

Atmospheric Sampling Distribution Box



AI Overview

An Atmospheric Sampling Distribution Box is a device designed to collect, distribute, and store air samples for analysis, enabling spatially and temporally resolved measurements of gases or particles.

Overview and Purpose

Atmospheric sampling distribution boxes are used to monitor air quality, detect pollutants, and study spatial and temporal variations in atmospheric compounds. They are particularly useful for measuring volatile organic compounds (VOCs), particulate matter, or other trace gases in both indoor and outdoor environments. These systems allow simultaneous sampling across multiple locations, providing high-resolution data for environmental research, industrial monitoring, or regulatory compliance .

Design and Components

A typical atmospheric sampling box includes:

- Enclosure: Water- and airtight polycarbonate or ABS case with a transparent lid for visibility and protection of electronics .
- Air Intake: Teflon™ tubing or PM10/PM2.5 inlets to draw ambient air into the system .
- Sampling Media: Metal adsorbent cartridges or sorbent tubes for VOCs, or filters for particulate matter .
- Pump and Flow Control: Variable-speed diaphragm pumps with flowmeters to reg...

Article Content

Oct 30, 2025

Mapping the geospatial distribution of atmospheric BTEX compounds

Abstract Atmospheric environmental monitoring with mobile laboratories is becoming more common as instrumentation

Jan 03, 2026

Performance of four-parameter analytical models of atmospheric

Alternatives to multicomponent models are multi-parameter analytical models of aerosol particle size distributions. A

Feb 22, 2026

HYSPLIT – Air Resources Laboratory

HYSPLIT models simulate the dispersion and trajectory of substances transported and dispersed through our atmosphere, over local

Nov 21, 2025

Guide to Air Sampling

Section 1.0 Introduction Eurofins Air Toxics Inc. presents this guide as a resource for individuals engaged in air

Aug 02, 2025

A review of dispersion modelling and its application to the dispersion ...

This paper provides the first review of the application of atmospheric models for particle dispersion. The different types

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A method to optimize sampling locations for measuring indoor air ...

According to the function, the sampling size has an optimal value and the maximum sampling size can be determined

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Buyers'' Guide > Electron Microscopy > Supplies & Accessories

The EM-Tec Save-Storr inert gas sample storage container has been designed to safely store and transport moisture or oxygen

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Airbox Sampling Products | Air Sampling Pump

Elevate your air testing with Airbox's award-winning pumps—robust, user-friendly, and delivering verifiable results. Find the ideal

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Aerosol Size Distribution | NASA Airborne Science Program

These instruments, along with a Passive, Near-Isokinetic Inlet for sampling atmospheric particles from a fast-moving

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Ambient Air Sampling | Methods, Importance & Use Cases

Learn what ambient air sampling is, why it matters, and the most common sampling methods. Discover its role across industries with

Nov 04, 2025

A comprehensive review of Gaussian atmospheric dispersion models ...

Abstract This article provides an in-depth review of Gaussian atmospheric dispersion models, which are mathematical

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AirCore: An Innovative Atmospheric Sampling System

Abstract This work describes the AirCore, a simple and innovative atmospheric sampling system. The AirCore used in

Feb 11, 2026

Air sampler for lab and field use

To support cost-effective air sampling campaigns in the laboratory and field, we developed the VSI AS-100

Sep 11, 2025

Air sampler systems for environmental monitoring

Water, Air and Soil Pollution. Focus, 1, Part 5/6, 145-156. Tang Y S, Cape J N & Sutton M A (2001) Development and types of

Jan 06, 2026

(PDF) Portable, low-cost samplers for distributed

In this work, we describe new portable and programmable VOC samplers that enable

Apr 27, 2026

Sampling System for Atmospheric Particles 3750200

The model 3750200 is designed to deliver a representative sample of ambient air to particle measurement

Jan 24, 2026

EM-Tec Save-Storr inert gas sample storage container

The EM-Tec Save-Storr inert gas sample storage containers have been designed to safely store and transport moisture or oxygen

Aug 16, 2025

(PDF) Portable, low-cost samplers for distributed sampling of ...

Portable, low-cost samplers for distributed sampling of atmospheric gases James F. Hurley 1, Alejandra Caceres 2,

May 08, 2026

Retrieving 3D distributions of atmospheric particles using Atmospheric ...

Abstract. Our global understanding of clouds and aerosols relies on the remote sensing of their optical, microphysical,

Aug 13, 2025

Chapter 1

APT1 435: Atmospheric Sampling Course Terminal Learning Objective At the end of this chapter, the student will be able to explain

Apr 25, 2026

An Introduction to Atmospheric Pollutant Dispersion Modelling

Modelling the dispersion of atmospheric pollutants plays an important role in regulatory and epidemiological settings.

Jul 18, 2026

The dynamic multi-box algorithm of atmospheric environmental

The A-value method was derived from the primitive equation of box model based on the laws of dilution and diffusion of

Feb 13, 2026

Diffusive samplers for ambient air quality monitoring

The theory and application of diffusive samplers for ambient air quality monitoring is explained, with aspects of their

Mar 05, 2026

APTI 435: ATMOSPHERIC SAMPLING COURSE, 5 TH EDITION

s true for an evacuated SUMMA flask used to collect an air sample. In this case, the air is drawn out of the flask prior to sampling,

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CalScience Air Sampling Guide

1.0 Introduction The purpose of this guide is to provide our clients with a resource for information on the collection and analysis of

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Airbox Sampling Products | Air Sampling Pump

Find the ideal pump for your needs, offering low ownership costs and reliable data capture. Trust Airbox for industry-leading air

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Atmospheric Sampling Sites (NOAA ESRL)

Seen here are the sampling sites for NOAA/ESRL's Global Monitoring Division (GMD) of the

Nov 08, 2025

Surface-atmosphere exchange in a box: Space-time ...

Systematic bias in eddy-covariance flux measurements are pervasive. These arise both from unmeasured terms such

May 12, 2026

Portable, low-cost samplers for distributed sampling of atmospheric

We present here a versatile, lightweight, battery- and solar-powered sampler capable of collecting atmospheric VOCs on sorbent

Apr 09, 2026

JlBox v1.1: a Julia-based multi-phase atmospheric chemistry box model

With this in mind, in this paper we present and demonstrate the initial development of a high-performance community mixed-phase

Sep 07, 2025

Direct Air Sampling VS Indirect Air Sampling

What is air sampling? Air is a necessary condition for human survival. With the development of industrial civilization, the demand for

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Air sampler systems for environmental monitoring

The passive sampling system consists of three replicate ALPHA ® samplers attached to the underside of a

Jan 30, 2026

Air Sampling Basics

Where there is a need for the air sample not to come into contact with the pump, or where the atmosphere may be aggressive (such

Oct 06, 2025

Surface-atmosphere exchange in a box: Making the control volume a ...

Science media synopsis of full journal article "Metzger, S.: Surface-atmosphere exchange in a box: Making the control

Sep 15, 2025

Quantitative analysis and spatial and temporal distribution of volatile ...

In order to study the spatial and temporal distribution of VOCs in the atmospheric air, the variations between different

Contact Us

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