✓	✓	✓
Traffic light indicator	✓	✓	✓	✓
Main Spirometry parameters	✓	✓	✓	✓
Additional Spirometry parameters	✓*	—	✓	✓
POST Bronchodilator test	✓	✓	✓	✓
Bluetooth Smart	✓	—	—	—
Bluetooth 2.1	—	—	✓	✓
Oximeter	○	—	○	✓
Battery charger	○	○	○	✓

* Available only using Winspiro PRO[®] PC software

✓ Standard — Not Available ○ Optional



Always included:
 Winspiro PRO[®] PC software with free update



Optional function available:
 Oximeter with adult or paediatric finger probe
 (for Advanced, Advanced+ & Smart versions)



Available with both DISPOSABLE
 or REUSABLE turbine flowmeter



Also available for iPad (Smart version)

Main spirometry parameters available on Smart version
 using new iSpirometry App:
 FVC, FEV1, FEV1%, PEF, FEF25-75, FET, Lung Age, VC, IVC

Optional Oximetry parameters available on Smart version
 using new iOximetry App:
 %SpO2 and Pulse Rate (Min, Max, Average)

Main Spirometry parameters available on Basic, Advanced
 and Advanced plus version:
 FVC, FEV1, FEV1%, PEF, FEF25-75, FET, Extrap. Volume,
 Lung Age, VC, IVC, IC, ERV

Spirometry parameters available on Advanced & Advanced+ version:
 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, FVC, FIV1, FIV1/FIVC, PIF, FIF25, FIF50, FIF75,
 FEF50/FIF50, VC, IVC, IC, ERV, IRV, RR, Rf, VE, VT, t_i, t_E, VT/t_i, t_i/t_{OT}, MVV
 (measured), MVV (calculated)

Oximetry parameters available on Advanced & Advanced+ version:
 %SpO2 and Pulse Rate (Min, Max, Average), Test duration,
 T90% (SpO2 time ≤89%), T89% (SpO2 time ≤88%),
 T40 (Bradycardia duration with Pulse Rate <40 BPM),
 T120 (Tachycardia duration with Pulse Rate >120 BPM)



Always connected wirelessly to Bluetooth® Smart and Bluetooth® Smart Ready devices with extremely low battery consumption.

Smart One®

Peak Flow and FEV1
now available on your Smart Phone



Simple and lightweight to carry on the go
Smart One® has been designed to satisfy the growing demand for wireless devices capable to connect to the new generation of Android and iOS Smart Phones and Tablets

Symptoms selection and easy scoring system with the option of multiple tapping to identify the intensity



Ideal for monitoring respiratory illnesses and in the self management of Asthma, COPD, Lung Transplant care, Cystic Fibrosis and for use in Clinical Trials



Smart One® comes with an App that includes an **exclusive Incentive for adults and children** based on both exhaled Flow and Volume that is helpful in improving subject's compliance

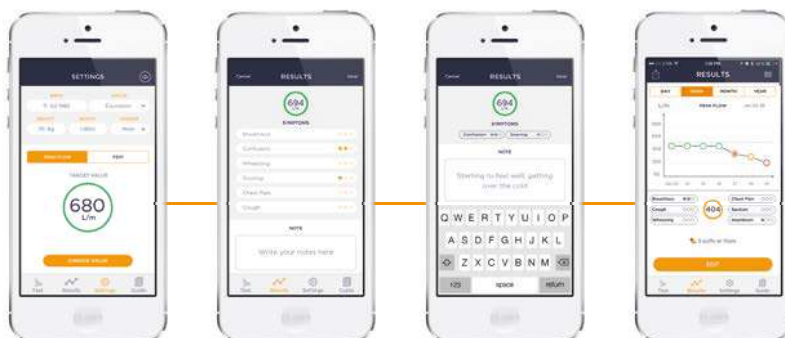


New turbine flowmeter
with plastic mouthpiece for personal use easy to remove for cleaning

Upon request, MIR offers customizable protocols to allow third party developers to run their own App and provides ad-hoc tools in order to facilitate and empower systems integrators engaged in Health Care and Clinical Trials projects



OEM Versions Available
MIR's knowledgeable staff is available to provide support to industrial partners that wish to OEM Smart One® and extend their range of diagnostic products



Graphic trend of Peak Flow or FEV1 measurements including option to flag any test session. Test results history with Peak Flow, traffic light health indicator, symptoms scoring and notes

*FDA clearance pending



Minispir[®]

Computer-based Spirometer with Oximetry option

Real time Flow/Volume and Volume/Time curves with PRE/POST Bronchodilator comparison on your PC using Winspiro PRO[®] software

