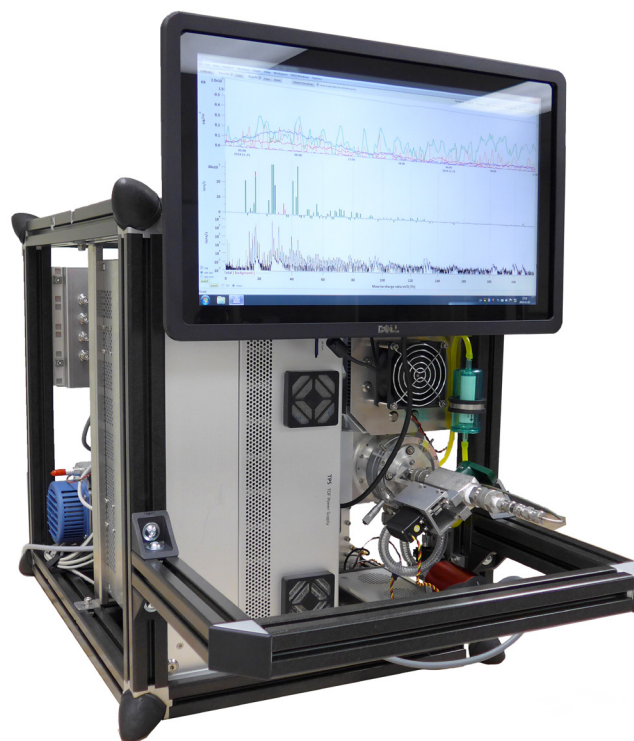
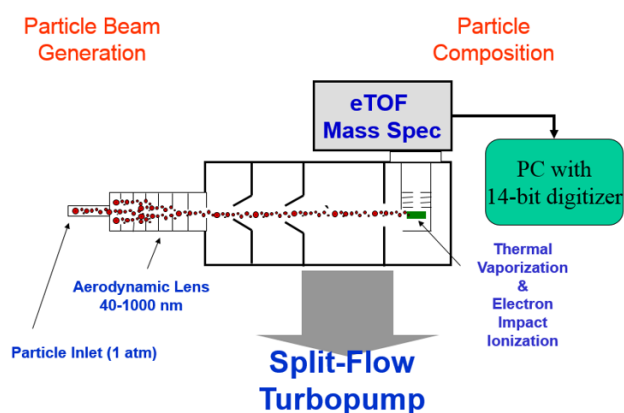




TOF - ACSM Time-of-Flight Aerosol Chemical Speciation Monitor

Measure real-time, non-refractory aerosol particle mass and chemical composition.



APPLICATIONS

- Continuous on-line measurement of ambient aerosol mass concentrations.
- Composition analysis for particulate ammonium, nitrate, sulfate, chloride, and organic species.
- Field measurements of aerosol chemical composition from high-pollution at urban sites to pristine background at remote locations.
- Routine air quality monitoring.
- Aerosol chamber studies.
- Source characterization.
- Optical/CCN closure.
- Industrial process monitoring.

ADVANTAGES

- Aerodynamic particle lens for efficient gas-particle separation.
- Linear universal detection through two-step thermal vaporization (~600 C) and electron impact ionization process.
- Mass spectrometric analysis (0-400 amu).
- Automated zeroing (filter).
- Minimal maintenance.
- Remote control ready.
- Separation and quantification of organic aerosol species including HOA (hydrocarbon-like organic aerosol, linked to primary combustion sources) and OOA (oxygenated organic aerosol, linked to secondary aerosol sources).



Aerosol Chemical Speciation Monitor

SPECIFICATIONS:

Sensitivity ($\mu\text{g m}^{-3}$, 10 minute, 3σ):	Organic: 0.06 Sulfate: 0.006 Nitrate: 0.007 Ammonium: 0.06 Chloride: 0.003
Data Rate:	Adjustable, 10 minutes is typical
Sample Flow:	85 cc min ⁻¹ (volumetric flow)
Operating Pressure:	Ambient
Aerosol Size range:	40 nm to 1 μm (vacuum aerodynamic diameter).
DAQ Control:	Hi-speed USB 14 bit acquisition card, PC embedded in instrument rack.
Size/Weight:	Bench top, 25.6" x 20.1" x 23.6", 165 lbs [65 cm x 51 cm x 60 cm , 75 kg]
Electric Power:	600 W Max; 350 W typical, 90-260 VAC, 50-60 Hz
Software:	Custom acquisition and analysis routines. Specialized routines for PMF analysis of the organic fraction.

