Ultrasonic Personal Air Sampler (UPAS) v2.0

Quiet, lightweight, wearable filter sampler

(Actual device size)

Access Sensor Technologies' Ultrasonic Personal Air Sampler (UPAS) is a compact filter sampler built around ultrasonic pumping technology. The UPAS is smaller, lighter, quieter, more affordable, easier to use, and more robust than conventional air samplers.

Minimal ergonomic burden: The UPAS is silent, small, and light enough to be worn in a person's breathing zone. Interchangeable size-selective inlets and filter cartridges integrate directly with the pump, so there's no need for cumbersome tubing or tape!

Sampling made simple: It's easy to set up the UPAS and download sample data to your mobile device using our iOS or Android application.

Reliable data: An active sample flow control system maintains the target volumetric flow rate even as environmental conditions change and the pressure drop across the filter increases. The UPAS logs detailed operational data to enable robust sample quality assurance.

"I like the UPAS because it is easier to use."
- Dr. Robert Blount, University of Iowa

HIGHLIGHTS
Integrated size-selective PM inlets
Wireless setup via mobile application
Active, accurate sample flow control
Small and quiet; minimal ergonomic burden
Comprehensive, time-resolved data logging
GPS location tracking
Long battery endurance for extended sampling

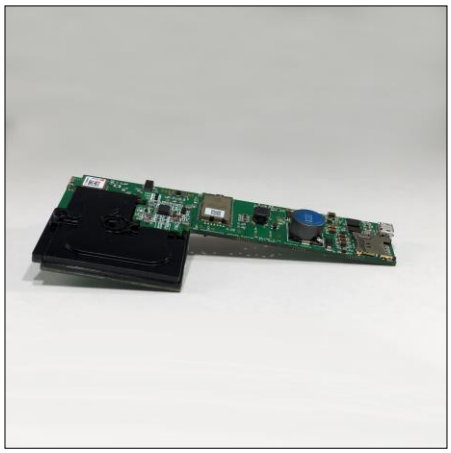
SPECIFICATIONS	
Exterior size	128 mm × 70 mm × 23 mm
Weight	200 g (without inlet or filter cartridge)
Noise	< 45 dB
Flow rate range	1.0 to 2.0 L min^{-1} ± 4% (actively controlled)
Size-selective inlets (per relevant EPA, ACGIH, and ISO criteria)	$PM_{2.5}$, 1 L min^{-1} $PM_{2.5}$, 2 L min^{-1} Respirable PM, 2 L min^{-1} PM_{10} / Thoracic, 2 L min^{-1}
Filter size	37 mm (default) or 25 mm; quick-change filter cartridges for easy in-field handling
Battery type	Li-Ion, 24 W-h
Battery life	20 to 48 h, depending on filter media and sample settings; extendable via external battery or line power.
On-board sensors monitor:	• Sample flow rate • Air temperature/pressure/relative humidity • Differential pressure across the sample filter • GPS location of UPAS (can be deactivated)

ACCESS SENSOR TECHNOLOGIES
Sampling made simple.®

Revision 1.6, May 2026

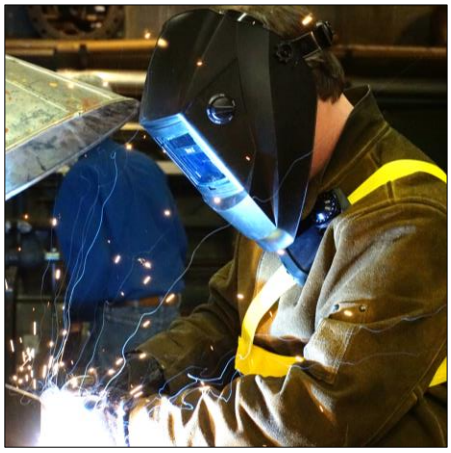
SIMPLE FILTER REPLACEMENT

SIMPLE INTEGRATED DESIGN



SIMPLE FORM FACTOR

WEARABLE FOR ALL AGES



INDOOR ENVIRONMENT

Download on the App Store

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"CSU UPAS" MOBILE APP

The UPAS has been laboratory- and field-tested alongside gold standards like the Personal Environmental Monitor (PEM), the Harvard Impactor, the Mesa Labs/BGI Triplex Cyclone, and the Personal Modular Impactor (PMI). For validation data, see the following peer-reviewed publications:

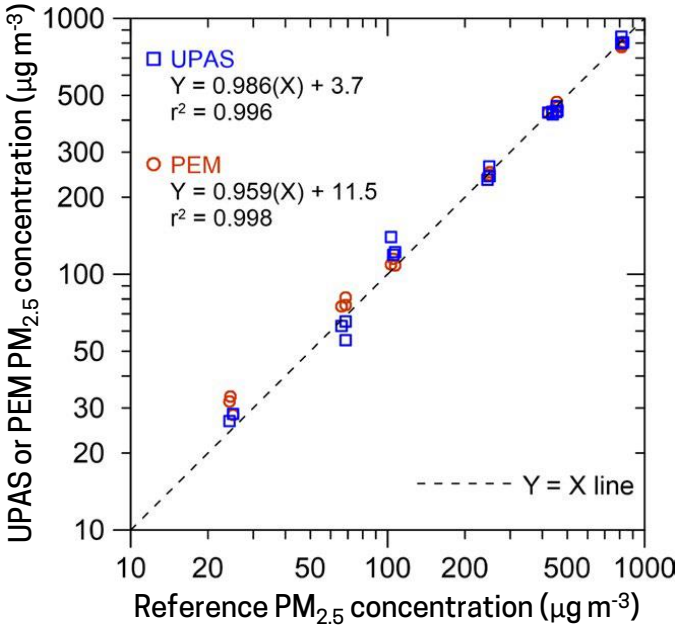
Volckens, J., et al. Indoor Air, 2017, https://doi.org/10.1111/ina.12318

Arku, R.E., et al. Environment International, 2018, https://doi.org/10.1016/j.envint.2018.02.033

Pillarisetti, A., et al. Environment International, 2019, https://doi.org/10.1016/j.envint.2018.11.014

Burrowes, V.J., et al. Indoor Air, 2020, https://doi.org/10.1111/ina.12638

Li, X., et al., Aerosol Science & Technology, 2024, https://doi.org/10.1080/02786826.2024.2415481



Above: UPAS performance relative to a conventional sampler (URG-2000-30EGN-A cyclone & URG-2000-30FG filter holder).

Access Sensor Technologies

www.accsensors.com (970) 818-7520 support@accsensors.com

320 East Vine Drive Suite 221, Fort Collins, CO, USA 80524