

Membrane Desolvation

for Apex sample introduction systems

The Apex high efficiency sample inlet system has within it Peltier desolvation. Many applications require the removal of further solvent and matrix components of a sample than the Apex alone is capable of. Membrane desolvation can be used to increase the aerosol drying capability of the Apex system. Two membrane units are available for use with any Apex sample introduction system.

Membrane Desolvation

ACM

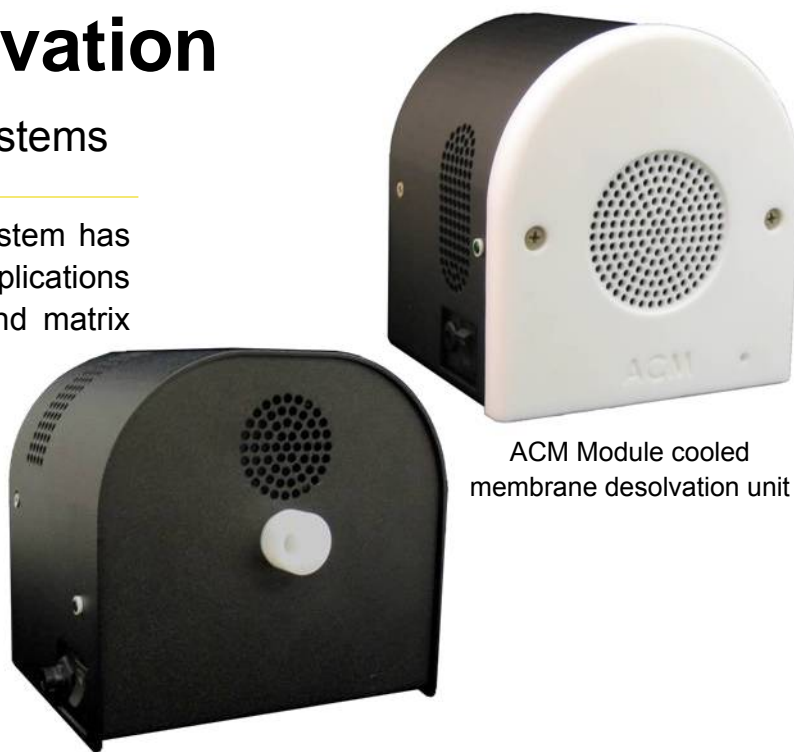
- Cooled Micro-Porous Nafion[®] membrane.
- Desolvation of Aqueous Solutions.
- Allows analysis of volatile Species, no loss of analytes.
- Use Ar or N₂ as sweep gas.
- Obtain CeO⁺:Ce⁺ ratio of approximately 0.06%.

Spiro TMD

- Heated Macro-Porous Teflon[®] membrane.
- Desolvation of Aqueous & Organic Solutions.
- Run samples with high TDS.
- Can be used without the Apex for stand alone desolvation.
- Obtain CeO⁺:Ce⁺ ratio of approximately 0.03%.

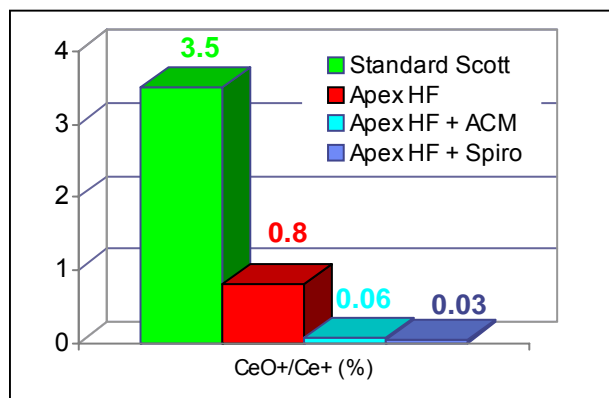
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Spiro TMD heated membrane desolvation module

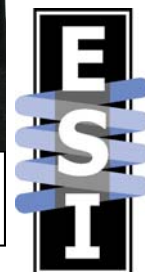
ACM Module cooled membrane desolvation unit



Percentage Cerium Oxide formation for sample inlet systems on Thermo Element2.



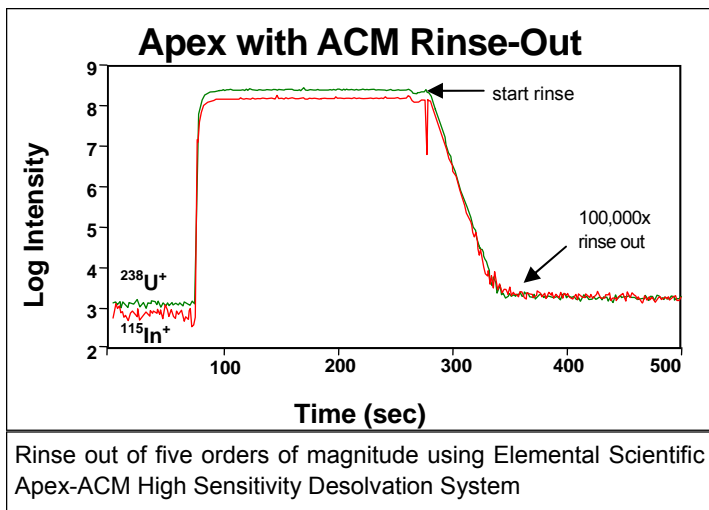
Membrane desolvation modules attach quickly and easily to the Apex outlet



