KANOMAX
The Ultimate Measurements

Aerosol Particle Mass Analyzer

Model 3601 APM-II

Aerosol Particle Mass Analyzer (APM-II) classifies particles by mass based on the balance between centrifugal force and electrostatic force.

Particle size distribution measurement is normally used in order to measure nanosized particle distribution. While DMA (Differential Mobility Analyzer) classifies particles by particle size utilizing electrostatic force, APM-II classifies particles by mass based on entirely new classification principles.

Applications

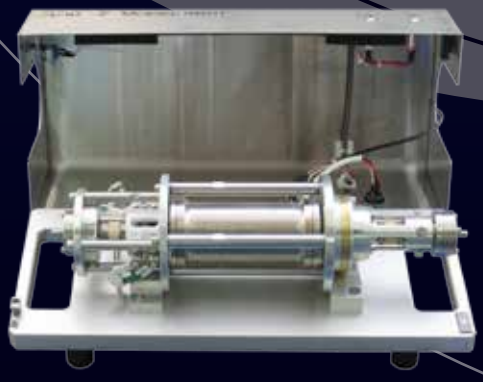
- **Mass distribution measurement**
- **Particle density research**
- **Monodispersal aerosol generation**




Features & Benefits

- **Desktop and lightweight unit**
- **APM-II classifies aerosol particles of 0.001 to 1000 femtograms**
- **Particle density distribution can be attained by combining the APM and DMA**

Control Unit



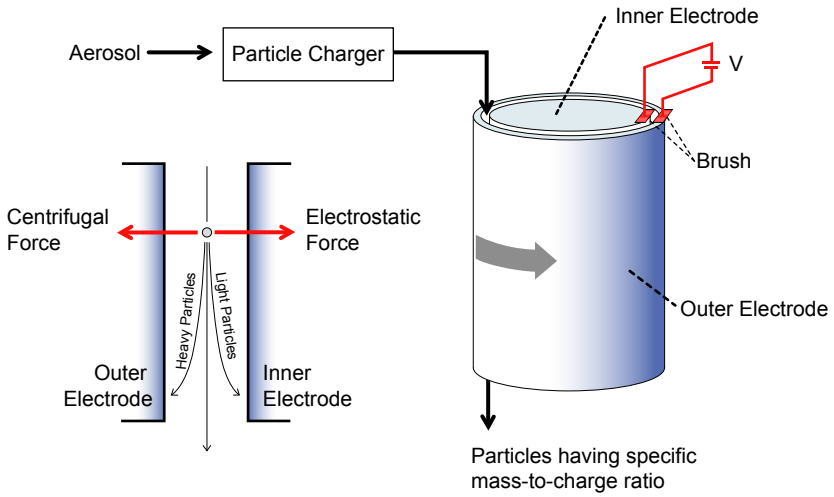
Rotating Cylinder Assembly

Aerosol Particle Mass Analyzer Model 3601 APM-II Specifications

Main Unit (Classifier)	
Classification Method	Classification based on the balance between centrifugal force and electrostatic force
Particle Mass Range	Approx. 0.001 ~ 1000 femtograms (Equivalent to approx. 14 nm ~ 1.3 μm for particle density of 1 g/cm^3)
Rotation Speed	1,000 ~ 14,000 rpm
Maximum Voltage	Up to 2,000 V
Rotating Cylinder Dimensions	Inner Cylinder Diameter: 48 mm Gap between Inner and Outer Cylinders: 1 mm Cylinder Length: 100 mm
Sampling Flow Rate	0.3 to 1.0 L/min (0.3 L/min is recommended)
Control Unit	
Control Function	Rotation Speed and Applied Voltage
Display Function	Applied Voltage / Rotation Speed / Differential Pressure between inlet and outlet (panel display)
Input/Output Function	Input: Applied Voltage Setting / Rotational Speed Setting Output: Applied Voltage / Rotational Speed / Differential Pressure between Inlet and Outlet
Dimensions / Weight	Main Unit: 430 (W) x 200 (L) x 140 (H) mm (excluding projection) / 10.5 kg
	Control Unit: 430 (W) x 350 (L) x 180 (H) mm / 7.0 kg
Power Supply	Single-phase AC100 ~ 240V/50/60Hz 3A
Optional Extras	Communication Cable, PCI Communications Boards

Specifications are subject to change without notice.

■ Operating Principle of APM (Particle charger not included)



APM Force Balance Equation

$$mr\omega^2 = q\,\frac{V}{r\ln(r_2/r_1)}$$

m = particle mass
ω = APM angular speed
r = particle location relative to axis of rotation
q = particle charge
r_1, r_2 = radii of inner & outer electrodes
V = applied voltage

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