



FIRST Newsletter

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Automated and High-Throughput MicroCT Imaging

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Automated and high-throughput microCT imaging and analysis is becoming more and more important as the technology is being used more often as a tool for elaborate studies on many samples, for quality control in a production environment or digitalization of collections. At the same time, the increasing availability of the technology makes it accessible to a lot of new users, including undergraduate students and people without technical background, creating the need for fast, simple and straight-forward solutions.

The option for push-button operation of the SKYSCAN 1275 allows running a pre-programmed sequence of scanning, reconstruction and data visualization or analysis by a single push of a button. This approach offers already a high degree of automation and significantly increases throughput. Still, a new sample needs to be mounted in the scanner manually after each scan, requiring an operator to be near the system the entire time.

A next step in automated scanning, and discussed in this article, is the use of an automated sample changer, which replaces a scanned sample with a new one automatically, allowing independent operation of the microCT scanner without the need for full-time presence of an operator.

Use of a Sample Changer

Several of our microCT systems (currently the SKYSCAN 1272, 1275, and 2211) can be extended with an automated sample changer that loads a new sample to the scanner automatically once the previous scan has ended. The sample changer can be located either inside the scanner (SKYSCAN 2211) or mounted on top of the scanner outside the shielded area (SKYSCAN 1272 and 1275). The number of samples that can be loaded in the sample changer varies between 8 and 16, depending on the model and the size of the samples. Using the sample changer, continuous scanning of samples is made easy with either a predefined or an automatic scanning protocol. Method note [MN104 - SKYSCAN 1272 sample changer](#) explains step by step how to do this.



SKYSCAN 1272 sample changer loaded with different samples.

