

Simultaneous Injection AS Autosampler



Simultaneous injection facilitates the concurrent injection of a sample or standard onto two analytical systems running separate or similar applications. With simultaneous injection, two independent IC systems are controlled and supplied samples by one autosampler, the AS. This technique speeds up sample times, providing more sample throughput, and helps eliminate errors associated with multiple operators and sampling locations. The economic benefit of an autosampler supporting two IC instruments is clear.

How Simultaneous Injection Works

A Simultaneous Injection AS controls two independent injection valves. The AS sends half the sample to one system and half to the other. Both systems then perform the designed analysis and the results are reported by Chromeleon®. The analysis of a drinking water sample for both cations and anions is an excellent example of such an application. In this configuration, the AS delivers sample to the two IC systems for analysis of both cations and anions, concurrently. Simultaneous injection allows the two systems to control the injection valves independently for simultaneous injection of calibration standards and samples.

Application flexibility is a key benefit of simultaneous injection. Simultaneous injection moves users beyond single system configurations consisting of anions and cations by offering multiple alternatives to dual-system analysis.

The photo above shows two ICS-2000 systems in a simultaneous injection configuration. Another benefit of simultaneous injection is that two different systems with two different calibrations can eliminate dilution of unknown samples to simplify analysis.

How the Results Are Reported

Chromeleon simplifies reporting by allowing you to collect data from both systems. Calibration and result data are quickly and easily summarized in one view for full analyte disclosure.



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Advantages of Simultaneous Injection

- Run multiple applications from one sample injection
- Realize higher throughput than conventional sample automation
- Fully automate with Chromeleon or operate stand-alone
- Choose simultaneous or conventional mode
- Minimize errors associated with handling multiple vials for the same sample
- Eliminate dilutions with high- and low-concentration sample analysis in one run
- Meet regulatory compliance with fully supported validation protocols

Configurations

Choose from two possible configurations for the AS. External valve configurations rely on external injection hardware from the ICS-90, ICS-1000, ICS-1500, ICS-2000, or ICS-3000 to facilitate the injection. Simultaneous injection requires Chromeleon version 6.6 or higher.

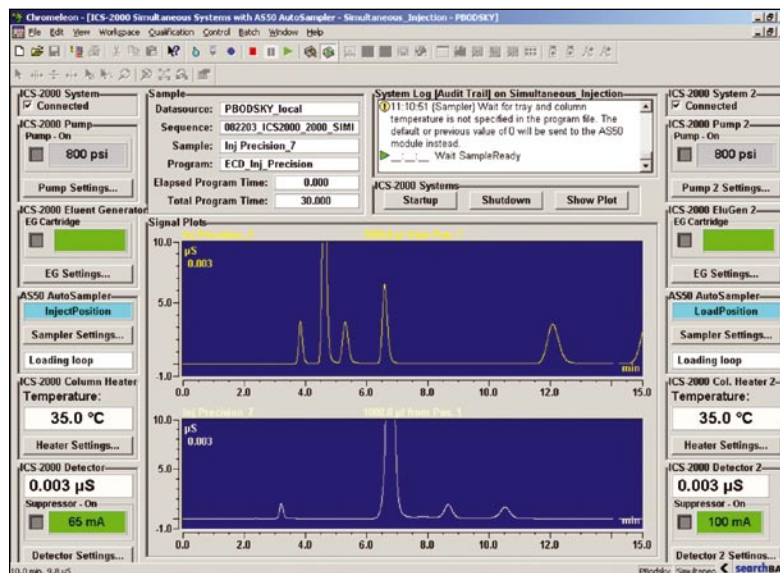


Figure 1. Simultaneous system control using Chromeleon. Anions (top); cations (bottom).

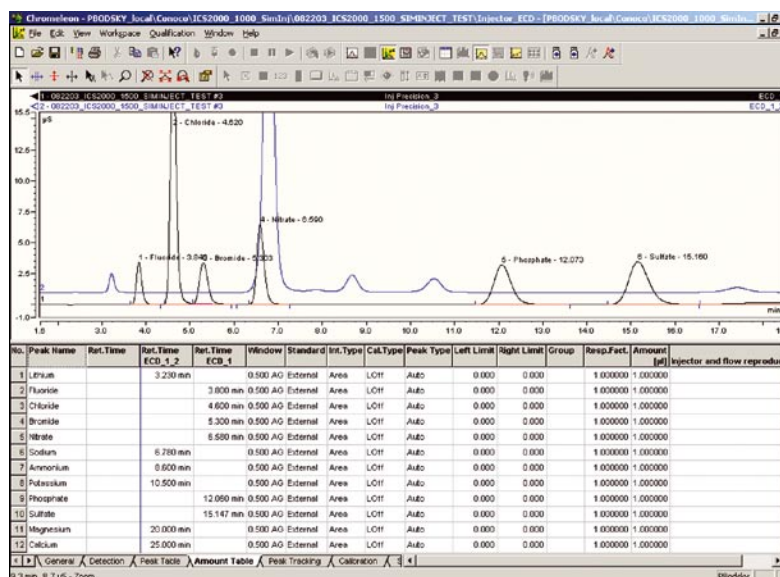


Figure 2. Report information from two systems.

ORDERING INFORMATION

To order, using the following part numbers, contact your local Dionex office or distributor nearest you. In the U.S., call (800) 346-6390. In other regions, refer to the phone numbers below.

Description	Part Number
Simultaneous Injection AS with no Injection Valves	063104
Simultaneous Injection AS with no Injection Valves and Sample Prep	063105
Simultaneous Injection AS with Internal Injection Valves	063101

SPECIFICATIONS

Sample Capacity: 49 × 10 mL
Vial Size: 10-mL polystyrene
Minimum Sample Volume: Loop dependent
Variable Volume Range:
 Not supported while in simultaneous mode
Injection Loop Size:
 100-µL standard; other sizes available
Injection Precision:
 Fixed loop <0.3% RSD at 20 µL or greater

Dilution Precision:
 <1.0% RSD for a 1:100 dilution
Dispensing Precision:
 <0.2% RSD by weighing
Carryover:
 <0.01% with 500-µL flush volume
Ambient Temperature Range:
 10–40 °C
Humidity Range:
 10–90% relative humidity, noncondensing

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