New
with MIP/MEP

Pony FX
Desktop Spirometer

Introducing the most complete family of desktop spirometers for advanced lung function analysis!

- Full Spirometry testing (FVC, SVC, MVV and Bronchial-Challenge Test)
- Colour LCD display with real time graphs and embedded high speed Thermal Printer
- Disposable Pneumotach or Turbine Flowmeter
- Airway Resistance Rocc (optional)
- MIP/MEP measurement
- Integrated Digital Oximeter (optional)
- Independent validation by LDS Hospital using the ATS 24 standard volume-time waveforms
- Advanced software for data management, real time testing and interpretation directly on PC

COSMED
Pulmonary Function Equipment

Pony FX is a new generation portable spirometer developed for lung function screening in different fields of application. Its design was studied to allow easy spirometry testing without sacrificing anything to functionality.

An alphanumeric keyboard and the navigator tool allow simple user access to all functions: enter patient data, move rapidly through the menus, perform all available tests and check in real time the correct test execution on the wide colour display. An embedded printer summarizes all the information collected in a comprehensible report.

Applications

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

Accurate & Reliable Flow/ Volume measurements

Pony FX is available with two different choices of flowmeters:

- **Bidirectional digital turbine flowmeter**: practical and accurate, it does not require constant calibration. Easily sterilized and used with disposable antibacterial filters or paper mouthpieces
- **Pneumotach "Flowsafe":** a single-use differential pressure transducer. Extremely accurate also at low flows. It does not require calibration

Both flowmeters comply with the most stringent requirements for accuracy fixed by ATS and ERS.

Key Features

Pony FX hardware has been recently upgraded in order to improve significantly system reliability, power consumption and testing performances.

Main features of Pony FX are:

- Improved color LCD display for real time testing
- Integrated 120mm thermal printer produces high quality reports in few seconds
- Compact size (20x23x6cm) and light weight (1.2 kg)
- Internal memory that can store up to 600 tests/patients for future reference or also to be permanently archived on a PC
- New Li-Ion battery with autonomy of up to 6 hours (charging time 2h10).
- Best test selection and results reproducibility according to ATS 1994 standards
- Quality control messages according to the ATS guidelines for spirometry tests

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)

Turbine flowmeter

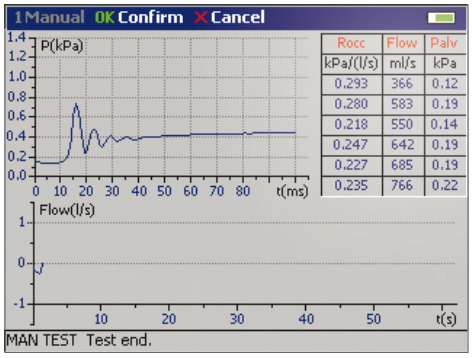
Disposable pneumotach (Flowsafe)

MIP/MEP Pressure Transducer with antibacterial filter and rubber mouthpiece

Easy transport of Pony FX is facilitated by a practical carrying bag

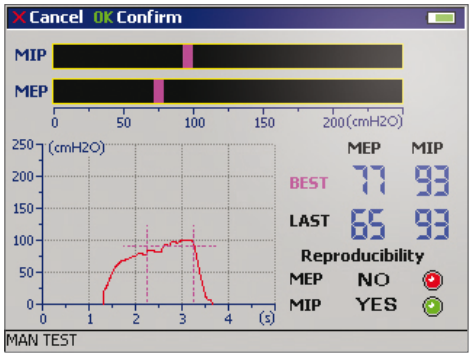
Airway Resistance (R_{occ})

The COSMED Rocc module allows the measurement of airway resistance through the interrupter technique (Rrs, int). This represents a good alternative to body plethysmography, because it requires low patient collaboration and limited capital investment. The Rocc module consists of a special handle incorporating a dedicated low flow PNT and an occlusion valve. The patient is just required to breathe spontaneously through a mouthpiece while an occlusion valve interrupts the airflow for 100 msec.



