SPIROBANK II SMART™

Handheld, Stand-alone, Tablet-Based and PC-Based Spirometer, with Oximetry option

A versatile Spirometer and Oximeter, with Tablet (iPad and Android) and PC connection.

MIR
MEDICAL INTERNATIONAL RESEARCH

www.spirometry.com

MAIN features

REAL-TIME TEST
Spirometry: FVC, VC, IVC, MVV, PRE/POST Bronchodilator comparison Oximetry (optional): Spot test (SpO2, BPM)

CARRY EVERYWHERE
High resolution backlight display, long battery life, large internal storage, carrying case included

COMPLIANCE ATS/ERS 2019
And other Standards including ISO 26782 (for Spirometry), ISO 23747 (for PEF), ISO 80601-2-61 (for Oximetry), and more. CE0476, FDA 510 (k)

PC AND TABLET CONNECTION
Real time test on Tablet (via Bluetooth 4.0) and PC (via USB), connect with your EHR/EMR, back-up internal memory and more

DISTINCTIVE features

PREDICTED SETS & VALUES
Large Selection, including comparison %Pred, Z-score and LLN. Include GLI on App and PC

INTUITIVE APP FOR TABLET
Including Virtual Assistant, data transfer via HL7, Calibration check and more

EHR/EMR CONNECTIVITY
Via PC, integration with patient database (HL7,GDT) Via Tablet, automatic share to Remote Server

COVID-19 PREVENTION
Complete Disposable Set with Antiviral filter. Bluetooth connection to test at safety distance

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

Always INCLUDED

- Carrying case
- USB cable
- Noseclip

- PC Software license

With Oximetry Option:

- Finger Probe

Compatible SOFTWARE

MIR Spiro App

REAL TIME TEST

Spirometry: FVC Pre, FVC Post, VC. Oximetry: SpO2 (%), Pulse (BPM)

Spirometry parameters: FVC, FEV1, FEV1%, PEF, FEF25–75, FET, Lung Age, VC, IVC

Pediatric Incentive (PATENTED)

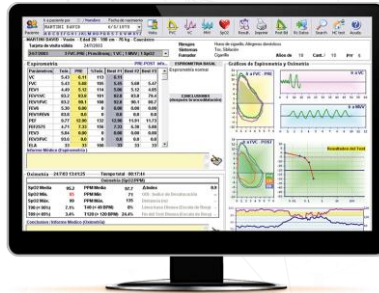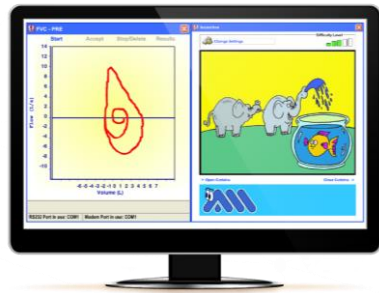Calibration (on iOS) with personalized printed report.

FEATURES

Predicted Sets include GLI, Predicted Values include Z-score and LLN

EHR/EMR direct integration via HL7 standards

Virtual Assistant: during and after the spirometry test.

Customizable PDF Medical Report to print and share

winspiroPRO

PC SOFTWARE

Embedded EHR/EMR connectivity (HL7, GDT, more)

NET VERSION available, share one database between different PC workstations

Pediatric Incentive (PATENTED)

Interpretation and Quality Control Grade according to latest Spirometry Standards

REAL TIME TEST

Spirometry: FVC-Pre, FVC-Post, VC-Pre, MVV, Bronchoprovocation tests, Bronchial Challenge

Oximetry: SpO2 (%), Pulse (BPM)

Customizable PDF report

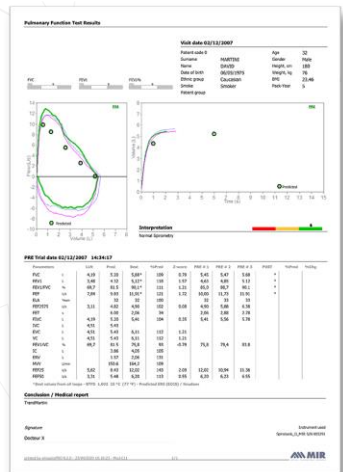### MEDICAL REPORT

Spiro Connect

PC SOFTWARE

Direct integration with your EHR/EMR via HL7 or Exchange Protocol.

