Agilent StreamSelect LC/MS System

RELIABLE RESULTS, FOUR TIMES FASTER

The Measure of Confidence

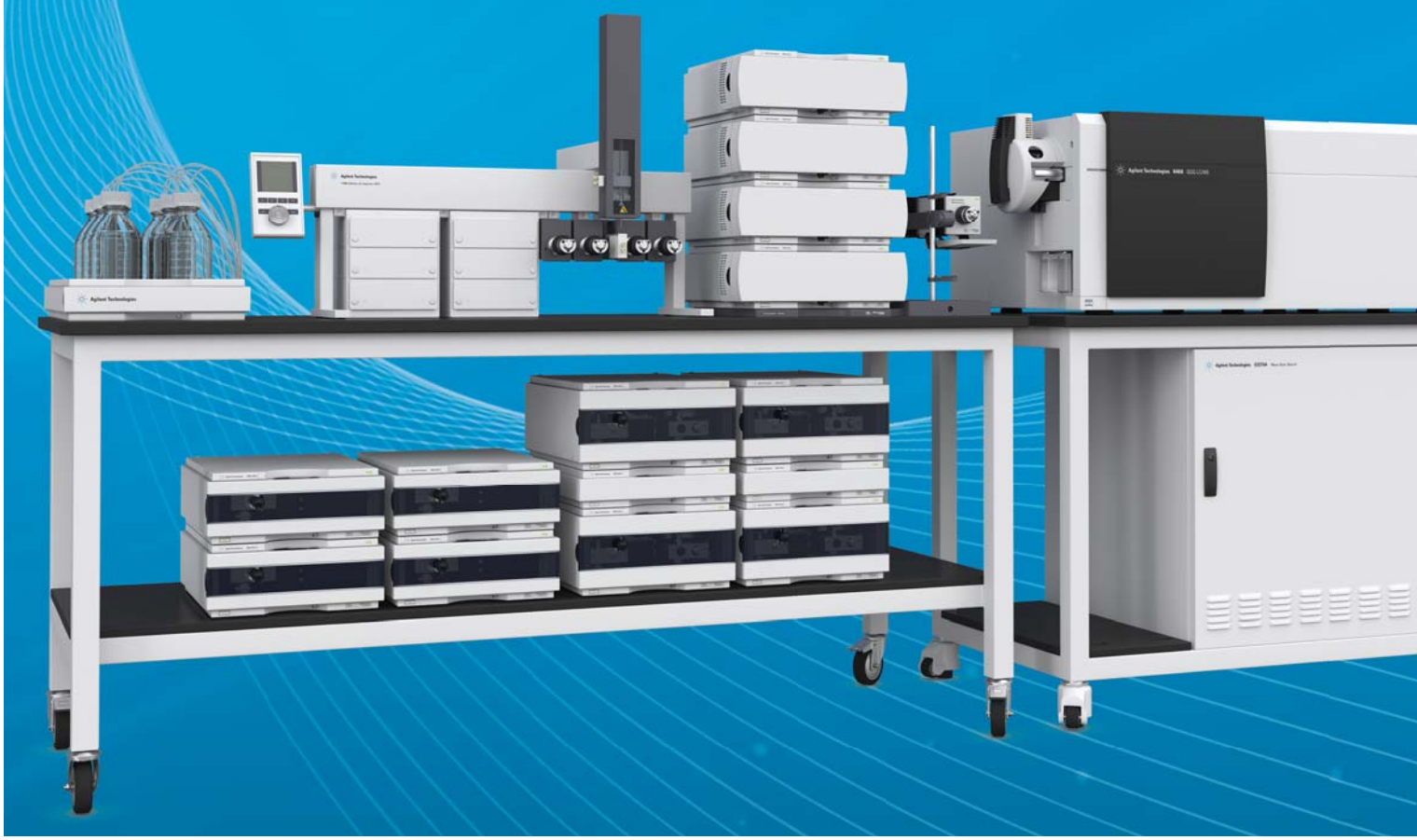
Agilent Technologies

MAKE YOUR LAB MORE PRODUCTIVE, WITHOUT COMPROMISING RELIABILITY

Now you can double, triple, or quadruple throughput with the Agilent StreamSelect LC/MS system. This innovative solution delivers parallel chromatographic separations to the same mass spectrometer with superior robustness and data quality. Intuitive automation software coordinates the completely integrated system, maximizing MS utilization and greatly enhancing throughput and cost effectiveness.

