SASS® 3010

Particle Extractor

Filter-to-liquid particle extraction, simplified.

Features

- Fast and efficient extraction from electret filters
- Extraction efficiency range 70 – 80%, typ.

Application Areas

- Pharmaceutical
- Medical facilities
- Public health
- Clean rooms
- Military
- Food processing
- UAVs
- Agriculture
- Indoor air quality
- Environmental
- Homeland security

The SASS® 3010 is used to extract and transfer aerosols from Research International's electret filters to a small fluid volume for analysis.

Ease of use Captured particulates can be difficult to remove because induced dipole fields create a strong holding force and must be neutralized. Once particulates have been released, they must then be removed from within the fibrous filter matrix and collected in a small amount of sample fluid. These processes are efficiently performed in a matter of 1–2 minutes using the SASS 3010 Particle Extractor.

Tested for efficiency To test extraction efficiency, several electret filters were used to collect airborne fluorescent polystyrene beads of 1.8 microns diameter. Each filter was operated for a period of 10 minutes. After the collection phase was completed, the filters were mounted in the SASS 3010 and captured beads transferred to 5 ml of extraction buffer. Extraction efficiencies were then determined using fluorometric assay methods.

Results It was found that an average recovery of 77% was achieved. A second extraction with an additional 5 ml of extraction fluid resulted in recovery of another 17% of the embedded beads, while two more 5 ml extractions resulted in small 4.5% and 1.5% additions to the total number of beads recovered, respectively.

SASS® 3010 Specifications

Filter compatibility	For use with SASS 3100 and SASS 4100 filters.
Extraction method	Acoustic vibration of the fluid-saturated filter is followed by counter-flow discharge of the suspended aerosol particles.
Extraction efficiency	70-80% typical
Carry-over	1.1% with dry wiping, and 0.01% to 0.1% with a 5 ml flush. Additional flushes will reduce carry-over further.
Extraction time	1 to 2 minutes, typical, with a flush cycle.
Sample fluid storage	The extraction fluid bottle is also used for fluid sample storage upon completion of extraction.
Physical size	• Body: 10.2 cm (W) x 13.4 cm (D) x 14.5 cm (H) • A 7.8 cm-high plunger protrudes from the extractor's top surface.
Weight	800 grams
Electrical power	Two size "D" primary batteries. Optional power supply available, purchased separately.
Operating temperature	0°C to 70°C
Extraction fluid	A pre-filled dropper bottle provides enough buffered extraction fluid to make a 5 ml sample. Other fill levels to 10ml available on user request. Purchased separately.

The SASS 3010 efficiently extracts particles from electret filters used with the SASS 3100 dry air sampler or SASS 4100 two-stage aerosol collector.

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

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