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)
- Color 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 and real-time testing on PC

COSMED
Pulmonary Function Equipment

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

An alphanumeric keyboard and navigator tool allow simple user access to all functions: entering patient data, moving rapidly through the menus, performing all available tests, and checking in real-time the correct test execution on the wide color display. An embedded printer summarizes all the information collected into a comprehensible report.

Applications

The Pony FX features can be used in a variety of application fields including:

- Small Clinics
- Family Practice
- General Practitioners
- Occupational Health
- Preventive Medicine
- Sports Medicine

Accurate & Reliable Flow/ Volume measurements

Th Pony FX offers a choice of two different flowmeters:

- **Bidirectional digital turbine flowmeter**: Practical and accurate, and does not require constant calibration. It is easily sterilized and uses 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 required by ATS and ERS.

Key Features

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

The main features of Pony FX are:

- Improved color LCD display for real-time testing
- Integrated 120mm thermal printer for producing high quality reports in only a few seconds
- Compact size (7.8 x 9.4 x 3 in) and light weight (2.6 lb)
- Internal memory that can store up to 600 tests/patients for future reference or permanently archived on a PC
- New Li-Ion battery with life of up to 6 hours (charging time 2hr 10min)
- Best test selection and results reproducibility according to ATS 1994 standards
- Quality control messages according to the ATS guidelines for spirometry tests

PC Software

- Complete database management for patients, diagnosis, clinical report, bronchial challenge protocols
- Advanced features and user-defined protocols to easily manage bronchial challenge tests
- Detailed printing of F/V, V/t, bronchial challenge response graphics, PD 10, 15 and PD 20 calculation
- Pre-Post test with either bronchial dilator or metacholine
- Powerful post-analysis data management with ability to compare tests performed in different test sessions
- Batch print of multiple spirometry tests
- Software encouragement tool for children and non-cooperative patients
- Create custom parameters and user-defined sets of predicted equations
- Customizable printouts according to user needs

Turbine Flowmeter

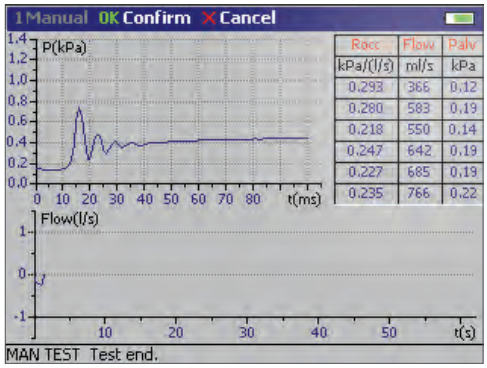
Disposable Pneumotach (Flowsafe)

MIP/MEP Pressure Transducer with Antibacterial Filter and Rubber Mouthpiece

Easily transport the Pony FX with the practical carrying bag

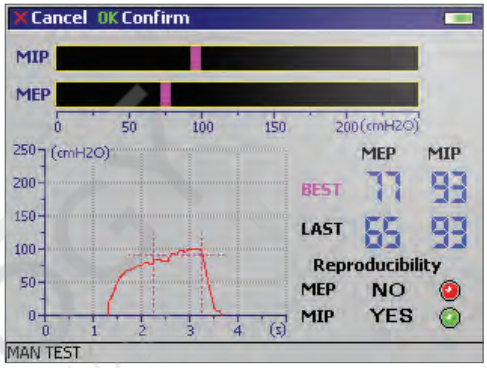
Airway Resistance (R_{occ})

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 compliance and limited capital investment. The Rocc module consists of a special handle incorporating a dedicated low flow PNT and an occlusion valve. The patient breathes spontaneously through a mouthpiece while an occlusion valve interrupts the airflow for 100 msec.



