

## Thermal Analysis System (DSC, TGA, DTA)



Make	Model
Perkin Elmer	Pyris-1 DSC, Pyris-1 TGA, DTA-7

### Small Description:

**Thermal Analyzer (DSC, TGA, DTA)**, PerkinElmer Pyris1 DSC, Pyris1 TGA, DTA 7, Temp. Range: TGA: Room Temperature to 1000°C; DSC: -100°C to 600°C and DTA: Room Temperature to 1200°C. All types of thermal analysis studies /testing.

### Specifications:

#### (TGA)

- ❖ Temperature Range: Ambient to 1000° C
- ❖ Sensitivity: 0.1m gm (0.0001mg)
- ❖ Atmosphere: N<sub>2</sub>, or Air

#### (DSC)

- ❖ Temperature range: -100 °C to 600 °C
- ❖ Temperature Accuracy: ± 0.2 °C
- ❖ Heating Rate: 0.1 to 100 °C / min

#### (DTA)

- ❖ Temperature range: -Ambient to 1200 °C
- ❖ Heating Rate: 0.1 to 100 °C / min

- ❖ Atmosphere: Air or Nitrogen

Applications:

Thermal Analysis (DSC,TGA,DTA)

- ❖ Thermal Gravimetric Analyzer measures the change in mass of a sample as a function of time or temperature in inert or oxidative atmosphere.
- ❖ Chemical changes occurring in an oxidative atmosphere provide useful information regarding characterization of the sample.
- ❖ TGA-1 is based on a rugged microbalance which is sensitive to measure even a few micrograms of weight loss.
- ❖ It employs computer controlled gas switching to regulate furnace atmosphere.
- ❖ There are preset programs to allow compete separations, Decomposition studies, proximate analysis of coal, auto stepwise analysis of filled polymers, curing characteristics High temperature studies, Thermal stability and compositional analysis are possible with this instrument.
- ❖ Used for Melting, Crystallization, Glass Transitions Temperature, Polymorphism, Kinetic Studies, Curing Reaction.
- ❖ Endothermic and Exothermic effects
- ❖ Isothermal Cure kinetics studies.
- ❖ Characterization of polymorphism of pharmaceuticals.
- ❖ Characterization of pharmaceuticals formulations.
- ❖ Characterization of multicomponent materials by TGA.
- ❖ Thermal decomposition study
- ❖ Widely used in polymer, pharmaceuticals, cosmetics industry etc.