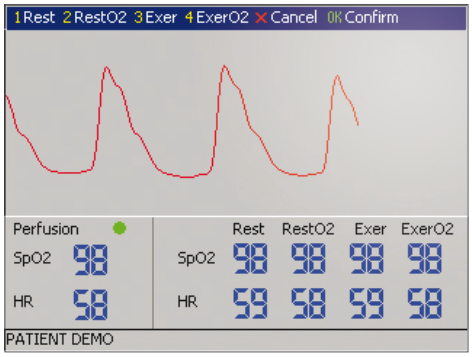
Resp. Mechanics (MIP/MEP)

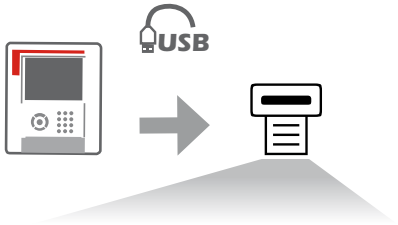
The MIP/MEP is an affordable solution to determine indexes of respiratory muscle strength. The subject is instructed to begin by breathing normally with nose clip in place, perform a maximal expiration/inspiration and then inhale/exhale maximally against the MIP/MEP pressure sensor. In case of an expiratory maneuver, the subject is required to use also a rubber mouthpiece. The mouth pressures recorded during these repeated maneuvers are assumed to reflect respiratory muscle strength and can be followed in real-time directly on the LCD screen.

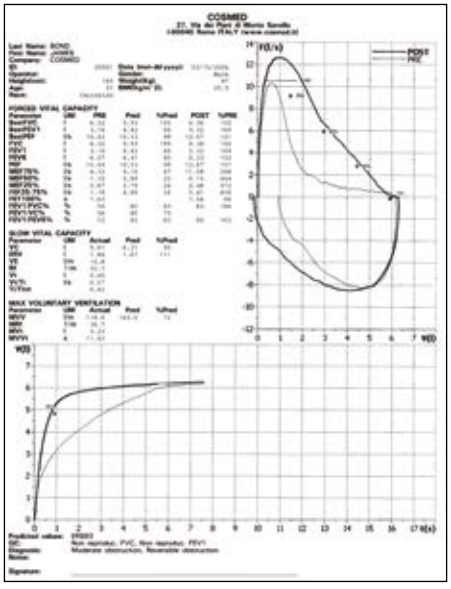


Pulse Oximetry (SpO_2)

Digital pulse oximetry capabilities can be easily integrated with any Pony FX for accurately measuring oxygen saturation during rest or during exercise. The oximeter is based on Nonin technology, whose signal processing technology offers the highest quality standards on the market today. The SpO_2 sensor is fully integrated with the Pony FX and measurements can be viewed in real-time and then printed together with the spirometry results.

