

ADVANCED

SPIROBANK II SMARTTM

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.



MAIN features



REAL-TIME TEST

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



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



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)



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

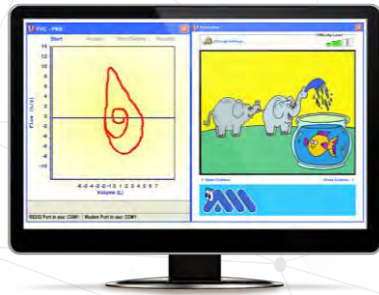
Predicted Sets include GLI, Predicted Values include Z-score and LLN

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

Spiro Connect



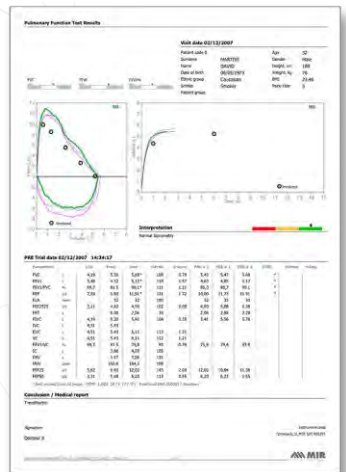
PC SOFTWARE

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

flowMIR™ Disposable Turbine



Reusable Turbine



	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, FEV0.5, 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)

ITALY

MIR Head Office
Via del Maggiolino, 125
00155 Roma
Tel. +39 06 22 754 777
Fax +39 06 22 754 785
Mir.spirometry.com

USA

MIR USA, Inc.
5462 S. Westridge Drive
New Berlin, WI 53151
Phone +1 (262) 565-6797
Fax +1 (262) 364-2030

FRANCE

MIR Local Office
Jardin des Entreprises,
290, Chemin de Saint Dionisy
30980 LANGLADE (France)
Phone +33 (0)4 66 37 20 68
Fax +33 (0)4 84 25 14 32