

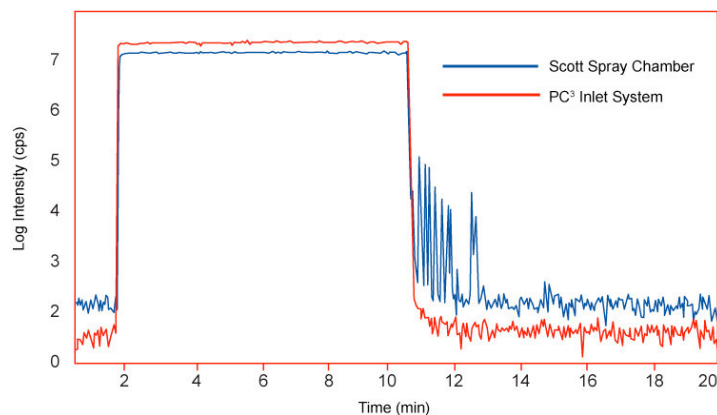
## PC<sup>3</sup> Sample Inlet System

Thermally stabilized inlet system for ICP or ICPMS

The PC<sup>3</sup> is a compact Peltier Cooled inlet system which incorporates the ESI cyclonic spray chamber. The peltier within the PC<sup>3</sup> is air cooled, as such the system can be connected to any ICP-OES or ICP-MS. The PC<sup>3</sup> cools the outer walls of the cyclonic spray chamber reducing the water or solvent vapor loading on the plasma resulting in enhanced stability and performance.

The spray chamber can incorporate any 6mm nebulizer and is ideally suited to the PFA-ST Microflow nebulizer.

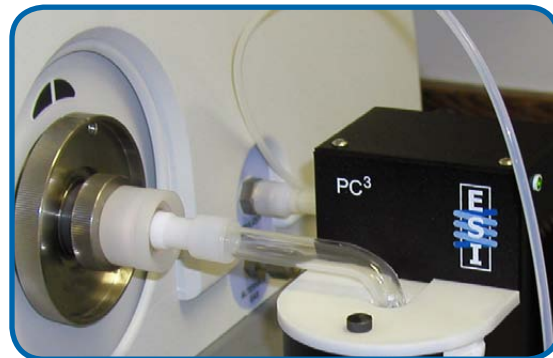
- Thermal stabilization of spray chamber improves long-term stability
- Default settings of spray chamber temperature (+2 °C/ -5 °C) for aqueous or organic solvents. Custom temperature settings available upon request
- Interchangeable quartz, PFA, polypropylene and borosilicate cyclonic spray chambers available
- Fast rinse-out using PFA-ST nebulizer and O-ring free cyclonic spray chamber
- Reduced oxides
- No separate chiller required
  - No antifreeze required
  - No algae growth
  - No water lines
- Robust, with very little maintenance reducing the chance of breakage
- Long lifetime
- Very low maintenance



The PC<sup>3</sup> will rinse out 5 orders of magnitude, 10ppb to 1ppt, of analyte in less than 30 seconds compared to the 3 minutes it takes the standard Scott spray chamber.

## Convenient system for sample analysis

- Default spray chamber temperature (+2 C/ -5 C). Custom temperature available upon request.
- Quartz cyclonic or HF resistant cyclonic spray chambers available.
- Completely o-ring-free for organic solvents analysis.
- Organic solvent analysis using PFA-50 nebulizer.
- Aqueous sample analysis using PFA-ST nebulizer.
- PC<sup>3</sup>-SSI model for isotope ratio determination or other high precision analyses.



PC<sup>3</sup> connects quickly and easily to the ICP injector; adapters are available for most ICP systems. (Shown with PerkinElmer ELAN ICPMS adapter.)

## Benefits of a Cooled Spray Chamber

### Constant Temperature Improves Signal Stability

- Plasma reacts well when a narrow distribution of droplets is introduced.
- Cooling the spray chamber reduces the amount of solvent entering the plasma.

### Controls water-vapor loading on plasma

- Reduced water load prevents decreases in plasma temperature.
- Reduced water load also reduces polyatomic interferences (ArO, ArOH, metal oxides).

Analyte	Mass	Mass Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Ti	24.0	62685.5	62685.532	385.996	0.6
V	102.9	79080.0	79080.020	327.492	0.4
Co	114.9	104767.7	104767.749	430.190	0.4
Ni	208.0	61987.5	61987.488	370.427	0.6
Cu	137.9	88421.0	88421.003	586.772	0.7
Zn	69.0	2376.1	0.027	0.000	0.9
Mo	139.9	102768.8	102768.839	469.194	0.5
Cd	155.9	1015.8	0.010	0.000	1.7
Sn	220.0	14.833	14.833	1.929	13.0

Data gathered on PerkinElmer ELAN DRC ICPMS using PFA-100 MicrFlow Nebulizer