

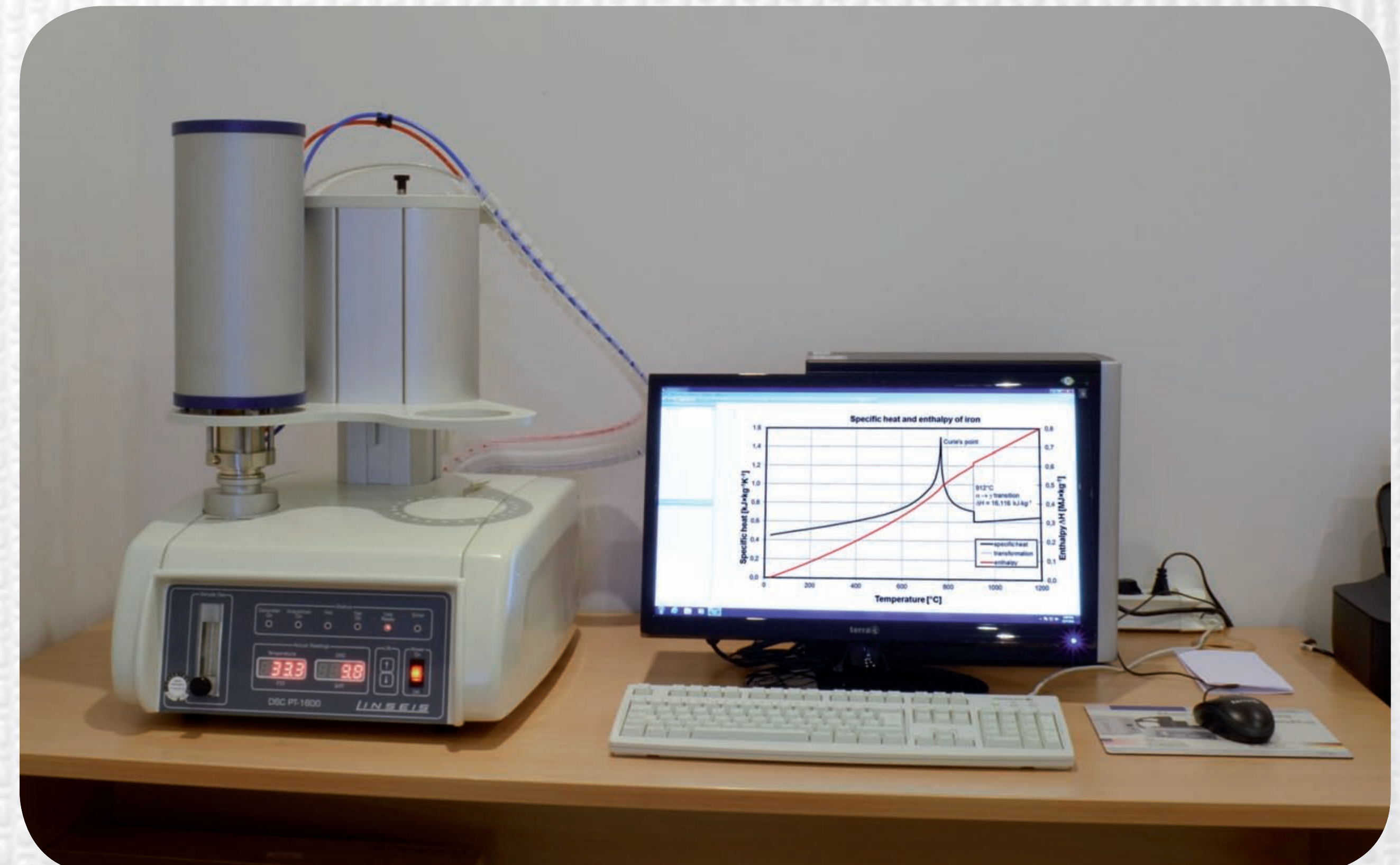
HIGH TEMPERATURE CALORIMETRY

DIFFERENTIAL SCANNING CALORIMETRY

Differential Scanning Calorimetry (DSC) is the most popular thermal analysis technique for

- research and development
- quality management
- failure analysis, and
- process optimization

It measures endothermic and exothermic transitions as a function of temperature. Transitions measurement include T_g, melting, crystallization, curing and cure kinetics, onset of oxidation and heat capacity.



TECHNICAL SPECIFICATION

LINSEIS High Temperature DSC HDSC PT1600

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|-----------------------------|--|
| • Temperature range | RT up to 1400 °C |
| • Heating and cooling rates | 0,1 up to 50 °C/min |
| • Temperature accuracy | +/-0,5 °C |
| • Resolution | 0,3 μW |
| • Atmospheres | inert |
| • Vacuum | 10 ⁻² Pa |
| • Crucibles | Al ₂ O ₃ 0,12 ml, Platinum 0,12 ml |

MEASUREMENT PRINCIPLE

The temperature of the sample unit, formed by sample and reference material, is varied in a specific program and the temperature difference between the sample and the reference material is measured as a function of temperature.

APPLICATION EXAMPLES

- Enthalpy, melting energy
- Specific heat
- Glass point
- Thermal stability
- Oxidation stability
- Purity
- Phase transformation temperature
- Solidus/Liquidus relationship
- Eutecticum
- Polymorph transformations

