

Jeol JEM 2100-Plus 200kV

Transmission Electron Microscope equipped with cryo-pole piece.

Applications

- Transmission electron microscopy (TEM) at room temperature
- Electron tomography (ET)
- Diffraction at cryo and room temperature
- Basic Cryo-electron microscopy

Microscope

Software	TEM Center, SerialEM
Electron source	Single crystal LaB ₆ cathode with a current range of at least 4pA to 40nA
Acceleration voltage	80kV, 120kV, 200kV
Magnification range	1.200X – 1.000.000X
Camera	Bottom Mount Camera: Hamamatsu <i>Orca-Flash4.0 C13042</i> High-sensitive sCMOS 2k x 2k (2048 x 2048 pxl) Quantum detection efficiency 82%
Resolution at 200kV	Point resolution 0.27 nm
Resolution at 200kV	Line resolution 0.14 nm
Goniometer tilt	From 80° to - 80°
Holders	Single tilt holder (1 grid) Specimen quartet holder (4 grids) High-tilt holder (1 grid) Cryo-holder
Others	Minimal Dose System (MDS) Anti-contamination device (ACD)
NOT Available:	STEM, EDS, NBD, CBD

JEOL manufacturer specifications for TEM with Cryo-configuration:

<https://www.jeol.co.jp/en/products/detail/JEM-2100.html>

Specifications JEM 2100-Plus

Based on JEOL manufacturer specifications (<https://www.jeol.co.jp/en/products/detail/JEM-2100.html>)

Configuration	Cryo
Resolution (nm)	
Point	0.27
Lattice	0.14
Acc. Voltage	80, 120, 200 kV
Minimum step	50 V
Stability	
Acc. Voltage	2 x 10 ⁻⁶ /min
OL Current	1 x 10 ⁻⁶ /min
Optical parameters for objective lenses	
Focal Length	2.8 mm
Spherical aber.coeff.	2.0 mm
Chromatic aber.coeff.	2.1 mm
Minimum focal step	2.0 mm
Spot size (in diameter)	
TEM mode	20 ~ 200 nm
Magnification	
MAG mode	x 1,200 to 1,000,000
LOW MAG mode	x 50 to 6,000
SA MAG mode	x 5,000 to 600,000
Camera length	
SA DIFF (mm)	100 to 2,500
Specimen driving system	
Tilting angle X, Y	±15/±10°
Tilting angle X	±80°
Shift (mm)	2 (X, Y) 0.4 (Z± 0.2mm)