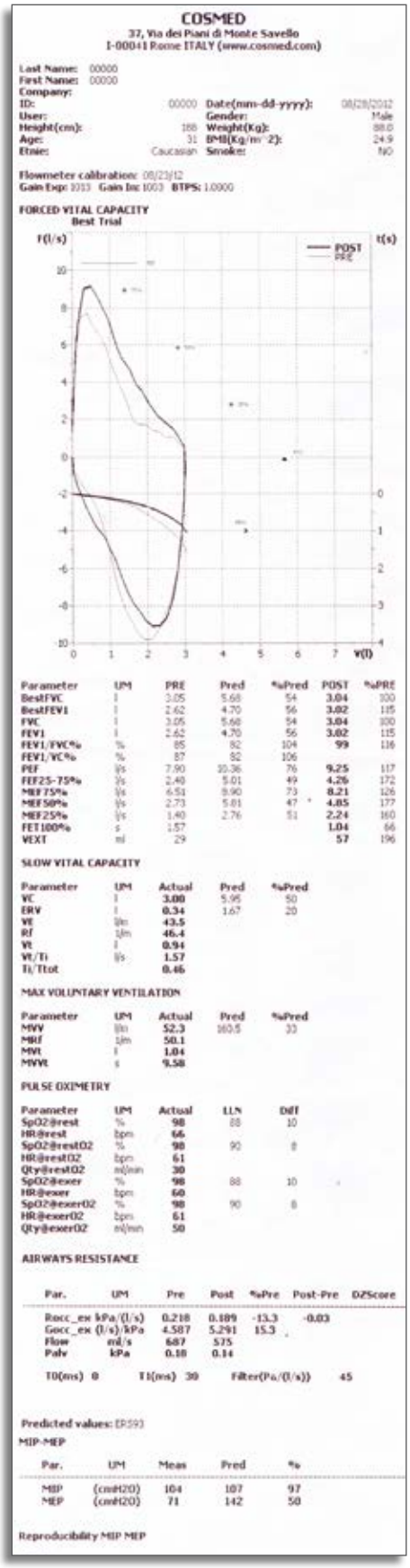






Pony FX allows to print reports with PCL5 compatible printers via direct USB connection

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



Technical Specification

Performed Tests	Pony FX	Pony FX flowsafe	Pony FX MIP/MEP
Forced/Slow Vital Capacity	●	●	●
Maximum Voluntary Ventilation	●	●	●
Respiratory pattern	●	●	●
Bronchial Challenge Test (Pre-Post)	●	●	●
Bronchial Dilator Test	●	●	●
Airway Resistance (Rocc/Rint)	○	○	○
Maximum Exp-Insp Pressure (MIP/MEP)	○		●
Integrated Pulse Oximetry (SpO_2)	○	○	○

Product Features

Flowmeter			
Flowmeter	*Bi-directional Turbine*	*Single-use Pneumotach*	*Bi-direct. Turbine*
Flow Range	*0-16l/s*	*0-14 l/sec*	*0-16l/s*
Volume range	*12 litres*	*12 litres*	*12 litres*
Accuracy of reading	*±2% or 20 ml/s*	*±2% or 20 ml/s*	*±2% or 20 ml/s*
Resistance	*<0.8 cmH_2O/l/s @ 14 l/s*	*<1.0 cmH_2O/l/s @ 14 l/s*	*<0.8 cmH_2O/l/s @ 14 l/s*
Temperature sensor	*0-50° C*	*0-50° C*	*0-50° C*
Pressure Transducer			
Pressure range		*±1,268 cmH_2O (±0,124 kPa)*	*±255 cmH_2O (±25 kPa)*
Accuracy		*0,14 cmH_2O f.s. (10.8% f.s.)*	*±3%*
Resolution		*±0,0015 cmH_2O*	*±0,136 cmH_2O*

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 • SpO_2 • HR • R_occ • G_occ • P_mouth • MIP • MEP

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), ATS/ERS 2007 (Obstruction Reversibility based on Rocc)

Hardware

Interfaces	*USB-A, USB-B, RS 232*
Batteries	*Rechargeable Li-ion batteries (2600 mAh)*
Power supply	*Input: AC 100-240V, Output: DC 12 V*
Dimensions (mm / inc)	*198x238x76 / 7.8x9.4x3*
Weight (Kg / lbs)	*1.2 / 2.6*

Standard Packaging Includes

PC software and user manual, Flowmeter, Flowsafe PNT (only Pony FX Flowsafe), AC/DC adapter (110-240V), USB communication cable, Carrying case, Pediatric mouthpiece adapter, Mouthpieces and nose clips, Anti-Bacterial filters, Thermal paper 12cm (4,7 in), MIP/MEP kit (only Pony FX MIP/MEP).

Available languages

Firmware: English, Italian, French, German, Spanish, Portuguese, Turkish, Chinese (Mandarin), Korean, Greek
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

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

CE 0476

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