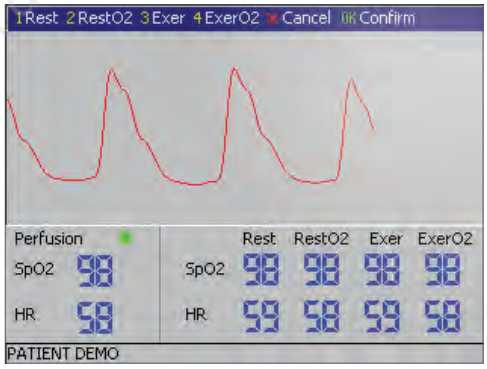
Resp Mechanics (MIP/MEP)

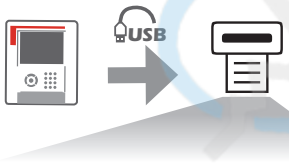
The MIP/MEP is an affordable solution to determine indexes of respiratory muscle strength. The subject is instructed to breathe normally with the nose clip in place, perform a maximal expiration/inspiration, and then inhale/exhale maximally against the MIP/MEP pressure sensor. In case of an expiratory maneuver, the subject is required to also use 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.

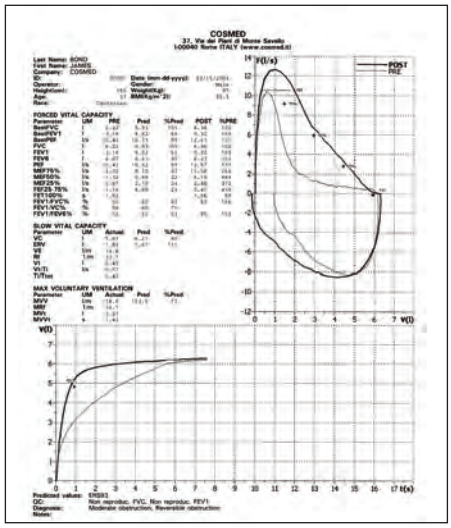


Pulse Oximetry (SpO_2)

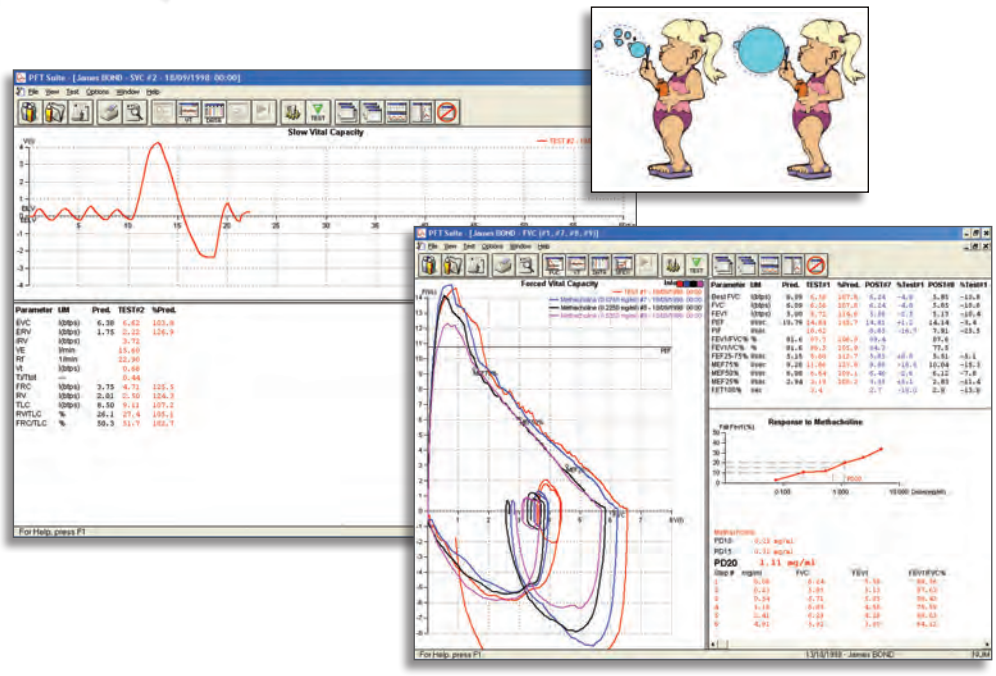
Digital pulse oximetry capabilities can be easily integrated with any Pony FX for accurately measuring oxygen saturation during rest or during exercise. The oximeter is based on Nonin technology, whose signal processing technology offers the highest quality standards on the market today. The SpO_2 sensor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



