

HITACHI FOCUSED ION BEAM SYSTEM

# FB2200

**The Next Generation for Higher Throughput, Precision & Quality.**

Offering High-speed TEM Sample Preparation with Large area Ion Beam Milling.



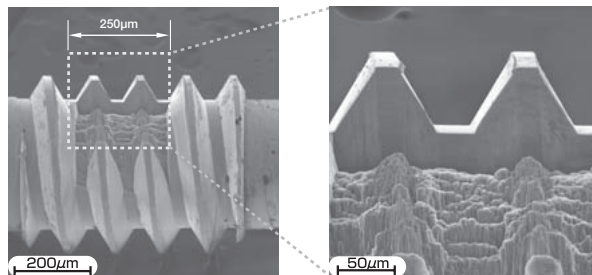
- Over 60nAmps of ion beam current to enhance sample throughput
- Low-damage specimen preparation with low accelerating voltage in-situ
- Pinpoint precision sample preparation of thin films utilizing Hitachi's patented Micro-sampling\*
- Compatible Holders\* for Hitachi SEM, TEM and STEM  
for rapid and simple sample transfer for further imaging and analysis

# High Speed and Large Area Fabrication

## Example of Cross-sectional Fabrication/Observation

Sample: Screw thread

Fabrication time: About 7 hours (Beam current: 70nA)



### Specifications

Accelerating voltage: 2 to 40 kV

Maximum beam current: 60nA or higher

Maximum beam current density: 50 A/cm<sup>2</sup> or higher

SIM resolution: 6nm or better

Magnification range: 60× to 300,000×

Ion optics

- Ion source: Ga
- Beam limiting aperture: Motor-drive selection
- Lens/deflector: Electrostatic 2-stage lens/octopole electrostatic type

Deposition: 2 gas sources (tungsten and carbon)

Fabrication functions: Box and vector scan patterning fabrication

Image acquisition: Maximum 2,000 × 2,000 pixels

Evacuation system:

- Column: Ion Pump × 2
- Sample Chamber: TMP × 1
- Pre-evacuation: Rotary pump × 2 (dry scroll pump optional)

### Options

Side-entry stage

Eucentric auto stage

Micro-sampling system\*1

Automatic fabrication software

Isolating holder

Compatible holders for Hitachi SEM, TEM and STEM

N<sub>2</sub> gas leak system

Air compressor

### Installation Conditions

Room temperature: 15 to 25°C (temperature variation must be within 5°C during operation)

Humidity: 60% RH or less

Power: Single-phase AC 100 V (±10%), 4 kVA (50/60 Hz)

Ground terminal: Class D, independent, 100 Ω or less (Grounding resistance)

Gas

- Compressed air: 0.4 to 0.6 MPa (for valve drive)
- N<sub>2</sub>\*2: 30 to 50 kPa (for N<sub>2</sub> gas leak)

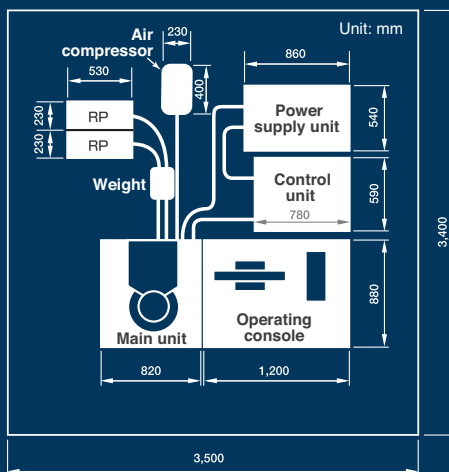
\*2: Option

### Dimensions and Weight

	Width	×	Depth	×	Height (mm)	Weight (kg)
Main unit	820	×	880	×	1,600	480 *3
Operating console	1,200	×	880	×	760	70
Control unit	590	×	780	×	700	120
Power supply unit	540	×	860	×	1,810	250
Rotary pump × 2	@530	×	230	×	410	@30
Weight	200	×	180	×	200	40
Air compressor*2	400	×	230	×	550	18

\*2: Option, \*3: Including option

### Standard Layout



\*1: Micro-sampling Hitachi's patents: USP5270552, et al.

NOTICE: For proper operation and safety, follow the instruction manual when using the instrument.

Specifications in this catalog are subject to change with or without notice, as Hitachi High-Technologies Corporation continues to develop the latest technologies and products for our customers.

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