

Press Release

Analyzing & Testing
Business Unit

No. 14 dated November 18, 2009

Flexibility is Trump

New Modular Adiabatic Reaction Calorimeter MMC 274 Nexus®

Adiabatic calorimetry is becoming increasingly important in many areas of modern materials research and safety engineering. As a compact tabletop unit, the newly developed MMC 274 Nexus closes the gap between large adiabatic reaction calorimeters and small differential scanning calorimeters. This instrument allows for the analysis of relatively large sample volumes consisting of several milliliters. During the measurements, additional substances can be injected and/or mixing of heterogeneous substances can be secured. Changes in pressure resulting from the reaction are also recorded. Furthermore, in addition to purely adiabatic or purely isothermal measurements, the investigations can be carried out in Scanning mode. Properties such as heat capacities can thus be quickly and precisely analyzed. Also, exothermic and endothermic effects can be quantitatively characterized with the MMC 274 Nexus. This offers the user nearly unlimited application possibilities.

Maximum Flexibility by Means of Modular Construction

The MMC 274 Nexus consists of a base unit with integrated electronics, a software package, and various easy-to-exchange measurement modules. These exchangeable modules make it quick and easy to optimally adjust the system to the measurement requirements. This allows, for example:

- Characterization of materials with regard to phase transitions
- Quick and easy analysis of the stability of chemicals
- Caloric analysis of complex systems and components such as batteries
- Determination of the physical parameters of materials.

The MMC 274 Nexus can be operated in a great variety of modes (adiabatic, constant heating rate, constant power input, isothermal) or in the Heat-Wait-Search mode. Furthermore it is faster and easier to operate than conventional adiabatic reaction calorimeters while providing considerably higher sensitivity in many areas.

Press Release

Analyzing & Testing
Business Unit

A Variety of Application Fields

Its flexibility and the manifold measurement possibilities allow the MMC 274 Nexus to be used in countless application fields:

- Materials characterization in research and development
- Process development in the chemical and pharmaceutical industry
- Investigation of the storage and transport behavior of chemicals
- Analysis of batteries and battery components