

## Investigation of contaminated soils

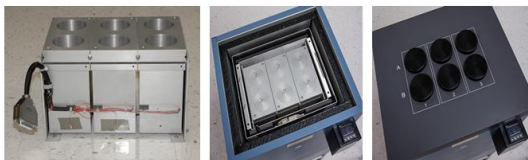
C. Ortmann

TA Instruments Germany - Part of Waters GmbH  
cortmann@tainstruments.com

TA Instruments is known for a long time as producer of high quality calorimeters. Beside the high sensitive top-bench instruments dedicated to the Life Sciences, Nano ITC and Nano DSC, the TAM is well established for a long time as a very versatile and powerful instrument for all kinds of calorimetric applications. The rather simple TAM Air on the other hand was implemented as a robust tool in the field of construction chemistry and has fulfilled its duty especially in the cement industry for decades.

However, in case of larger or more inhomogeneous samples TA could provide nothing above the 20ml volume vessels. Because of this the reproducibility, e.g. in investigations of concrete, was rather poor. The 3 Channel block of TAM Air which has recently been introduced by TA Instruments now fills this gap. It consists of three twin channels which house vessels of 125ml volume, either glass or stainless steel. This 3-Ch-block can easily replace a common 8-Ch-block of present TAM Air thermostats. Beside the requirements within construction chemistry mentioned above it also enables investigations of larger samples of food or larger amounts of soils in ecological research or whenever inhomogeneous nature of samples requires higher volumes.

### TAM Air 3 Channel Calorimeter



TAM Air 3 Channel Calorimeter Block

TAM Air 3 Channel Calorimeter Block In Place

TAM Air 3 Channel Calorimeter Installed

- Compatible with existing TAM Air Thermostats
- Simple change between 3 and 8 ch block
- 125 mL vessels, either glass or stainless steel
- Concrete, soils, food, etc...

### Larger sample vessels – 125 mL Vol

- Concrete
- Environmental science
- Food applications
- Large samples



125 mL Glass

125 mL Stainless Steel

In this talk we will provide preliminary data on heat flow measurements of microorganisms living in contaminated soils using the TAM Air. Investigation of metabolic heat and growth rate of microorganisms in polluted or charged sediments will be an easy and direct approach to monitor the success of remediation efforts.