

## AUTO CHANGER FOR D8 DIFFRACTION AND SUPER SPEED SOLUTIONS

**Bruker AXS DIFFRACTION SOLUTIONS or SUPER SPEED SOLUTIONS™ are perfectly suited to investigate large sample batches by means of X-ray powder diffraction.**

The new Auto Changer with its large storage capacity of up to 90 samples provides the capability of handling those kinds of batches completely unattended. At the same time, the Auto Changer offers a large analytical flexibility. As a completely integrated component to a DIFFRACTION SOLUTION, it allows the use of Bragg-Brentano para-focusing conditions, parallel beam geometry with Goebel Mirror, and pure  $K\alpha_1$  focusing geometry with the Vario1 Johansson type of monochromator – in reflection as well as transmission. Obviously, either a DIFFRACTION SOLUTION with Turbo tube or a SUPER SPEED SOLUTION with Turbo X-Ray Source™ can be equipped with the Auto Changer. As well, the Auto Changer is compatible to every dynamic scintillation counter, energy dispersive Sol-X detector, or SUPER SPEED VANTEC-1 or LynxEye™ detectors.

- Large storage capacity of up to 90 preloaded samples
- Modular loading station for up to 6 magazine towers
- Reflection and transmission investigations without conversion
- Intelligent robotics with integrated gripper
- Flexible sample stage

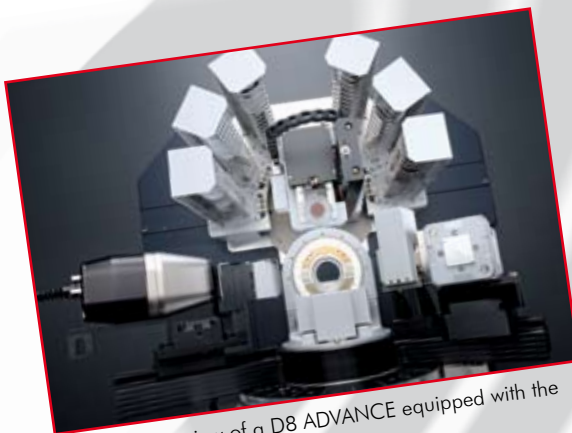


Fig. 1. Top view of a D8 ADVANCE equipped with the Auto Changer.

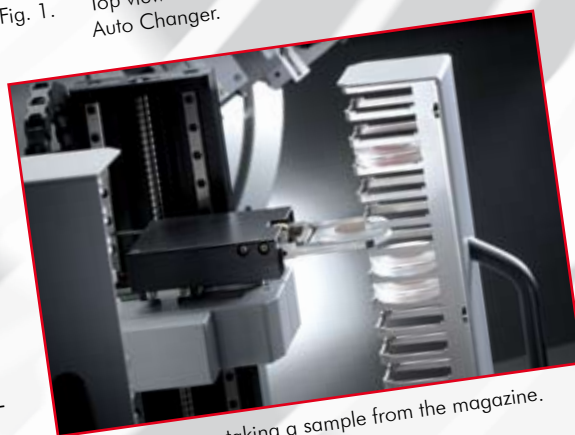


Fig. 2. Gripper taking a sample from the magazine.

The robot transfers the samples to the rotation sample stage mounted to the D8 goniometer. The stage does not only allow permanent rotation during the measurements, but also phi-scans or positioning to align asymmetric samples into the X-ray beam.



Fig. 3. D8 ADVANCE with Vario1 monochromator in reflection mode, Auto Changer and VANTEC-1 detector.



Fig. 4. D8 ADVANCE with Vario1 monochromator in transmission mode, Auto Changer and LynxEye detector.

On top of this flexibility, an instrument equipped with the Auto Changer can be reconfigured in minutes including removal and re-installation of the Auto Changer without any realignment effort, when another type of analysis is required, e.g. phase analysis under non-ambient sample conditions. Thus, the instrument executes not only routine jobs over night or during weekends, but it can also be used to do complex investigation at any time.

The Auto Changer consist of a loading station for up to 6 sample magazine towers, a robotic sample handler with integrated gripper, and a

rotation sample stage mounted to the goniometer. The magazine towers can hold up to 15 samples prepared in 8.5 mm high rings, a use of 20 mm high rings is optional. The loading and removing of sample magazines is automatically detected. Measurements are interrupted and automatically continued when a magazine tower is removed in order to fill it with a new set of samples.

The gripper allows highly accurate yet fit-tolerant sample handling. The handling speed of the gripper and the robot can be customized to ensure safe sample transportation to and from the measurement position.

#### Technical Data

The Auto Changer is compatible to vertical D8 DIFFRACTION SOLUTIONS or SUPER SPEED SOLUTIONS of series 2 or later

<b>Auto Changer</b>	Order number A18D70
<b>Magazine Tower, 8.5 mm</b>	Order Number A18B515
<b>Accessory Set</b>	Order Number C79298A34244D80
<b>Required Accessories</b>	Sample ring, selectable from a wide variety of possibilities, made from PMMA or steel: front loading, back loading, air sensitive, transmission, low background, etc.
<b>Options</b>	
Retrofit for 20 mm rings	Order Number A18D72
Magazine tower, 20 mm	Order Number A18B516
<b>Requirement</b>	6 free ports of 4-axes motor driver board

BRUKER AXS GMBH  
OESTLICHE RHEINBRUECKENSTR. 49  
D-76187 KARLSRUHE  
GERMANY  
TEL. +49 (0) 721 595-2888  
FAX +49 (0) 721 595-4587  
EMAIL [info@bruker-axs.de](mailto:info@bruker-axs.de)  
[www.bruker-axs.de](http://www.bruker-axs.de)

BRUKER AXS, INC.  
5465 EAST CHERYL PARKWAY  
MADISON, WI 53711-5373  
USA  
TEL. (+1) (800) 234-XRAY  
TEL. (+1) (608) 276-3000  
FAX (+1) (608) 276-3006  
EMAIL [info@bruker-axs.com](mailto:info@bruker-axs.com)  
[www.bruker-axs.com](http://www.bruker-axs.com)