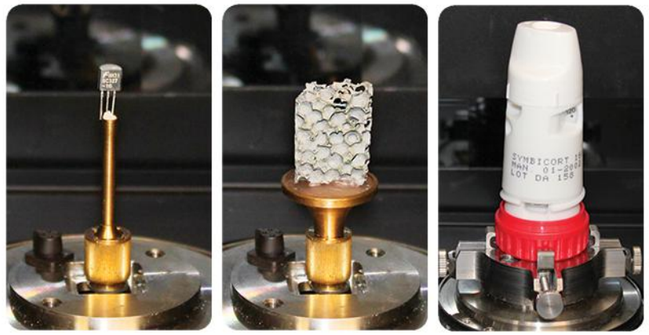
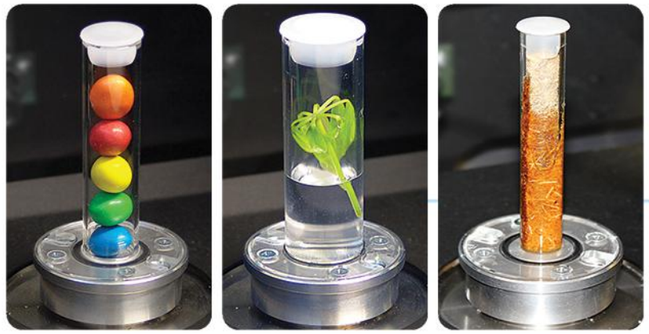
Sample Holders for Any Size and Shape

Standard sample mounts

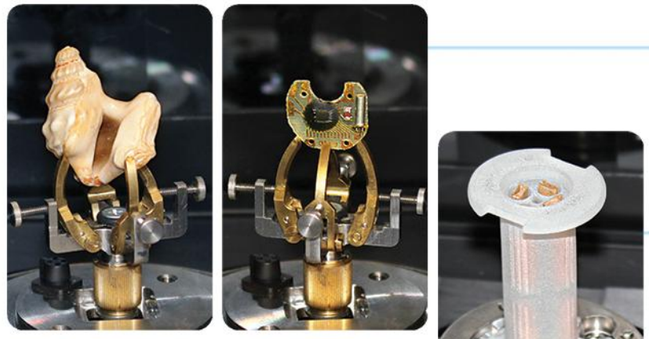


Every SkyScan system for sample scanning is supplied with several types of sample mounts. Typically there is a number of brass sample mounts for objects up to 20-40mm in size, which can be installed into an integrated or optional micropositioning stage on top of the object rotating table. A stainless steel sample holder for large objects can be directly attached to the object rotation table.This steel mount has a chuck with four adjustable jaws to hold objects with complex shape and center them accurately.

Optional sample mounts



A large number of optional sample mounts are available. Systems can be equipped with tube sample holders for different sample sizes. These allow automated batch scanning, imaging of hydrated samples and samples in liquid. The tube set has four replaceable tube holders with internal diameters of (approx.) 6, 10, 15, and 20 mm.



Another optional “spider” sample mount has four fingers to hold objects with any geometry and with sizes from 0.8 to 18mm. Each “finger” is screw-adjusted to obtain a grip on any object including objects with irregular and asymmetric shape.

Another optional sample mount is dedicated to scanning several samples simultaneously for comparison. It contains two layers of parallel tube compartments for four samples up to 5mm in diameter. This allows analysis of 8 small samples in a single scan.

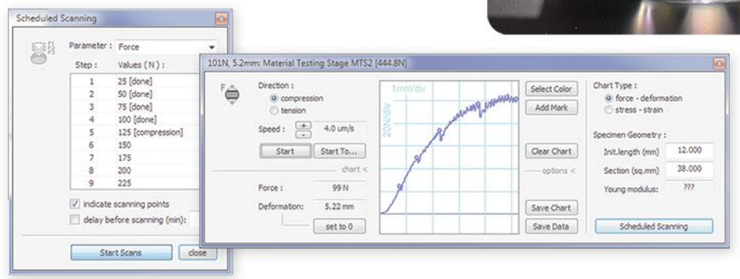
There are a number of other additional optional sample mounts available. For example, a special mount can hold thin flat samples, such as a piece of paper or plastic; other sample mounts allow scanning of powders with different packaging geometries, etc. Your local **Bruker microCT** distributor can help you to find best possible option for every application.

Stages for *In-Situ* Investigations

Material testing stage

The material testing stage (MTS) applies controlled tension or compression symmetrically to both ends of an object. It keeps the central part in a static position allowing tomographic scanning under the force.

The loading curve is displayed on-screen in real time. An internal microprocessor controls the loading mechanics and the readout of displacement as well as applied force. An object can be held under specific load(s) during one or several micro-CT scans. The material testing stage is supplied with several sample chambers for objects up to 24mm in diameter and 24mm in length for compression or 20mm wide and 17 mm long for tension. Travel range is 11mm. The stage can be equipped with different load cells for maximum compression or tension force of 42N, 210N or 440N. The software for the material testing stage works in handshake with the main control software of the scanner to perform multiple scans with selected forces applied or at predefined deformations.



Heating and cooling stages

The heating and cooling stages provide environments for micro-CT scanning under controlled object temperature above or below ambient.
The heating stage keeps an object at a temperature up to +85°C. The cooling stage keeps an object at sub-zero temperature down to 30-40°C below ambient. An internal microprocessor controls a solid-state cooling or heating system and measures the object temperature with <1°C accuracy.

Like other stages for *in-situ* examination, cooling or heating stages are powered and controlled through a small connector at the top of the object stage. The power and control signals are connected to the static part of the scanner through special gold contact slip rings with low friction and high reliability in endless rotation.