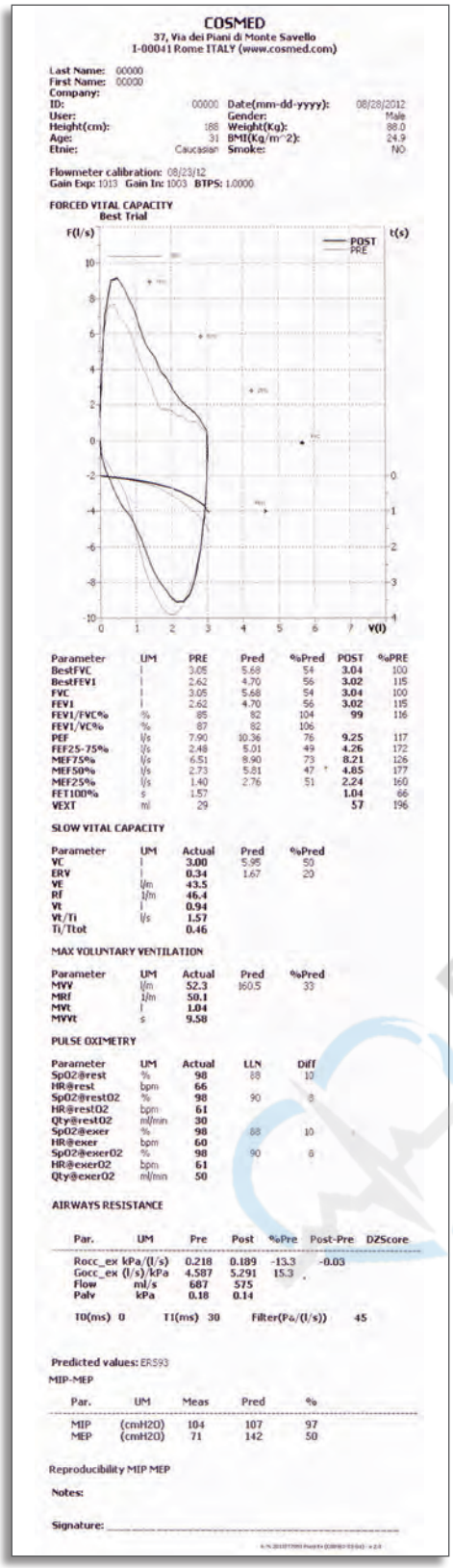




The Pony FX prints reports with PCL5 compatible printers via direct USB connection



Real-time graphic and numeric visualization of spirometry tests



COSMED
37, Via dei Piani di Monte Savello
I-00041 Rome ITALY (www.cosmed.com)

Last Name: 00000
First Name: 00000
Company:
ID: 00000 Date(mm-dd-yyyy): 08/28/2012
User: Gender: Male
Height(cm): 188 Weight(Kg): 88.0
Age: 31 BMI(Kg/m^2): 24.9
Etnie: Caucasian Smoke: NO

Flowmeter calibration: 08/23/12
Gain Exp: 1013 Gain In: 1003 BTPS: 1.0000

FORCED VITAL CAPACITY
Best Trial

F(l/s) POST PRE t(s) V(l)

Parameter	UM	PRE	Pred	%Pred	POST	%PRE
BestFVC	l	3.05	5.68	54	3.04	100
BestFEV1	l	2.62	4.70	56	3.02	115
FVC	l	3.05	5.68	54	3.04	100
FEV1	l	2.62	4.70	56	3.02	115
FEV1/FVC%	%	85	82	104	99	116
FEV1/VC%	%	87	82	106		
PEF	l/s	7.90	10.36	76	9.25	117
FEF25-75%	l/s	2.48	5.01	49	4.26	172
MEF75%	l/s	6.51	8.90	73	8.21	126
MEF50%	l/s	2.73	5.81	47	4.85	177
MEF25%	l/s	1.40	2.76	51	2.24	160
FET100%	s	1.57			1.04	66
VEXT	ml	29			57	196

