

# SASS<sup>®</sup> 4100

## Two-Stage Filter-Based Collector

**COLLECT Airborne Pathogens, Virus-Sized Particulates, Bacteria and Spores**

The **SASS 4100** is a highly efficient, two-stage filter-based aerosol collection device. Many applications require the collection and analysis of aerosol particles, ranging from counter-terrorism to epidemiology, medicine, and agriculture. These applications typically involve the monitoring or collection of airborne plant, animal or human pathogens, or radiological aerosols. But aerosol sample analysis is frequently plagued by three problems:

- The targeted aerosol may be present at a very low concentration;
- Collection may involve too small an air sample to be statistically valid; and/or
- Available assay methods may not be sensitive enough.



The SASS 4100 processes over 4000 liters/minute of ambient air that is continuously sampled as a primary air stream. Particulates in this air stream are transferred to a much smaller secondary air stream using centrifugal and virtual impaction principles. Particles are then routed into the secondary flow by forcing primary circuit air to circulate through specially shaped channels where centrifugal force and particle momentum isolate and concentrate the particles. The secondary flow can reach aerosol concentrations that are 4X to 15X higher than in the incoming air. The two-stage sampler amplifies and slows down the captured ambient aerosol particles prior to their collection. This aerosol concentrate is collected by directing the secondary air through an electret bulk filter media; devoid of particles, the secondary air is re-introduced into the primary air flow.

### FEATURES

- No moving parts, other than the primary fan
- Minimal maintenance
- Wide operating temperature
- Clog resistant
- Sampled air volume maximized to improve collection statistics
- Organism viability is maximized by using low air flow velocities and a bulk electret filter media
- HEPA filter available for radiological sampling

### APPLICATION AREAS

- Environmental
- Air quality
- Agriculture
- Public Health
- Medical facilities
- Homeland security
- Military
- Power plants

U.S. Patent Nos.: 9791353, 10677689

For more technical information, please visit [www.resrchintl.com](http://www.resrchintl.com).

SASS 4100 Two-Stage Aerosol Collector Specifications	
Characteristic	Description
Primary Airflow	4,000 liters/min sampled uniformly from around the concentrator's circumference.
Secondary Air Collection Rate	<b>HEPA-style filter:</b> 49 LPM. <b>Bioaerosol filter:</b> 265 LPM.
Filter Collection Efficiency	<b>HEPA-style filter:</b> More than 95% for > 0.3 µm diameter. <b>Bioaerosol filter:</b> 50% at 0.5 micron diameter.
Filter Media Size	4.4 cm active diameter filter, mounted in 6.0 cm diameter injection-molded holder.
Filter Mass And Composition	<b>HEPA-style filter:</b> 2.2 mg/cm <sup>2</sup> for active media; 8.6 mg/cm <sup>2</sup> including backing scrim <b>Bioaerosol filter:</b> 12 mg/cm <sup>2</sup> Both filters are composed of polypropylene electret micro-fiber.
Filter Mount	Hat-shaped fixture that locks onto the device's baseplate
Overall Size	38 cm high x 25.4 cm diameter max.
Weight	6.32 kg (13.9 lbs.)
Operating Temperature Range	-40°C to 70°C
Operating Life	ECM fan rotor is only moving part. A bearing life of 70,000 hours is expected at 40°C.
Power Consumption	<ul style="list-style-type: none"> <li>• 160 watts for ECM drive motor at 24 VDC.</li> <li>• 100 to 230 VAC lump-in cord AC/DC converter supplied.</li> </ul>
Sound Level	72 dBA @ 1 meter radius on inlet equatorial plane.
Mounting	Quick-detach tripod legs; 0.53m to 1.46m adjustable height.
Accessories	<ul style="list-style-type: none"> <li>• Hard shell carrying case</li> <li>• Electret sample filter assembly (for stand-alone operation)</li> </ul>
<i>Research International reserves the right to change specifications without prior notice.</i>	

## Research International, Inc.

### U.S. Headquarters Office

17161 Beaton Road SE, Monroe, WA 98272-1034  
 Phone: 360-805-4930 • Fax: 360-863-0439  
 Toll Free: 1-800-927-7831  
 Email: [info@resrchintl.com](mailto:info@resrchintl.com) • Web: [www.resrchintl.com](http://www.resrchintl.com)

### U.S. East Coast Office

Jon Tobelmann  
 Phone: 703-625-8381  
 Email: [jontobelmann@resrchintl.com](mailto:jontobelmann@resrchintl.com)

*To locate an international distributor, please contact our headquarters office.*



Visit us at [www.resrchintl.com](http://www.resrchintl.com)  
 or call 1-800-927-7831