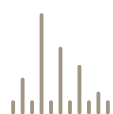


INSITU HT2

IN SITU HEATING AND REACTION CHAMBER IN TRANSMISSION GEOMETRY

NEW!



POWDER DIFFRACTOMETRY

STOE presents the INSITU HT2 to study solid state or solid state - gas reactions in capillaries on a vertically mounted transmission diffractometer, e.g. the STOE STADI P or STADI MP

- Temperature range from RT to 1600 °C
- Gas flow between 0.01 and 0.1 l/min
- Sample volume from 5 to 20 mm³
- For Mo or Ag K_{α1}-radiation

YOUR PARTNER IN X-RAY DIFFRACTION

STOE & Cie GmbH | WWW.STOE.COM

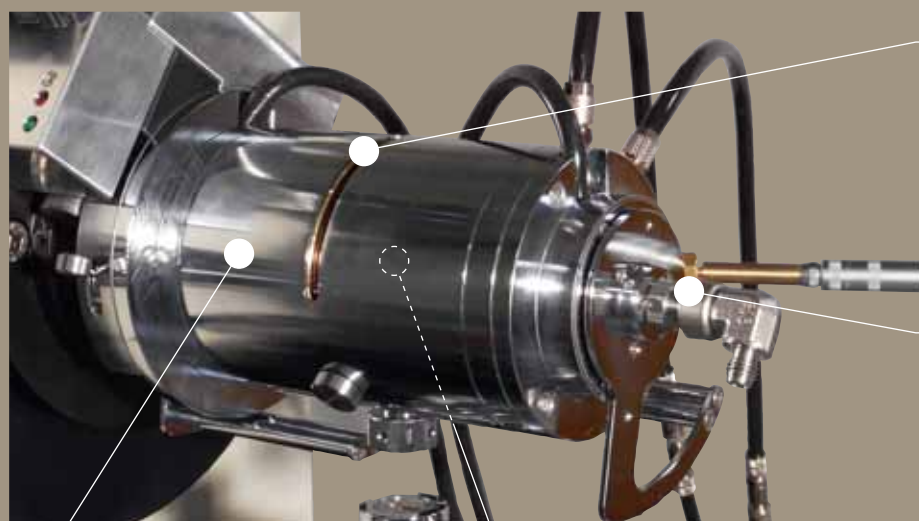
STOE INSITU HT2

The new **STOE INSITU HT2** high temperature reaction chamber has been designed to study **solid state and solid state - gas reactions in capillaries** in a temperature range between RT and 1600°C on a vertically mounted transmission diffractometer, e.g. the STOE STADI P or STADI MP.

The high temperature chamber consists of a cylindrical double walled, water cooled body with an entrance collimator for the primary beam and an exit window

with 90° opening for the diffracted X-rays (covered with Kapton® foil). The heating element consists of a coiled graphite rod, which is clamped between the lid and base plate and contacted by a thermocouple directly. To reduce effects of preferred orientation the sample can be oscillated by a motor.

The STOE INSITU HT2 is fully computer-controlled in the newest WinX^{POW} software version.



BEAM PATH

- Entrance collimator
- 90° exit window
- Openings covered with Kapton® foil

CAPILLARIES

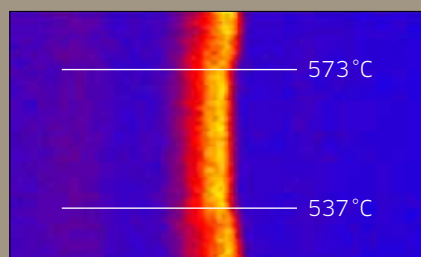
- Rigid capillaries, e.g. quartz glass or sapphire
- Outer diameter 2.0 - 2.2 mm, inner diameter 1.0 - 2.0 mm (standard)
- Sample Volume 5 - 20 mm³
- Gas flow 0.01 - 0.1 l/min

HIGH TEMPERATURE CHAMBER

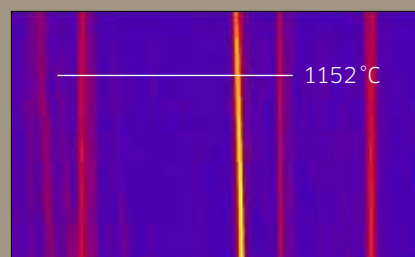
- Double walled
- Entire cover water cooled
- Sample oscillation for better statistics

HEATING DEVICE

- Coiled graphite heating element
- Thermocouple connected to Eurotherm® controller



Phase transition from α to β -Quartz and back in a heating up and cooling down process



Celestine: phase transition from the orthorhombic to the cubic phase at $T=1152^\circ\text{C}$.