SLOW VITAL CAPACITY

Parameter	UM	Actual	Pred	%Pred
VC	l	3.00	5.95	50
ERV	l	0.34	1.67	20
VE	l/m	43.5		
Rf	1/m	46.4		
Vt	l	0.94		
Vt/Ti	l/s	1.57		
Ti/Ttot		0.46		

MAX VOLUNTARY VENTILATION

Parameter	UM	Actual	Pred	%Pred
MVV	l/m	52.3	160.5	33
MRF	1/m	50.1		
MVt	l	1.04		
MVVt	s	9.58		

PULSE OXIMETRY

Parameter	UM	Actual	LLN	Diff
SpO2@rest	%	98	88	10
HR@rest	bpm	66		
SpO2@restO2	%	98	90	8
HR@restO2	bpm	61		
Qty@restO2	ml/min	30		
SpO2@exer	%	98	88	10
HR@exer	bpm	60		
SpO2@exerO2	%	98	90	8
HR@exerO2	bpm	61		
Qty@exerO2	ml/min	50		

AIRWAYS RESISTANCE

Par.	UM	Pre	Post	%Pre	Post-Pre	DZScore
Rocc_ex	kPa/(l/s)	0.218	0.189	-13.3	-0.03	
Gocc_ex	(l/s)/kPa	4.587	5.291	15.3		
Flow	ml/s	687	575			
Palv	kPa	0.18	0.14			

T0(ms) 0 T1(ms) 30 Filter(Pa/(l/s)) 45

Predicted values: ERS93
MIP-MEP

Par.	UM	Meas	Pred	%
MIP	(cmH2O)	104	107	97
MEP	(cmH2O)	71	142	50

Reproducibility MIP MEP

Notes:

Signature: _____

Technical Specifications

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

Spirometry			
Flowmeter	Bidirectional Turbine	Single-Use Pneumotach	Bidirectional Turbine
Flow Range	0-16l/s	0-14 l/sec	0-16l/s
Volume Range	12 liters	12 liters	12 liters
Accuracy of Reading	±2% or 20 ml/s	±2% or 20 ml/s	±2% or 20 ml/s
Resistance	<0.6 cmH_2O/l/s @ 14 l/s	<1.0 cmH_2O/l/s @ 14 l/s	<0.6 cmH_2O/l/s @ 14 l/s
Temperature Sensor	32-122°F (0-50°C)	32-122°F (0-50°C)	32-122°F (0-50°C)
MIP/MEP			
Type			Pressure Sensor
Pressure Range			±255 cmH_2O (±25 kPa)
Accuracy			±3%
Resolution			±0,0622 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)

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	7.8 x 9.4 x 3 in (19.8 x 23.8 x 7.6 cm)
Weight	2.6 lb (1.2 kg)

Standard Packaging Includes

PC software and user manual, Flowmeter, Flowsafe PNT (Pony FX Flowsafe only), AC/DC adapter (110-240V), USB communication cable, carrying case, pediatric mouthpiece adapter, mouthpieces and nose clips, anti-bacterial filters, 4.7 in (12cm) thermal paper, MIP/MEP kit (Pony FX MIP/MEP only).

PC configuration required

Pentium or faster, Windows® XP, 2000, 98/95, NT, Vista (32 bit), Windows 7 (32 bit), 32 Mb RAM or more , available USB port, CD-ROM reader, 20 Mb on HD space available, VGA, SVGA, or XGA monitor, Windows®- compatible mouse and printer

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)

CE 0476

Distributed by:

COSMED
Pulmonary Function Equipment

COSMED USA Inc.
California
1850 Bates Avenue
Concord, CA 94520
Toll Free +1 800 426-3763
Phone +1 (925) 676-6002
Fax +1 (925) 676-6005

COSMED USA Inc.
Illinois
2211 North Elston Avenue #305
Chicago, IL 60614

COSMED srl
Headquarters
Via dei Piani di Monte Savello 37
Rome 00041 ITALY
Phone +39 06 931-5492
Fax +39 06 931-4580

cosmed.com