

SASS 4100 Plus

High-Volume Dry Air Sampler + Particle Extractor

PLUS PRODUCTS: Combinations That Make Sense



SASS 4100 Plus: High-Volume Dry Air Sampler PLUS Particle Extractor

The SASS 4100 Plus provides total sampling capability by combining a highly efficient, two-stage, dry filter-based aerosol collection device with a particle extractor. The system can be used for many applications requiring the collection and later analysis of airborne particulates, including: counter-terrorism, epidemiology, agriculture, food or medical facility air quality testing.

The SASS 4100 continuously samples over 3500 liters/minute of ambient air 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 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 present in the incoming air, yet the velocity of this secondary aerosol concentrate flow is much lower than peak velocities in the primary air

stream.

Particulates are collected from this concentrate by directing the secondary air through a disposable filter capture element (see figure to right). This filter is up to 50X more efficient than a conventional glass or cellulosic material because each fiber incorporates a built-in electric field that captures particles using electrostatic dust precipitator principles, but at a microscopic level. The electret filter is mounted in a compact, easily disengaged holder located under the SASS 4100's baseplate.

Once concentrated samples have been collected, the SASS 3010 particle extractor is used to extract and transfer captured particles into a small fluid volume for analysis. This extraction process is simple and takes 1 to 2 minutes.

For more technical information visit www.resrchintl.com.



SASS 3010 particle extractor and snap on "electret" filter.



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Specifications for SASS 4100 Two-Stage Aerosol Collector

Characteristic	Description
Primary airflow:	3,600 liters/min is sampled uniformly from around the concentrator's circumference.
Aerosol collection media:	Fibrous electret bulk filter, RI part number 7100-134-230.
Secondary airflow:	265 LPM with the electret filter in place.
Air velocity at filter face	3 m/sec. (43.4 mm diameter filter active area).
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 60°C.
Ingress protection rating:	45
Operating life:	ECM fan rotor is only moving part. A bearing life of 30,000 hours is expected.
Power consumption:	90 watts for ECM drive motor. 100 to 230 VAC lump-in cord AD/DC converter supplied. If operated from DC, please specify DC source voltage of 12, 24 or 28 VDC.
Sound level:	72 db-A @ 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"> • Hard shell carrying case. • Electret sample filter assembly

Specifications for SASS 3010 Particle Extractor

Filter compatibility:	For use with SASS 3100 and SASS 4100 electret filters
Extraction method:	Acoustic vibration of the fluid-saturated filter is followed by pneumatic and mechanical counter flow-driven discharge of the suspended aerosol particles.
Extraction efficiency:	60-80% typical.
Residue, run-to-run:	1.1% with dry wiping, and 0.01% to 0.1% with a 5 ml flush.
Extraction time:	1 to 2 minutes, typical, with a flush cycle.
Extraction fluid:	Pre-filled dropper bottle with buffered extraction fluid for a 4-10 ml sample (user specified).
Sample fluid storage:	Extraction fluid bottle also used for fluid sample storage after extraction.
Physical size/Weight:	15 cm W x 17 cm L x 20 cm H / 1.25 Kg.
Electrical power:	Two size "D" primary batteries.
Operating temp. range:	0° C to 70° C.

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

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