Innovation in Spirometry Oximetry Telemedicine
Spirolab®
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

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

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, FIF75/FIF50, VC, IVC, IC, ERV, IRV, 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)
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.
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

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

Winspiro PRO NET® includes free updates, and is provided on request.
MIR Spirolab datasheet

Technical specification

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>220 mm</td>
</tr>
<tr>
<td>Length</td>
<td>210 mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>51 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>1450 g (battery pack included)</td>
</tr>
<tr>
<td>Sensors</td>
<td>miniflowmeter (code 900595) for reusable and disposable turbine</td>
</tr>
<tr>
<td>Reusable soft, adult, MIR sensor for oximetry tests (code 9109024) only for spiro code 911081</td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td>Rechargeable battery and mains power Ni-MH, 6 elements</td>
</tr>
<tr>
<td>Current capacity</td>
<td>4500 mAh</td>
</tr>
<tr>
<td>Consumption</td>
<td>250 mA</td>
</tr>
<tr>
<td>Backup battery voltage</td>
<td>Output voltage=12 V, current=1A, compliant with EN 60601-1</td>
</tr>
<tr>
<td>Batteries charger</td>
<td></td>
</tr>
<tr>
<td>Autonomy</td>
<td>~10 hours</td>
</tr>
<tr>
<td>Connectivity</td>
<td>USB 2.0, Bluetooth® 2.1</td>
</tr>
<tr>
<td>Display</td>
<td>7 inch colour touch screen LCD</td>
</tr>
<tr>
<td>Keyboard</td>
<td>absent, touchscreen</td>
</tr>
<tr>
<td>Mouthpieces</td>
<td>Ø 30 mm (1.18 inch)</td>
</tr>
<tr>
<td>Type of electrical protection</td>
<td>Class II device</td>
</tr>
<tr>
<td>Safety level for shock hazard</td>
<td>Type BF Apparatus</td>
</tr>
<tr>
<td>Conditions of use</td>
<td></td>
</tr>
<tr>
<td>Storage conditions</td>
<td>Apparatus for continuous use</td>
</tr>
<tr>
<td>Temperature</td>
<td>MIN -40 °C, MAX +70 °C</td>
</tr>
<tr>
<td>Humidity</td>
<td>MIN 10% RH, MAX 95% RH</td>
</tr>
<tr>
<td>Transport conditions</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>MIN -40 °C, MAX +70 °C</td>
</tr>
<tr>
<td>Humidity</td>
<td>MIN 10% RH, MAX 95% RH</td>
</tr>
<tr>
<td>Operating conditions</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>MIN +10 °C, MAX +40 °C</td>
</tr>
<tr>
<td>Humidity</td>
<td>MIN 10% RH, MAX 95% RH</td>
</tr>
<tr>
<td>Applied norms</td>
<td>Electrical Safety Standard EN 60601-1</td>
</tr>
<tr>
<td>Degree of protection against water penetration</td>
<td>IPX1 appliance protected against water leaks</td>
</tr>
<tr>
<td>Codes and equipments</td>
<td></td>
</tr>
<tr>
<td>911080I0</td>
<td>spiro</td>
</tr>
<tr>
<td>911080I1</td>
<td>spiro with reusable turbine</td>
</tr>
<tr>
<td>911080I2</td>
<td>spiro with 100 FlowMir</td>
</tr>
<tr>
<td>911081I0</td>
<td>spiro+oxy</td>
</tr>
<tr>
<td>911081I1</td>
<td>spiro+oxy with reusable turbine</td>
</tr>
<tr>
<td>911081I2</td>
<td>spiro+oxy with 100 FlowMir</td>
</tr>
</tbody>
</table>

Sensors

- Reusables soft, adult, MIR sensor for oximetry tests (code 9109024) only for spiro code 911081

Power supply

- Rechargeable battery and mains power Ni-MH, 6 elements

Current capacity

- 4500 mAh

Consumption

- 250 mA

Backup battery voltage

- Output voltage=12 V, current=1A, compliant with EN 60601-1

Batteries charger

- Output voltage=12 V, current=1A, compliant with EN 60601-1

Autonomy

- ~10 hours

Connectivity

- USB 2.0, Bluetooth® 2.1

Display

- 7 inch colour touch screen LCD

Keyboard

- Absent, touchscreen

Mouthpieces

- Ø 30 mm (1.18 inch)

Type of electrical protection

- Class II device

Safety level for shock hazard

- Type BF Apparatus

Conditions of use

- Apparatus for continuous use

Storage conditions

- Apparatus for continuous use

Temperature

- MIN -40 °C, MAX +70 °C

Humidity

- MIN 10% RH, MAX 95% RH

Transport conditions

- Temperature: MIN -40 °C, MAX +70 °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 EN 60601-1
- Electro Magnetic Compatibility EN 60601-1-2

Degree of protection against water penetration

- IPX1 appliance protected against water leaks

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: 18-300 BPM
- Pulse Rate accuracy: ± 2 BPM 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%), T5

Memory capacity

- Up to 300 hours oximetry

Certificates & Registrations

- CE 0476
- FDA 510 (k)
- Health Canada
- CND code
- GMDN code
- Ministry of Health

CE 0476 | MED 9826
FDA 510 (k) | K 052140
Health Canada | 71191 (class II)
CND code | Z12150102 (spiro)
GMDN code | 45607 (spiro + ox)
Ministry of Health | 1272476/R (spiro + ox)

Page 1 of 1
MIR reserves the right to modify the technical characteristics at any time.