Ambient Ion Monitor

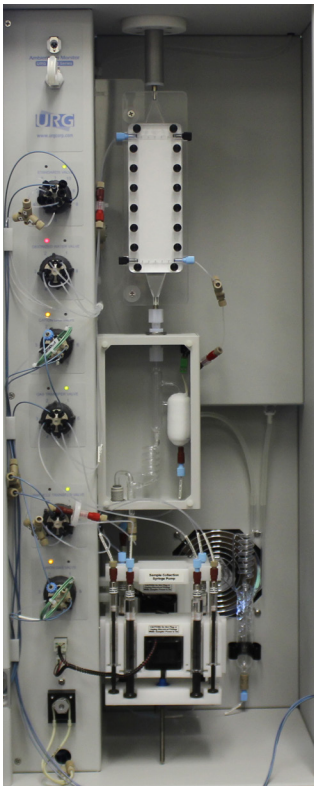
Time Resolved Direct Measurements of:
Nitrate, Sulfate, Ammonium, HCl, HNO_3, HNO_2, SO2, NH_3

ISO 9001 2015 CERTIFIED

Ambient Ion Monitor

The 9000 Series Ambient Ion Monitors consist of several different configurations for your specific sampling needs. The Ambient Ion Monitor System can be configured with one Ion Chromatograph (IC) to provide time-resolved direct measurements of anion particulate Nitrate, Sulfate, Nitrite, Phosphate and Chloride found in PM-2.5, as well as gas phase Hydrogen Chloride, Nitric Acid, Nitrous Acid and Sulfur Dioxide. With the addition of a second IC, the Ambient Ion Monitor will also provide time-resolved direct measurements of cation particulate Ammonium, Sodium, Calcium, Potassium and Magnesium, as well as gas phase Ammonia.

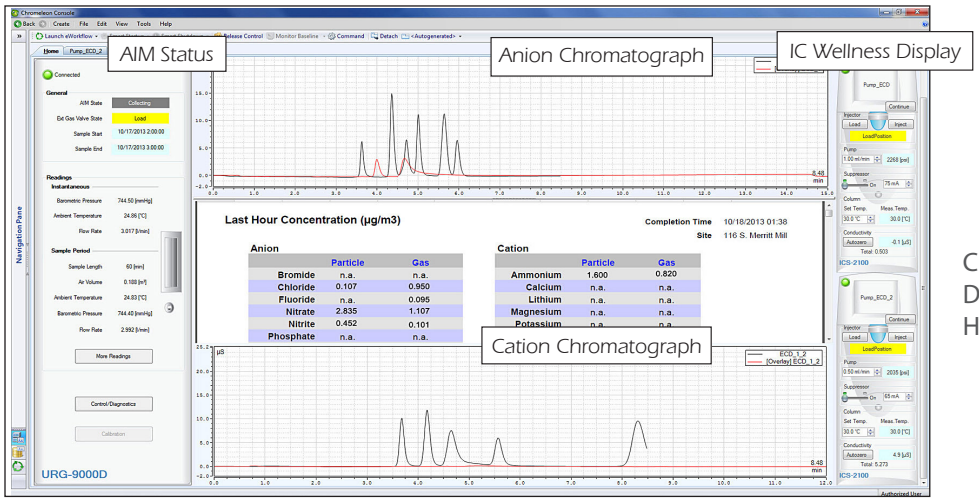
The analysis method for the AIM System is a Thermo Scientific™ Dionex™ ion chromatography system. Dionex Reagent-Free™ IC (RFIC™) systems produce eluents and regenerants electrolytically, so all you need to do is add water. The unique Dionex RFIC systems work seamlessly with the AIM System for accurate determinations of air contaminants. The accuracy of the IC analysis is verified by an internal "check" standard of Lithium Bromide that is injected with each sample.