The StreamSelect LC/MS system expands the capabilities of laboratories carrying out routine LC/MS analysis:

- **Increased productivity**—up to four times the throughput of a standard LC/MS system, including the ability to run different analytical methods on each stream
- **Excellent reliability**—with intelligent error handling and fully integrated software
- **Superior quantitative performance**—proven reliable Agilent instrumentation
- **Cost-effective implementation**—easy adoption of existing LC/MS analytical methods
- **Greater return on investment**—efficient system utilization lowers overall cost-per-sample



SEND MORE SAMPLES TO YOUR MASS SPECTROMETER

One of the most expensive resource in many laboratories—the mass spectrometer—often sits idle or spends time collecting unimportant data when set up in a traditional configuration with one LC. Meanwhile, a growing number of samples waits to be analyzed. Sound familiar? You can change that with the new Agilent StreamSelect LC/MS system. It handles up to four sample streams at the same time—and it sends only the critical portion of each LC run to the mass spec for analysis and quantitation.

Focus on compounds of interest

By coordinating the use of a single triple quadrupole mass spectrometer with more than one LC stream, the Agilent StreamSelect LC/MS system delivers up to four times the throughput of traditional single-stream LC/MS systems, achieving more results in the same amount of time.

Standard system configuration

The standard Agilent StreamSelect LC/MS system seamlessly integrates the following components:

- 6400 Series Triple Quadrupole mass spectrometer
- Up to four 1260 Infinity Binary Pumps
- Up to four 1200 Infinity Thermostatted Column Compartments
- Stream Selection Valve
- 1290 Infinity LC Injector HTS with up to four injection ports
- MassHunter StreamSelect software

Standard configuration of the Agilent StreamSelect LC/MS Solution (shown right), where four LC streams feed into one single mass spectrometer via a stream selection valve, to increase productivity by reducing MS idle time with staggered, parallel analysis.

THE AGILENT STREAMSELECT DIFFERENCE: NO DROPPED SAMPLES

MassHunter StreamSelect software maintains direct two-way communication between all LC and MS components. This ensures robust and reliable sample handling, eliminates the possibility of mislabeling data files and guarantees the data acquired by the mass spectrometer is identified correctly.

