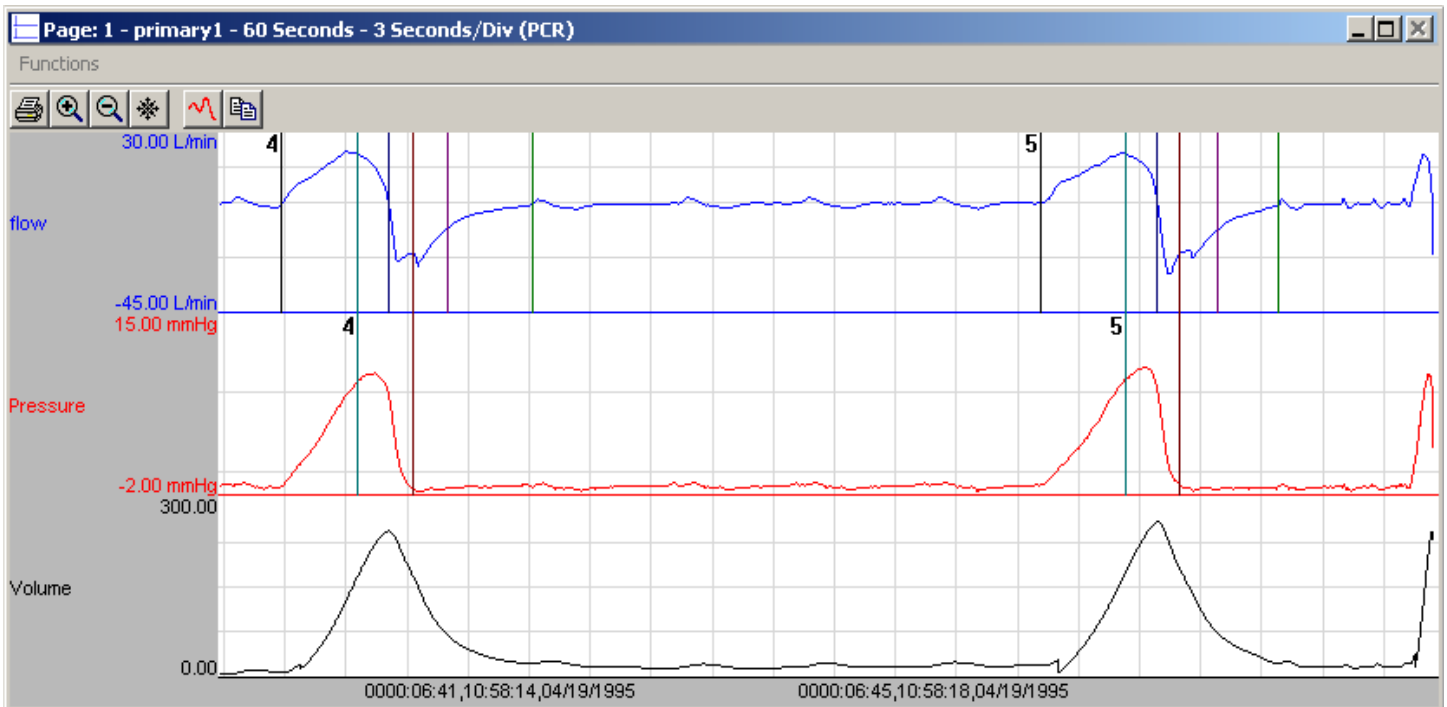




Pulmonary Compliance & Resistance

The Pulmonary Compliance and Resistance (PCR) Analysis Module computes physiologically meaningful parameters from digitized pulmonary flow/volume and pressure data. The analysis functions by applying a series of logical tests to the digitized flow and pressure signals using criteria selected by the user. The software analysis module can analyze pulmonary flow and pulmonary pressure signals derived from either a plethysmograph chamber or a pneumotach. Values for these derived

signals are calculated on a breath-to-breath basis for each respiratory cycle. The graph below displays a typical pulmonary flow signal and pulmonary pressure signal with the digitally integrated volume signal. Validation tick marks and their explanations are also displayed. The validation marks provide visual, on-line verification of the accuracy of the system. The parameters on the following page are calculated by the analysis module either in real-time or during subsequent analysis.



Technical Data Sheet

Model PNM-PCR100W

Pulmonary Compliance and Resistance Analysis Module

Name	Definition
Num	The number of the respiratory cycle.
PIF, PEF	Peak Inspiratory Flow, Peak Expiratory Flow.
TV, MV	Tidal Volume, Minute Volume.
BPM	The number of breaths-per-minute is calculated on a breath-to-breath basis.
IT, ET, TT, AT	Inspiratory Time, Expiratory Time, Total Time, Apnea Time.
Cdyn, Res, Cond	Compliance, Resistance, Conductance.
ResI1, ResI2, ResE1, ResE2	Resistance calculated at various points of inspiration and expiration.
CAvg, RAvg	Compliance and Resistance value averaged.
PInspS(P1), PExpS(P2), PISO1(P3), PISO2(P4)	Pressure value at different time points of flow signal.
FISO1(F1), FISO2(F2)	Flow on clearing isovolumic levels during inspiration and expiration.
PEnh	Enhanced Pause. Calculated as: $((ET+AT)/RT-1)*(PEF/PIF)$. Formula from Noninvasive Measurement of Airway Responsiveness in Allergic Mice Using Barometric Plethysmography Hamelmann et al.
RT	Relaxation Time.
WOBi, WOBe, WOB	Work of Breathing Inspiration, Work of Breathing Expiration and Work of Breathing (sum)
POBi, POBe, POB	Power of Breathing Inspiration, Power of Breathing Expiration and Power of Breathing (rate at which work was performed over inspiration and expiration).
TVe	The difference between the volume at the start of expiration mark and the volume at the point prior to the next cycles start inspiration mark.
AVol	Accumulated volume.
IF50	Inspiratory flow value at the point where the volume signal rises to 50% of the tidal volume.
EF50	Expiratory flow value at the point where the volume signal drops to 50% of the tidal volume.

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