Resmon™ Pro FULL V3

The new Forced Oscillation Technique





THE RESMON PRO FULL V3

THE NEW FOT SYSTEM, NOW MADE EVEN EASIER

Following the success of the Resmon™ Pro Full version V2, we introduce the Resmon™ Pro Full V3: a higher level in Oscillometry (FOT). This new advanced device uses the same superior measurement calculation algorithms and reporting with redesigned user interface, large color display and faster electronics. **It has never been easier to accurately and non-invasively evaluate patients with COPD, adult and pediatric Asthma as well in rehabilitation, airways clearance technique evaluation in physiotherapy and safe, sensitive, fast measurements on post-covid patients.**
All it takes is a few normal tidal breaths.

The Resmon Pro Full V3 uses the forced oscillation technique (FOT) to measure the mechanical properties of the lung and airways. FOT easily assesses the respiratory system's response to small pressure oscillations sent to the opening of the airway into the lungs at different frequencies. The Resmon Pro Full V3 is an essential tool for all patients including individuals who cannot perform spirometry, elderly, pediatric and those with neuromuscular diseases.

The Resmon Pro Full V3 can provide a simple, effort-independent way to detect airways obstruction and localizing it as peripheral, central or heterogeneous. During the test, the Resmon Pro Full V3 will measure small and central airways function and also assess tidal expiratory flow limitation (EFL) in adults while aiding in bronchial reversibility testing or trending it over time for therapeutic monitoring.

With such versatility, the Resmon Pro Full V3 is ideal for virtually any testing environment—including pulmonary laboratories, at the bedside, private offices, on-site school or workplace settings and sites for clinical trials or research studies.

RESMON PRO FULL V3 SYSTEM
DESIGNED, DEVELOPED, PRODUCED AND SUPPORTED BY EXPERTS

The Resmon Pro Full V3 is the result of more than 15 years of research conducted in cooperation with key scientific, clinical and research centers in Europe, US and Australia.

GREAT FEATURES FOR CLINICAL AND RESEARCH USE "WITHIN-BREATH" ANALYSIS OF BREATHING PATTERNS AT FAST SAMPLING FREQUENCY (200 Hz)
- Real-time display of resistance (Rrs), reactance (Xrs), flow and volume
- Accurate measurement of inspiratory, expiratory and total parameters
- Full respiratory pattern measurement and reporting of VE, Vt, RR, Ti/Ttot, Vt/Ti, Vt/Te

THREE MEASUREMENT MODES:
- Innovative "enhanced optimized" multi-frequency mode of 5-11-19 Hz
- Single-frequency mode options of 5, 6, 8, 10 Hz (for children, severely obstructed patients and special research purposes)
- "Enhanced optimized" Pseudo Random Noise (PSRN) of 5-37 Hz

EXCLUSIVE "10 ACCEPTED BREATHS" MODE WITH AUTOMATIC END-OF-TEST
- Comfortable testing for the patient with an automatic discard of non-physiological and non-coherent breaths, choice of number of accepted breaths, 10, 15, 20 etc. to end the test automatically, minimizing operator intervention.
- CoV% (coefficient of variation) within-measurement and within-session with color coded warning, for optimal quality control with multiple trials capability (up to 5 measurements in one session with automatic selection of the best 3)
- Operator accessible screen, post-test, to view and edit accepted as well as discarded breaths and recalculate CoV% and average results.
- Z-score for predicted normal value % calculation.

TRENDS FUNCTION
- User defined trend graphs, 2 parameters per graph, up to 4 trend graphs

AUTOMATIC STIMULUS ADJUSTMENT
- Automatic adjustment of stimulus amplitude based on patient impedance to maximize measurement quality and for optimal patient comfort

MINIMAL DEAD SPACE of only 35 ml

PATENTED, AUTOMATIC DETECTION AND QUANTIFICATION OF EXPIRATORY FLOW LIMITATION (EFL) WITH ΔXRS INDEX GRAPH AND % OF FLOW LIMITED BREATHS (FL%), ALSO USED FOR PRE-POST BRONCHODILATOR OR PRE-POST TREATMENT EVALUATION (PATENT NR. WO2003103493).

NEW SLOW VITAL CAPACITY TESTING *(not available in the US, not FDA approved)*
- SVC for monitoring of restrictive patterns
- IC for hyperinflation detection, pre-post testing for evaluating effect treatment

NEW sGrs PARAMETER *(not available in the US, not FDA approved):*
upon entering manually TLC or FRC, Resmon performs the calculation and display of all lung subdivisions and sGrs, specific conductance of the respiratory system, a resistance related parameter not influenced by lung volumes.