Includes a wide range of selectable parameters

Spirometry test interpretation

Embedded Temperature sensor for BTPS conversion



Always included: Winspiro PRO[®] PC software with free update



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

Minispir Light[®]

Simplified Computer-based Spirometer

Real time Flow/Volume and Volume/Time curves on your PC using Winspiro Light[®] software

COPD and Asthma screening have never been so intuitive and inexpensive

Includes a wide range of selectable parameters

Spirometry test interpretation

Embedded Temperature sensor for BTPS conversion



Always included: Winspiro Light[®] simplified PC software with free update



Optional function available: POST Bronchodilator software feature



Available with DISPOSABLE turbine flowmeter



Spirometry test: FVC, VC, IVC.

Minispir[®] parameters

Spirometry parameters

FVC, FEV1, FEV1/FVC, FEV1/VC, PEF, FEF25, FEF50, FEF75, FEF25-75, Lung Age, Extrap. Volume, FET, FEV3, FEV3/FVC, FEV6, FEV1/FEV6, FIVC, FIV1, FIV1/FIVC, PIF, VC, IVC, IC, ERV, Rf, VE, VT, t_i, t_E, VT/t_i, t_E/t_{TOT}, MVV

Oximetry parameters (optional)

%SpO₂ and Pulse Rate (Min, Max, Average), T90% (SpO₂<90%), T89% (SpO₂<89%), T88% (SpO₂<88%), T5% (ΔSpO₂>5%), Δ Index (12s), SpO₂ Events, Pulse Rate Events (Bradycardia, Tachycardia)

Minispir Light[®] parameters

Spirometry parameters

FVC, FEV1, FEV1%, FEV6, PEF, FEF25-75, FIVC, Lung Age, VC, IVC



Spirolab III[®] Bluetooth[®]

Portable Desktop Spirometer
with Oximetry option

Full alphanumeric keyboard with icon based function keys for intuitive use

Database up to 6,000 Spirometry tests or 400 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



Always included:

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



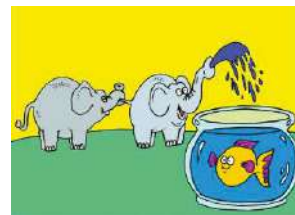
Optional function available:
Oximeter with adult or paediatric finger probe



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



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, Lung Age, Extrap. Volume, FET, FEV3, FEV3/FVC, FEV6, FEV1/FEV6, FIVC, FIV1, FIV1/FIVC, PIF, VC, IVC, IC, ERV, Rf, VE, VT, tI, tE, VT/tI, tE/tTOT, 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), Rapid Desaturation Analysis > 2,5 min. (ODI), Prolonged Desaturation Analysis < 5 min. (NOD), % Bradycardia Duration (<40 BPM), % Tachycardia Duration (>120 BPM), % of Time with SpO2 ≤ 90%, T90%, T89%, T88%, T87%

MIR Software

MIR is world recognized for a wide range of software packages for specialists in respiratory illnesses, doctors and patients.

In order to best satisfy the numerous needs of customers, MIR's R&D team has developed a large number of software solutions. Please ask one of our sales representatives for customizable protocols and Apps available on request for special applications, innovative projects and Clinical Trials.

All MIR software are supplied with the guarantee of **free** update.

Professional software solutions for spirometry and oximetry



iSpirometry[®] & iOximetry[®]

iOS based

Simple and intuitive App for Spirometry and Oximetry test directly on your iPad and iPad mini



Winspiro PRO[®] & Winspiro PRO Net[®]

Windows based

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



Spiro Connect Interface

Windows based

Measure, visualize and transfer test results. The perfect solution for direct integration of Spirometry and Oximetry test on your existing Electronic Medical Record

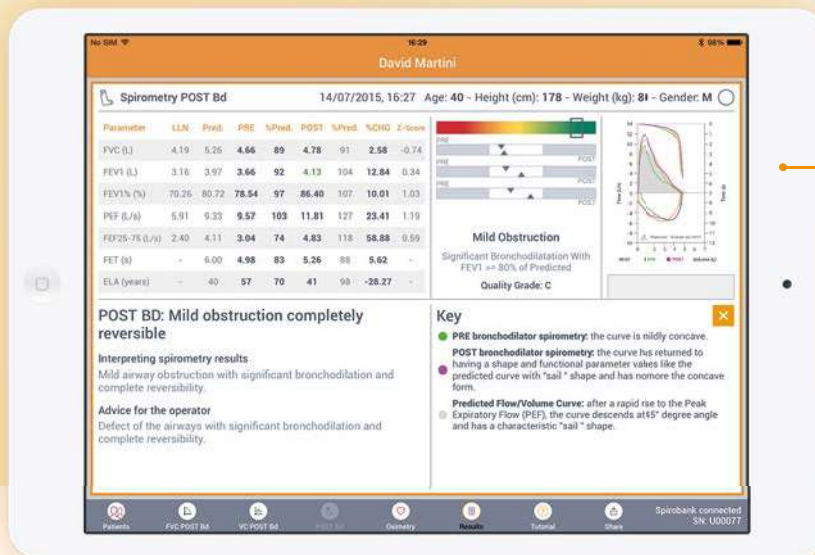
Basic software solution for spirometry



Winspiro Light[®]

