



## SpiroConnect

The most innovative and easiest solution to integrate  
Spirometry and Oximetry on your existing  
Electronic Medical Record (EMR)



# Spirometry and Oximetry

CONNECTING YOUR PRACTICE MANAGEMENT SOFTWARE

SpiroConnect es la solución para aquellos que desean conectar un espirómetro y oxímetro MIR con sus EMR o software de gestión de la consulta. Using SpiroConnect it's no longer necessary to write the same patient card twice on two different systems. Indeed patient data, necessary to perform a spirometry or oximetry test, are sent by the EMR software to SpiroConnect.

No worries about data security because SpiroConnect is database-less. The patient data is sent just-in-time by the EMR and will be kept by SpiroConnect only until results are sent back.

Results provided are essential but complete: main measured parameters, predicted values and graphical images. SpiroConnect is designed just to perform measurements, therefore the functions of medical report and printout are delegated to the EMR software.

## SUPPORTED MEASURES

- FORCED VITAL CAPACITY
- POST BRONCHODILATOR TEST
- SLOW VITAL CAPACITY
- REAL-TIME SPOT OXIMETRY
- SLEEP OXIMETRY ANALYSIS

## EXTRA FEATURES

- PEDIATRIC INCENTIVE
- DISPOSABLE TURBINE COMPLIANT
- MULTILANGUAGE INTERFACE
- ONLINE HELP

## advanced solution for information exchange

### HL7 INTERFACE

SpiroConnect main communication uses the HL7 standard ver 2.x. in both modality file exchange and web-service connection. SpiroConnect manages the exchanging of Patient Info as an incoming message and Clinical Results as an outgoing message.

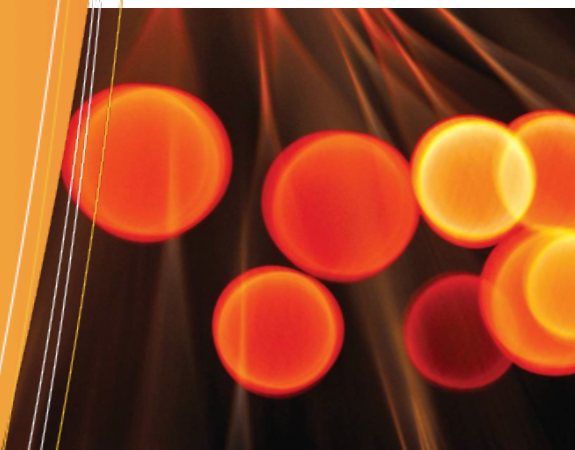
The following HL7 segments are supported:

- MSH
- MSA – used by web-service as feedback
- QAK – used by web-service as feedback
- PID – including patient height, weight and ethnicity
- OBR – spirometry or oximetry
- OBX – measured parameters and graph image

Detailed technical specification plus samples are available for developers.

### WINSPIROPRO EXCHANGE PROTOCOL

Wide spread winspiroPRO eXchange Protocol is fully supported. File exchange is based on formatted text files stored in application folder.



# on demand

## SOFTWARE TO THE PULMONARY FUNCTION TEST

How does the communication work?

There are different ways to communicate with SpiroConnect.

The EMR or Practice Management software can call SpiroConnect after the patient data file is stored in a specified folder.

Another solution supported allows SpiroConnect users to get patient data on demand querying a web-service.

Clinical results, including parameters, predicted values and images are sent back by SpiroConnect using the same technology and protocol used to get patient data. Various measures are supported such as FVC, VC, and Oximetry including sleep desaturation screening. Extra features such as pediatric incentive and turbine calibration are available. SpiroConnect setup, including Windows® certified USB drivers, is fast and light.

## DIFFERENT PROTOCOL INTERFACE SUPPORTED AND JUST-IN-TIME DELIVERY OF PATIENT DATA

### XML INTERFACE

XML format is also supported as an interface for the file exchange communication.

Exchange folder location can be set also as a network location. Detailed technical specification plus samples are available for developers.



