



Rigaku Virtual Workshop Series

X-ray Computed Tomography



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INSTRUMENT PROFILE

Rigaku CT Lab HX is a benchtop X-ray micro-CT scanner with the most powerful X-ray source in its class with a wide range of FOV and resolution.

SPECIFICATIONS

- 130 kV - 39 W high-power X-ray source
- Large field of view (max. 200 mm diameter)
- High-resolution (max. 2.2 μm voxel size)
- High-speed (max. 18 seconds/scan)

QUICK REFERENCE

Micro-CT Data Collection

X-RAY ENERGY

The denser and thicker the sample is, the higher the X-ray energy needs to be. You can start with ~ 60 kV for light (organics), ~ 90 kV for medium (plastics), and 130 kV for denser (ceramics, metals) and larger samples.

FOV AND RESOLUTION

The FOV (field of view) should be close to the sample size ideally, but, it can be as small as $\sim 1/3$ of the sample size if necessary. The voxel resolution is determined by the FOV as roughly $\text{voxel} = \text{FOV}/3000 \sim \text{FOV}/1000$.

SAMPLE MOUNT

If the sample needs to be contained/sealed, use a container that is relatively X-ray transparent such as Styrofoam or plastic. Also, make sure that the sample does not move during a scan.

SCAN TIME

CT scan time can be anywhere from a few seconds to hours. The longer the scan time, the higher the signal to noise ratio becomes.

 For series info click [here](#)

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