

Talos F200C TEM

Industry-leading power and versatility for 3D imaging of molecules and cells

High resolution for 3D insight

The Thermo Scientific™ Talos™ F200C transmission electron microscope (TEM) is a powerful, versatile system for delivering 3D characterization of biological and biomaterials samples in cell biology, structural biology, and nanotechnology research.

With its innovative design to increase throughput, stability and ease of use, Talos enables scientists to quickly obtain better insight and understanding of macromolecular structures, cellular components, cells and tissues in three dimensions.

The system's constant-power, C-TWIN lens delivers outstanding optical performance to help ensure an optimal balance between contrast and resolution. The ultra-stable platform includes a piezo stage option, stable optics and a rugged system enclosure for maximum thermal and mechanical stability.

Unmatched versatility

Designed for cryo and room temperature applications, the Talos F200C TEM enables experimentation spanning the complete application range—from TEM observation and (optional) STEM imaging on the Thermo Scientific Velox™ S/TEM engine with Drift Corrected Frame Integration (DCFI) to low dose applications, and diffraction. An operating range of 20-200 kV enables you to optimize high voltage for specific samples. The Thermo Scientific Ceta 16M™ camera displays a large field of view and captures images at a fast rate of up to 25 fps (depending on the image size), while the Piezo stage ensures highly sensitive drift-free imaging and precise sample navigation, saving time and allowing to capture more data from each sample.

The Talos F200C TEM supports multiple automated imaging applications, such tomography, and single particle analysis (SPA) on both vitrified and ambient suspensions, cell organelles, and cells.

Talos F200C supports single and double tilt holders, as well as high-field-of-view tomography holders for room temperature applications. Or select a 70-degree cryo-holder in combination with our retractable automatic cryo-box for cryo-tomography and SPA. Unmatched versatility ensures that you can easily perform today's experiments, as well as address new research problems in the future.

Key Benefits

Support a wide range of users: Enable a wider range of users to access powerful 3D characterization capabilities for biological and biomaterials samples with a fully digital interface, class-leading ergonomics, and remote control features.

Get results faster: Extended automation combined with a fully integrated 16 Mpixel CMOS detector reduces the number of steps required and saves time.

Obtain better insight: Gain optimal contrast/resolution balance at maximized optical stability for observation techniques requiring 20-200kV energies.

Improve repeatability and reliability: A constant-power objective lens, (optional) Piezo stage, highly stable optics, and a robust system enclosure deliver maximum system stability.

Do more on one system: Perform the widest range of applications from a single platform.

User friendly for everyone

The Talos F200C TEM opens the door to multi-user and multi-skill level environments, making workflows accessible to a broader community of scientists with a friendly digital user interface and class-leading ergonomics. The SmartCam digital search-and-view camera simplifies application handling, allows day-light operation, and also supports remote operation for even greater ease of use. Fast, easy operation switching and features such as automatic apertures reduce steps and save time.

Features

- Class-leading optical performance: Constant-power C-TWIN objective lens, adopted from the Titan Krios
- Maximized ease-of-use: Fast, easy operation switching, automatic cryo-box, fit for multi-user environments
- Ultra-stable platform: Constantpower objective lens, (optional) piezo stage, robust system enclosure, and remote operation ensure maximum stability
- SmartCam camera: Digital search and-view camera improves the handling of all applications and allows day-light operation
- Fully integrated fast detector: Ceta 16 Mpixel CMOS camera provides large field of view and high read-out speed (1 fps @ 4K, 18 fps @ 1K, and 25 fps @ 512 image size)
- Full remote operation: Automatic aperture system in combination with the Ceta camera supports full remote operation
- Broad compatibility: Integrates with our single particle (EPU) and (S)TEM Tomography solutions

Installation Requirements

See preinstall guide for detailed data



Talos F200C TEM C-Twin

TEM information limit	0.18
TEM point resolution (nm)	0.30
STEM HAADF resolution (nm)	0.20
TEM magnification range	25x–910kx
Maximum goniometer (stage) tilt angle	±90°

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