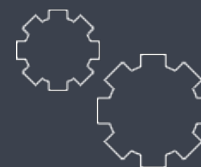
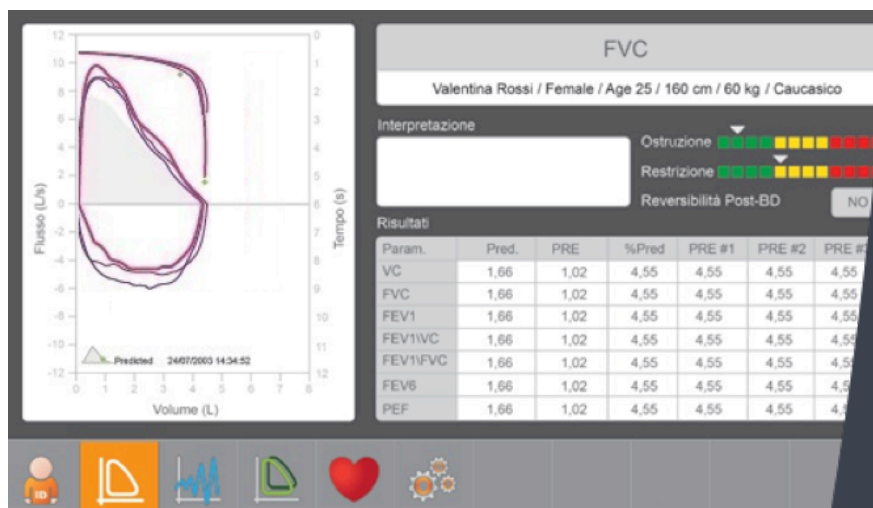
### WEB SOLUTIONS

SpiroConnect is the up-to-date answer to the user demand for effective integration between a medical device and EMR. SpiroConnect is designed to support web-services and cloud computing solution.



### E-HEALTH SOLUTIONS

SpiroConnect is also a recommended solution to maximize e-Health systems functionalities by adding spirometry and oximetry based on standard and secure clinical data exchange.



### CUSTOM SOLUTIONS

For High Value Projects

SpiroConnect can be customized, by selecting specific parameters or graphs images, to better fit users requests.

# SIMPLICITY INTEROPERABILITY HL7 INTERFACE ESSENTIAL

SpiroConnect is designed to be integrated with an EMR or Practice Management software.

The EMR sends, using HL7 or XML format, a message containing Patient Info to SpiroConnect.

The following Clinical Results and embedded graphs are an example of the answer sent by SpiroConnect to the Practice Management software using the HL7 or XML message.

Parameters, Measure Units, Predicted Values and Measured Values are provided together with the graph of clinical test.

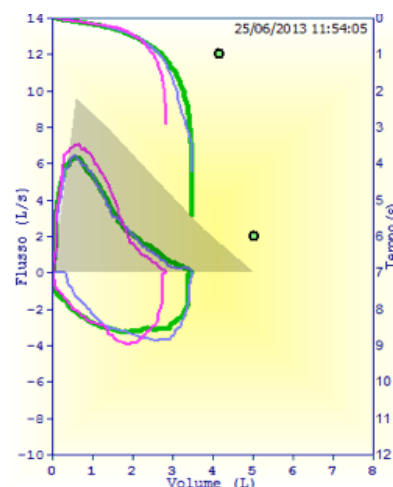
## EXAMPLE: PATIENT DATA

```
MSH|^~\&|MIRHL7INTERFACE|||2013
MSA|AA
QAK||OK
PID|||^^^MRTDVD75E06A007X|MARTIN
```

## EXAMPLE: SPIROMETRY TEST RESULTS

```
MSH|^~\&|MIRHL7INTERFACE|||201306
PID|||^^^MRTDVD75E06A007X|||
OBR|||SPIRO_MIR|||20130617
OBX|1|NM|H||180|CM
OBX|1|NM|W||78|KG
OBX|2|NM|FVC-PRE||3.50|L
OBX|2|NM|FVC-POST||4.81|L
OBX|2|NM|FVC-PRED||5.04|L
```

FVC	L	5,04	3,48
FEV1	L	4,15	2,67
FEV1/FVC	%	80,4	76,7
PEF	L/s	9,57	6,49
ELA	Anni	38	89
FEF2575	L/s	4,56	2,24
FVC	L	5,04	3,42
FEV1/C	%	80,4	0,0



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