Spiropalm

Hand-Held Spirometer

Accurate and easy to use hand-held device for flexible spirometry screening!

▸ Full spirometry testing (FVC, SVC, MVV, Bronchial challenge test)

▸ Accurate bidirectional turbine flowmeter reliable in any conditions

▸ USB connection (PC and external Printer)

▸ Internal memory of up to 600 tests/patients

▸ Integrated Digital Oximeter (optional) for HR and SpO_2 monitoring

▸ Advanced software for data management, real time testing and interpretation directly on PC

COSMED
Pulmonary Function Equipment

Spiropalm is the NEW hand-held device designed for flexible spirometry screening. Tests can be performed easily and accurately wherever it is needed. Results are monitored on the bright and clear black and white display and printed by linking Spiropalm directly to an external printer or to a PC.

Spiropalm is a very compact portable spirometer (dims. 18x7.5x3 cm) and it comes with a bidirectional turbine flowmeter (that requires the use of antibacterial filters). Optionally, Spiropalm can be implemented with an integrated Nonin pulseoximeter for measuring SpO_2 and HR parameters.

The device has been designed in a simple operating mode through a navigation tool similar to cellular phones.

Applications

- ▸ Small Clinic, Family Practice
- ▸ General Practitioner, Primary care
- ▸ Mobile Solutions
- ▸ Occupational Health
- ▸ Preventive Medicine
- ▸ Sports Doctor

Accurate Measurements

COSMED flowmeters are extremely accurate and comply with the most stringent requirements for precision fixed by ATS and ERS.

- ▸ Full Spirometry (FVC, SVC, MVV, pre/post)
- ▸ Bronchial challenge test (Pre-Post)
- ▸ SpO_2 (option)
- ▸ Six-Minutes Walk Test (6MWT)
- ▸ Normal values: ERS, NHANES III, Crapo 1981, Knudson 1983, ITS, Multicentrico Barcelona, LAM, Gutierrez, Pneumobil, Zapletal, Thai 2000, Pereira, Austria (Forche)

High connectivity !

Spiropalm offers 3 different interfacing options:

- ▸ the USB-B for direct printing with an external inkjet or laser printer (PCL compatible).
- ▸ the USB-A for PC connection
- ▸ port for connection with pulse oximeter for SpO_2 monitoring

