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DATASHEET

Talos L120C TEM

Proven performance, ready for the future

The Talos L120C TEM provides proven, optimal imaging performance on a platform designed for modular versatility, maximum stability, and operational ease.

Discover the next generation 120 kV imaging platform. Key features of the Thermo Scientific™ Talos™ L120C TEM include modular design and improved optical stability, yielding unmatched ease of use, productivity, operational comfort, and uptime. Talos L120C TEM is an ideal solution for entry level cryo-studies, simple point and click imaging, and a highly efficient instrument for tomography and single particle analysis sample screening with standalone options for EDS and STEM.

In line with the Talos F200 TEM and Titan™ platforms, Talos L120C TEM offers enhancements in automation, vacuum, and optical stability. This is important for experiments in 2D imaging, 3D tomography—at room temperature and cryo-conditions—and adds a key screening element in the single particle analysis workflow.

Versatile detectors

The Talos L120C TEM can be configured with two types of Ceta cameras. The Ceta™ 16 M and Ceta-S 4k × 4k CMOS-based sensor cameras assure rapid access to the highest quality images for simultaneous dynamic imaging and large field of view. This unique combination follows the natural workflow in TEM imaging: from fast navigation to find the area of interest to easy optimization of the image quality via optical adjustments to the final result.

Whereas both cameras are equally easy to use and fast, the Thermo Scientific CETA S camera is primarily optimized for low dose imaging as it has high sensitivity. This camera allows a minimum total electron dose, which minimizes beam damage, and therefore increases the yield in the imaging radiation sensitive samples.

This microscope is available with the new digital search-and-view SmartCam™ camera. This allows users to remotely operate the microscope from within the microscope room or from an adjacent room.

Key benefits

Suitable for multiuser environments, supporting multiuser applications from imaging and tomography, and can be configured for cryo-TEM applications.

More stability, robust system enclosure, constant power lenses, and remote operation allow consistent use.

Automation, multiple auto-functions (autogun, autoalignment) improve repeatability and reproducibility of results.

High-quality imaging, 4k × 4k Ceta CMOS camera's provide a large field-of-view and live digital zooming with high sensitivity and high speed, with Ceta S specifically suited to cryo-EM applications.

Quick sample exchange, robust vacuum system provides a contamination-free environment and fast recovery after airlock.

Correlate data, software allows for automated and unattended large area acquisition at multiple scales.

Cryo-imaging, observe cryo-specimen with minimal ice growth and automate single particle analysis (SPA) imaging with EPU software.

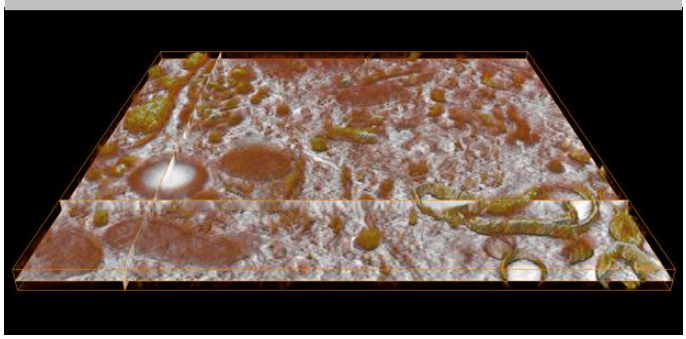

Figure 1. Room temp tomogram of a 200 nm section of human macrophages (5 nm gold beads internalized into endosomes, plasma membrane stained with electron dense ruthenium red).

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Advanced automation

The Talos L120C TEM features easy-to-use software, operating on Windows® 10, which allows for switching between TEM and STEM mode quickly and offers a high level of automation and complete digital control over multiple microscope components including the electron gun, optical elements, vacuum system, and stage. Additionally, the user interface allows for smart presets to save multiple operational conditions across many different applications.

MAPS on TEM

The modular MAPS software platform allows for auto-mated and unattended large area acquisition at multiple scales and provides a single software solution for image and data transfer between multiple imaging platforms such as TEM, SEM, SDB, and light microscopes. Users can quickly and easily correlate data from multiple imaging platforms—ready for input into the optional Amira® software for advanced visualization and analysis.

EPU for Single Particle Analysis

EPU Software is an embedded software solution on the Thermo Scientific cryo-TEMs for SPA acquisition. Its new intuitive user interface features more automation and screening capabilities, allowing for straightforward planning and execution of cryo-EM experiments.

Multiple application support

With potential to address multiple applications, the Talos L120C TEM is a powerful entry level solution for imaging and tomography, and can be configured as a basic Cryo-TEM imaging platform. Whether your needs are in cryo- or room temperature, or you require optimal 2D imaging or 3D imaging and multi-modality imaging experiments, the Talos L120C TEM is the ideal platform. It is fully upgradeable and can expand as your research needs grow.

Key Specifications	
TEM Line Resolution	0.204 nm
TEM Point Resolution	< 0.37 nm
TEM Magnification Range	25 – 650 k×
TEM Magnification Range with Camera	35 – 910 k×
Alpha Tilt Angle (with standard holders)	-90° to +90°
STEM HAADF Resolution with LaB6 (nm)	≤ 1.0
STEM Magnification Range	200 – 2.2 M×

Find out more at **thermofisher.com/EM-Sales**

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