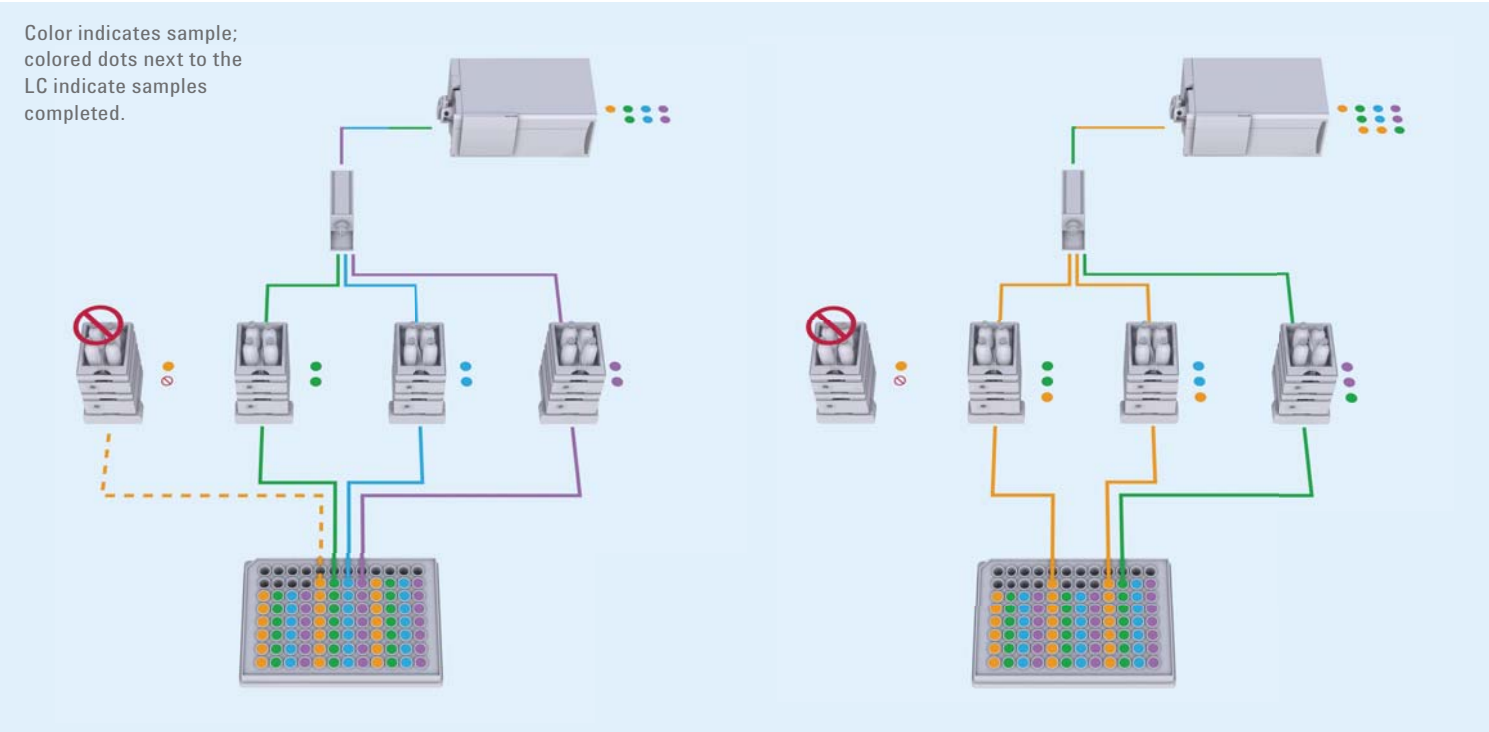
Proactive system monitoring

Thanks to intelligent error handling, the StreamSelect system quickly compensates for events such as solvent leaks or pump overpressure. If one LC stream is compromised, the system automatically diverts sample injections to another functional LC stream. Without interruption. Without data loss. Without user intervention. The system automatically tracks sample information as you go in order to maintain correct sample-to-data file pairing.

Easy system pressure management

The Pump Pressure Monitoring feature allows users to set thresholds for out-of-range pressures throughout the acquisition run—accurately reflecting the actual changes in pressures of LC gradient conditions.

Intelligent Error Handling



Agilent intelligent error handling ensures that no samples are dropped. If one LC needs service, the sample that was intended for that LC gets redirected to the next available LC. All other samples get sent to the next LC in the sequence, so no samples are dropped.

ROBUST AND SMART ERROR HANDLING

The StreamSelect system's easy-to-use, integrated software does not drop samples. That means no rework. No wasted time. The software orchestrates the functions of all HPLC components and their interaction with the mass spectrometer—with minimal hands-on time.

