



Directly connected to a USB port turns any PC into a spirometer

- ▶ Full Spirometry testing (FVC, SVC, MVV and Pre-Post bronchial challenge test)
- ▶ Provided with OMNIA, the new leading-edge, touch-screen-ready software compatible with Windows 8
- ▶ User-friendly, beautiful user interface providing comprehensive graphical and text interpretation (ERS/ATS, GOLD COPD)
- ▶ Innovative Pediatric Incentivation with user-defined effort grade (both on PEF and FVC)
- ▶ Full Networking (SQL) and multi-language environment
- ▶ Digital turbine flowmeter validated by LDS Hospital (ATS Standards)



microQuark is the PC-based spirometer designed by COSMED for lung function screening. It can be used with any PC, either desktop or laptop, by simply installing the application software and connecting the USB cable to the USB port of the computer.

Performing spirometry tests is extremely easy and intuitive with microQuark and OMNIA, the new generation software developed by COSMED, which is included in the standard package. Fast, simple and cost effective spirometry screening is now available to all users.

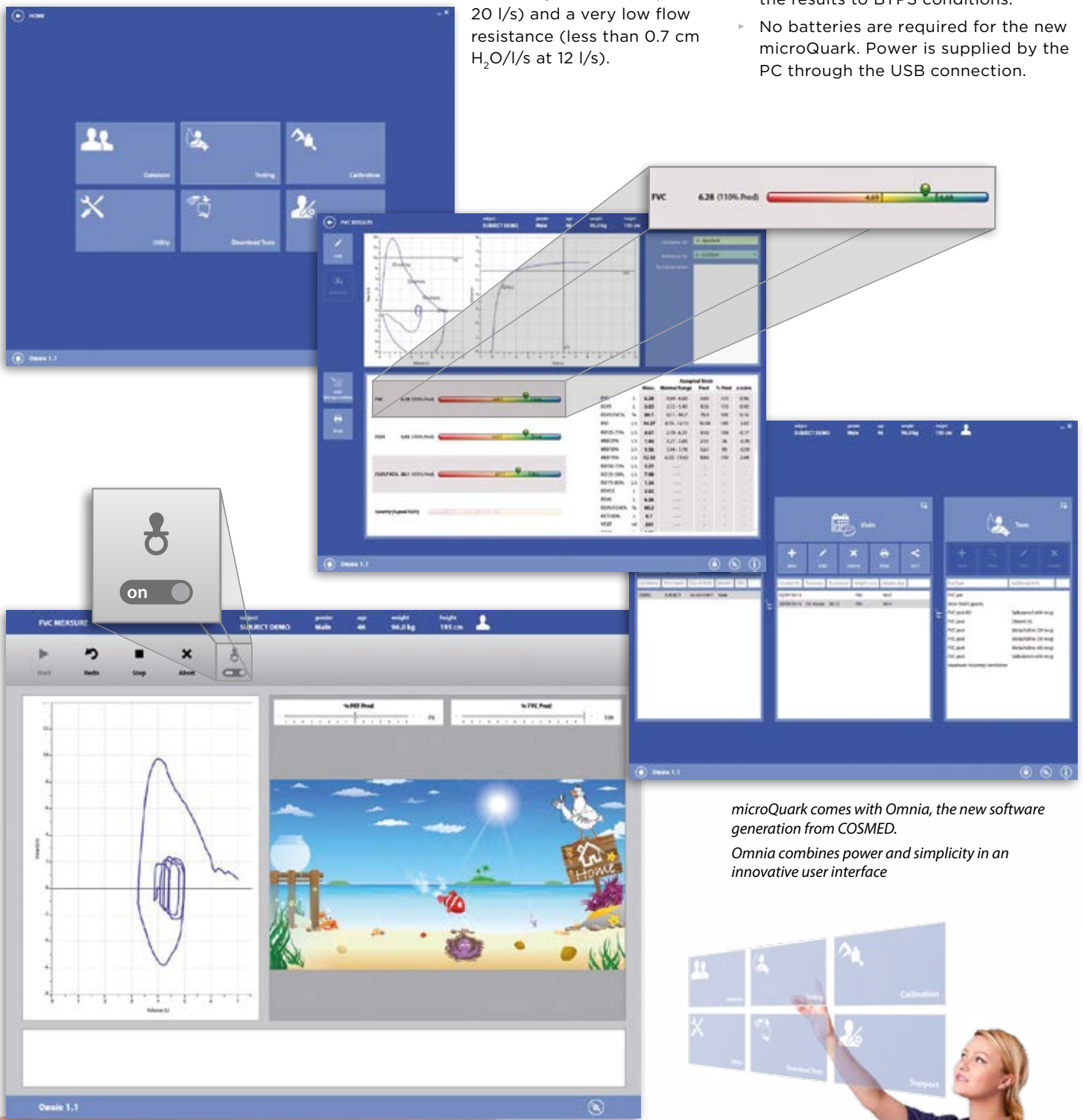
Applications

microQuark features may be appreciated in different application fields: Small Clinic, Family Practice, General Practitioner, Occupational Health, Preventive Medicine, Sports Medicine.

