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
Aerosol Particle Mass Analyzer Model 3601 APM-II Specifications

### Main Unit (Classifier)

<table>
<thead>
<tr>
<th>Classification Method</th>
<th>Classification based on the balance between centrifugal force and electrostatic force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particle Mass Range</td>
<td>Approx. 0.001 ~ 1000 femtograms (Equivalent to approx. 14 nm ~ 1.3 µm for particle density of 1 g/cm³)</td>
</tr>
<tr>
<td>Rotation Speed</td>
<td>1,000 ~ 14,000 rpm</td>
</tr>
<tr>
<td>Maximum Voltage</td>
<td>Up to 2,000 V</td>
</tr>
</tbody>
</table>
| 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

<table>
<thead>
<tr>
<th>Control Function</th>
<th>Rotation Speed and Applied Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Function</td>
<td>Applied Voltage / Rotation Speed / Differential Pressure between inlet and outlet (panel display)</td>
</tr>
</tbody>
</table>
| 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

**Operating Principle of APM (Particle charger not included)**

![Diagram of APM](attachment:apm_diagram.png)

**APM Force Balance Equation**

\[
m r \omega^2 = \frac{q V}{r \ln(r_2/r_1)}
\]

- \(m\) = particle mass
- \(\omega\) = 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

---

Kanomax USA, Inc.  
P.O. Box 372  
219 US Hwy 206, Andover, NJ 07821 U.S.A.  
TEL: 1-800-247-8887 (USA) / 1-973-786-6386  
FAX: 1-973-786-7586  
E-mail: info@kanomax-usa.com  
URL: www.kanomax-usa.com

Copyright © 2015 by KANOMAX USA, Inc.