APEX

Sample Inlet System

a high stability, high sensitivity, low-memory desolvating inlet system for ICP-AES & ICP-MS

Apex Q Sample Inlet System

The Apex improves sensitivity primarily by increasing both sample transport efficiency and the quality of aerosol introduced to the ICP instrument. Liquid samples are nebulized with the PFA Microflow nebulizer into a heated cyclonic spray chamber and Peltier cooled condenser. This gives unsurpassed stability along with enhancements in sensitivity of between 3 – 15 times depending on the volume of sample introduced.

The Apex is provided in 4 platforms:

Apex E – Low cost unit designed primarily for ICP Emission systems. The sample path is made from Pyrex and temperature settings of the heater and chiller are fixed.

Apex Q – Has an o-ring-free Quartz flow path for high sensitivity and low background for samples that do not contain hydrofluoric acid. The Apex Q gives the fastest rinse-out of any high sensitivity ICP introduction system.

Apex HF – Uses a high-purity PFA Teflon flow path to provide resistance to HydroFluoric acid.

Apex IR – Has a quartz flow path and includes an additional mixing chamber giving the most stable signal, ideal for Isotope Ratio analysis.

An optional ACM actively cooled Nafion fluoropolymer membrane desolvation module is available to remove residual solvent vapor in the sample aerosol stream.

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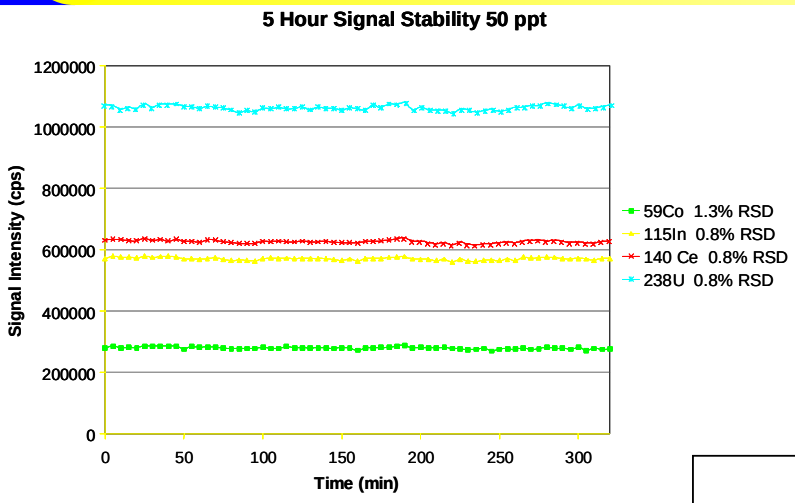
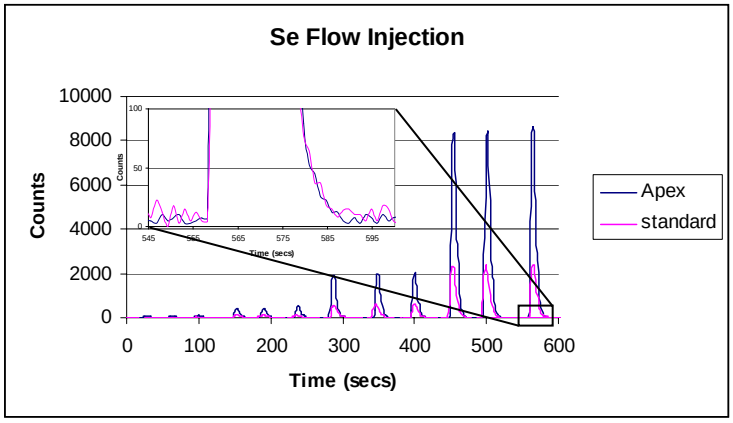
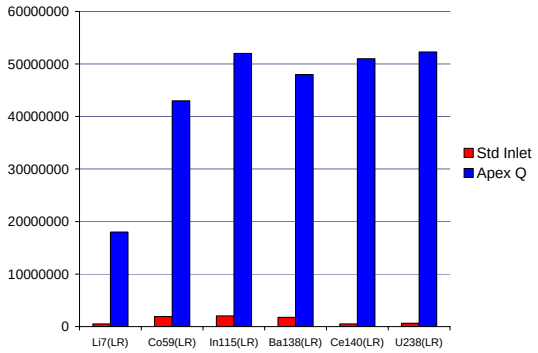


Enhanced stability, which can be further improved with the use of the Apex IR or the addition of the ACM to the other Apex platforms.

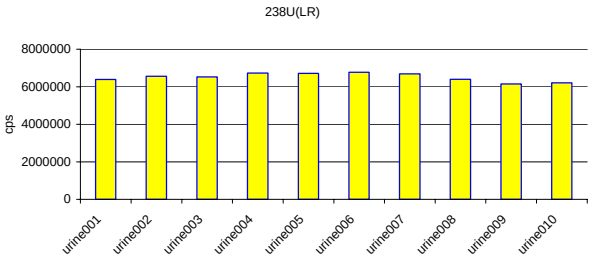
The patent pending design of the sample flow path ensures minimal memory effects with rinse-outs comparable if not faster than simple cyclonic systems, even with initial higher count rates.

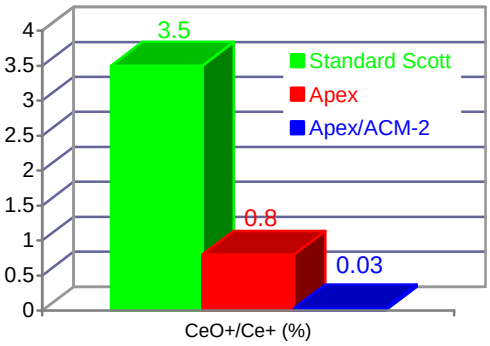




Improvements in sensitivity that can range from 3x to 15x depending on the sample flow rate used. The Apex is over 90% efficient at transporting the sample analyte to the plasma.

Capable of running with high matrix samples such as 10% Urine, giving 3.2% rsd after 10 x 5 min sample replicates.





The addition of the ACM can further dramatically reduce the amount of water vapour in the aerosol, reducing oxide interferences.

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