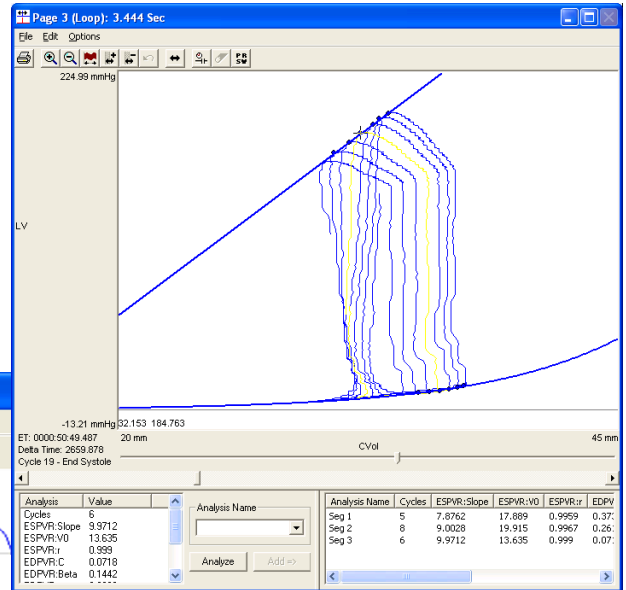
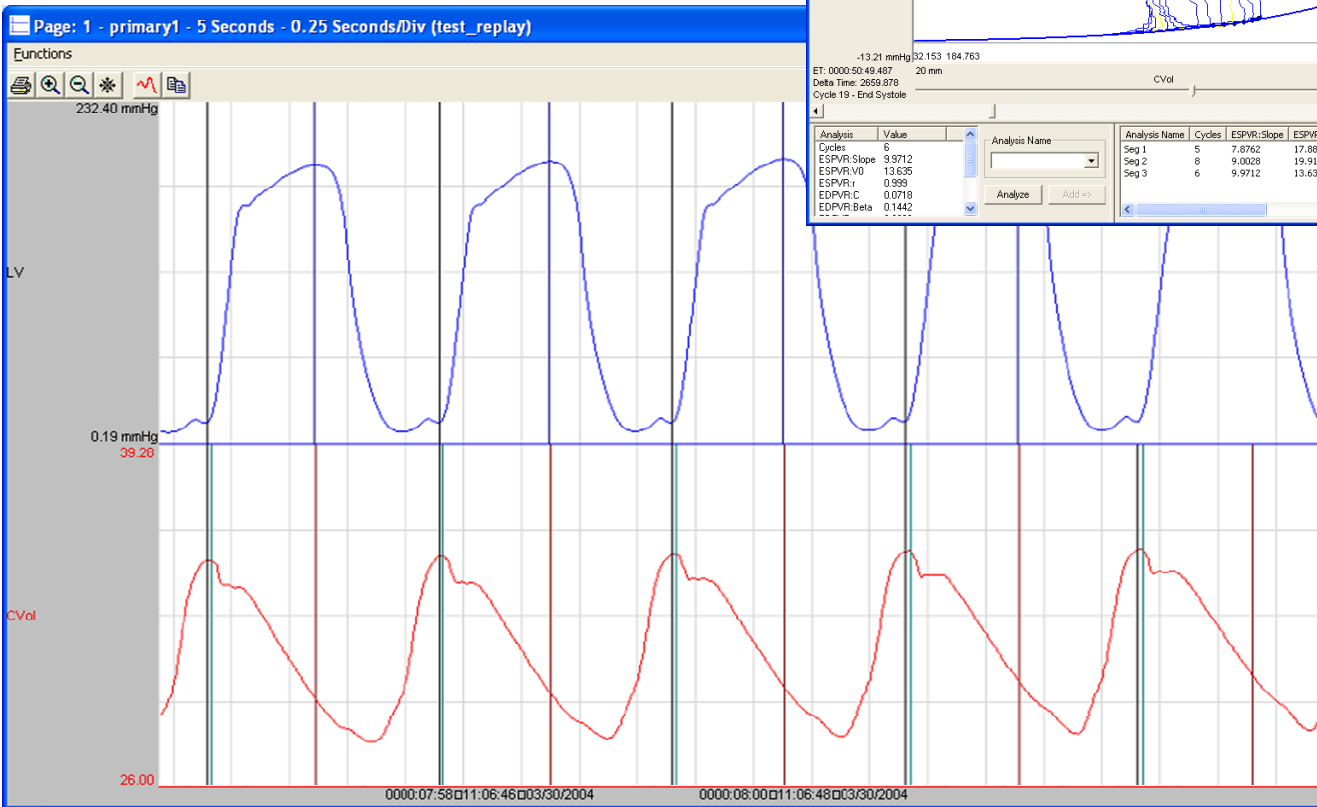




# Cardiac Volume

The Cardiac Volume (CVOL) Analysis Module can analyze any volume from the circulatory system and can derive on a beat-to-beat basis values for the cardiac cycle. On-line validation marks provide the user with visual documentation that the real time analysis is providing appropriate cycle recognition. Upon cycle recognition, the analysis calculates values for a host of parameters such as volumes and pressures related to the cardiac cycle, filling and emptying rates, as well as Stroke Work and continuous Cardiac Output.

Additional features built into the Data Review functionality allow the Cardiac Volume channel and LVP channel to be analyzed in a post process mode by the Pressure-Volume Loop analysis. Pressure-Volume Loops permit the display and analysis of left ventricular pressure cycles plotted against cardiac volume cycles.



# Technical Data Sheet

## Model PNM-CVOL100W

### Cardiac Volume Analysis Module

Name	Definition
Num	The number of the cardiac cycle.
Vmin	The minimum volume value in a cycle.
Vmax	The maximum volume value in a cycle.
SV	The stroke volume, which equals Vmax - Vmin.
-dPV	The volume at the LVP Min Slope mark.
Ped	The pressure at the LVEDP mark.
Ved	The volume at the LVEDP mark.
%EF	Ejection fraction, calculated as Stroke Volume/Vmax * 100.
PFR	Peak filling rate.
-dV	Peak emptying rate.
TPFR	Time to peak filling rate.
DFT	Diastolic Filling Time.
%FT	Time to peak filling as a percentage of Diastolic fill time, equals TPFR/DFT * 100.
Pes	Pressure at max elastance.
Ves	Volume at max elastance.
SW	Stroke Work.
Ea	Arterial elastance.
HR	Heart rate. Computed in beats-per-minute.
CO	Cardiac output.

#### Pressure-Volume Loop analysis features and calculations.

Cuvette Calibration—Catheter Selection	Choose from 40 pre-defined PV catheters for volume calibration during acquisition.
Parallel Volume calculation	Volume component due to parallel conductance. Parallel volume is subtracted from summed volume signal by means of a saline bolus injection or input of empirical data.
Alpha Correction Factor	Reconcile the volume obtained using conductance technology with the volume obtained by other means. Stroke Volume is divided by Alpha.
ESPVR (End Systolic PV Relationship)	Slope, X intercept, correlation coefficient.
EDPVR (End Diastolic PV Relationship)	$\alpha$ , $\beta$ , X intercept, correlation coefficient.
PRSW (Pre Recrutable Stroke Work)	Slope, X intercept, correlation coefficient.

*DSI products are not intended for the purposes of diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, or used as a life support device. Use of DSI products are solely for the purposes of conducting life science research.*