

## Denuder Sampling System

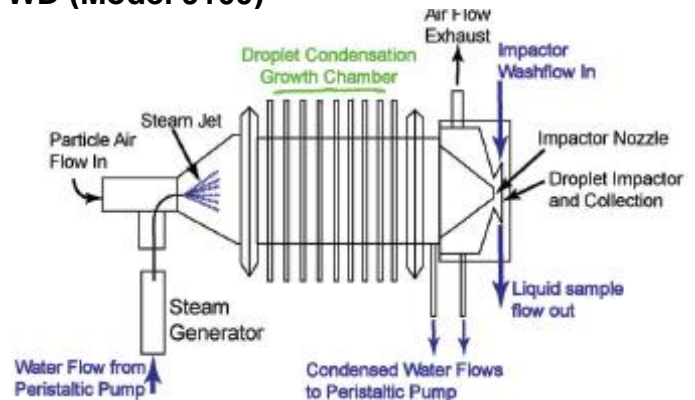
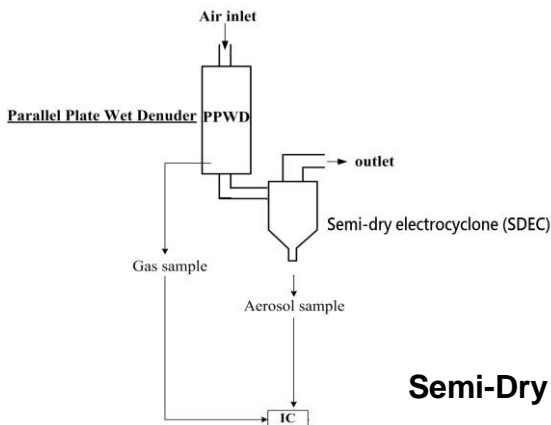
### Model 9000 Series Denuder AMC/Aerosol Sampler



### Applications

- Clean Room Airborne Acid/Basic Molecular contaminant Monitoring
- Ambient Aerosol (PM 2.5/10) and Acid/Basic Gas Monitoring
- Stack Acid/Basic Gas Monitoring
- R&D

### PPWD (Model 9100)



### PILS (Model 9300)

### Semi-Dry EC (Model 9200)

## Features

- Direct Measurements of Nitrate, Sulfate, Nitrite, Phosphate and Chloride, Sodium, Ammonium, Calcium, Potassium, Magnesium, Hydrogen Chloride, Nitric Acid, Sulfur Dioxide, Hydrogen Fluoride and Ammonia
- Provides a timely data stream of multi-pollutants that influence atmospheric chemistry and air quality
- Operates and collects multi-pollutant data continuously
- Provides gases and particles as time-resolved measurements
- Allows for continuous improvement in source apportionment analyses
- Helps to improve modeling necessary for determining the relative contributions of various emission sources

## Description

The principal components of the Model 9100 A/B/C PPWD and Semi-Dry EC and PILS Sampling System are de-signed by Professor Chuen-Jinn Tsai of NCTU (Taiwan Patent No: I327641), and it can be connect to any PM-10/2.5 or TSP or our Model 3000 iTMS Manifold System for multi points sampling.

## Chemical Species Collected

### Gases

Ammonia (NH<sub>3</sub>), Hydrogen Fluoride (HF), Hydrochloric Acid (HCl), Nitric Acid (HNO<sub>3</sub>), Nitrous Acid (HNO<sub>2</sub>), Acetic Acid(CH<sub>3</sub>COOH), Formic Acid (HCOOH), Sulfur Dioxide(SO<sub>2</sub>), Phosphoric Acid (H<sub>3</sub>PO<sub>4</sub>) and Other Soluble Gases.

### Particulates

Nitrate (NO<sub>3</sub><sup>-</sup>), Ammonium (NH<sub>4</sub><sup>+</sup>), Sulfate (SO<sub>4</sub><sup>=</sup>), Nitrite (NO<sub>2</sub><sup>-</sup>), Fluoride (F<sup>-</sup>), Chloride (Cl<sup>-</sup>), Phosphate (PO<sub>4</sub><sup>-</sup>) and other Cations and Anions.

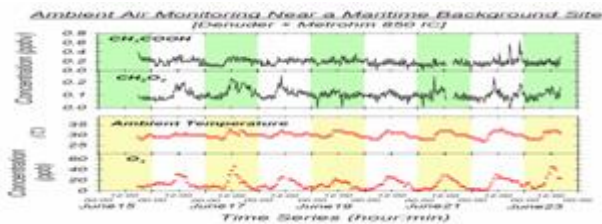
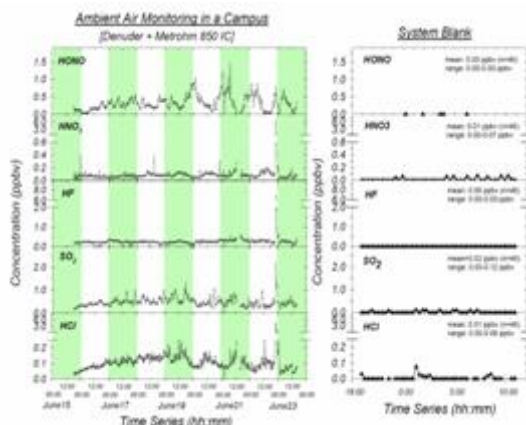
Once collected, the pollutant concentrations are quantified by Ion Chromatography Analysis.



Dual Sampling System



PM-10/2.5/  
TSP head



## Technical Data

### PPWD

|  |                                |
|--|--------------------------------|
| Sample Flow rate                                   | 5 l/min. (recommend)           |
| The material of tubing                             | ¼" OD Teflon)                  |
| Response Time (T <sub>90</sub> & T <sub>10</sub> ) | < 30 min.(Depend on compounds) |
| Absorption efficiency                              | > 85%(Depend on chemicals)     |
| Operational Temperature                            | + 5 to 40 °C                   |
| Liquid Micro Pump                                  |                                |
| Flow Range   | 1 - 100 ml/min                 |
| Suction Head                                       | 9 ft. water                    |
| Max. Pressure                                      | 85 psig                        |
| Diaphragm Material                                 | PTFE                           |
| Liquid Temperature range                           | + 5 to 80 °C                   |
| Power  | 100-230VAC, 50-60Hz            |

### PILS/ Semi-Dry EC

|                        |  |
|------------------------|--|
| Analysis Technology    | Ion Chromatography   |
| Sample Flow rate       | 5 or 15 l/min (recommend)  |
| Lowest Detection Limit | 0.02 µg/m <sup>3</sup> (Sampling 60 min, base on Cl <sup>-</sup> ) |
| Dimension (DxWxH)      | 485 x 462 x 400 mm   |
| Power Consumption      | 100-230 VAC, 50-60 Hz  |

## Acidic, Basic, Acetic Acid Gas/Aerosol and Other Organic Gases Sampling and Analysis

Represented By:



## Molecular Analysis

3422 OLD CAPITOL TRAIL, SUITE 700,  
WILMINGTON, DELAWARE 19808-6192,  
USA

www.ma-analyzers.com • sales@ma-analyzers.com