

## 1403A Controller Features

- Precise and stable lens voltages
- Emission regulated electron impact supply
- Front panel raster controls with external programmability
- Power interlocks for safety and equipment protection
- Remote On/Off control for automated operation from external equipment
- Raster compensation electronics to correct for changes in sample geometry and working distance
- Comprehensive front panel system parameter monitoring

## Controller Specification

Input Power:	115/230VAC 50/60Hz auto-select operation. Fused at 3.3/1.8A.
Beam Energy:	0 - 5000V, 1mA switch mode supply continuously variable. Output capacitance: 0.0047µF.
Dual Condenser Focus:	150 - 5000V, 1mA switch mode supplies independently and continuously variable through front panel three position rotary switches and trim-pots. Output voltages scale with energy. Output capacitance: 0.0047µF
Objective Focus:	0 - 5000V, 1mA switch mode supply continuously variable. Output voltage scales with energy. Output capacitance: 0.0047µF
Filament Power:	Emission regulated supply with front panel selectable filaments providing 5V@5A max.
Electron Bombardment	Electron accelerating voltage internally adjustable to 150V. Seven settings of electron emission current selectable from front panel rotary switch.
Ion Extraction:	Internally adjustable to 1500V.
Bend Deflection	Adjustable output nominally set at 180 volts via front panel momentary switch set in its normal state. Switch is momentarily activated for beam current measurement using Faraday collector.
Deflection:	Variable bi-polar 350VDC supply for +X, -X, +Y and -Y deflection. Remaining octupole elements are supplied from a resistive divider network.
Interlocks:	HV cable disconnection turns off HV supplies. Adjustable high pressure interlock switches off HV supplies in the event of system overpressure. System and Auxiliary interlocks provide total shutdown in the event of system or auxiliary equipment failure.
Front Panel Monitoring:	Digital panel meters provide precision monitoring of all critical parameters including; lens voltages (4½ digits), ion source pressure and beam current (3½ digits), filament current and voltage (3½ digits), emission current (3½ digits).
Chassis Dimensions:	483(W)x132.5(H)x435.4(D) mm. 19 inch rack-mountable desktop case 3U high.