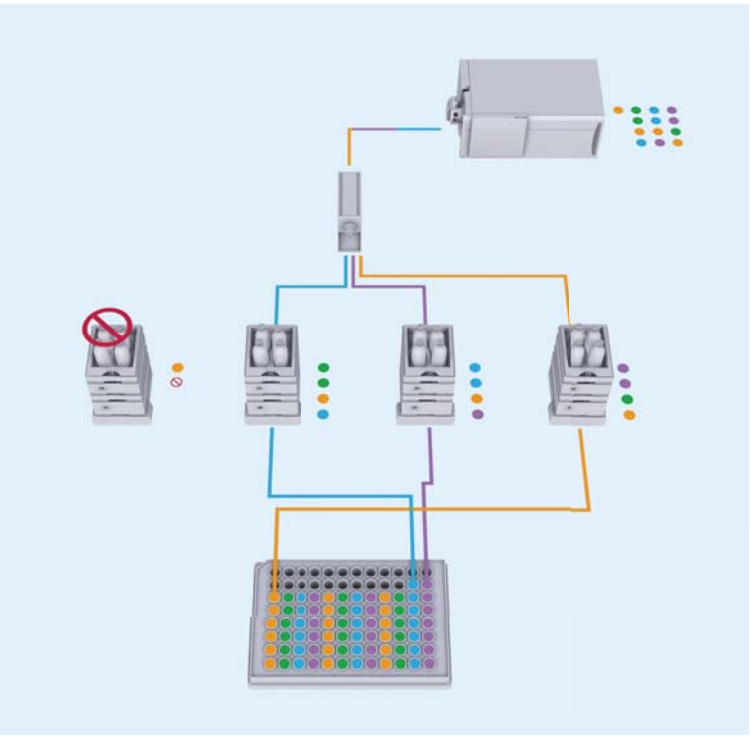
More good news: designed to accommodate your existing LC/MS analytical methods, the StreamSelect system eliminates the need for costly and laborious method redevelopment.

Easy method adoption

Implementing LC/MS methods is straightforward on the StreamSelect system, even when using different methods for each stream. Simply specify an existing LC/MS analytical method and a time window in which the target analytes elute. The software automatically schedules and coordinates the actions of up to four parallel LC systems and the mass spectrometer.

Batch submission

StreamSelect Data Acquisition Software enables easy batch submission and monitoring, further enhancing the system's throughput potential. Batch submission is a simple, three-step process: identify the sample list; specify the sample location; start the analysis. Users can also easily import sample lists generated by LIS, LIMS, robotics, or other sources.



Batch submission is easy and can be accomplished within one control window.

FLEXIBLE OPTIONS FOR YOUR HIGH THROUGHPUT LAB

The Agilent StreamSelect LC/MS system can easily be configured with additional LC pumps for online trap-and-elute sample cleanup. This helps reduce matrix interferences and ion suppression while decreasing the total turnaround time. The online sample cleanup configuration functions in the same workflow as the standard configuration, but also allows for more advanced chromatography.

Enhanced sample cleanup capability

By adding the following components, you can configure the system for online sample cleanup:

- Up to four 1260 Infinity Quaternary Pumps
- Column switching valves for each 1200 Infinity Thermostatted Column Compartment

Using this configuration, samples can be loaded onto a trapping column, where analytes of interest are retained and other matrix components are washed away by the first pump. Shortly before the analytes elute off the trapping column, a valve diverts them onto an analytical column where further separation is carried out using the second pump.

High-throughput workflow support

Agilent provides workflow support for your clinical research analysis, including a full portfolio of industry-leading columns, supplies and sample preparation products to support your work.

