

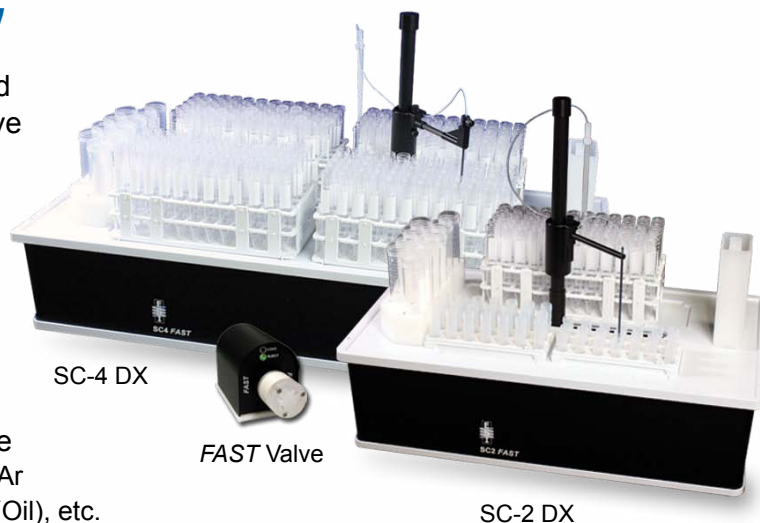
SC-FAST Automated Sample Introduction System

When you think productivity, think FAST!

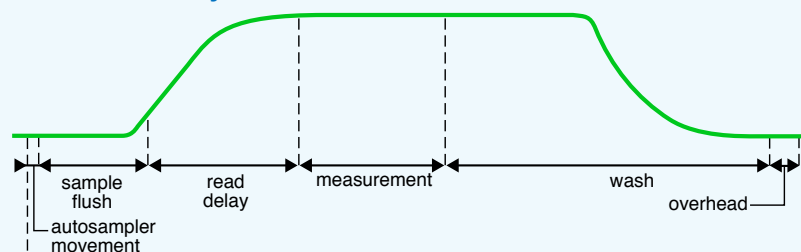
SC-FAST maximizes the productivity of the ICPOES and ICPMS by optimizing and utilizing ALL the non-productive steps in a sample acquisition.

System Savings

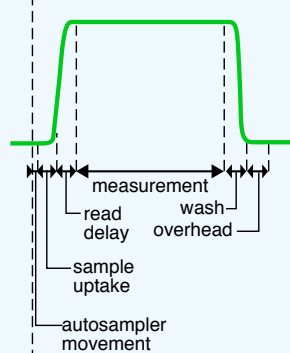
- Lower reagent costs
 - Reduce concentration and volume of internal standard
 - Reduce sample volumes and reagents used to prepare samples
- Lower cost of consumables and routine maintenance
 - Shorter run times, lower consumption of power and Ar
 - Increase lifetime of Torch, Nebulizer, Cones, Pump (Oil), etc.
- Improved data quality
 - Fewer QC failures
 - Improved precision
 - Improved sensitivity
 - Lower oxides
 - Lower memory
 - Cleaner, faster washout reduces sample carry over
 - Dual rinse station improves rinse out and reduces blank contamination
- Optional precision micro peripump (MP²)
- High speed vacuum sample loading minimizes sample uptake time
- Available online internal standard addition
- Optional high speed and high precision syringe sample loading available
- Supports online dilution
- The sample never touches peripump tubing
 - Eliminates memory effects from pump tubing
- Compatible with virtually all ICPOES/ICPMS systems
- Add volatile analytes such as Hg to ICPMS methods
- Pre-loaded FAST and ICP methods for rapid implementation
- Configurable for many applications



