

# BMI: Scanning Electrical Mobility Spectrometer - Model 2002

The BMI Scanning Electrical Mobility Spectrometer (SEMS) provides rapid size distribution measurements and is an excellent source of monodisperse calibration aerosol.

*Optimized to select particles in the 0.01 to 2.0 micron diameter size range.*

## Technical Specifications:

- Flow ranges: 0.1 to 2 lpm (aerosol); 2.5 to 10 lpm (sheath)
- Size Range: 0.01 to 2.0 micron diameter
- Scan times: 15s to 10 hours
- Voltage range: 0 to 6000 volts
- Flow control accuracy: +/- 3% (+/-0.4% precision)
- Physical Size: 41w x 46d x 67h cm (16w x 18d x 26.5h in)
- Physical Weight: 35 kg (77 lb)
- Power: 80 watts (without pumps) (100-230 VAC)
- Complete SEMS includes pre-impactor, neutralizer body, DMA, HV & air flow control, pumps, control hardware, software, CPC, keyboard, monitor and mouse



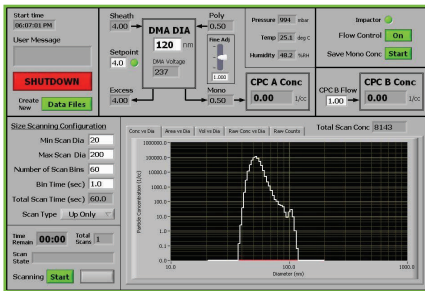
SEMS System Model 2002

Shown with MCPC Model 1700

## Key Features:

- Fully automated, unattended operation
- Broadest available size range
- Fastest CPC time response and DMA scan times
- Broad operating pressure range
- Compact and lightweight CPC
- Low maximum voltages (<6000v)
- Monodisperse particle selection and scanning software with on-line inversion
- Inversion accuracy increased with real-time temperature and pressure measurements
- Configuration, calibration, and characteristic time software utilities
- Spill proof CPC w/butanol vapor removal
- Pre-impactor (0.5 µm or 1.0 µm cut size)
- Neutralizer body (Po-210 strips not included)
- Flow drying system (optional)
- Rack mountable
- Integrated Windows®-PC

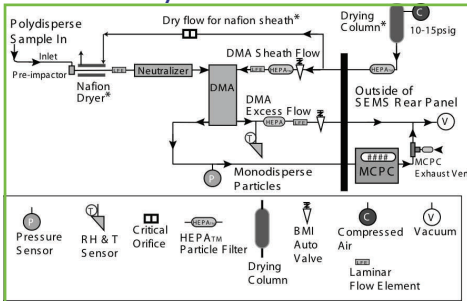
## SEMS User Interface



*The SEMS system software is easy to use and has an intuitive user interface.*

BMI has developed an advanced Windows®-based real time software with an easy-to-use graphical user interface to simplify the SEMS operation.

## System Schematic



The core software enables rapid time scanning of the spectrometer voltage to select a broad size range of particles in time sequence, allowing the condensation particle counter to measure the number size distribution - how the concentration of particles varies with particle size. This is a fundamental measurement in the field of air quality research and industrial nanoparticle monitoring.

The measurement accuracy is enhanced through a key innovation in the scanning software that addresses the effects of desmearing, multiple charging, and the DMA transfer function.



For more information about our SEMS system please visit our website at [www.brechtel.com/aerosol.html](http://www.brechtel.com/aerosol.html) or contact our sales department by email at [sales@brechtel.com](mailto:sales@brechtel.com) or 510-732-9723