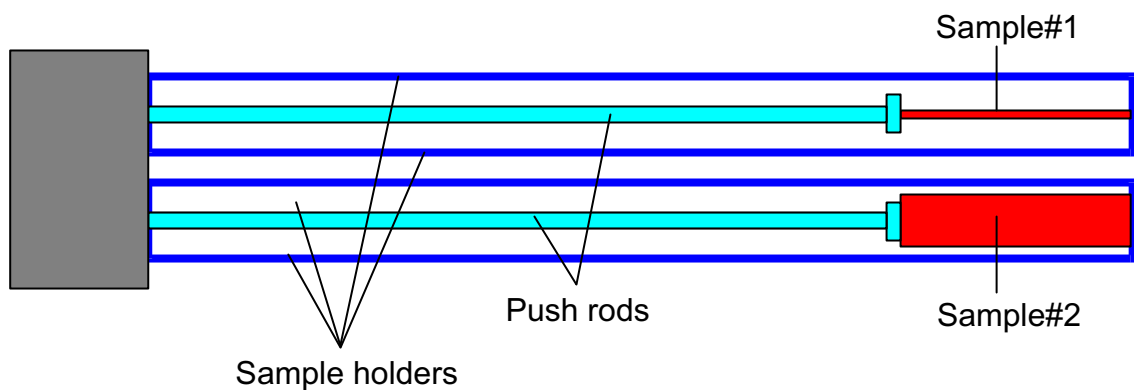


L75 / SDC Simultaneous Dilatometer Calorimeter

With the newly developed Linseis SDC Software it is possible to get results on a Dilatometer not only for expansion coefficients (CTE). Using the same hardware you can measure the caloric properties of the sample, heat capacities, enthalpies and phase transitions are available. The SDC Software utilizes the dual sample Dilatometer's capability. Two samples of the same material, same length, and different diameters are used.



Because both samples have different volume and mass, (different heat capacity) the temperature that can be measured at both samples during a heating or cooling phase are different. The larger sample is temperature wise "behind" the smaller sample. As the temperatures measured at both samples are thus different at specific times, the corresponding ΔL / expansion signal is also different. The principle of the SDC Software is to maintain a constant length difference between sample one and sample two throughout the test. This is accomplished by varying the applied heating and/or cooling rate.

The heating and/or cooling profile is now proportional to the heat capacity of the sample material. The result are Endothermic and exothermic peaks displaying phase transitions of the sample based on the resulting heating and/or cooling rates. Absolute values can be obtained by running calibration two samples of known heat capacity and known mass.