Accurate Spirometry

- microQuark flowmeter ensures maximum precision throughout a wide range of flows (up to 20 l/s) and a very low flow resistance (less than 0.7 cm H₂O/l/s at 12 l/s).

- The turbine flowmeter complies with ATS and ERS recommendations and it has been Independently validated by LDS Hospital using the ATS 24 standard volume-time waveforms.
- Spirometry tests should be performed with disposable antibacterial filters (high filtration efficiency: 99.9999%) to avoid cross-contamination.
- Optional 3 liter calibration syringe ensures easy and fast flowmeter calibration at any time
- microQuark has a built-in temperature sensor, for the automatic correction of the results to BTPS conditions.
- No batteries are required for the new microQuark. Power is supplied by the PC through the USB connection.



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

Innovative pediatric incentivitation with selectable effort grade.

Blow hard to help the fish jumping out of the pot and keep blowing until you reach home. (Both PEF and FVC goals)

Omnia, the new software from COSMED...

A great upgrade for 2013 users is Omnia, the new leading-edge software developed entirely by COSMED. Omnia provides an innovative and extremely intuitive user interface, touch-screen-ready, but at the same time powerful features.

- ▶ Innovative user interface, touch screen, easy and self-explanatory
- ▶ Compatible with Win 8 PRO (32/64), Win 7 (32/64), Win Vista (32/64) and MacOS provided with Virtual PC (Parallel, VMware)
- ▶ Full compliance with "2005 ATS/ERS consensus" (Interpretation, QC, etc.)
- ▶ GOLD COPD Interpretation on FVC Post BD
- ▶ Includes latest Global Lung Initiative (GLI) predicted (including Z-score)
- ▶ ATS, Metacholine-dose, Mannitol and user defined Broncho-Provocation protocols
- ▶ Graphical data presentation both at screen and on printouts
- ▶ Innovative pediatric incentivitation with selectable effort grade
- ▶ Quality control messages according to the ERS/ATS guidelines

- ▶ New calibration procedures (calibration and linearity Check) according to latest Occupational Health standard
- ▶ Multi-device management (single license for multiple product) allow to use multiple devices either in a single PC or in a large network environment
- ▶ Security Data solutions (according to US HipAA, ISO 27799:2008, EU 95/46/CE and 2002/58/CE)
- ▶ Omnia is provided with an additional software for converting existing database from previous COSMED software versions.



microQuark and all its accessories are provided together with a practical carrying bag

