

Talos F200S

Highest performance imaging and precise compositional analysis for dynamic microscopy

The FEI Talos™ F200S 200kV scanning/transmission electron microscope (S/TEM) combines fast, multichannel, high resolution S/TEM imaging and precise compositional analysis to enable for dynamic microscopy applications. With innovative features designed to increase throughput, precision, and ease of use, FEI Talos is ideal for advanced research and analysis across academic, government, and industrial research environments.

High resolution imaging for better-quality data

FEI Talos F200S combines outstanding high-resolution S/TEM and TEM imaging with industry-leading energy dispersive x-ray spectroscopy (EDS). Achieve significantly improved STEM image quality and throughput with a Smart Scanning engine and four-channel integration based on multiple STEM detectors. Discover new applications, like Differential Phase Contrast (DPC) imaging for resolving electro-magnetic structures.

The Talos F200S is designed to support a variety of dynamic experiment applications. The fast HRTEM camera, large 5mm space in objective lens, $\pm 90^\circ$ stage tilt range and large range for stage Z height adjustment (± 0.375 mm) combine to offer the space to do more, to enable the use of specialized holder solutions.

See more, faster

Fast TEM imaging on Talos supports high-resolution and in situ dynamic observations. The FEI Ceta 16M™ camera displays a large field of view and captures images at a fast rate of up to 25 fps.

Accelerate nanoanalysis for faster answers

The Talos F200S includes a patented, integrated EDS system with two silicon drift detectors (SDD) for superior sensitivity and elemental mapping capabilities of up to 10^5 spectra/sec. Integration with the A-TWIN objective lens maximizes collection efficiency while delivering outstanding output count rates for a given beam current—even for low intensity EDS signals.

Make research easier

Talos makes imaging and analysis workflows accessible to a broader community of scientists, with a friendly digital user interface and class-leading ergonomics. Fast image acquisition combined with the easy-to-use operating platform allows even less-experience operators to collect results quickly. Implement full remote operation for greater ease of use and enhanced environmental stability. And to assure that productivity is maintained, Talos is equipped with the new Health Monitor that collects key instrument parameters to facilitate remote diagnostics and support.

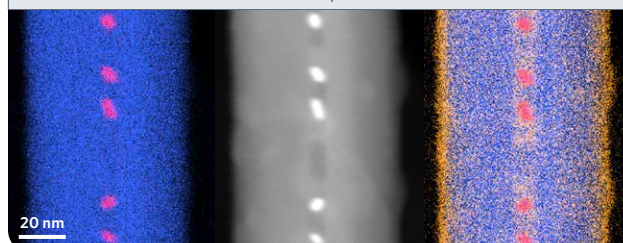
KEY BENEFITS

Better image data High throughput STEM imaging with simultaneous, multiple signal detection delivers better contrast for high quality images

Precise chemical composition data Rapid, precise quantitative EDS analysis reveals nanoscale details

Space for more Add application-specific *in situ* sample holders for dynamic experiments

Increased stability Enhanced environmental immunity with instrument enclosure and remote operation





Features

- Class-leading optical performance: Constant-power A-TWIN objective lens
- Maximized ease-of-use: Fast, easy operation switching, fits for multi-user environments
- Ultra-stable platform: Constant power objective lens, robust system enclosure, and remote operation ensure maximum stability
- SmartCam camera: Digital search-and-view camera improves the handling of all applications and allows daylight operation

- Fully integrated fast detector: Ceta 16M pixel CMOS camera provides large field of view and high read-out speed (25 fps @ 512 × 512)
- Full remote operation: Automatic aperture system in combination with the Ceta camera supports full remote operation

Installations Requirements

Refer to preinstall guide for detailed data.

TALOS F200S	
Total beam current	> 150nA
Probe current	1nA @ 1nm probe (200 kV)
EDS system	2 SDD windowless design, shutter-protected
Energy resolution	≤136 eV for Mn-Kα and 10 kcps (output)
Fast EDS mapping	Pixel dwell times down to 10μs

A-TWIN	
STEM HAADF resolution (nm)	0.16
EDX solid angle (srad)	0.45
TEM Information limit (nm)	0.12
TEM point resolution (nm)	0.25
STEM magnification range	150×-230M×
TEM magnification range	25×-1.50M*
Camera length (mm)	12-5700
Maximum diffraction angle	24°
Maximum tilt angle with double tilt holder	±30°
Maximum goniometer (stage) tilt angle	±90°

*1.50M achieved only when the Camera Image Enhancement is present.

World Headquarters
Phone +1 503 726 7500

FEI Europe
Phone +31 40 23 56000

FEI Japan
Phone +81 3 3740 0970

FEI Asia
Phone +65 6272 0050

FEI Australia & New Zealand
Phone +61 3 9647 6200

Learn more at FEI.com