Windows based

Simple and intuitive for essential Spirometry test



Quanjer 2012-GLI
Predicted values
with LLN and Z-score

iOS based

iSpirometry® & iOximetry®

Simple and intuitive App for Spirometry and Oximetry test directly on your iPad



*A smarter way to perform spirometry!
Maximum ease of use in primary care*

An expert beside you

Highly innovative virtual assistant supporting the operator before, during and after the spirometry test with four main functions:

- ✓ didactic guide with recommendations for the correct execution of the test
- ✓ identification of the cause of errors during test execution
- ✓ suggestions both for the operator and for the patient to make an acceptable test
- ✓ automatic test interpretation

Sharing is caring

Changing our software experience, direct and simple as a tap, test can be printed, exported in pdf and sent by email.

The recorded data can be transferred in HL7 format to a web service for archiving tasks or for second opinions and are enabled for EMR access

MIR exclusive patent

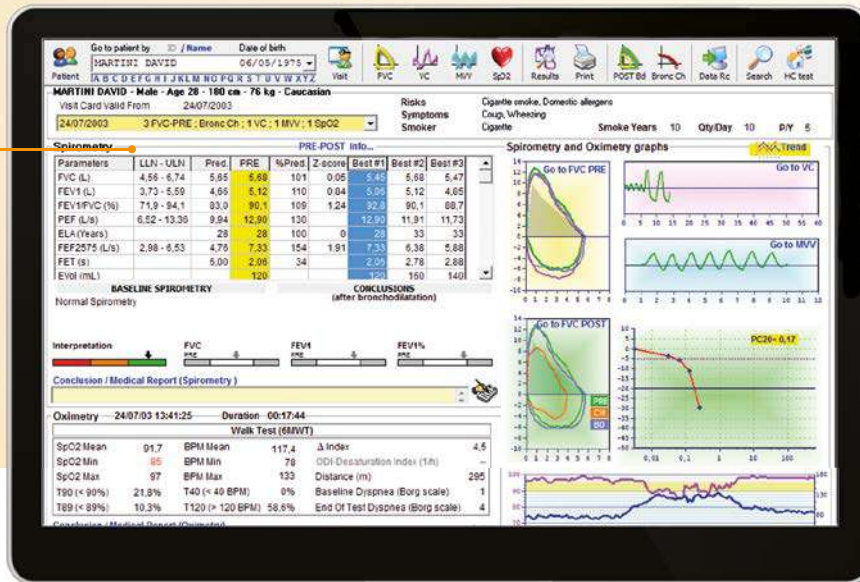
Paediatric incentive system directly on the screen, helpful to improve patient compliance during a Spirometry test



iSpirometry® and iOximetry® is an App for iPad and iPad mini, and free updates are guaranteed.

The App is provided with the Smart version of SpirobankII®.





