



Instrument  
Specialists  
Incorporated

Differential Scanning Calorimeter  
External Mount Cell

**DSC-E**

## Description

Differential Scanning Calorimeter (DSC) is a powerful technique that measures the energy absorbed or released as a function of time or temperature. The heart of the DSC is the heat flux plate which is designed to give superior performance and rugged reliability. The heat flux plate is capable of measuring small energy changes. Melt enthalpy, glass transition, heat of crystallization, purity determination are examples of the type of information a DSC would be used for. The DSC has been developed in conjunction with the powerful Infinity Pro software to provide superior performance.

This instrument allows for a variety of cells to be used such as a standard DSC Cell, Low and High Temperature DTA cells and a Pressure DSC Cell option. Thermosets, thermoplastics, composites, pharmaceuticals, binders and building materials are examples of some of the materials tested with DSC.



## Materials

- *Thermoplastics*
- *Thermosets*
- *Rubbers*
- *Phenolics*
- *Cosmetics*
- *Foods*
- *Pharmaceuticals*
- *Chemicals*
- *Petrochemicals*
- *Coals and other Fuels*
- *Nuclear Research*
- *Propellants*
- *Explosives*
- *Dental Materials*
- *Catalysts*
- *Waxes*

# DSC-E System

## Specifications

Windows XP or Windows 7

Temperature range: Typically -150 C to 725 C

Temperature accuracy: 0.1 C

Temperature Precision: 0.1 C

Noise: .5 u W

Stability: < 1 m W ambient to 550 C

Heat flux plate material: Chromel or Constantan

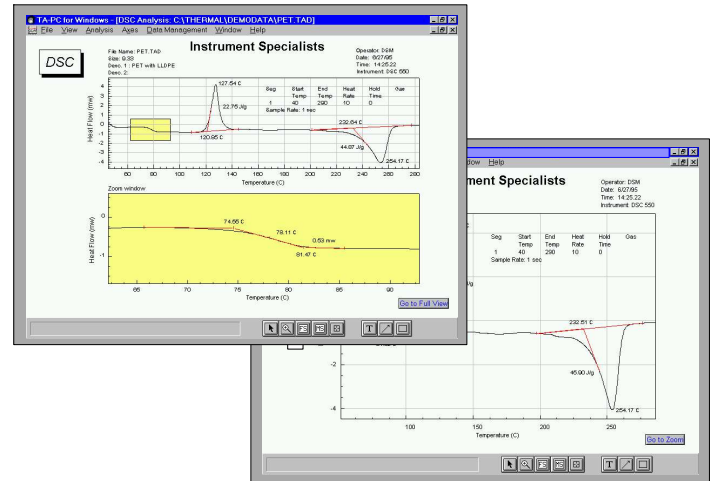
Sample and reference thermocouples: Type K

Furnace thermocouple: Type K

Dual PID control with RS 232 or USB Interface

10 temperature segments each has 1 ramp, 1 isotherm

Program rates of 0.1 - 100 degrees C/min



## Software

- Real-time color display of data collection
- Auto and manual scaling
- Time vs. temperature profiles
- First and second order derivative plots
- Analysis save feature
- Background, simultaneous and multiple
- Instrument data collection
- On-line help manual
- Individual segment display
- Annotation and drawing tools
- Copy to clipboard function
- Post Collection editing
- Multiple curve/module overlay
- Post Collection editing
- Split screen zoom mode
- Quadratic temperature correction
- ASCII export
- Data smoothing
- Baseline file subtraction
- Y-axis shift operation
- Subfile operations
- Custom display configuration
- User selectable units

### Options:

- Liquid Nitrogen cooling attachment
- Pressure Cell Capability
- Sample crimper and sealer
- Computer system
- Multiple modules
- Gas switching accessory



## DSC

- Peak integration
- Fused peak analysis
- Onset and peak temperature determination
- Glass transition analysis
- Baseline slope correction

Specifications subject to technical change  
DSC-E v1

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