

The Rocc module for measurement of Airway Resistance in children and uncooperative patients



- ▶ Interrupter technique (Rint)
- ▶ High reproducibility and correlation with body plethysmography tests
- ▶ Ideal for testing non collaborative, critically ill patients and children
- ▶ Simplified test manoeuvre
- ▶ Easy to clean and disinfect
- ▶ Scientifically validated

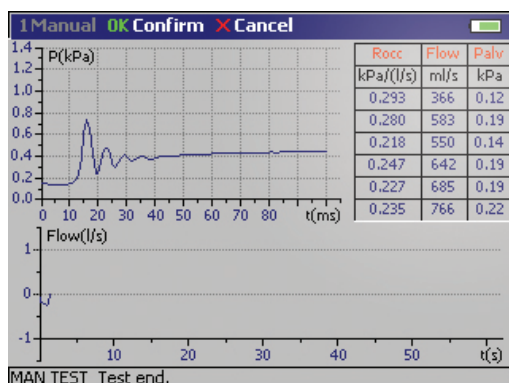
The COSMED Rocc module allows the measurement of airway resistance through the interrupter technique (Rint). This test can represent a good alternative to body plethysmography, because it requires low patient collaboration and limited capital investment.

The patient is just required to breathe spontaneously through a mouthpiece while an occlusion valve interrupts the airflow for a fraction of time (msec). The occlusion is virtually imperceptible to the patient, but long enough to allow the instantaneous measurement of the pressure at the mouth, back extrapolate the alveolar pressure and thus calculate the airway resistance.

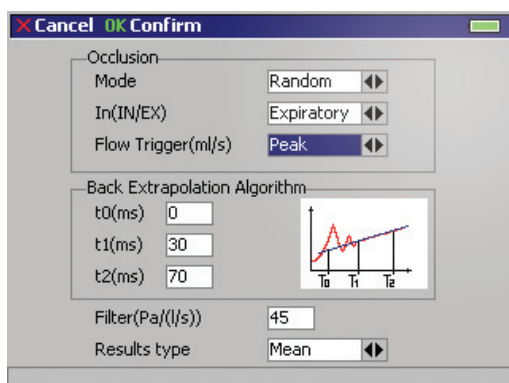
The simplicity of the interrupter technique is particularly appreciated with non-collaborative patients (critically ill, acute asthma, geriatric and unconscious patients, neonates, pre-school children).

The interrupter technique is based on the principle that the alveolar pressure (Pa) is closely linked to the pressure at the mouth (Pm) during a transient air-flow interruption. Airway resistance (kPa/l/s) is thus the ratio between the pressure at the mouth and flow value before the interruption.

The COSMED Rocc module consists of a special handle incorporating a dedicated low flow pneumotach and an occlusion valve. All these components can be easily disinfected and AV/AB filters can be used to eliminate the risk of cross contamination. Bronchial dilation tests may also be performed and results stored and printed together with predicted values in a comprehensive graphic and numeric format. Operator may choose to actuate the occlusion valve manually or let the microprocessor automatically randomize the flow interruptions.



Real time Rocc test (Pony FX LCD screen).



Complete configurability of settings, including flow trigger (ml/s) and back extrapolation algorithm (t0, t1, t2) (Pony FX LCD screen)

Technical Specifications

Product	Description	REF
Rocc Module	Module for airway resistance measurements	C02650-01-11
Standard packaging	Rocc unit, Pneumotachograph (2pcs.)	
Hardware		
Flowmeter	Dedicated low flow pneumotach	
Power	No power required	
Back extrapolation algorithm	Free customization of t0, t1, t2 and Trigger flow algorithm	
Measured Parameters		
Rocc_ex, Gocc_ex, Rocc_in, Gocc_in, Trigger Flow, Bronchial challenge		

References:

P.J. Chowienzyk, C.P. Lawson, S. Iane, R. Johnson, N.Wilson, M. Silverman, G.M. Cochrane: "A flow interruption device for measurement of airway resistance" (EUR Respir. J 1991, 4, 623-626)

G. Liistro, D. Stanescu, D. Rodenstein, C. Veriter: "Reassessment of interrupter technique for measuring flow resistance in humans" - (J. Appl. Physiol. 67(3): 933-937, 1989)

Validation:

E. Lombardi, et al. "Comparison Of Two Devices For Assessment Of Interrupter Resistance In Preschool Children", Am J Respir Crit Care Med 185:2012:A6148



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