



BTS 150/500 Benchtop Heating Stages

The BTS 150/500 Benchtop Heating Stages are the first commercial non-ambient stages for XRD studies on benchtop diffractometers. Their unique design is patented and provides all the features a benchtop diffraction application requires: compactness, reliability and ease of use.

The smart innovation for benchtop diffraction!

New possibilities for benchtop diffraction

The BTS 150/500 Benchtop Heating Stages are the first commercial non-ambient stages for benchtop diffractometers and extend their applicability to in-situ XRD studies. Measurements can be performed between -10 °C and 150 °C with BTS 150 and from ambient to 500 °C with BTS 500. Both instruments are extremely compact in design to fit into the restricted space of typical benchtop diffractometers.

All-in-one

BTS 150/500 are the first non-ambient XRD stages with integrated control electronics to save space and offer ease of operation. The integrated control electronics can be manually operated or remote-controlled via an USB interface.

Samples are heated by a Peltier (BTS 150) or a resistance heater (BTS 500). The Pt100 temperature sensor is located close to the sample and guarantees reliable temperature measurement and control.

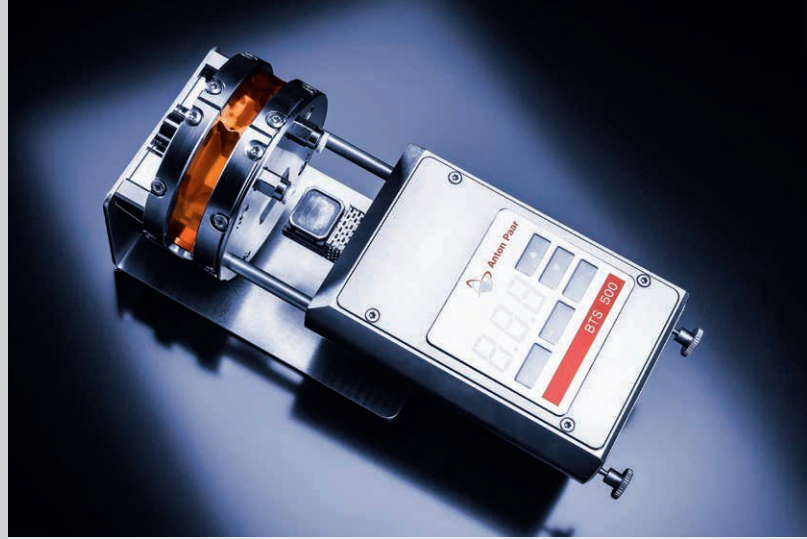
Small and powerful

The BTS 150/500 sample holders are easily accessible. Samples can be conditioned either under vacuum, air or inert gas. The instrumental design guarantees minimum thermal expansion of the sample holder and therefore a correct geometrical position of the sample in the X-ray beam throughout the experiment.

The compactness of the heating stages allows for fast heating and cooling of the sample. Excellent insulation and air cooling avoid heat transfer to any components of the benchtop diffractometer.

Applications

- ▶ In-situ phase characterization
- ▶ Structure determination
- ▶ Phase properties (cell parameters, crystallite size, lattice strain)
- ▶ Dynamic structure changes
- ▶ Rietveld analysis



Features and benefits

- ▶ Temperature range from -10 °C to 150 °C (BTS 150) or from ambient to 500 °C (BTS 500)
- ▶ Sample conditioning in vacuum, air or inert gas possible
- ▶ Fast heating and cooling
- ▶ Accurate temperature measurement by a thermo sensor close to the sample
- ▶ High position stability and minimum thermal expansion of the sample holder
- ▶ Easy handling and exchange of samples
- ▶ Compact design
- ▶ No external cooling required (only air cooling)

Technical specifications

Temperature range	-10 °C to 150 °C (BTS 150) ambient to 500 °C (BTS 500)
Atmospheres	Air, inert gas, N ₂ , vacuum
Pressure	10 ⁻¹ mbar to 1 bar rel.
Sample size (L x W)	16 mm x 14 mm
X-ray geometry	reflection
Scan range	0° to 164° 2θ

Your distributor: