

# Chip-based Calorimeter in combination with RAMAN-spectroscopy inclusive related investigations

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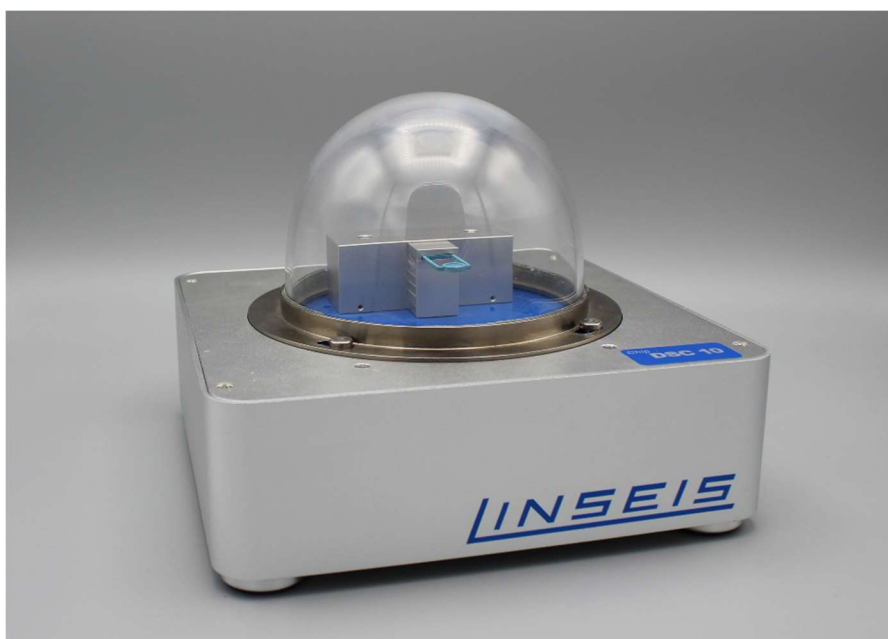
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## Abstract

In 125 years, the storage capacity of the punched card up to the SD card with 2 Terabytes of storage has grown by a factor of 25 billion. Due to the ongoing progress in nanotechnologies there will be a further optimization and “miniaturization” in the near future for sure. LINSEIS thermal analysis is following this trend and is introducing its LINSEIS Chip-DSC, a miniature of one of its most established previous measuring instruments, to the market. The sensor combines DSC, furnace, sensor and electronics in a miniaturized housing. Due to the miniaturized design, pushing the boundaries high heating and cooling rates as well as temperature modulation almost from room temperature are possible. For this reason, common but also some new investigations can be performed fast and with little effort. Exiting new opportunities arise for both scientific research and day to day quality control. Due to the minimalistic design, also additional options are easily to adapt. For example Raman-spectroscopy in combination with DSC give access to enthalpic signals and also the molecular behavior of a sample. Trough this combination the accessible investigations could be performed in situ and affordable.

In our talk, we will present our latest product development and discuss the innovation of differential calorimetry. In particular, the combination with Raman-spectroscopy and associated investigations should be the focus.



**Figure 1.** LINSEIS Chip-DSC 10 with a footprint of 20 x 20 cm