

Forced Oscillations Technique (FOT), the reference method for respiratory mechanics in children



- ▶ Total Respiratory Impedance measurement by Pseudo Random Noise Signal
- ▶ No cooperation required from the patient
- ▶ Ideal for assessing lung function in pre-school children
- ▶ Quick and easy assessment
- ▶ Accurate, reliable and reproducible technique
- ▶ Suitable for Quark PFT, Q-Box and Quark Spiro

The Q-i2m module is a forced oscillation technique (FOT) system for the measurement of the mechanical properties of the respiratory system, total respiratory input impedance (Z_{rs}), under tidal breathing conditions. FOT employs small-amplitude pressure oscillations superimposed on the normal breathing and, therefore, has the advantage of not requiring the performance of complex respiratory manoeuvres.

The FOT test is simple and fast; it is performed with the patient breathing normally into the measuring device making the test ideal for uncooperative patients or for those unable to perform forced expiratory manoeuvres, such as children or elderly people.

Q-i2m superimposes a random signal to the patient's breath and measure the respiratory apparatus response. The acoustic pulses are sent to the mouth at high frequency in casual sequence (Pseudo Random Noise - PRN).

Q-i2m measures pressure and flow at the subject's mouth while an imperceptible, low intense and high frequency (5-37 Hz) pressure signal is applied. Elaborating flow and pressure signals, Quark i2m provides respiratory impedance measurement (Z_{rs}) and its two components: resistance (R) and reactance (X).

Q-i2m module is suitable for COSMED Quark PFT, Q-Box and Quark Spiro, allowing thus the operator to manage, with one single PC program, tests of respiratory mechanics, diffusing lung capacity, static and dynamic lung volumes.