

# MiniSpir

PC based

## USB Spirometer with Oximetry option

New option  
disposable turbine



Fast  
Simple  
Accurate

The most convenient way to access  
a mini-laboratory in one small device

- Plugs directly into the USB socket on your PC
- Ideal and easy solution for custom made applications
- No batteries required



PC Software  
included



SpO2  
option



Quality Instruments

# MiniSpir

## PC based USB Spirometer with Oximetry option

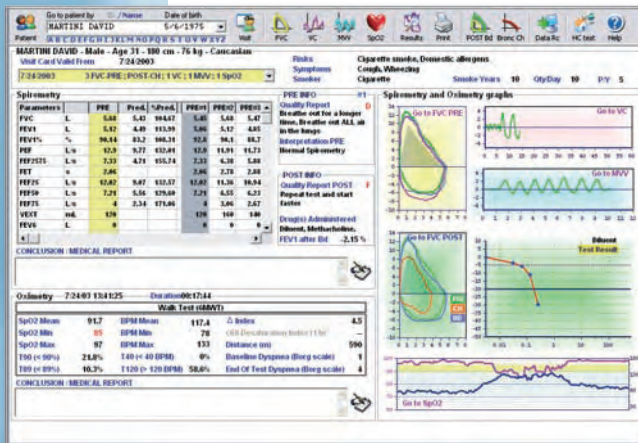
### Spirometer

FVC, VC, IVC, MVV, PRE-POST BD  
Internal temperature sensor for automatic BTPS conversion  
Available with disposable or reusable digital turbine flowmeters

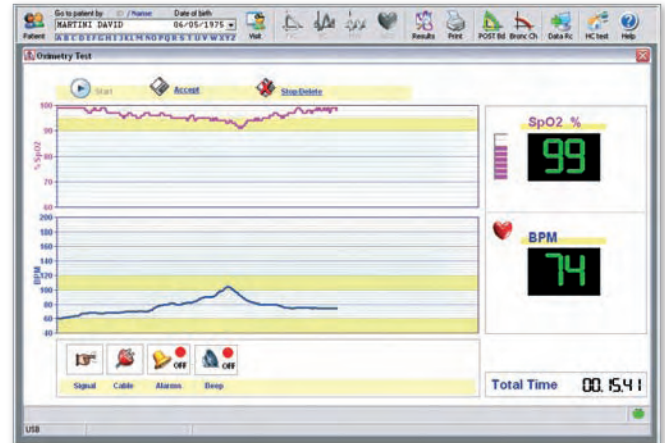
### Oximeter

MiniSpir calculates all parameters referred to in peer reviewed scientific literature (ie: min, max, mean SpO2 and Pulse Rate, Delta Index, T90%, T89%, T88%, T5 etc.)

Complete test summary



Online oximetry measurement



## winspiroPRO PC - Spirometry program

Used worldwide by over 50,000 physicians

- On line PC connection with icon-based interface
- Real time Flow/Volume and Volume/time curves
- PRE-POST bronchodilator comparison
- Advanced spirometry test interpretation
- Paediatric incentive animations
- Lung age estimation
- Bronchial challenge test with FEV1 dose-response curve
- Several sets of predicted values
- Integration with EMR systems
- Data export also via e-mail

