



MODEL 1051

TEM Mill

A state-of-the-art ion milling and polishing system offering reliable, high performance specimen preparation. It consistently produces high-quality transmission electron microscopy (TEM) specimens with large electron transparent areas from a wide variety of materials.

Model 1051 TEM Mill specifications

Ion sources

Two TrueFocus ion sources
Variable energy (100 eV to 10 kV) operation
Beam current density up to 10 mA/cm²
Milling angle range of -15 to +10°
Choice of single or dual ion source operation
Manual or motorized (optional) ion source angle adjustment

Specimen holder

Designed for improved specimen handling and thermal properties; includes loading station
Holder clamping mechanism allows for simple specimen loading and double-sided milling to 0° without shadowing
Specimen holder and loading station with x-y adjustment capabilities (optional)

Specimen stage

360° specimen rotation with beam sequencing
Specimen rocking

Specimen cooling (optional)

Liquid nitrogen conductive cooling with integral dewar and automatic temperature interlocks
Dewar access positioned close to instrument operator
Choice of:

- standard dewar capacity (3 to 5 hours of cryo conditions)
- extended dewar capacity (18+ hours of cryo conditions)

Specimen illumination

Two independently controlled light sources, one above the specimen (reflected light) and one below the specimen (transmitted light)

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Automatic termination	Automatic termination by timer, temperature, or laser photodetector (optional)
Vacuum system	Turbomolecular drag pump and an oil-free, multi-stage diaphragm pump Vacuum sensing with a cold cathode, full-range gauge
Process gas	UHP argon (99.999%); nominal 15 psi delivery pressure required Automatic gas control using two mass flow controllers
User interface	Instrument operation controlled via 10-inch, adjustable touch screen Stack light indicator for determining milling operations status from a distance (optional)
Microscope (optional)	Load lock window accommodates either a: <ul style="list-style-type: none">• 7 to 45 X stereo microscope attachment for direct specimen observation• 1,960 X high-magnification microscope and CCD camera system for site-specific image acquisition and display
In situ viewing/imaging	Specimen can be monitored in situ in the milling position when using either the stereo microscope or the high-magnification microscope Viewing window protected by a shutter which prevents buildup of sputtered material that could interfere with specimen observation
Vacuum transfer	Load lock designed to accommodate vacuum transfer from TEM Mill to TEM Vacuum transfer capsule (optional)
Dimensions	Width: 26 in. (66 cm) Height: <ul style="list-style-type: none">• 13 in. (33 cm) height (to top of cabinet)• 24.5 in. (62 cm) height (to top of stereo microscope) Depth: 20.5 in. (52 cm)
Weight	161 lb. (73 kg)

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Power	100/120/220/240 VAC, 50/60 Hz, 720 W
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Warranty	One year
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