

High Resolution- Transmission Electron Microscope

Make : FEI

Model : Tecnai F20

The 200kV FEI Tecnai F20 Super-Twin is designed to produce optimum high resolution performance in both TEM and STEM. This microscope features a 1024x1024 CCD camera positioned after the Gatan Imaging Filter (GIF) that can be used for both dedicated spectroscopic analysis and energy-filtered imaging. The high Resolution Gatan Orius 2672x2672 CCD can deliver high resolution and real time speed for imaging application. The Tecnai F20 is equipped with Lorentz Lens for magnetic imaging in Fresnel and Foucault modes and NanoMegas Astar system for automated phase/orientation mapping of nanocrystals materials.

Specifications :

Electron source

Flexible high tension (20, 40, 80, 120, 160, 200 kV and values in between)
Schottky field emitter with high maximum beam current (> 100 nA)
High probe current (0.5 nA or more in 1 nm probe)
Small energy spread (0.7 eV or less) • Spot drift < 1 nm/minute

Vacuum levels: specimen chamber < 1.2×10^{-5} Pa; gun < 1×10^{-6} Pa

Imaging

TEM point resolution (.24nm)
TEM line resolution (.102nm)
Information limit (.14nm)
Extended resolution (TrueImage) Minimum focus step (.16nm)
TEM magnification range 25X-1030kx
Camera length 30-4500mm
Maximized tilts for any X, Y, Z, α and β combination



EDAX Energy-Dispersive X-ray detector

Detector window:	S-UTW
Active area:	30 mm ²
Specimen-detector distance	15 mm
Collection angle	0.166 sterad
Elevation angle	0°
Detector resolution	135 eV@ Mn K- α at 100 μ s