micro**Quark**

PC-based Spirometer

> "Effective, simple lung screening in any environment"

Directly connected to a USB port turns any PC into a spirometer
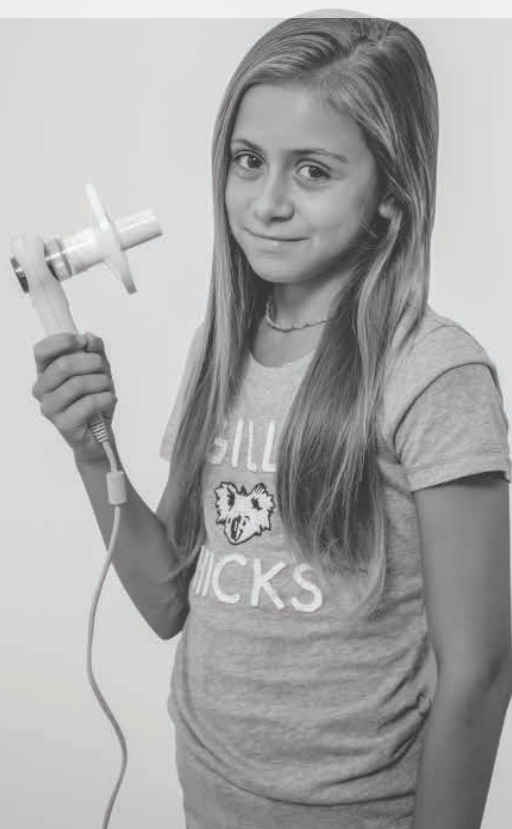
- Full spirometry testing (FVC, SVC, MVV, Pre-Post BD, Bronchial challenge).

- Plug-and-play technology.

- Independently validated turbine flowmeter by LDS Hospital using the ATS 24 standard volume-time waveforms.

- User-friendly, beautiful software interface providing comprehensive graphical and text interpretation.

- Full Networking and multi-language environment.

- Compatible with Win 8 PRO (32/64), Win 7 (32/64), Win Vista (32/64).

- Meet latest ATS/ERS standards.

microQuark is the new PC-based spirometer from COSMED that, thanks to its compact and lightweight size (77gr), represents the perfect solution for performing screening spirometry everywhere and in any conditions.

microQuark can be used with any PC, either desktop or laptop, by simply installing the application software and connecting the USB cable to the USB socket of the computer.

microQuark incorporates the well proven COSMED bidirectional digital turbine technology, which is extremely accurate and reliable in any conditions.

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.

OMNIA is user-friendly thanks to its modern interface and includes innovative and pediatric incentivation for spirometry tests with selectable effort grade (%PEF, %FVC).

OMNIA allows easy navigation and quick access to all features and tests without need of training. Compatibility with Windows 10 and touch-screen ready interface make OMNIA the most modern software in the industry.

A comprehensive interpretation tool with a powerful algorithm automatically elaborates results and provides interpretation text strings including numerical results.

OMNIA encompasses all the latest industry standards for spirometry tests, including the 2005 ATS/ERS Consensus Statement on the "Standardization of the measurement of spirometry" and the 2012 Global Lung Initiative (GLI) predicted sets.
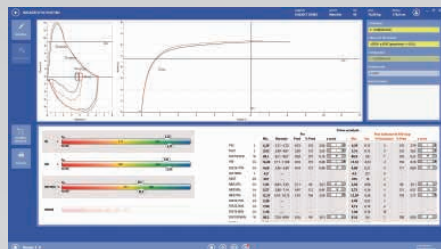
COSMED
The Metabolic Company

Validation articles

- Crapo R. O. (LDS Hospital) 2004 "Validation of COSMED turbine vs ATS 24 standard volume-time waveforms "
- More scientific studies on www.cosmed.com/bibliography

Technical Specifications

Product	Description	REF
microQuark	USB PC-based Spirometer	C09061-01-99
Standard packaging	Main Unit, T2 flowmeter, carrying case, conical adapter, PC software (OMNIA) and user manual.	
Standard Tests (Spirometry)		
Tests	Forced Vital Capacity (FVC) Pre/Post, Slow Vital Capacity (SVC) Pre/Post, Maximum Voluntary Ventilation (MVV), Bronchial challenge - Bronchial Dilator/Constrictor test	
Measured Parameters (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% • Lung Age • ERV • IRV • VE • Rf • ti • te • ti/t.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), Multicèntrico Barcelona, Thai 2000, Austria (Forche), Crapo 1981 user defined predicted calculations.	
Interpretation	Automatic and comprehensive , with statements based on: ATS/ERS 2005 (Spirometry), GOLD COPD, ATS/ERS 2005 (Obstruction Reversibility based on FVC Post BD), ATS/ERS 2007 (Obstruction Reversibility based on Rocc)	
Hardware		
Dimensions & Weight	150 x 45 x 53 mm / 77 gr	
Interfaces	USB	
Power supply	via USB	
Flowmeter	**Turbine Ø-28mm**	
Type	Bidirectional Digital Turbine	
Resolution	12 ml	
Ventilation Range	0-300 l/min	
Flow Range	0-16 l/s	
Accuracy	$\pm$ 2% or 20 ml/s	
Resistance	<0.8 cmH$_2$O /l/s @ 14l/s	
Software	**OMNIA**	
Available languages	Italian, English, Spanish, French, German, Portuguese, Greek, Dutch, Turkish, Russian, Chinese (Traditional & Simplified), Korean, Romanian, Czech, Norwegian	
Required PC Configuration	I3 or higher processor speed. Compatible with Windows 7, 8, 8.1, 10 (32 or 64 bit). RAM 4GB (8GB recommended). HD with 4GB of free space (plus tools)	
Options & Accessories	**Description**	**REF**
Calibration syringe	3L syringe for accuracy check of flow volume measurements	C00600-01-11
Consumables	**Description**	**REF**
Antibacterial filters	Single-use filters with round mouthpiece(box contains 50 pcs)	A-182-300-004
	Single-use filters with oval mouthpiece(box contains 50 pcs)	A-182-300-005
Nose clips	Clips for performing spirometry tests (box contains 100 pcs)	C04451-01-98
Safety & Quality Standards		
MDD (93/42 EEC); FDA 510(k); EN 60601-1 (safety) / EN 60601-1-2 (EMC) Complies with ATS/ERS 2005 guidelines		

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To know more: