Resmon™ Pro

Forced Oscillation Technique
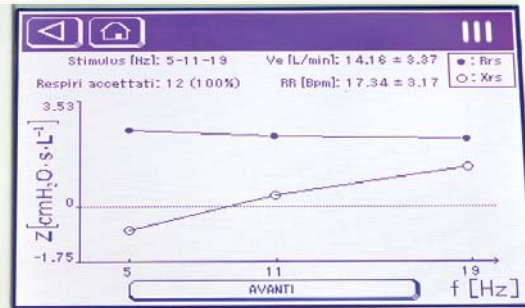
The Resmon Pro is a professional, stand-alone device for non-invasively diagnosing and evaluating pulmonary diseases. Technologists love the Resmon Pro because it is accurate, versatile and efficient. Patients love it because it is fast and easy to use.

The Resmon Pro uses the forced oscillation technique (FOT) to measure the mechanical properties of the lung and airways. FOT is unique because it assesses the respiratory system's response to small-pressure stimuli applied to the opening of the airway during normal breathing.

With just a few normal tidal breaths from the patient, the Resmon Pro can do its job—identifying standard breathing patterns, detecting expiratory flow limitation (EFL), assessing airway obstructions, and evaluating bronchial reversibility and bronchial challenge. The Resmon Pro is an essential diagnostic tool for measuring respiratory function in individuals who cannot perform spirometry—including elderly or pediatric patients and patients with neuromuscular disease.

With such versatility, the Resmon Pro is ideal for virtually any testing environment—including laboratories, private offices, industrial settings, and sites for clinical trials or research studies.

MGC DIAGNOSTICS®
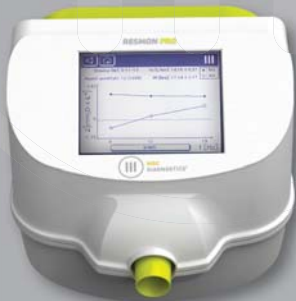
The Resmon Pro requires no personal computer and is a complete stand-alone system for evaluating pulmonary function. It includes:

- A wide touchscreen for fast, easy and intuitive test management
- Several built-in measurement protocols, including
  - Classical pseudorandom noise (5–37 Hz)
  - Within-breath single (5, 6, 8, 10 Hz) frequency
  - Innovative within-breath multiple (5 + 11 + 19 Hz) frequency
- Built-in database to store and retrieve patient data
- Multi-user access with data security
- Detailed report of results
- Connectivity options

TECHNICAL DATA

FLOW MEASUREMENT	Range: ±2 L/s Resistance: 0.4 cm $H_2O/L/s^{-1}$
MOUTH PRESSURE	Range: ±25.5 cm H_2O
TEST SIGNALS	Within-breath protocols: Single (5, 6, 8, 10 Hz); multiple (5 + 11 + 19 Hz)
	Pseudorandom noise (PRN): Multiple 5-37 Hz
CALIBRATION	Factory calibration according to international guidelines + auto-zeroing of the sensors before each test + calibration check with a test object (provided) for both resistance and reactance

FOT PARAMETERS

Within-breath analysis

Single/multiple frequency	R_{insp}: Mean inspiratory resistance R_{exp}: Mean expiratory resistance R_{tot}: Mean resistance X_{insp}: Mean inspiratory reactance X_{exp}: Mean expiratory reactance X_{tot}: Mean reactance
EFL index	ΔX_{rs} for detection of expiratory flow limitation
Heterogeneity index	R_{5-19}: Degree of heterogeneity of airway obstruction

PRN

Resistance and reactance frequency spectra
f_{res}: Frequency of resonance
R_0: Resistance at the breathing frequency

BREATHING PATTERN	T_i: Inspiratory time	V_t: Tidal volume	RR: Respiratory rate
	T_e: Expiratory time	V_t/T_i: Mean inspiratory flow	
	T_i/T_{tot}: Respiratory duty cycle	V_t/T_e: Mean expiratory flow	

CONNECTIVITY	2 USB ports for external peripherals Ethernet 10/100, GPRS modem, 56k analog modem (optional) *Bluetooth*® wireless technology module (optional) to communicate with external devices (e.g., pulse oximeter, ECGs)
PROCESSOR AND MEMORY	Dual core architecture, 64 MB RAM, 4 GB flash memory
DISPLAY	5.7" LCD backlit touchscreen display
ELECTRICAL SPECIFICATIONS	100/240 V, 50/60 Hz 60 W input AC/15 VDC output power supply (included)
CERTIFICATION	MDD 93/42 EEC

CE 0068

Part# 060120-001 RevB