

# Fringe-Free Imaging (FFI)

## Increase the productivity of your Thermo Scientific Krios Cryo-TEM

Increase the overall throughput of your Thermo Scientific™ Krios™ Cryo-TEM with fringe-free imaging.

With typical optical alignment, the C2 aperture of the microscope induces Fresnel fringes at the edge of the beam that illuminates the specimen. These fringes cause artifacts and unusable areas for data collection. When the electron beam is set to illuminate a larger area than necessary to prevent fringes, usable areas in the foil hole are sacrificed through radiation exposure.

Fringe-free imaging (FFI) minimizes the illuminated area and damages less sample, allowing more images to be captured within a single foil hole.

An FFI upgrade is now available for all Krios Cryo-TEMs. With this upgrade, the CompuStage and Autoloader hardware, as well as the lens series, are adapted in such a way that the C2 aperture is focused on the specimen and the fringes are virtually eliminated.

The productivity of the Krios Cryo-TEM is further enhanced by data collection schemes using image/beam shift, implemented as aberration-free image shift (AFIS) in EPU and third-party data acquisition software like SerialEM and Legikon. The latest generation direct electron detectors, like the Thermo Scientific™ Falcon™ 4 Direct Electron Detector, benefit significantly from the presence of FFI and AFIS, boosting overall single-particle analysis productivity to beyond 300 movies per hour depending on the use case. For more information on use case throughput specifics, see the Thermo Fisher Scientific FFI Applications Note.

### Availability and requirements:

The FFI upgrade is available for the Krios G2 Cryo-TEM, Krios G3 Cryo-TEM, and Krios G3i Cryo-TEM. The Krios G1 Cryo-TEM system can be upgraded if equipped with a third-generation Autoloader. The Krios G4 Cryo-TEM comes equipped with FFI. The microscope must be running Windows 7 or Windows 10.

For specific information on availability or to request a quote, please contact your account manager.

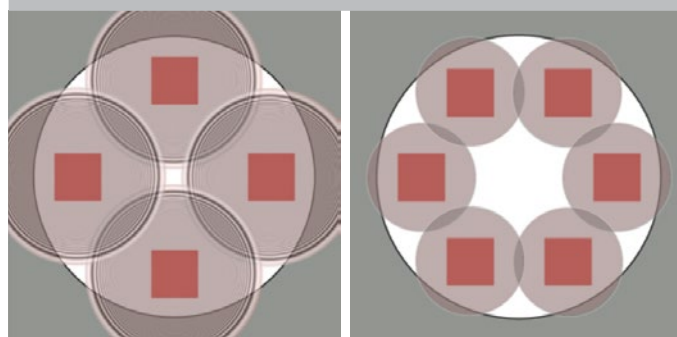
Find out more at [thermofisher.com/EM-Sales](https://thermofisher.com/EM-Sales)

### Key Benefits

Eliminate fringes at the edge of the beam

Acquire more usable images per foil hole with FFI, enhancing overall throughput

Easily upgrade existing Krios Cryo-TEMs



Not FFI-corrected

FFI-Corrected

Illustrations compare data acquisition for a single foil hole in non-FFI-corrected (left) and FFI-corrected (right) microscopes. Image areas are represented by the square and illumination areas are represented by the surrounding circle. Fringes are clearly visible on the image on the left, while not visible in the image on the right.