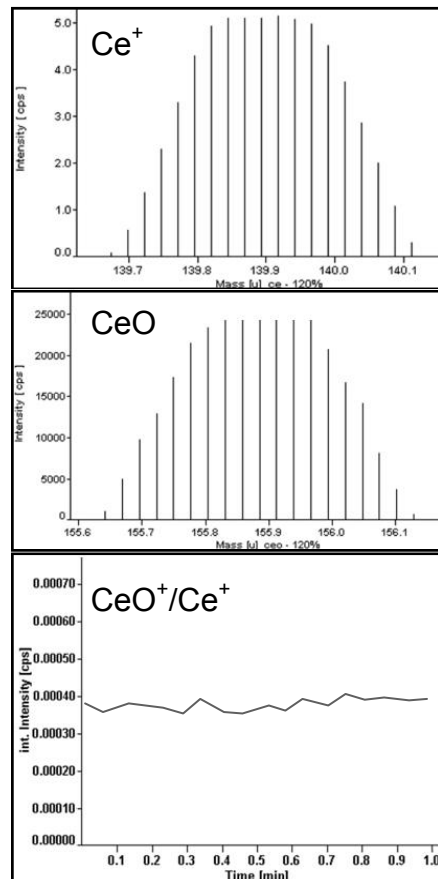
Which Membrane?

ACM Module

- Aqueous solutions only
- Simple to use, sweep gas does not affect ICP tuning.
- Lower running costs, Nitrogen can be used as the sweep gas.
- Can be used to analyzed volatile analytes such as Hg, B etc.

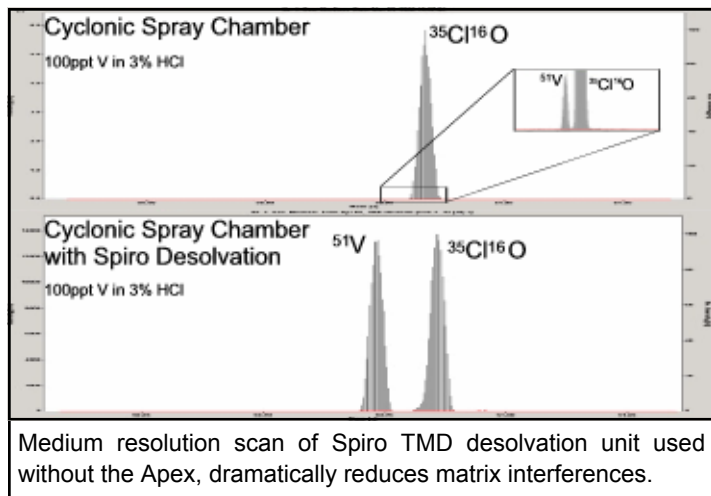
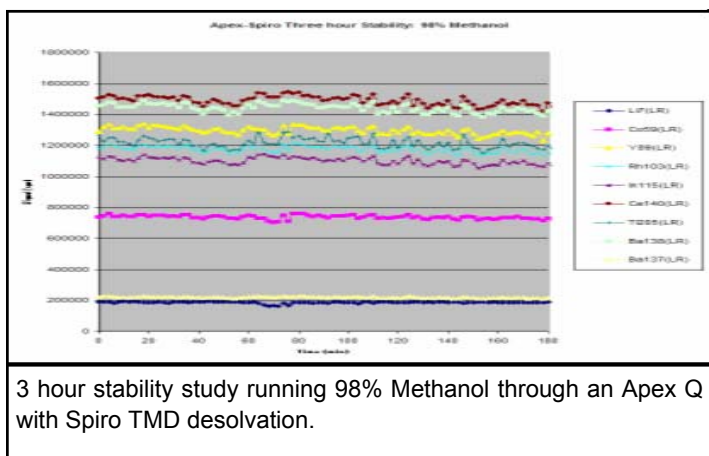


Reduced oxide formation using ACM Microporous Membrane Desolvator with Finnigan Element2 ICPMS. Membrane temperature = -5°C ▶



Spiro TMD Module

- Aqueous and organic solutions can be desolvated, ideal for HPLC applications.
- Sweep gas does affect ICP tuning, therefore must use Argon.
- Removes all volatile species, i.e. SiF₆ from semiconductor industry samples.
- Add membrane desolvation to standard introduction systems



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