Learn more at **www.agilent.com/chem/selectiontools**

Matching analytical technology with your needs

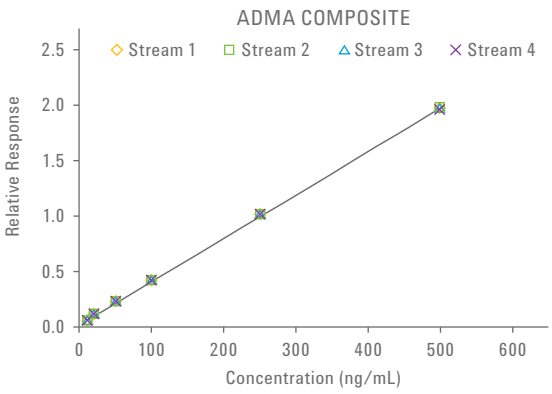
Assay Needs	LC-Type Run times	Chromatography	SPE + Chromatography	Solid Phase Extraction (SPE)
Higher Throughput x100s – x1000/day	**HPLC** 0.5 – 2 min	StreamSelect Four-Stream LC/MS increasing the productivity of LC/MS assays up to 4X	StreamSelect Four-Stream + Online Cleanup Up to 4X LC/MS productivity, plus online sample cleanup	**RapidFire/MS** Very high throughput MS analyses for assays that do not require chromatographic separation
Medium Throughput High x100s/day	**HPLC** 1.5 – 3 min	StreamSelect Two-Stream LC/MS increasing the productivity of LC/MS assays 2X	StreamSelect Two-Stream + Online Cleanup 2X LC/MS productivity, with online sample cleanup	**RapidFire/MS** Time-to-results value for medium throughput applications (no chromatography required
Lower Throughput X10s – x100s/day	**HPLC & UHPLC** 3 – 30 min	**Traditional LC/MS** Single stream ACR can increase throughput	**1290 Infinity Flexible Cube** paired with traditional LC/MS (Environmental)	

SUPERIOR ANALYSIS, EVERY TIME

The StreamSelect LC/MS system successfully delivers the superior analytical performance you have come to expect from Agilent. With the industry-proven reliability of Agilent's 1200 Infinity Series HPLC modules and the 6400 Series Triple Quadrupole LC/MS system you won't have to sacrifice accurate, reproducible quantitation to gain higher throughput.

Accurate quantitation

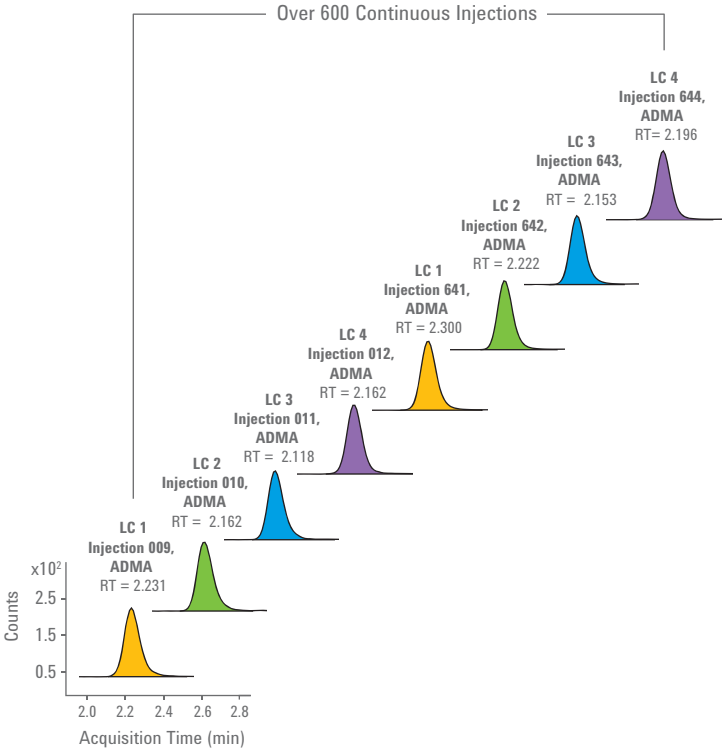
The results delivered by the StreamSelect system show excellent agreement when comparing LC/MS quantitative data among as many as four parallel LC streams, maintaining uncompromised accuracy in quantitation.



Comparison of AMDA and SDMA analyses acquired from four LC streams, and their respective combined calibration curves. The four parallel LC systems displayed excellent agreement when comparing quantitative results.

Reproducible performance

Reproducibility is key, and the StreamSelect LC/MS system delivers—run after run.



Retention time reproducibility of ADMA over 600 injections across four LC streams (injections 1–8 were blanks, 2 per stream). Deviations in retention time between the four streams were minimal.

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