Normal Analysis



FAST Analysis



Six Steps in a Standard Analysis

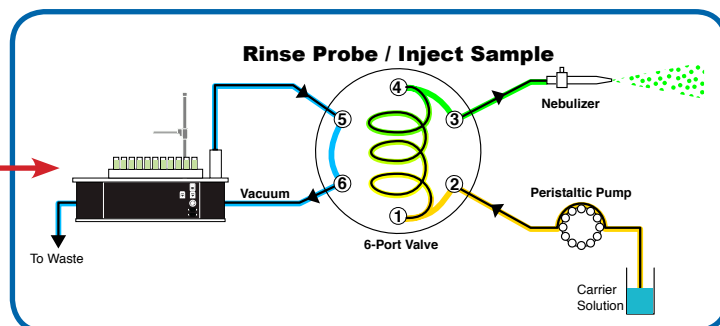
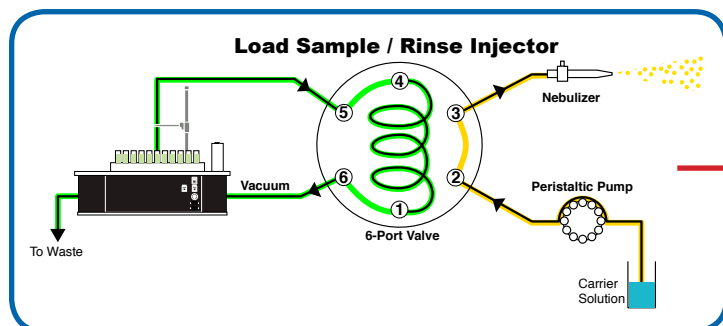
1. Autosampler Movement
2. Uptake
3. Stabilization
4. Measurement
5. Rinse
6. Overhead

The SC-FAST optimizes 5 of the 6 steps, saving valuable time and resources.

Can Increase Your ICPOES/ICPMS Throughput by up to 300%!

Unique Design

Utilizing a high flow vacuum pump, 6-port valve and ESI's SC-Software, the SC-FAST is able to rapidly deliver the sample for analysis, saving valuable time. The unique design eliminates sample contact with peristaltic pump tubing, minimizing cross contamination. The peristaltic pump operates at a single, constant speed, further enhancing system stability. The SC-FAST rinses the probe sample lines while the sample is being analyzed, making the SC-DX FAST a true multi-tasking sample automated system.



The SC-FAST loads the sample loop as the nebulizer and tubing are being flushed.

And rinses the autosampler probe and tubing while the sample is being analyzed.



| Table 1. Time Saving Comparisons | | |
|----------------------------------|------------------|--------------------|
| | Conventional | SC-FAST |
| Sample Flush | 30 (Sec) | 8-10 (Sec) |
| Pump Speed | 48 (RPM) | 4 (RPM) |
| Read Delay | 30 (Sec) | 0 (Sec) |
| Pump Speed | 10 (RPM) | 4 (RPM) |
| Measurement | 30 (Sec) | 30 (Sec) |
| Pump Speed | 12 (RPM) | 4 (RPM) |
| Wash | 45 (Sec) | 5 (Sec) |
| Pump Speed | 48 (RPM) | 4 (RPM) |
| TOTAL TIME | 135 (Sec) | 43-45 (Sec) |

This timing is typical when modifying an existing method for a SC-FAST. The total time per sample has been reduced from 135 seconds to 45 seconds, with absolutely no compromise in data quality. The SC-FAST analyzes 3 samples in the time it takes a conventional system to analyze one.

| Sample Capacity | | | | |
|----------------------|---------|-----------|-----------|---------------------|
| System | 50mL | 15mL | 8mL | Microtiter-96 (2mL) |
| SC-2 DX (Super rack) | 52 (64) | 120 (160) | 180 (240) | 384 |
| SC-4 DX | 94 | 240 | 360 | 576 |
| SC-8 DX | 208 | 480 | 720 | N/A |
| SC-14 DX | 304 | 840 | 1260 | 2880 |

Small images of a 50mL vial, a 15mL vial, an 8mL vial, and a 96-well microtiter plate.