Spirometry: FVC-Pre, FVC-Post, VC-Pre
Oximetry: SpO2 (%), Pulse (BPM)

Customizable PDF report

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	Spirobank II Smart	Spirobank II Advanced	Spirobank II Basic
TYPE OF SPIROMETER	StandAlone + PC + App, with Oximetry Option	StandAlone + PC, with Oximetry Option	StandAlone + PC
COMPATIBLE TURBINES	flowMIR™ Disposable Turbine, Reusable Turbine Flowmeter	flowMIR™ Disposable Turbine, Reusable Turbine Flowmeter	flowMIR™ Disposable Turbine, Reusable Turbine Flowmeter
COMPATIBLE SOFTWARES	MIR Spiro App, Winspiro PRO, spiro Connect	Winspiro PRO, spiro Connect	Winspiro PRO, spiro Connect
EXTERNAL CONTROL	Real-Time test on Tablet screen and PC screen, connect with your EHR/EMR, back-up internal memory, and much more Connect to your PC via USB (no Bluetooth) Connect to your Tablet via Bluetooth Smart BLE 4.0	Real-Time test on PC screen, connect with your EHR/EMR, back-up internal memory, and much more Connect to your PC via USB and Bluetooth 2.0	Real-Time test on PC screen, connect with your EHR/EMR, back-up internal 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) Via APP: transfer data to a remote server in HL7 standards	Via PC, integration with patient database on your EHR/EMR (in HL7, GDT)	Via PC, integration with patient database on your EHR/EMR (in HL7, GDT)
MEASURED PARAMETERS	Spirometry: FVC, VC, IVC, MVV, PRE-POST Bronchodilator comparison Oximetry (optional): Spot test (SpO2, BPM) Spirometry: 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, FEF25-75, FEF75-85%, FET, Vext, ELA, EVOL, FIVC, FIV1, PIF, FIV1/FIVC%, FIF25, FIF50, FIF75, R50, PIF, IRV, VC, IVC, IC, ERV, FEV1/VC%, TV, VE, RR, tI, tE, tI/t-tot, TV/tI, MVV Oximetry (Optional): 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%) on MIR Spiro App: Spirometry: FVC, VC, PRE/POST Bronchodilator comparison Parameters: FVC, FEV1, FEV1%, PEF, FEF25–75, FET, Lung Age, VC, IVC. Oximetry (Optional): %SpO2 [Baseline, Min, Max, Mean], Pulse Rate [Baseline, Min, Max, Mean] Events.	Spirometry: FVC, VC, IVC, MVV, PRE-POST Bronchodilator comparison Oximetry (optional): Spot test (SpO2, BPM) Spirometry: 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%, FEF25-75%, FEF75-85%, FET, Vext, ELA, EVOL, FIVC, FIV1, PIF, FIV1/FIVC%, FIF25%, FIF50%, FIF75%, R50, PIF, IRV, VC, IVC, IC, ERV, FEV1/VC%, TV, VE, RR, ti, te, ti/t-tot, TV/ti, MVV Oximetry (Optional): 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%)	Spirometry: FVC, VC, IVC, PRE/POST Bronchodilator comparison Spirometry: FVC, VC, IVC, IC, ERV, FEV1, FEV1%, PEF, FEF 25-75, FET, EVOL, ELA

COMPARE ON WEBSITE

TECHNICAL datasheet

PRODUCT CODES - Spirobank II Smart Configurations
911028E0 – Spirometer • 911028E1 - Spirometer with reusable turbine
911029E0 - Spirometer + Oximeter • 911029E1 - Spirometer + Oximeter with reusable turbine

Technical specification

Width	55 mm
Length	160 mm
Thickness	25 mm
Weight	140 g (battery pack included)

Turbine

Reusable turbine (code 910002

Disposable turbine (code 910004)

Power supply	Rechargeable Lithium-Ion 3.7V, 1100 mAh
Current capacity	1100 mAh
Consumption	~20-30 mA (during test)
Batteries charger	voltage=5 V DC, current=minimum 500 mA, Connector: micro USB B-type compliant with EN 60601-1
Autonomy	50 hours
Connectivity	USB 2.0, Bluetooth® 4.0
Display	LCD monochrome, 160 × 80 pixel
Keyboard	membrane keyboard with 6 keys
Mouthpieces	Ø 30 mm (1.18 inch)
Type of electrical protection	Internal power supply
Safety level for shock hazard	Type BF Apparatus
Conditions of use	Apparatus for continuous use
Conditions of storage	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
Applied norms	Electrical Safety Standard IEC 60601-1:2005 + A1: 2012 Electro Magnetic Compatibility EN 60601-1-2:2015 ISO 26782: 2009 ISO 23747: 2015 ATS/ERS: 2005, 2019 update

Spirometry

Flow sensor	bi-directional digital turbine
Flow range	±16L/s
Volume accuracy	±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%, 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, FEF25-75, FEF75-85%, FET, Vext, ELA, EVOL, FIVC, FIV1, PIF, FIV1/FIVC%, FIF25, FIF50, FIF75, R50, PIF, IRV, VC, IVC, IC, ERV, FEV1/VC%, TV, VE, RR, t_I, t_E, t_I/t_{tot}, TV/t_I, 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	30-300 BPM
Accuracy	± 2BPM or 2% whichever is greater
Averaging interval for	8 seconds average
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%)
Memory capacity	up to 300 hours oximetry

Certificates & Registrations

CE 0476	MED 9826
FDA 510 (k)	K 061712
CND code	Z12150102 (spiro)
	Z1203020408 (spiro + oxi)
GMDN code	46906 (spiro), 45607 (spiro + oxi)