

Title:

Simultaneous Dynamic Thermal Analyzer (TGA/DSC)

Sub-title:

Discovery SDT 650: Thermogravimetric Analysis coupled with Differential Scanning Calorimeter that delivers real-time simultaneous weight and heat flow data.

General description:

TGA/DSC system for the simultaneous measurement of weight changes and heat flow from ambient temperature up to 1500°C with samples up to a mass of 200 mg. The instrument has double scale with easy positioning of the crucible and double weight signal which also allows to analyze two samples simultaneously (dual sample TGA).

Features:

- Hi-Resolution TGA delivers optimal separation of overlapping weight loss events.
- Modulated TGA (MTGA™) enhances productivity for kinetic studies.
- Modulated DSC (MDSC) provides superior heat capacity measurement.
- Inert and oxidizing atmospheres available.
- Dynamic Temperature Precision: ± 0.5 °C
- Heating Rate (Linear): 0.1 to 100 °C/min
- Calorimetric Accuracy/Precision: $\pm 2\%$ (based on metal standards)
- Heat Capacity Accuracy: $\pm 5\%$
- Weighing Accuracy: $\pm 0.5\%$
- Weighing Precision: $\pm 0.1\%$
- Weight Baseline Drift: $< 50 \mu\text{g}$ to 1000 °C & $< 50 \mu\text{g}$ 1000 to 1500 °C

Applications:

- Evaluation of thermal decomposition / stability of materials.
- Evaluation of water content.
- Measurements of mass loss over time in a specific atmosphere.
- Approximation of composition percentages of mixed organic components.
- Decomposition kinetics of polymers