Automatic Diagnosis

The automatic interpretation of test results as per the latest interpretation criteria fixed by ATS and ERS, is automatically suggested by the software at the end of the test. User however can manually modify the diagnosis, customize the diagnosis database and add notes. Spiropalm is currently the unique spirometer that incorporates the diagnosis for COPD after a bronchial dilator test.
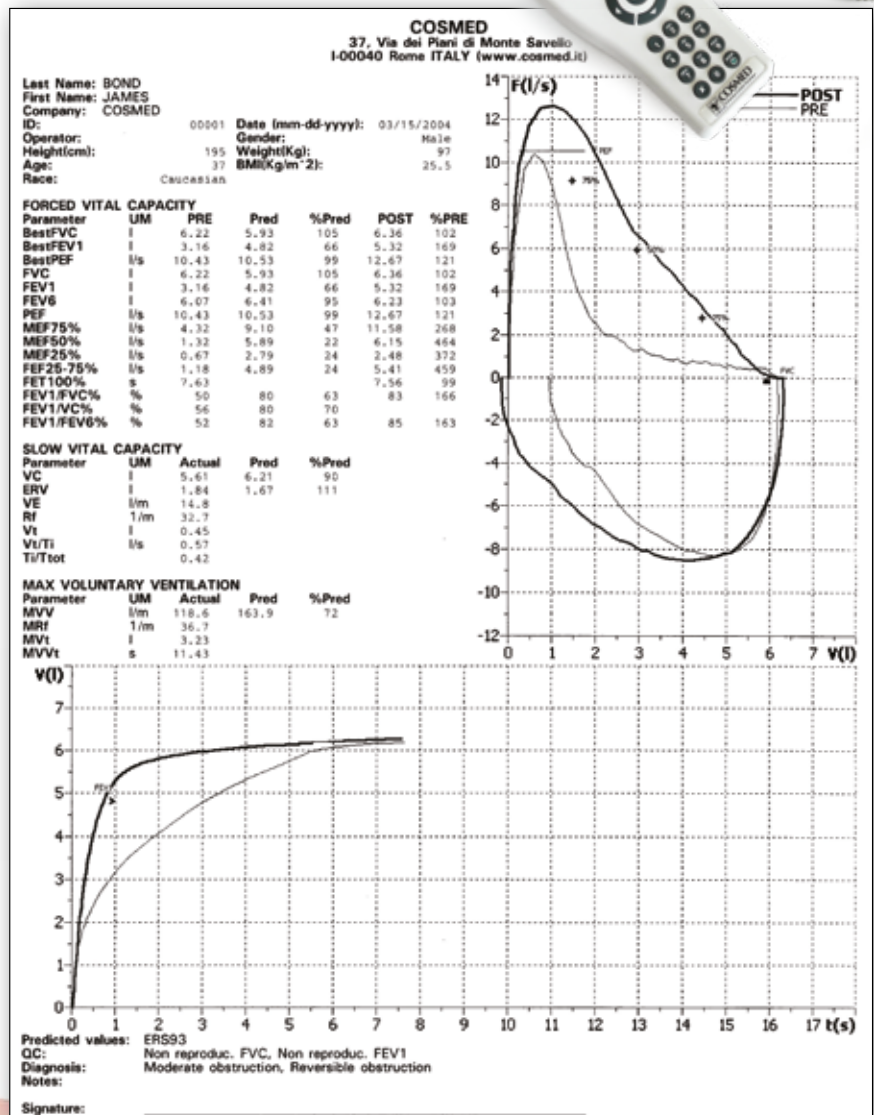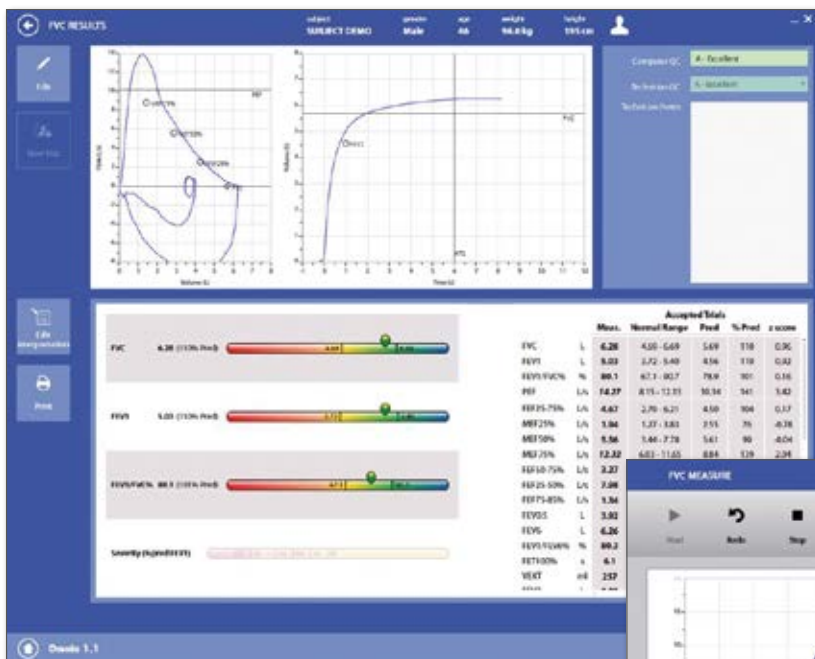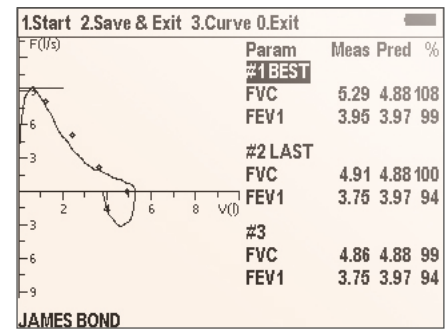
Display:
Black and white LCD display (320x240 pixels) with real time monitoring of test performance, plus encouragement features for children and non-cooperative patients;

Reports:
Spiropalm allows to print reports with PCL compatible printers directly via USB connection. Colour printouts can also be produced through the included PC software.