Inside the URG-9000D AIM System

Software

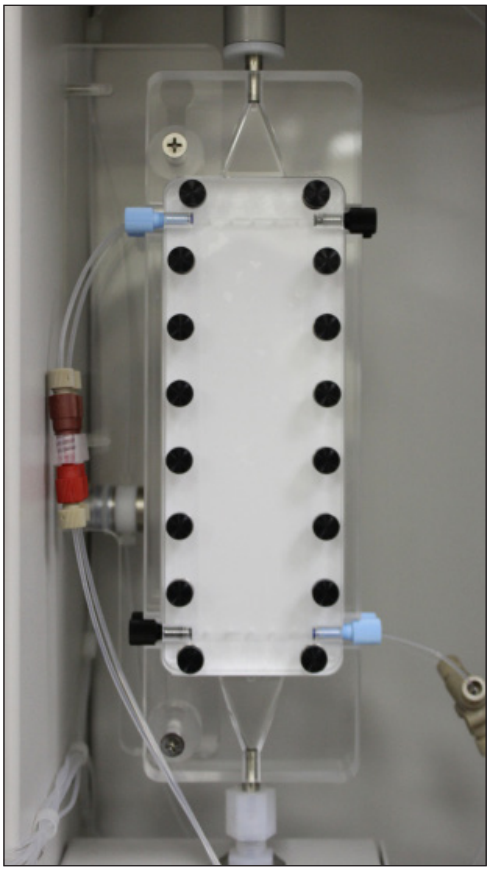
The new AIM driver for Chromeleon 7.2 Data System Software allows for seamless control of the AIM with one powerful software program. AIM and IC data are stored in a single database and can be exported using customizable report templates. Firmware updates are easily downloadable through Chromeleon. You can completely control the AIM operation from one user-friendly home panel. From this home panel, users can quickly identify that the AIM is operating correctly. The pre-flight conditions automatically check the instrument methods to ensure that they are configured properly prior to operation. Once data has been QA'ed, the software automatically recalculates data to µg/m^3.



Chromeleon 7.2 ™ Data System Software Home Screen

Unique Parallel Plate Denuder

A recent study done by the US EPA has confirmed that the patented URG parallel plate denuder is 99.8% efficient. The AIM was comprehensively evaluated using EPA certified SO2 concentrations from 20-500 ppb. The denuder collection efficiency was found to remain at 99.8% for all concentrations. The membrane material is now pre-cut for fast replacement. It can be used twice as long as the previous material (6 weeks vs. 3 weeks). The unique and highly efficient fastener design on the denuder makes assembly very quick and easy.



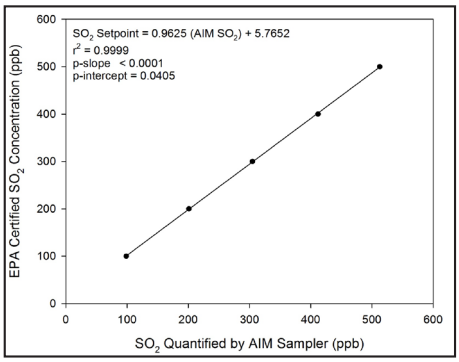


Exhibit 1-3. Comparison of Known SO_2 Concentrations to AIM Reported SO_2 Concentrations.

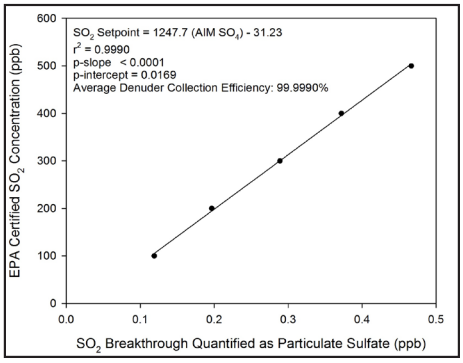


Exhibit 1-4. Comparison of Known Concentrations to AIM Reported Sulfate Concentrations (SO_2 Breakthrough).

Ultra Pure Steam Generator

The heat delivery and insulation design for the Ultra Pure Steam Generator has been improved. You will be quick to notice the new look and how heat is delivered with minimal loss. The safe, tamper-proof ceramic coating prevents the exterior from becoming too hot.

Patented Ultra Pure Steam Generator

Ambient Ion Monitor Specifications

Power	Wide Range 100-240VAC
Dimensions	15" x 16" x 36"
Weight	Approximately 50 lb
Measures	Nitrate, Sulfate, Nitrite, Phosphate, Chloride, Ammonium, Sodium, Calcium, Potassium, Magnesium, Ammonia, Hydrogen Chloride, Niric Acid, Nitrous Acid and Sulfur Dioxide
Detection Limit	0.05 µg/m^3 Every Hour (Optional 15-30 Minutes)
Installation	Requires Installation in an Enviromentally- Controlled Shelter where the Temperature is Maintained Between 20-30 Degrees Celsius
Configurations	Stand-Alone or Rack Mountable Unit Available

Why Choose the AIM?

Reliable

The AIM System can be left unattended for up to 14 days, compared to it's competitors that can only be left for up to 1 week.

Accurate

At the inlet, the AIM System contains a customizable Teflon® coated sharp cut cyclone that eliminates the build up of static charge and avoids the risk of sample loss.

State of the Art

The AIM System uses a parallel plate denuder equipped with a pre-cut membrane. The stability provided by the denuder eliminates the potential for microbial growth within the denuder that exists in other systems that have rotating denuders with moving mechanical parts. In addition, the Dionex™ ICs can be disconnected from the AIM and used separately from the system.

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