CONVENIENT SIZE AND FUNCTIONS:

- Self-contained and compact unit with password access, built-in PC, with data transfer on USB memory stick and directly to PCs via USB-OTG.
- Easily transportable allowing for testing at the bedside, in the lab and at off-site locations (school, office, etc.)
- Quiet operation with automatic “active-wash” silent fan for expired CO_2 removal from the system.
- Suitable for children, 35 ml dead space.
- Unique impedance verification tube included, to daily check the accuracy of both resistance (Rrs) and reactance (Xrs) before the first daily trial using an automatic, software driven procedure.
- Wide 10.1 in (25.7 cm) high-resolution color touchscreen for fast, easy and intuitive test management.
- Built-in database to store, retrieve, edit or delete patient data.
- Multi-user access with password protected data security.
- Detailed report of results for further trending, analysis and statistics. Data available in RAW waveform data, XSL/CSV and PDF output as well as export to external PC.
- PDF report can be shared through USB connection to any PC, for direct, safe transfer connection and data protection.
- Connectivity options, USB and HDMI ports, becomes a full PC with external keyboard, mouse, screen or projector.



OPTION: for forced spirometry and true, pulmonary volumes, to confirm hyperinflation conditions, TLC, RV, the gold standard of Body Plethysmography, the PFS Body Box with Expair II software can integrate data from the Resmon Pro Full V3 in a combined data base and combined report



OPTIONS: to complete the patient picture in Asthma management programs, early detection of asthma or medication control integrate as a “ASTHMA COMBO” system your Resmon Pro Full V3 with :

FeNO+®: desktop FeNO analyzer, PC driven with Expair II software with new:

- Measurement of bronchial FeNO at standard flowrate (50 ml/s)
- Multi-flow mode (4 levels) with extended analysis of alveolar and bronchial compartments
- Off-line NO analysis
- Nasal NO analysis by 2 sampling methods (optional)
- Spirometry (optional)



FeNObreath®: Portable, small, powerful bronchial FeNO system, with memory, incentive screen for adults and pediatrics.



PUBLICATIONS

The Resmon Pro FULL V3 has been used in a wide selection of publications for clinical and research uses in asthma, COPD, evaluation of airways clearance therapies and post-covid 19 patients monitoring.
Updated list available upon request.

SPECIFICATIONS:



Flow measurement	Mesh type
Range	± 1.5 L/s
Linearity	± 2%
Mouth pressure	+/- 25 cm H_2O 0.05% full scale
Physical Dimensions	Height: 12.2 in (31 cm) Width: 11.4 in (29 cm) Depth: 10.2 in (26 cm)
Weight	14.7 lbs (6.4 kg) with support arm. Device only 9.4 lbs (4.3 Kg)
Testing "Within Breath" Signals Mode	
Single Frequency	5, 6, 8, 10 Hz
Multiple Frequency	5 + 11 + 19 Hz
Pseudo Random Noise (PSRN)	5-37 Hz

DESIGNED, DEVELOPED AND MANUFACTURED BY:
RESTECH
RESPIRATORY TECHNOLOGY
www.restech.it
Manufacturer Ref Code: RT1100

CE 0051

Measurement Accuracy	
Impedance Parameters	≤ ± 0.1 cmH_2O/(L/s) or ≤ ± 9% of the measured value
Breathing Pattern Parameters	≤ 10% of the measured value
Volume Parameters	≤ ±100 ml or ≤ ±3.5% of the measured value
Environmental Sensor*	
Temperature	± 1°C, Humidity: ±3% (relative humidity),
Pressure	± 100 Pa **not available in US not FDA approved*
Calibration	Factory calibration according to international recommendations + auto-zeroing of the sensors before each measurement Calibration check with a test object (supplied with the device) and with a 3L calibration syringe (not supplied with the device), required for the measurement of slow spirometry volumes (not available in the US, not FDA approved).
Patient Load	0.55-0.69 cm H_2O/L/s in the frequencies of normal breathing (0.1-1 Hz)
Dead Space	35 ml
Connectivity	2 full-speed (2.0) USB ports | 1 USB-OTG Ethernet 10/100/1000 HDMI
Processor and Memory	Dual core architecture, including a Cortex™ - A9 1GHz processor, 1GB RAM, 8 GB flash memory
Display	10.1" HD olor display with multi-touch capacitive touchscreen and anti-glare film *(can be used with medical gloves)*
Electrical Specifications	
Power Supply	Medical grade 100/240 V, 50/60 Hz 60 W input AC/15 VDC output
Stand-by Current	500 mA
Average Current	1500 mA
Materials External Case	ABS
Support Arm	Aluminum
Loudspeaker Membrane	Silicone rubber
Certification	European MDD 93/42 - CE | US FDA (K152585) | Australia TGA | Health Canada | Japan

Part# 1121REEN

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