COSMED
37, Via dei Piani di Monte Savello
I-00040 Rome ITALY (www.cosmed.it)

Last Name: BOND
First Name: JAMES
Company: COSMED
ID: 00001 Date (mm-dd-yyyy): 03/15/2004
Operator: Gender: Male
Height(cm): 195 Weight(Kg): 97
Age: 37 BMI(Kg/m^2): 25.5
Race: Caucasian

FORCED VITAL CAPACITY

Parameter	UM	PRE	Pred	%Pred	POST	%PRE
BestFVC	l	6.22	5.93	105	6.36	102
BestFEV1	l	3.16	4.82	66	5.32	169
BestPEF	l/s	10.43	10.53	99	12.67	121
FVC	l	6.22	5.93	105	6.36	102
FEV1	l	3.16	4.82	66	5.32	169
FEV6	l	6.07	6.41	95	6.23	103
PEF	l/s	10.43	10.53	99	12.67	121
MEF75%	l/s	4.32	9.10	47	11.58	268
MEF50%	l/s	1.32	5.89	22	6.15	464
MEF25%	l/s	0.67	2.79	24	2.48	372
FEF25-75%	l/s	1.18	4.89	24	5.41	459
FET100%	s	7.63			7.56	99
FEV1/FVC%	%	50	80	63	83	166
FEV1/VC%	%	56	80	70		
FEV1/FEV6%	%	52	82	63	85	163

SLOW VITAL CAPACITY

Parameter	UM	Actual	Pred	%Pred
VC	l	5.61	6.21	90
ERV	l	1.84	1.67	111
VE	l/m	14.8		
Rf	1/m	32.7		
Vt	l	0.45		
Vt/Ti	l/s	0.57		
Ti/Ttot		0.42		

MAX VOLUNTARY VENTILATION

Parameter	UM	Actual	Pred	%Pred
MVV	l/m	118.6	163.9	72
MRf	1/m	36.7		
MVt	l	3.23		
MVVt	s	11.43		

Predicted values: ERS93
QC: Non reproduc. FVC, Non reproduc. FEV1
Diagnosis: Moderate obstruction, Reversible obstruction
Notes:
Signature: _____

New PC Software: Omnia

- ‣ Innovative user interface, touch screen, easy and self-explanatory
- ‣ Compatible with Win 8 PRO (32/64), Win 7 (32/64), Win Vista (32/64)
- ‣ Full compliance with "2005 ATS/ERS consensus" (Interpretation, QC, etc.)
- ‣ GOLD COPD Interpretation on FVC Post BD
- ‣ Includes latest Global Lung Initiative (GLI) predicted (Z-score etc.)
- ‣ ATS, Metacholine-dose, Mannitol and user defined Broncho-Provocation protocols
- ‣ Graphical data presentation both at screen and on printouts
- ‣ Innovative pediatric incentivation with selectable effort grade

- ‣ New calibration procedures (calibration and linearity Check) according to latest Occupational Health standard
- ‣ GDT data interface protocol included
- ‣ Multi-device management (single license for multiple product)
- ‣ HIPAA compliance
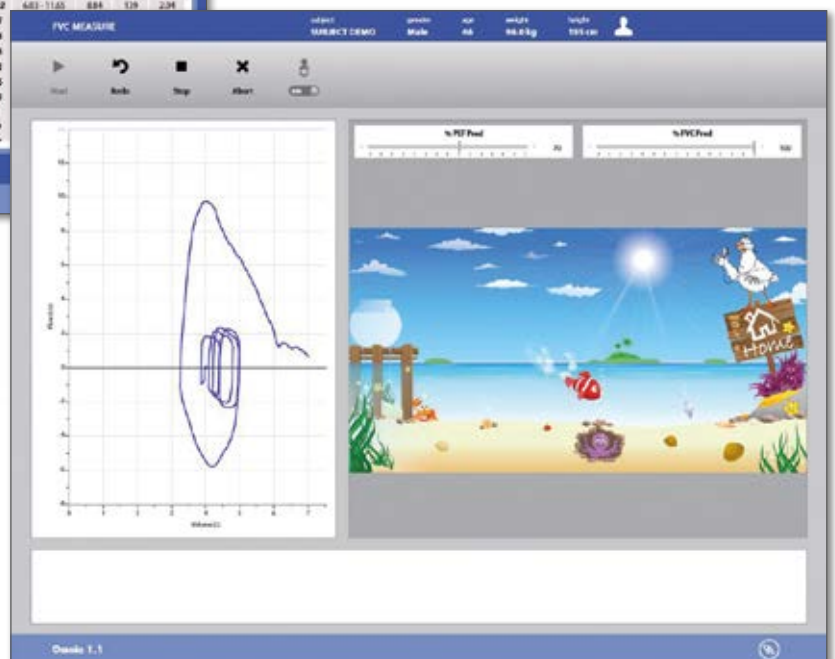- ‣ Running on SQL database (both Express or Enterprise)

Digital turbine flowmeter:
It does not require frequent calibration. Extremely accurate and reliable in any conditions. It can be used with antibacterial filters (recommended) or cardboard mouthpieces.

