

TAC-500AE

Accelerating Rate Calorimeter



Convenient



Accurate



Countertop



Safety



The TAC-500AE is a professional testing instrument designed to simulate potential thermal runaway reactions under laboratory conditions. It is primarily used in the fields of fine chemicals, pharmaceuticals, energetic materials, organic chemistry, polymers, and plastics for the research and development of chemical processes, process optimization and scale-up, assessment of chemical thermal hazards, investigation and analysis of combustion and explosion accidents, and thermokinetic studies.

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Product Features

- Supports Heating-Waiting-Search (HWS) mode, isothermal mode, and constant-rate scanning mode.
- Equipped with professional data analysis software that automatically calculates parameters such as heat release onset temperature, adiabatic temperature rise, activation energy, and pre-exponential factor.
- The software integrates methods and standards for reaction safety risk assessment, enabling a one-stop evaluation of the hazard level of reaction processes.
- Capable of connecting to an inert gas for rapid cooling of the furnace after the experiment.
- Features experimental status indicators and alarms for overpressure and overtemperature.
- Automatic lifting function of the furnace lid for safety and ease of operation.
- Professional industrial design with a simple and generous appearance, user-friendly human-machine interaction, easy to learn, understand, and operate.
- The data analysis software includes differential conversion rate thermodynamic calculation methods, offering significant advantages in calculating the thermokinetics of thermal decomposition for mixtures and predicting thermal hazards.

Application Fields



Fine Chemical



Pharmaceuticals



Organic Chemistry



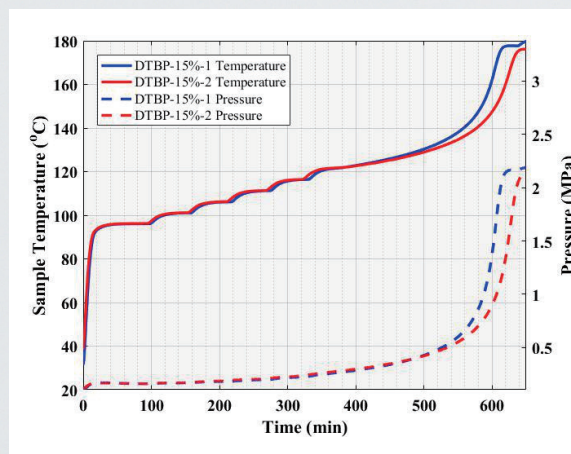
Petrochemical



Auxiliary Test Accessories

Technical Specifications

Working Environment	5 °C – 40 °C, < 85% RH
Temperature Range	RT – 500 °C
Temperature Detection Threshold	0.005–0.02 °C/min
Temperature Tracking Rate	0.005–40 °C/min
Temperature Resolution	0.001 °C
Pressure Detection Range	0–20 MPa
Pressure Resolution	1 kPa
Sample Cup Capacity	8 mL
Material of Test-cell	Stainless Steel, Titanium Alloy, Hastelloy (optional)
Phi	≤ 1.35
Interface	USB or RJ45
Power Supply	AC 220 V, 50 Hz
Power	≤ 3000 W
Dimensions	620 mm × 470 mm × 670 mm
Weight	Approx. 78 kg



Analytics software