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

WinSpiro PRO NET®

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

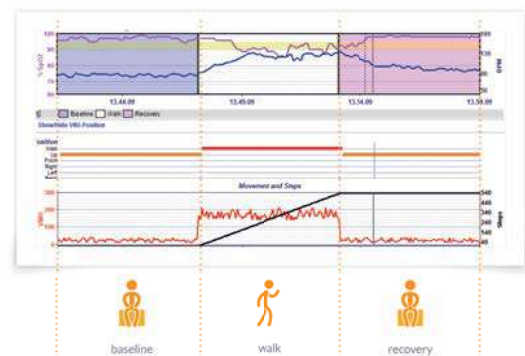
Complements the features of the client

version, by providing the capability to share a

single Database between different Network users



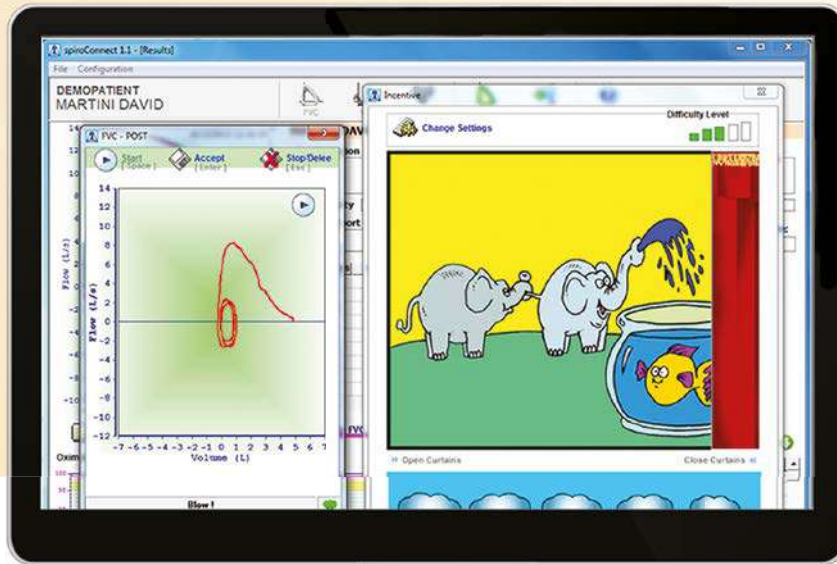
Sleep Test: Events and Body Position recording



6 Minute Walk Test: Events and Physical Activity recording

WinSpiro PRO® is compatible with Windows: XP, VISTA, 7, 8 and 10 WinSpiro PRO®, it includes free updates, and is provided with Spirolab®, Spirodoc®, Spirobank II®, Spirotel®, Minispir®, Spirolab III®

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



Windows based

Spiro Connect

Measure, visualize and transfer test results.

The perfect solution for direct integration of Spirometry & Oximetry test on your existing Electronic Medical Record

PC software for direct integration with EMR

Innovative and simple to use tool to integrate a Real Time Spirometry and Oximetry test with an Electronic Medical Record (EMR) or a Medical Practice Management software

Spiro Connect performs tests as a Slave systems and is Database-less, therefore it is no longer necessary to duplicate the patient's information

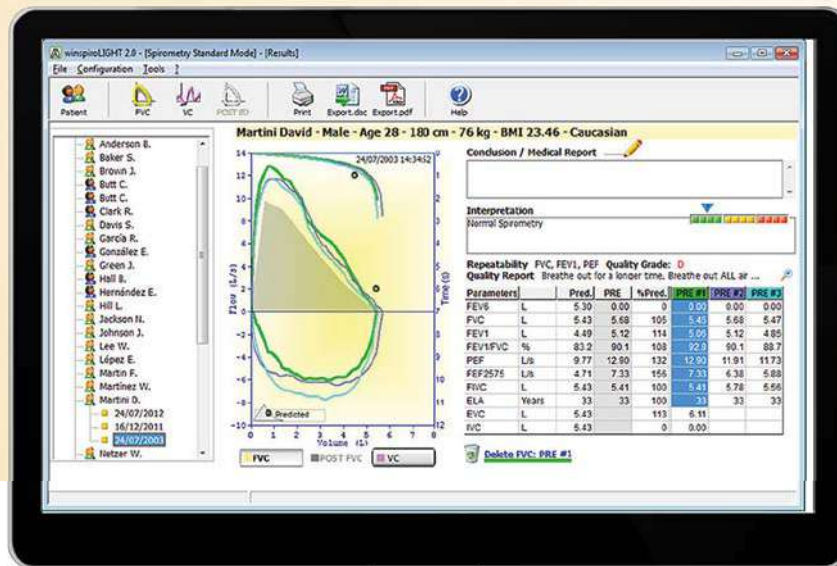
The essential patient data (age, height, gender, ethnicity) is sent just-in-time by the Master and is kept by Spiro Connect until medical test outcomes are sent back

Complete set of results is provided including main measured parameters, predicted values and graphic images for an easy integration process

Standardized communication in HL7 or Exchange Protocol

Detailed documentation on request and online support for all systems integrators

Spiro Connect is provided on request for special projects



Windows based

Winspiro Light[®]

Simple and intuitive for essential Spirometry test

Software for Real Time Spirometry on your PC

Simple and intuitive user interface with one main screen with all functions available

Ideal for primary care and occupational medicine

For each session produces a report with the 3 best tests including both Flow/Volume loop and Volume/Time curves that can be exported in .DOC or .PDF format

Wide range of selectable predicted values



Winspiro Light[®] includes free updates and is provided with Minispir Light[®] Spirometer



Optional function available:
POST Bronchodilator software feature

Winspiro Light parameters

Spirometry parameters

FVC, FEV1, FEV1%, FEV6, PEF, FEF25-75, FIVC, Lung Age, VC, IVC



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www.oximetry.com

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