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, we introduce the Resmon PRO FULL (V3) - a higher level of FOT. This new generation of the device uses the same superior measurement calculation algorithms and reporting with a wider color display interface and faster electronics. It has never been easier to accurately and non-invasively evaluate patients with COPD, adult and pediatric Asthma as well as airways clearance technique in physiotherapy. 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 acoustic waveforms 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) and flow.
  - 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 (PSN) 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.
  - Operator accessible screen, post-test to view and edit accepted as well as discarded breaths and recalculate CV% and average results.
  - CV% (coefficient of variation) within-measurement and within-session with color coded warning, for optimal quality control with multiple trials capability (up to five measurements in one session wth automatic selection of the best three).
  - Z-score for predicted normal value % calculation.
- 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 35CC
- 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).

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 other professional healthcare environments.
- Quiet operation with automatic “active-wash” silent fan for expired CO2 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.

PUBLICATIONS

The Resmon PRO FULL has been used in a wide selection of publications for clinical and research uses in asthma, COPD and evaluation of airways clearance therapies. Updated list available upon request.

SPECIFICATIONS

FLOW MEASUREMENT	Mesh type
RANGE	±1.5 L/s
LINEARITY	±2%
MOUTH PRESSURE	Range: ±25 cm H_2O
MOUTH PRESSURE LINEARITY	0.05% full scale
RESOLUTION	0.015 cm H_2O

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	MULTIPLE FREQUENCY	PSEUDO RANDOM NOISE (PSRN)
	5, 6, 8, 10 Hz	5 + 11 + 19 Hz	5-37 Hz

MEASUREMENT ACCURACY	FOR IMPEDANCE PARAMETERS	FOR BREATHING PATTERN PARAMETERS	FOR VOLUME PARAMETERS
	≤ ± 0.1 cmH2O/L/s or ≤ ± 10% of the measured value	≤ 10% of the measured value	≤ ±50 mL or ≤ ±3.5% of the measured value

PRESSURE	± 100 PA
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)
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 in (25.7 cm) HD color display with multi-touch capacitive touchscreen and anti-glare film (can be used with medical gloves)
ELECTRICAL SPECIFICATIONS	Medical grade 100/240 V, 50/60 Hz 60 W input AC/15 VDC output power supply (included)
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

**Some parameters or features may not be available in all Countries.*

DESIGNED, DEVELOPED AND MANUFACTURED BY:

RESTECH
RESPIRATORY TECHNOLOGY

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350 Oak Grove Parkway St. Paul, Minnesota USA 55127-8599

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