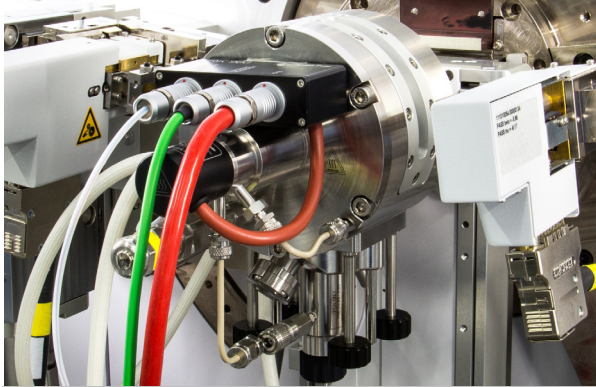


X-ray powder diffraction & Rietveld refinement

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Reaction Chamber XRK-900 (Anton Paar)



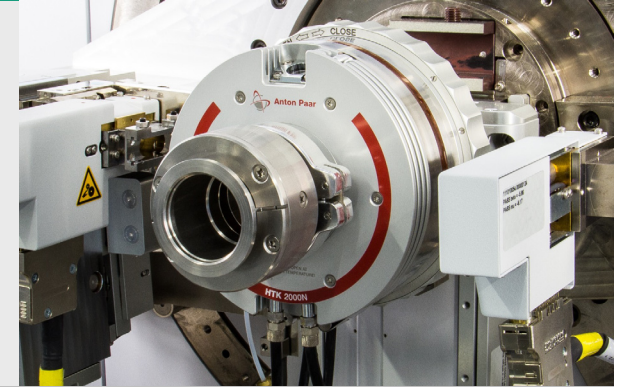
atmospheres/temperatures:
air/inert gas/vacuum - RT to 900 °C
reaction gas - RT to 900 °C (max. 10 bar)

open sample holders (gas flow) & closed sample holders (vacuum):
glass ceramics - RT to 900 °C
inconel - RT to 900 °C
stainless steel - RT to 600 °C

Applications:

- Dynamic structure changes
- Studies of solid state reactions including solid-gas interaction
- Simultaneous investigation of structural and catalytic parameters of catalysts
- Analysis of materials which are unstable under ambient conditions
- Kinetic investigations of solid state reaction processes

High-Temperature Chamber HTK-2000N (Anton Paar)



atmospheres/temperatures:
air (Pt-strip) - RT to 1600 °C (short term)
air (Pt-strip) - RT to 1450 °C (permanent)
air (Ta-strip) - RT to 400 °C

vacuum (W-strip) - RT to 2300 °C
vacuum (Pt-strip) - RT 1600 °C
vacuum (Ta-strip) - RT to 1500 °C

Applications:

- Structure analysis (e.g. time/temperature dependent phase transitions)
- Chemical reactions (e.g. reductions)
- Crystallographic characterization (e.g. thermal coefficient of expansion)
- Aging processes
- Annealing

x, y, z – table (PANalytical)



sample type:
solid objects
(max. 95 x 95 x 500 mm³, max. 2 kg)

specifications:
micro diffraction with double cross slit
irregular shaped objects

Applications:

- Phase identification
- Phase quantification
- Crystallinity determination
- Structure determination and refinement
- High-throughput screening
- Texture analysis

Reflection-Transmission Spinner (PANalytical)



sample type:
powder
solid objects with planar surface

specifications:
holders for air sensitive samples
automatic sample changer
(max. 45 pcs.)