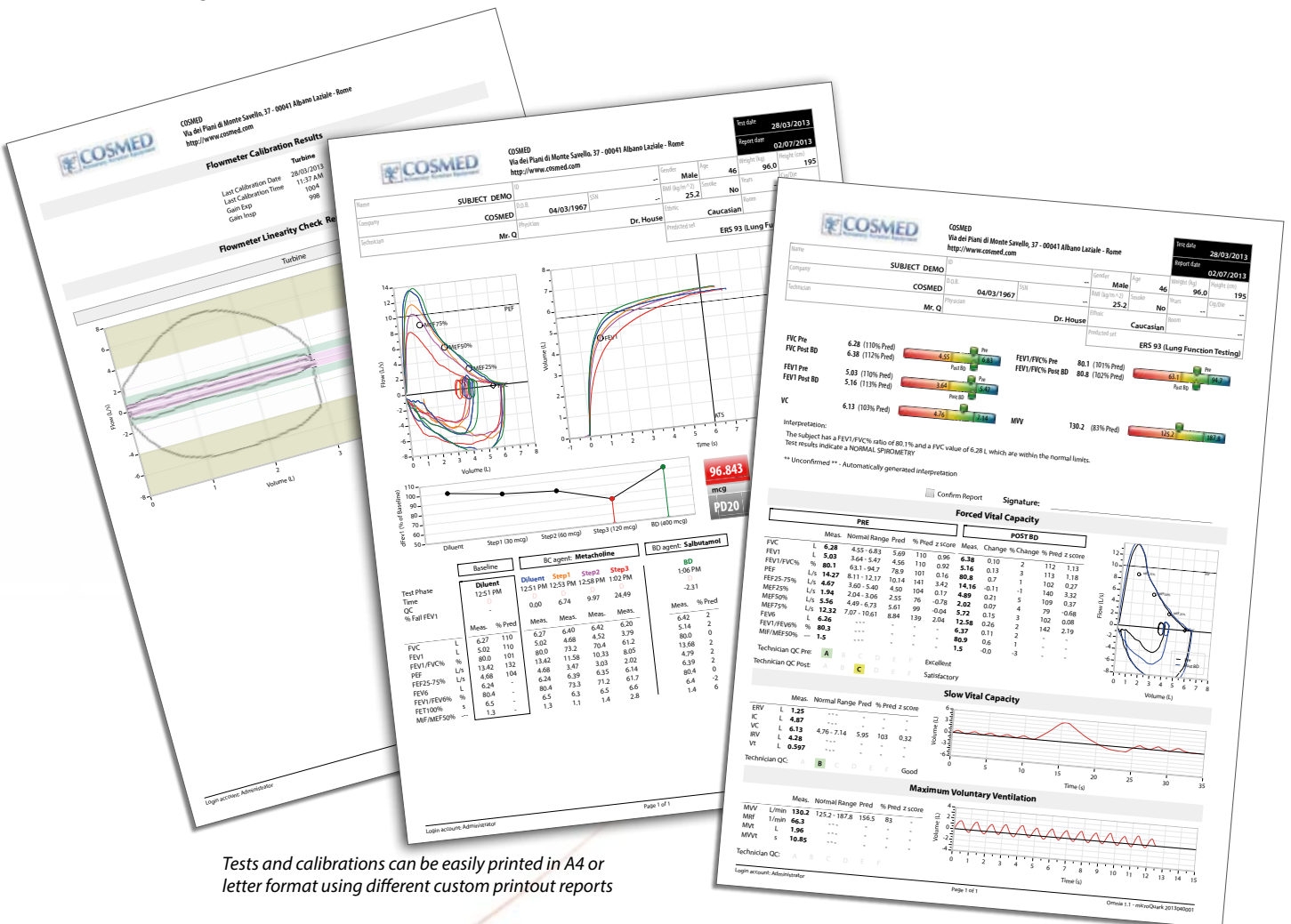


Full-featured spirometry testing by simply connecting the microQuark in the USB port of your PC

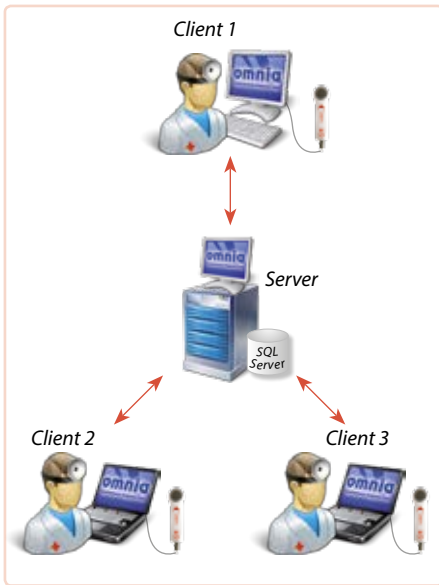
Networking (optional)

Omnia provides full features for doing spirometry within either a small or large network environment.

- ▶ The optional Networking license includes 5 clients
- ▶ Additional single licenses can be purchased when required
- ▶ Database running on SQL (both Express or Enterprise)
- ▶ GDT interface protocol included



Tests and calibrations can be easily printed in A4 or letter format using different custom printout reports



microQuark software is network-ready with database running on SQL (with the optional OMNIA Network License)

Technical Specification

Product Features

Flowmeter	Digital Turbine Ø 28 mm"
Type	Bi-directional
Flow Range	0-16 l/s
Volume range	12 litres
Accuracy of reading	±2% or 20 ml/s
Resistance	<0.8 cmH ₂ O/l/s @ 14 l/s
Temperature sensor	0-50° C

Measured parameter (partial listing)

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% • ERV • IRV • VE • Rf • ti • te • ti/tot • VT/ti • Best FVC • Best FEV1 • IC

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), Multicèntrica 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

Interfaces	Digital USB
Dimensions (mm, inc)	150 x 45 x 53 (38,1 x 11,43 x 13,4)
Weight (g, lbs)	77 (0,17)

Standard Packaging Includes

CD with PC software (Omnia) and user manual, Turbine flowmeter, 2 Nose clips, Serial communication cable, Carrying case, Adapter for pediatric mouthpieces, conic mouthpiece, 20 Adult mouthpieces, 20 Pediatric mouthpieces.

Available languages

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 x 1024 pixels

Electrical requirements

Power supply	via USB
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Safety & Quality Standards

Equipment complies with MDD (93/42 EEC);

FDA 510(k) cleared (federal law restricts this device to sale by or on the order of a physician). 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

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.com

CE
0476

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