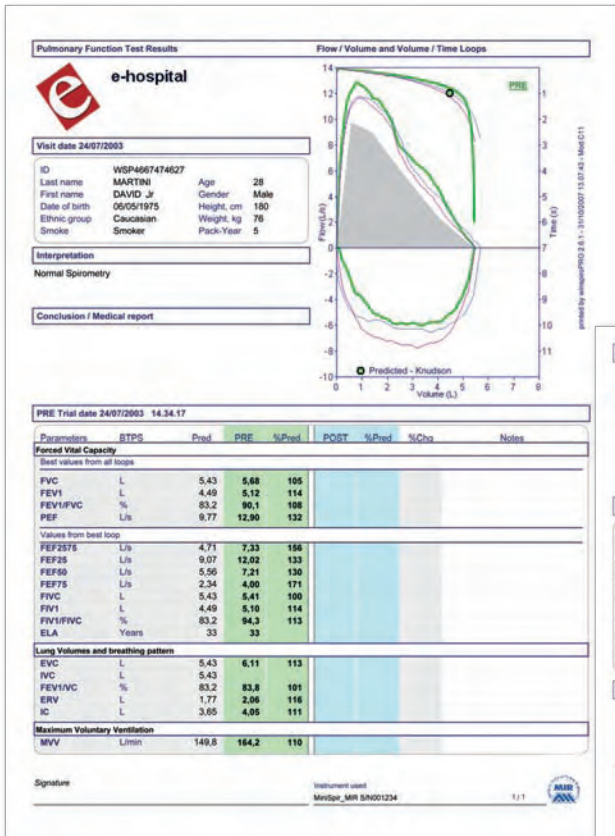


Paediatric incentive animations

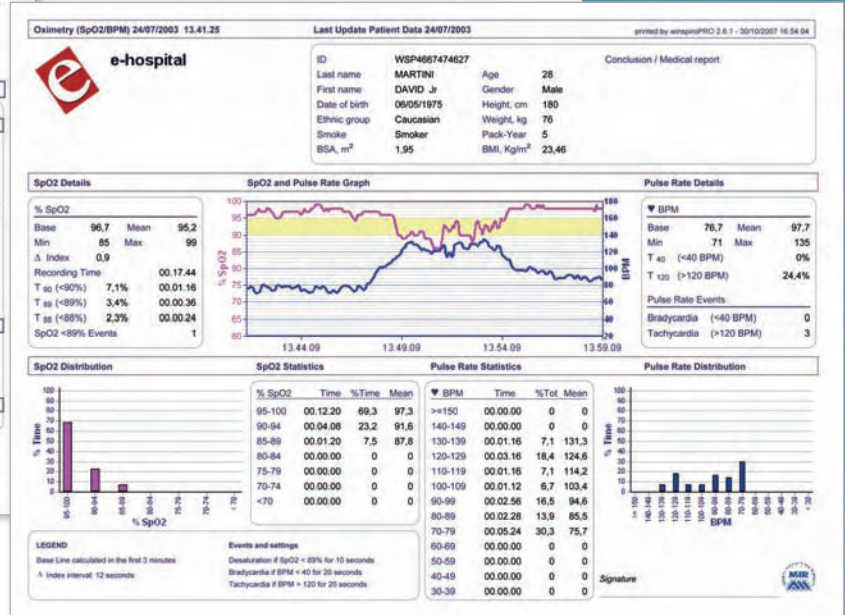
## winspiroPRO PC - Oximetry program

PC online test with real time SpO2 and Pulse Rate

- Complete SpO2 and Pulse Rate graphic trends
- Statistical analysis for assessing desaturation events
- Flexible reporting with several printouts available



Printout with spirometry report



Printout with oximetry report

## Two different flowmeters available

### FlowMir disposable turbine for single patient use

- High accuracy
- Easy to replace
- Very low cost
- Designed for use with MIR spirometers
- FlowMIR is factory calibrated
- Available in box of 100 pieces
- No maintenance – No filter – No problem
- Hygiene 100% guaranteed by single packaging



World's First  
International Patent Pending

### Reusable turbine for long term operation



- High accuracy
- Long term stability
- Easy to clean or sterilize

MIR digital reusable and disposable turbines are developed in full compliance with ATS standards and guarantee accuracy in all environmental conditions



# MiniSpir

## PC based USB Spirometer with Oximetry option

### Standard price includes

- MiniSpir base unit
- USB cable
- Carrying bag
- winspiroPRO software CD

### Available options

- Digital Oximeter module
- Adult reusable SpO2 finger probe
- Paediatric reusable SpO2 finger probe
- Finger probe extension cable

### MiniSpir spirometer

#### Technical specification

Temperature sensor: semiconductor (0-45°C)  
Flow sensor: bi-directional digital turbine  
Flow range:  $\pm 16$  L/s  
Volume accuracy:  $\pm 3\%$  or 50 mL  
Flow accuracy:  $\pm 5\%$  or 200 mL/s  
Dynamic resistance at 12 L/s:  $<0.5$  cmH<sub>2</sub>O/L/s  
Communication port: USB  
Power Supply: line powered from USB port  
Dimension: 52x128x26 mm  
Weight: 70 grams

#### Measured parameters

FVC, FEV1, FEV1/FVC%, FEV3, FEV3/FVC%, FEV6, FEV1/FEV6%, PEF, FEF25%, FEF50%, FEF75%, FEF25-75%, FET, Vext, Lung Age, FIVC, FIV1, FIV1/FIVC%, PIF, VC, IVC, IC, ERV, FEV1/VC%, VT, VE, Rf, ti, te, ti/t-tot, VT/ti, MVV

### winspiroPRO

#### PC system requirements

Microsoft Windows:  
Vista, 2000, XP, Me,  
98 (Second Edition)  
Screen res.: 1024 x 768  
Hard disk space: 160MB  
USB socket available

### Option: Digital oximeter

#### Technical specification

SpO2 range: 0-99%  
SpO2 accuracy:  $\pm 2\%$  between 70-99% SpO2  
Pulse Rate range: 30-254 BPM  
Pulse Rate accuracy:  $\pm 2$  BPM or 2%

#### Measured parameters

SpO2 [Baseline, Min, Max, Mean], Pulse Rate [Baseline, Min, Max, Mean], T90 [SpO2<90%], T89 [SpO2<89%], T88 [SpO2<88%], T5 [ $\Delta$ SpO2>5%],  $\Delta$  Index [12s], SpO2 Events, Pulse Rate Events [Bradycardia, Tachycardia]

Adult reusable  
finger probe



Paediatric reusable  
finger probe