Now you can sample charged particles, typically from the output of a Differential Mobility Analyzer (DMA), onto sample substrates for analysis. The Model 3089 Nanometer Aerosol Sampler (NAS) allows you to control the spot size of the deposition using two electrode sizes to get a uniform deposition size that is optimal for your analysis system. For your convenience, the instrument contains a high-voltage negative power supply, pump, and LCD display. The NAS is optimized for use with a Model 3080N Electrostatic Classifier, which contains a Model 3085 Nano DMA.

**Applications**
The successful use of the electrostatic precipitation method to sample aerosol has been documented in many publications. The NAS provides a convenient means of sampling charged aerosols onto substrates with control over the collection spot size using two sizes of electrodes, flow control, and voltage control. Known applications for this instrument include:

+ Samples for electron microscopy (SEM/TEM)
+ Samples for scanning microscopy (AFM/STM)
+ Biomolecule sample preparation (PCR)
+ Nano-material evaluation

**Features and Benefits**

+ Uniform particle deposition on substrate
+ High collection efficiency of positive, singly charged particles in the range from 2 to 100 nanometers
+ Flow and voltage adjustments
+ Built-in pump and flowmeter
**Impactor Cut Points**

Mode of Operation
Collection of single- or multi-charged particles using electrostatic precipitation onto a collection substrate

**Particle Type**
Solids or nonvolatile liquids

**Particle Size Range**
2 to 100 nm

**Sample Electrode Size**
9.5-mm (3/8-in.) or 25-mm (1-in.) diameter

**Inlet Flow Rate**
0.2 to 2.5 L/min (1 L/min nominal)

**Voltage Range**
-0.5 to -10 kV

**Power Requirements**
85 to 260 VAC, 50/60 Hz, 25 W maximum

**Front-panel Displays**
3.5-digit LED for voltage, 0.2 to 2.5 L/min flowmeter

**Ports**
- Aerosol Inlet: 1/4-in. OD aluminum tube
- Pump Exhaust (Filtered): 1/4-in. OD Swagelok® connection

**Dimensions (LWH)**
20.3 cm × 25.6 cm × 22.8 cm (8.0 in. × 10.1 in. × 9.0 in.)

**Weight**
3.75 kg (8.25 lb)

**Environmental Operating Conditions**
- Recommended Environment: Indoor use
- Ambient Temperature: 10 to 50°C
- Ambient Humidity: 0 to 90% RH, noncondensing

Specifications are subject to change without notice.


TO ORDER
**Nanometer Aerosol Sampler**
Specify Description
3089 NAS instrument and accessories

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**Operation**
The substrate is mounted on the sample electrode using adhesive tape. The electrode is installed inside the sampler and run at a fixed voltage. The electric field will focus charged particles from the inlet onto a portion of the substrate. The substrate can then be removed for further analysis.

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**Bibliography**