

LEYCOM CFL-512

Cardiac Function Laboratory

Main Features

Hardware

Console

- Pentium Celeron (+), 1.2 GHz (+)
- Dedicated hardware for :
 - Acquisition of external signals
 - Communication with patient module
 - Patient module battery management
- Monitor, NEC MultiSync 1250
- Data storage, 40 Gb (+) harddisk
- Zip - drive 250 MB
- Laser printer, HP LaserJet 2100 (+)
- Drip-proof keyboard with trackball and two buttons

Patient module

- Catheter connector: 16 pole Binder
- Battery powered
- 180 min continuous use when fully charged
- Communication with console via fibre optic cable
- AD conversion: 250 samples/second, 12 bit accuracy

Patient safety

- Battery powered patient module
- Communication via fibre optic cable
- Inductive battery charger

Software

CONDUCT NT (Windows)

- Improved study management
- Extended patient data input screen

ACQUISITION

Real-time display

- New real-time indices
- Extended views
- Calibrated real-time signals

Data acquisition

- Automatic file naming
- Attached comments
- 250 samples/seconds, 12 bit accuracy
- 8 internal (patient module) and 6 external signals

Calibration of external signals

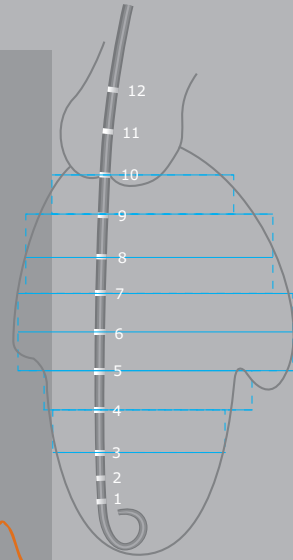
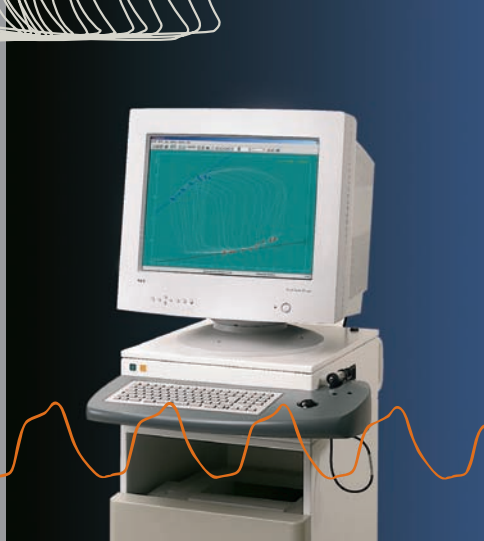
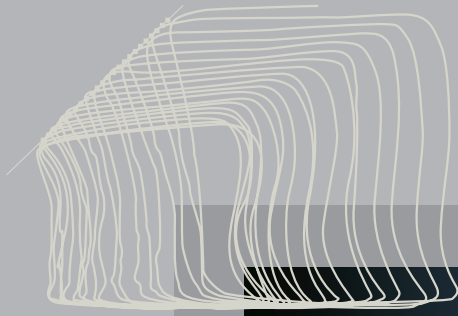
- Conversion to user units
- Resolution optimisation

ANALYSIS

- Display of acquired data
- Calculation of calibration factors for conductance-volume
- Analysis of pressure-volume relations
- Calculation of haemodynamic indices
- Print/save graphs and reports



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LEYCOM CFL-512

Cardiac Function Laboratory

*Real time quantitative assessment
of Cardiac Function*

LEYCOM CFL-512

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The Leycom CFL-512 has been designed and developed specifically for use in the clinical environment to provide real-time, load independent, quantitative assessment of global myocardial function and ventricular mechanical dyssynchrony analysis.

Quantitative assessment of cardiac function provides diagnostic information which can assist in selection of the most appropriate available therapy.

The Leycom CFL-512 provides accurate acquisition, display and storage of myocardial function data.

Employing the conductance catheter technique, the Leycom CFL-512 acquires and displays Pressure-Volume data in real time. The conductance technique has been documented by more than 600 peer reviewed publications and is the standard for ventricular volume measurement. Stored data can be subsequently analysed to provide a broad range of relevant clinical information on a beat-to-beat basis. This includes indices of myocardial contractility and other haemodynamic variables.

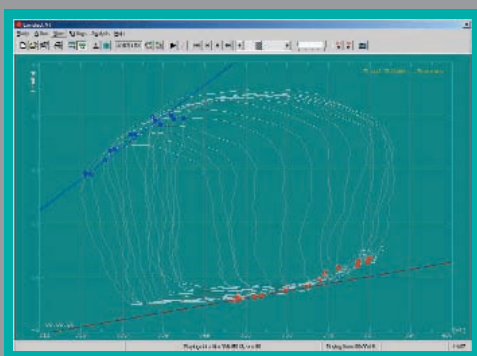
The real-time systolic and diastolic data obtained with the Leycom CFL-512 in varying loading conditions, are the basis for quantification of the nature and stage of the disease process, allowing characterisation of systolic and diastolic heart function.

