

# Atmospheric Pressure Ionization Mass Spectrometer System

Quadrupole based Atmospheric Pressure Ionization Mass Spectrometry (APIMS) has been the Research and Industrial standard for on-line detection of very low level components of gas mixtures for over twenty years. APIMS system can routinely monitor components at the parts per billion (ppb) and parts per trillion (ppt) level in real time. Quadrupole based APIMS system can monitor a wide range of gases and gas mixtures and have the stability to provide the long term repeatability required in most applications.

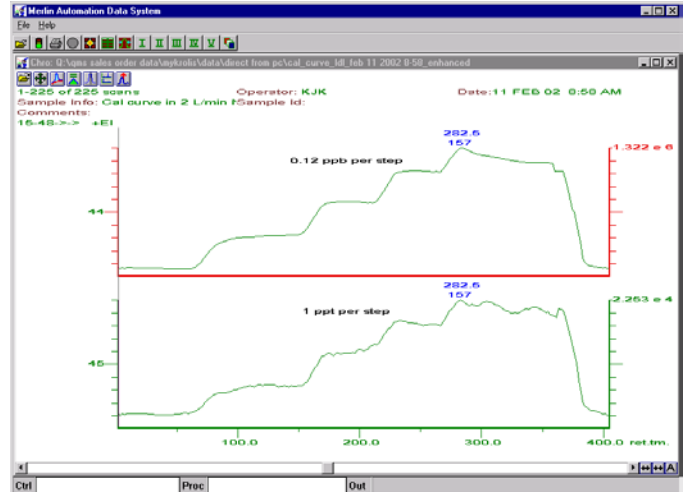
Extrel CMS has been a world leader in designing and building Quadrupole Mass Spectrometers Components and Systems since 1964. We have more than three decades of experience in building systems for Industrial and Research applications. Our current APIMS system is a third generation instrument with a wide range of options that allow you to customize it to your application.

The flexibility and precision of our systems permits you to focus the instrument on the specific gases of your application. It also allows you to go beyond simple process monitoring to do process trouble shooting and fundamental research.

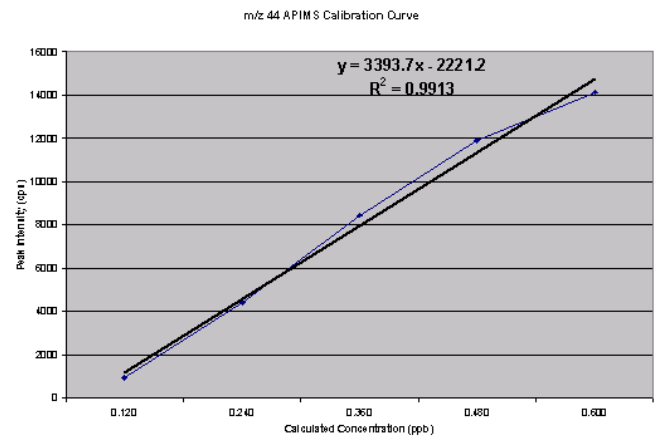
The APIMS system uses our proven, reliable DC Corona Discharge source. The DC Corona Discharge Source is a chemical, or soft ionization source that is ideal for monitoring molecules. This source has an additional Electron Impact (EI) filament for Residual Gas Analysis and system trouble shooting.

We use a single, high signal transmission, 19 mm (3/4 inch) rod quadrupole mass filter with and RF only pre-filter to provide the highest possible sensitivity for most applications. We can configure systems with a triple quadrupole mass filter to provide APIMS / MS capabilities for Research and Extremely demanding applications

The Extrel CMS APIMS system uses the flexible and easy to use Merlin Automation Data System Controller and Software Package for system operation and data collection. This is a Windows 2000/XP based package that can be run from a PC. This allows for high speed data acquisition, powerful data processing and Library Search.



Response to Flow changes for m/z 44 and 45



Calibration Curve for m/z 44

**Extrel CMS**

575 Epsilon Drive Pittsburgh, Pennsylvania 15238-2838 USA  
 Tel: (412) 963-7530 FAX: (412) 963-6578 Web: www.extrel.com e-mail: info@extrel.com



# Specifications

<b>Detection Limits:</b>	5 ppt Oxygen in Nitrogen 5 ppt H <sub>2</sub> O in Nitrogen 5 ppt CO <sub>2</sub> in Nitrogen
<b>Mass Range</b>	1-300 amu Other mass ranges available upon request
<b>Stability</b>	Better than $\pm 0.1$ amu after thermal equilibrium Long term stability $\pm 0.01$ amu
<b>Ionization Source</b>	Corona Discharge with additional EI filament
<b>Mass Filter</b>	Single 19 mm ( $\frac{3}{4}$ inch) diameter rod Tri-filter Quadrupole with RF only Pre-filter for APIMS  or  Triple Quadrupole Mass Filter available for APIMS / MS
<b>Detection</b>	Positive and Negative Ions using Electron Multiplier with Continuous Dynode
<b>Masses</b>	Continuous Monitoring of up to 20 Masses or Mass Windows Additional Masses or Mass Ranges can be added using easy to write Macros
<b>Data System</b>	Merlin Automation Data System with Windows 2000 or XP PC Host Controller
<b>Vacuum System</b>	Differentially Pumped using Turbomolecular Drag Pumps
<b>Power Requirements</b>	115 Vac, 50/60 Hz, two 20 A circuits Optional 220 VAC Version

Copyright 2004 Extrel CMS

**Extrel CMS**

575 Epsilon Drive Pittsburgh, Pennsylvania 15238-2838 USA  
Tel: (412) 963-7530 FAX: (412) 963-6578 Web: [www.extrel.com](http://www.extrel.com) e-mail: [info@extrel.com](mailto:info@extrel.com)

2 of 2

