

MODEL 20330

Ultra-Narrow Gap Tomography Holder

Tilts up to 90° in pole-piece
gaps less than 3 mm

FISCHIONE
INSTRUMENTS



MODEL 2030

Ultra-Narrow Gap Tomography Holder

A holder capable of tilting up to 90° while providing a maximized field of view for transmission electron microscopy (TEM).

- **Room temperature tomography in ultra-high resolution microscopes**
- **Extended field of view at high-tilt angles**
- **Can tilt up to 90°**
- **Suitable for ultra-narrow gap (< 3 mm) pole-piece geometries**
- **Optimized specimen protection during insertion into the TEM**

PLASMA CLEANING

Fischione recommends that you clean the specimen and specimen holder with the Fischione Model 1020 Plasma Cleaner or Model 1070 NanoClean before insertion into the TEM.

During collection of tomographic data, the electron beam will be on the same area of the specimen for an extended time. As a result, organic contamination may build up on the specimen. A plasma cleaning time of 10 seconds to 2 minutes removes the contamination. Longer cleaning times can remove contamination spots caused by previous TEM viewing of non-plasma cleaned specimens.

When not in use, the holders should be stored under vacuum in Fischione Model 9010 Vacuum Storage Containers or the Model 9020 Vacuum Pumping Station.



Tilts up to 90° in pole-piece gaps less than 3 mm

The ability to collect three-dimensional information over large ranges of tilt in room temperature TEM reaches a mechanical limitation dictated by the combination of specimen thickness, size, specimen support, pole-piece geometry, aperture, and specimen holder configuration.

To obtain high-tilt angles in transmission electron microscopes, the pole-piece gap should be large and unrestricted. However, for some ultra-high resolution materials science microscopes, this gap can be less than 3 mm. Hence, high tilt with traditional 3 mm specimen geometry is not possible.

The Model 2030 Ultra-Narrow Gap Tomography Holder is capable of tilting up to 90° while providing a maximized field of view.

Advanced clamping and retracting mechanisms

The Ultra-Narrow Gap Tomography Holder accepts a 1.5 mm square or round TEM specimen or grid into a cartridge, securing it with a single clamp. The clamp can be fully retracted from the specimen receptacle for convenience during loading and unloading. When engaged, the

clamp provides a uniformly distributed force on the edge of the specimen.

To protect the specimen during holder insertion into and removal from the TEM goniometer, the Ultra-Narrow Gap Tomography Holder features an advanced mechanism that retracts the specimen cartridge into the body of the specimen holder.

A specimen loading station allows easy positioning and clamping of the specimen into the cartridge.

Touch protection

Fischione's Advanced Tomography Holders are compatible with the TEM's touch alarm, which stops goniometer movement in the event that a pole touch occurs. Always be aware of the TEM's pole-piece configuration and follow the microscope manufacturer's recommendation for operating the goniometer at high-tilt angles.

Ordering information

All Fischione Advanced Tomography Holders come with a dedicated loading station for secure specimen handling, tools to assist in specimen clamping, and a Fischione Model 9010 Vacuum Storage Container for storing the holder in a clean, vacuum environment.



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