Specific parameters of myocardial function derived by the Leycom CFL-512 include:

- End Systolic Pressure Volume Relation (ESPVR)*
- End Diastolic Pressure Volume Relation (EDPVR)*
- Preload Recrutable Stroke Work (PRSW)*
- Pressure Volume Area (PVA)*

The Leycom CFL-512 determines in real-time general haemodynamic variables including:

- Stroke Volume*
- Cardiac Output*
- Ejection Fraction*
- Stroke Work*
- End-diastolic and end-systolic volume*
- Peak ejection rate and peak filling rate*
- End-diastolic and end-systolic pressure*
- +dP/dt, -dP/dt, Tau (Diastolic stiffness constant)*
- Ventricular segmental and total mechanical dyssynchrony*



Single catheter procedure

Continuous intraventricular monitoring of pressure and volume is achieved simply and efficiently by introducing a single, 12-electrode, pigtail combination conductance catheter. The catheter incorporates a high fidelity, solid-state sensor for the measurement of ventricular pressure.

Typical applications for the Leycom CFL-512

The stand alone fully integrated Leycom CFL-512 can be used in a variety of clinical environments making possible the assessment of myocardial function in a range of diagnostic and therapeutic procedures including:

Cardiac catheterisation laboratory

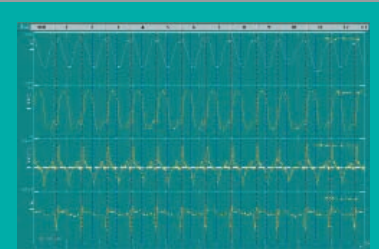
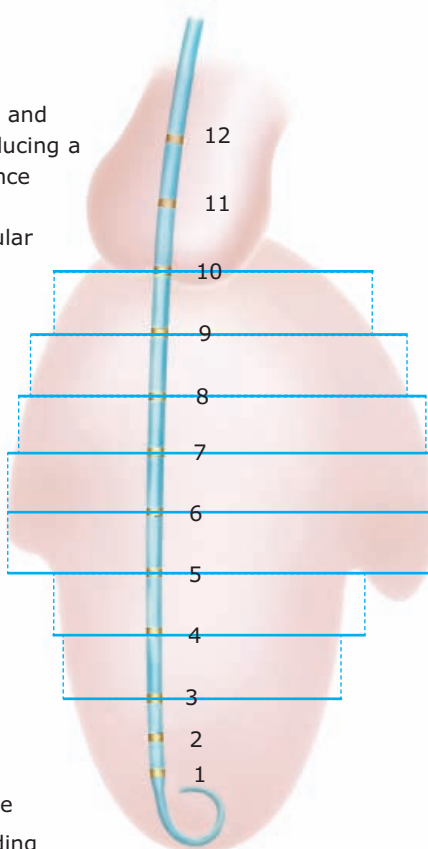
- Assessment of systolic-diastolic heart function
- Assessment of degree of chronic heart disease before and after interventional procedures
- Assessment of status of congenital heart disease
- Optimisation of therapeutic interventions, including multi-site pacing

Cardiac surgery

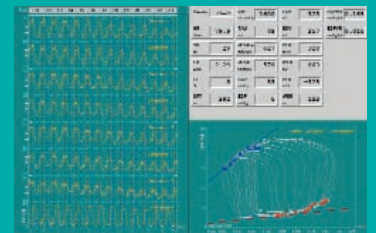
- During surgical interventions such as cardiac transplantation
- Assessment of myocardial recovery in LVAD recipients
- Guidance of valve surgery
- Pre and post aneurysmectomy
- Monitoring during beating heart surgery
- Weaning from cardio-pulmonary bypass

Cardiac intensive care

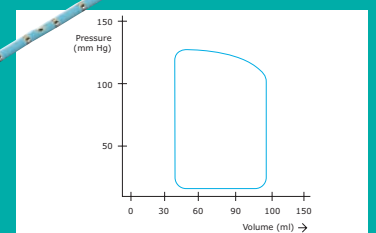
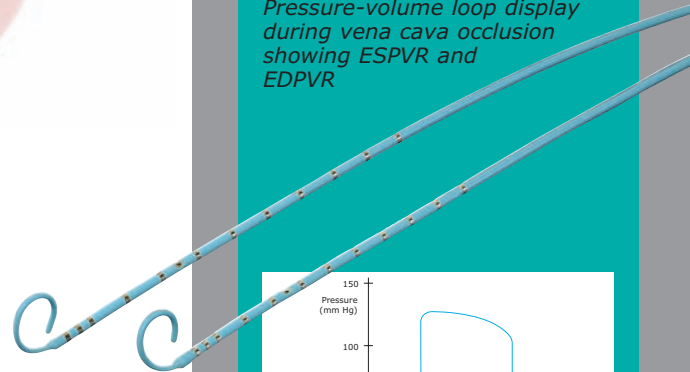
- Optimisation of IABP
- Monitoring the immediate post-operative patient
- Guidance of drug therapy in acute heart failure



Comprehensive real time data display of volume, pressure and ecg



Pressure-volume loop display during vena cava occlusion showing ESPVR and EDPVR



Left ventricular pressure-volume loop during one cardiac cycle