Spiropalm comes with Omnia, the new software generation from COSMED. Omnia combines power and simplicity in an innovative user interface

Innovative pediatric incentivation with selectable effort grade

Possibility to save PDF reports directly in a configured USB stick

Technical Specification

Products Features

Flowmeter	*Digital Turbine*
Type	*Bi-directional*
Flow Range	*0-16l/s*
Volume range	*12 litres*
Accuracy of reading	*±2% or 20 ml/s*
Resistance	*<0.8 cm H_2O/l/s @ 14 l/s*
Temperature sensor	*0-50°C*

Measured parameter

FVC • IVC • VC • MVV • VT • FEV1 • FEV6 • FEV1/FEV6 • FEV6/FVC • PEF • PIF • FEV1/FVC • FEF 25-75 • FEV1/VC% • %FEV1 • MEF25% • MEF50% • MEF75% • FET 100% • Lung Age • ERV • IRV • VE • Rf • ti • te • ti/t.tot • VT/ti • Best FVC • Best FEV1 • IC • SpO_2 • HR

Predicted values (partial listing)

2012 Global Lung initiative (GLI), ERS 1993 (ECCS 1983), NHANES III, Knudson 83, ECCS 1971, ITS, Zapletal, LAM, Pneumobil, Gutierrez (Chile), Multicèntrico Barcelona, Thai 2000, Austria (Forche), Crapo 1981 user defined predicted calculations.

Automatic Interpretation

ATS/ERS 2005 (Spirometry), GOLD COPD, ATS/ERS 2005 (Obstruction Reversibility based on FVC Post BD)

Hardware

Dimension (mm/in)	*185x86x31/7¼ x 3 ¼ x 1 ¼ in*
Weight (gr/oz)	*390 /13½*
Display	*LCD B/W 320 x 240 pixel (amber backlighted)*

Standard Packaging Includes

PC software and user manual, Flowmeter, AC/DC adapter (110-240V), USB communication cable, Pediatric mouthpiece adapter, Mouthpieces and nose clips, Anti-Bacterial filters. CD-Rom.

Available languages

Firmware: English, Italian, French, German, Spanish, Portuguese, Turkish, Chinese (Mandarin), Korean
Software (OMNIA): English, Italian, French, German, Spanish, Dutch, Russian, Chinese, Portuguese

PC configuration required

OS compatibility	*Vista (32/64), Windows 7 (32/64), Windows 8 (32/64)*
Processor speed	*1.4 GHz or faster*
RAM	*1 GB or greater*
Disk space	*500 MB of free disk space plus 100 MB for .NET framework plus 512 MB for SQLServer 2008 R2 SP1 Express*
Monitor	*Min. screen resolution 1280 x800 pixels*
Direct USB printing	*Only with compatible HP PCL printers with an USB port for data transmission*

Electrical requirements

Internal batteries	*Rechargeable Li-Ion 1800mAh*
Battery Charger	*Input 100-240Vac 200mA, Output 12Vdc 700mA)*

Safety & Quality Standards

Equipment complies with MDD (93/42 EEC);
EN 60601-1 (safety) / EN 60601-1-2 (EMC).
COSMED is an organisation whose quality management system is certified by CERMET according to UNI EN ISO 9001:2008 and UNI EN ISO 13484:2004

$C \epsilon$
0476

Distributed by:

COSMED srl
Headquarters

Via dei Piani di Monte Savello 37
Albano Laziale - Rome
00041 ITALY
Phone +39 06 931-5492
Fax +39 06 931-4580

info@cosmed.com

USA
Concord, CA - Chicago, IL

Phone +1 (925) 676-6002
Fax +1 (925) 676-6005

info@cosmedusa.com

CHINA
Guangzhou

Phone +86 (20) 8332-4521
Fax +86 (20) 8332-0683

china@cosmed.com

COSMED
Pulmonary Function Equipment

cosmed.com