

Apex E

High Sensitivity Inlet System for ICP-AES

The Apex E is a compact, simple-to-use inlet system that increase ICP-AES sensitivity up to an order of magnitude.

Sample transport efficiency is enhanced by nebulizing liquid samples into a heated cyclonic spray chamber using a special version of the PFA-ST nebulizer.

Solvent vapour is removed using a low-volume four-stage peltier-cooled desolvation system before introduction to the ICP injector



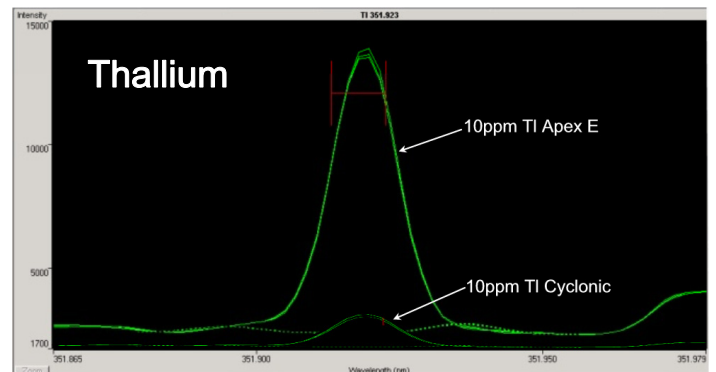
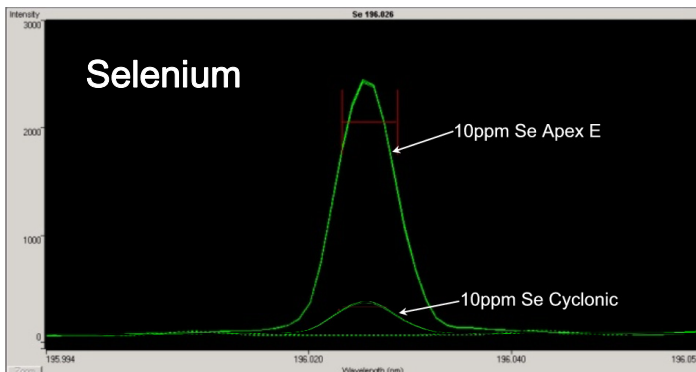
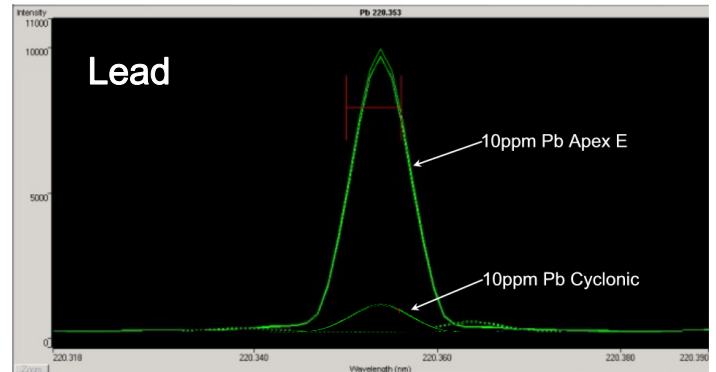
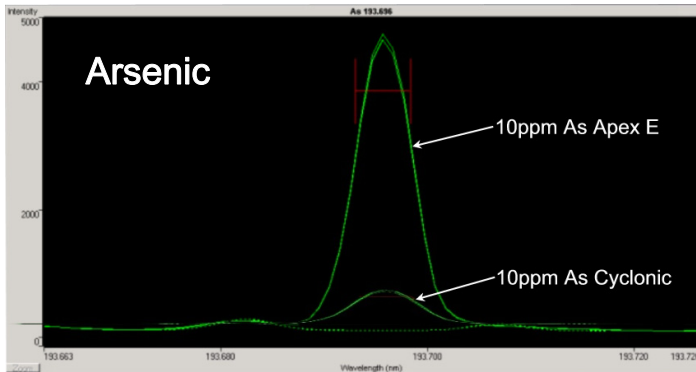
Apex E Sample Inlet System

- ✓ Simple to use, one switch operation.
- ✓ Increases sensitivity 6 to 10 fold.
- ✓ Utilizes a special version of the PFA-ST microconcentric nebulizer to generate the sample aerosol.
- ✓ Consumes less sample than standard inlet systems.
- ✓ Flow path design results in low memory effects.
- ✓ Low cost o-ring free Pyrex® sample path.
- ✓ Small unit footprint means the unit can be located close to the ICP.
- ✓ Integrated 4 channel peristaltic pump for waste removal.

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Wavelength scans from a Varian Vista radial ICP-AES of 10ppm solution of As, Pb, Se and TI introduced with both standard cyclonic spray chamber and the Apex E sample inlet system.

Radial ICP-AES Sensitivity Enhancement (Apex E vs. Cyclonic)

Line	Enhancement factor	Line	Enhancement factor
Ag 328.068	8	K 766.491	6
Al 396.152	8	Mg 285.213	8
As 193.696	8	Mn 257.610	9
Ba 493.408	7	Ni 231.604	8
Be 313.042	9	Pb 220.353	8
Cd 226.502	9	Se 196.026	8
Co 238.892	8	Sr 407.771	8
Cr 267.716	9	TI 276.789	7
Cu 327.395	8	V 309.310	8
Fe 238.204	9	Zn 202.548	10

Table shows the improvement in sensitivity that be achieved with the Apex E sample inlet system compared to a conventional cyclonic spray chamber with a Varian Vista radial ICP-AES. The sample flow rate for the Apex E was 620 μ L/min compared to 1 mL/min for the cyclonic spray chamber.

The Apex E results in enhancements ranging from 6 — 10 fold, with most elements enhanced 8 — 9 fold.