

SASS® 3100

Dry Air Sampler



World-class filter-based air sampling technology

Features

- ISO 14698-1 compliant
- Collection periods may be days in length
- Usable from -40°C to 70°C: No fluids
- Adjustable air flow: 50-310 LPM
- User-specified automated protocols
- Wireless control option
- Easy decontamination
- Compact and lightweight
- Long-life primary and rechargeable battery options

Application Areas

- Medical facilities
- Public health
- Clean rooms
- Food processing
- UAVs (unmanned aerial vehicles)
- Agriculture
- Indoor air quality
- Environmental monitoring
- National security

The SASS® 3100 Smart Air Sampler System is a compact, rugged microprocessor-controlled portable air sampler designed for use with state-of-the-art electret filter media. It is ideal for collecting biological and radioactive aerosols. In independent tests performed by third parties, it has outperformed all competitors in collection efficiency and suitability.

Filter Efficiency The standard 44mm diameter electret filter used with the SASS 3100 samples at a maximum rate of 300 liters/minute and has a collection efficiency of 50% at an aerosol particle diameter of 0.5 microns. A second HEPA-style electret filter that is physically interchangeable has 95%+ collection efficiency for particles greater than 0.3 microns in diameter. Its maximum sampling rate is 49 liters/minute – a very high rate for a HEPA-style filter of this size. The HEPA-style filter also meets all key international standards for radioaerosol collection.



Flow rates and sampling protocols are microprocessor controlled and may be pre-programmed for different types of field work using the bundled PC software. The unit can be operated either manually or remotely via an RS232 serial link.

Easy decontamination For applications where run-to-run cross-contamination is a serious concern, the filter mounting structure may be removed and cleaned as a separate component. The motor/rotor assembly may also be removed and the rotor cleaned.

Field operation The SASS 3100 may be powered by either a primary or rechargeable battery. The primary battery provides over 20 hours of continuous operation at maximum flow, while the rechargeable battery should power the device for over 24 hours. A universal wall-plug power supply accepting 100-240 VAC at 50-60 Hz is also provided.

SASS 3100 Sampling Specifications

Operating Principle	Collection by electret dry filter media.	
Air Collection Rate	With standard (bioaerosol) electret filter: With HEPA-style (radiological) electret filter:	User adjustable 50 LPM to 300 LPM. User adjustable 10 LPM to 49 LPM.
Filter Collection Efficiency	With standard (bioaerosol) electret filter: With HEPA-style (radiological) electret filter:	50% at 0.5 micron diameter. More than 95% for > 0.3 μ m diameter.
Filter Mass and Composition	Standard (bioaerosol) electret filter: HEPA-style (radiological) electret filter: Polypropylene electret microfiber.	12 mg/cm ² . Polypropylene electret microfiber. 2.2 mg/cm ² for active media; 8.6 mg/cm ² including backing scrim.
Filter Media Size	4.4 cm active diameter filter, mounted in 6.0 cm diameter injection-molded holder.	
Decontamination	Water-tight design allows decontamination with 1 to 5% bleach solution. Fan shell and motor/rotor assembly may be removed for decontamination.	

Physical Specifications

Dimensions	15.60cm W x 17.04cm D x 19.81cm H
Weight	2.0 kg (3 lbs 15 oz); add 1 kg for battery.
Package	EMI-resistant, water-tight extruded aluminum case.
Sound Level	45-61 dB (A) at 1 meter; peak value at exhaust port.
Temperature Range	-40° to 70°C for both operation and storage.
Humidity Range	All-weather. Optional rain shield prevents wetting of filter during rainy conditions.
Drive Fan	High efficiency centrifugal fan with electronically commutated drive motor. Fan life is 30,000-40,000 operating hours.

Power

Power Source	100–240 VAC/50–60 Hz lump-in-cord 28 VDC power supply. Optional BA-5590/U primary battery or UBI-2590 rechargeable battery.	
Power consumption	< 10 watts	
Operating Time	Primary Battery Standby: > 8 days Sampling: > 20 hours	Rechargeable Battery Standby: > 10 days Sampling: > 24 hours

Software, Accessories, & Consumables

System Controls	Microprocessor controlled. RS232 or optional wireless link for remote operation or reprogramming. Dimmable LEDs monitor for battery end-of-life and fan rotation.
PC Software Requirements	OS: Windows; processor: 400 MHz Pentium or equivalent (min.); RAM: 96 MB (min.), 256 MB (recommended); hard disk: 1.2 MB available space; USB port or CD-ROM.
Connectors	Standard: DB-9. Optional: Military CCSI (additional cost).
Communications	RS232. RF links optional.
Optional Accessories	Carrying case; rain guard; tripod; rechargeable battery and charger.
Consumables	Electret filters in four styles: Standard /welded, standard/removable, HEPA/welded, HEPA/removable



Research International reserves the right to change specifications without prior notice.



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