## Advanced

## Tomography Holder

Allows room temperature data collection over wide tilt and translation ranges


## MODEL 2020 Advanced Tomography Holder

A revolutionary holder that allows room temperature data collection over wide tilt and translation ranges, even in restrictive pole-piecegap geometries.

- Ideal for room temperature electron tomography
- High tilt angles
- Maximized field of view
- Optimized specimen clamping
- Easy, accurate specimen loading and centering


## Three-dimensional information

Advances in microstructural characterization require the ability to analyze structure and chemistry in three dimensions. However, most TEM techniques are limited to producing twodimensional information. Tomography, on the other hand, combines two-dimensional data sets taken at various tilt angles to produce threedimensional information.

Biological research has benefited from the use of electron tomography for many years; however, the physical sciences have been limited by the inability to tilt the specimen to high angles within the confines Eliminates the shadowing associated with most holders at high-tilt angles of the narrowgap pole pieces necessary for atomic resolution imaging. In addition, there was an increasing desire to use high angle annular dark field scanning transmission electron microscopy (HAADF-STEM) to reduce diffraction contrast in physical science applications. Now, Fischione's advanced specimen holder technology enables room temperature tomography for both the life and the physical sciences.

## Maximized field of view at tilt angles above $70^{\circ}$ with no shadowing

The Fischione Model 2020 Advanced Tomography Holder for transmission electron microscopes (TEMs) features high tilt and extended field of view. The revolutionary holder allows room temperature data collection over wide tilt and translation ranges even in restrictive pole-piece-gap geometries.

The Advanced Tomography Holder is for life sciences and physical sciences, as well as any other applications requiring high specimen tilt and simultaneous large field of view. The Advanced Tomography Holder's streamlined specimen
clamping mechanism eliminates the shadowing associated with most holders at high-tilt angles.

## Accepts wide range of specimen thicknesses

The Advanced Tomography Holder's clamping mechanism accepts specimen grids, standard 3 mm diameter TEM specimens, or focused ion beam (FIB) lamella. The Advanced Tomography Holder accommodates specimen thicknesses up to $250 \mu \mathrm{~m}$.

## Evenly distributed force from fully retractable clamp

Specimens are secured with two clamps that produce an evenly distributed force on opposing edges of the specimen. For convenience during loading and unloading, the clamps are springloaded to lift them off the specimen surface. Then, they can be fully retracted.

Positioning the clamps is done without contacting the specimen, eliminating the possibility of specimen damage. This is far superior to typical clamping mechanisms that limit the specimen size or interfere with viewing at high-tilt angles.

## Easy, accurate, self-centering positioning

The tapered self-centering specimen receptacle guides the specimen into position. The fully retractable clamps make it easy to rotate the specimen manually for a dual-axis tilt series.

## 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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