



Anton Paar

::: Innovation in Materials Science



PC-controllable alignment stage

The PC-controllable alignment stage is a high-precision tool for height alignment and compensation of sample height variations during non-ambient X-ray diffraction studies.

Stay focused on your sample!

Sample displacement is an issue

In recent years temperature-dependent X-ray diffraction (XRD) studies have gained increasing interest among scientists from different fields.

Besides temperature homogeneity within the sample and accuracy of the temperature measurement, sample position is a crucial aspect.

During non-ambient XRD studies, sample displacement continuously takes place due to thermal expansion of the sample and the sample holder upon heating. Such displacement of the sample negatively influences the data quality and poses problems during subsequent data analysis with fitting routines.



Precise height compensation

Perfect sample height alignment and precise compensation of height variations of the sample upon heating is indispensable for diffraction data of high quality.

The alignment stage allows alignment by vertical movement of the non-ambient attachment to be performed at any measuring temperature with high precision and while the X-rays are on. Digital display of the movement is possible with a precision gauge.

Automated realignment – less effort, better data quality

The alignment stage is stepper motor-driven and comes with an alignment stage controller. The controller is connected to a PC and is operated via the diffractometer software, thus allowing fully-automated measurements with synchronized sample realignment to be performed.

A universal and easy-to-use tool

The alignment procedure with the alignment stage is very convenient and makes this tool easy-to-use, since no loosening of screws is necessary and no inaccuracies occur due to tolerances of mechanical parts.

The alignment stage can be easily adapted for use with all the non-ambient attachments from Anton Paar GmbH.

Features and Benefits

- ▶ High precision z-alignment of the sample.
- ▶ PC control and integration in diffractometer software.
- ▶ Automated compensation of sample displacement during measurements.
- ▶ Robust and compact design.
- ▶ Easy handling and adaptation to all non-ambient attachments from Anton Paar.
- ▶ Digital display of the movement with a precision gauge.

Technical Specifications

Max. displacement	± 3,5 mm
Repeatability	± 3 µm
Speed	Max. 0,14 mm/s

Dimensions/Weight

Alignment stage (without adapter)	
Weight	1,6 kg
Height x Width x Depth	260 x 140 x 22 mm

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Instruments for:

Density & concentration measurement	High-precision temperature measurement
Rheology and viscometry	X-ray structure analysis
Sample preparation	CO ₂ measurement
Colloid science	

Specifications subject to change without notice.

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