KANOMAX
The Ultimate Measurements

Aerosol Particle Mass Analyzer

Model 3602 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 classification principles.

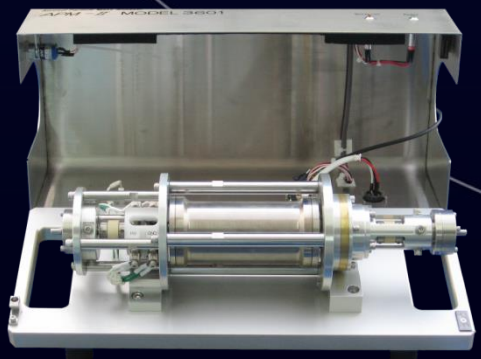
Applications

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

Features & Benefits

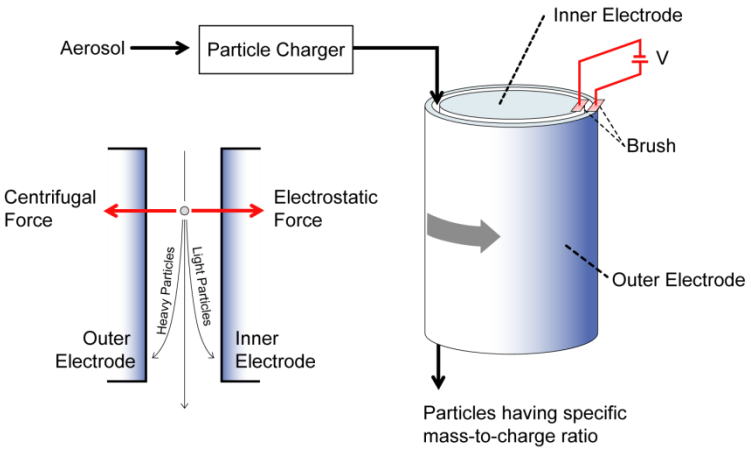
- Desktop and lightweight unit
- APM-II classifies aerosol particles of 0.001 to 565 femtograms
- Particle density distribution can be attained by combining the APM and DMA, sheath flow rate and classifying voltage of some DMAs can be controlled by the APM software.

Control Unit



Classifying Unit Assembly

■ 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

Aerosol Particle Mass Analyzer Model 3602 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 ~ 565 femtograms (Equivalent to approx. 12 ~ 1,008 nm for particle density of 1 g/cm^3)
Rotation Speed	1,000 ~ 14,000 rpm
Maximum Voltage	Up to 2,000 V
Rotation Cylinder Dimensions	Inner Cylinder Diameter : 48 mm Gap between Inner and Outer Cylinders : 1 mm Cylinder Length : 100 mm
Classification Accuracy	Tolerance < 1.3 % (calculated by rotation speed and applied voltage)
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 / Rotation Speed Setting Output : Applied Voltage / Rotation Speed / Differential Pressure between Inlet and outlet
Dimensions / Weight	Main Unit : 430 (W) × 165 (H) × 200 (L) mm (excluding projection) / approx. 11 kg Control Unit : 430 (W)) × 140 (H) × 350 (L) mm (excluding projection) / approx. 8 kg
Power Supply	Single phase AC 100～240 V 50/60 Hz 400 VA
Optional Extras	Software, USB Cable

Specifications subject to change without notice.

KANOMAX
The Ultimate Measurements

KANOMAX JAPAN INC.
2-1 Shimizu Suita-shi, Osaka 565-0805 JAPAN
TEL: +81-6-6877-0177
FAX: +81-6-6879-2080
E-mail: particle@kanomax.co.jp
URL: http://www.kanomax.co.jp

Distributed by:

CAT.NO.A3602-7E