



AUTO-CHANGER



Specimen Holder



LYNXEYE detector

Product Sheet XRD 28

AUTO-CHANGER for High-Throughput

The AUTO-CHANGER offers a large storage capacity of up to 90 samples for the D8 ADVANCE and the D8 DISCOVER providing for completely unattended handling of batch measurements. Being fully integrated into the DAVINCI.DESIGN plug & play concept, the AUTO-CHANGER offers unrivalled analytical flexibility. A wide range of different specimens and specimen holders can be measured in both reflection and transmission geometry, using focusing and parallel beam optics.

The AUTO-CHANGER is compatible to all beam path components available for the D8 diffractometer family, including, but not limited to, all X-ray sources (sealed tube, TURBO X-RAY SOURCE), optical components (slit systems, Ka1 monochromators, Göbel mirrors, TWIN/TWIN optics, POLYCAP,...) and detectors (scintillation counter, SOL-XE, LYNXEYE, VÅNTEC-1).

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

The robot transfers the samples to the rotation sample stage mounted to the D8 goniometer. The stage allows permanent rotation during the measurements, as well as phi-scans or positioning to align asymmetric samples into the X-ray beam.



Fig. 1: D8 ADVANCE with AUTO-CHANGER



Fig. 2: D8 ADVANCE in reflection mode, AUTO-CHANGER and LYNXEYE detector



Fig. 3: D8 ADVANCE 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 investigations at any time.

The AUTO-CHANGER consists 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 goniometers with 150 mm measurement height

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

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