

DSA-7

Discrete Sampling Accessory

Coupled with a CETAC Autosampler, the DSA-7 minimizes times for sample delivery, stabilization and washout, increasing throughput up to five times or more. By reducing sample delivery, stabilization and washout times, the DSA-7 optimizes sample introduction and reduces costs from materials, power, maintenance and labor.



INCREASE THROUGHPUT

Coupled with the CETAC autosampler, the DSA-7 reduces time required for autosampler movement, sample uptake, stabilization, and rinse operations, thereby reducing sample run times significantly. The DSA-7 high speed vacuum pump loads sample and flushes the sample uptake path substantially faster than a conventional ICP-AES or ICP-MS peristaltic pump. Additionally, the system design allows multiple functions to occur simultaneously. The result: more sample throughput in less time.

COST EFFECTIVE

Relative to workload, the DSA-7 pays for itself in as little as one week, by increasing throughput and reducing overhead expenses associated with argon and power consumption, pump tubing replacement, instrument maintenance, and labor costs.

SIMPLE OPERATION

The DSA-7 integrates quickly and easily into the sample flow path, without modification to the analysis method. The DSA-7 is powered and controlled by the CETAC autosampler, via a single power/communication cable. A simple and convenient Windows-based settings tool is used to store parameters to the autosampler's on-board processor. No additional software is required.

REDUCE MAINTENANCE

DSA-7 operation greatly extends the service life of ICP-MS components, such as sample cones, by reducing exposure to the sample matrix. Since peristaltic pump tubing is never exposed to the sample matrix, its service life is also greatly extended, with cumulative memory effects eliminated.

COMPATIBILITY

The DSA-7 Rapid Sample Introduction System is compatible with existing CETAC autosamplers, as an upgrade, or may be purchased as a complete system, which includes the DSA-7 and choice of autosampler. The DSA-7 integrates easily with most ICP-AES and ICP-MS systems.

Additional benefits afforded by the DSA-7 include:

- Virtually eliminates stabilization time by keeping pump speed constant (no "fast pumping"), improving stability
- Eliminates sample contact with peristaltic pump tubing
- Faster, more effective rinse, superior washout
- Reduced maintenance/overhead
- Reduces argon and power consumption
- Greatly reduces salt loading on ICP-MS cones
- Sample consumption as low as 2 mL
- Convenient placement of the injection valve close to hard-to-reach nebulizers/spray chambers by using the available articulated mounting system

Technical Specifications

Dimensions (H x W x D):

Height: 20.5 cm (8.1")

Width: 10.5 cm (4.1")

Depth: 20 cm (7.9")

Weight: 1.56 kg (3.4 lbs)

Hardware Interfaces: 37-pin connector to autosampler

Power: 24 VDC (supplied by CETAC Autosampler)

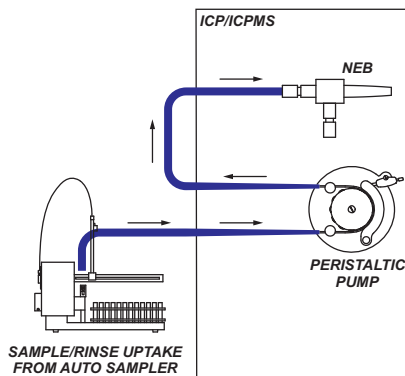
Warranty: 2 year limited

DSA-7 Technology Description

The DSA-7 Rapid Sample Introduction System increases sample throughput for ICP-AES and ICP-MS analysis by reducing sample loading, signal stabilization and washout times. Using proven technology, the DSA-7 combines a metal-free, 6-port injection valve and inert, high-speed vacuum pump to rapidly load the sample loop for introduction to the nebulizer. The DSA-7 design facilitates the ability to quickly rinse the sample loop while simultaneously injecting sample into the ICP-AES or ICP-MS nebulizer for analysis. The result is additional time dedicated to sample analysis, more effective flow path rinse, and reduced time between samples.

System without DSA-7 Technology

A standard analysis system relies upon a single peristaltic pump to both deliver samples to the nebulizer, and rinse the sample flow path between sample deliveries.

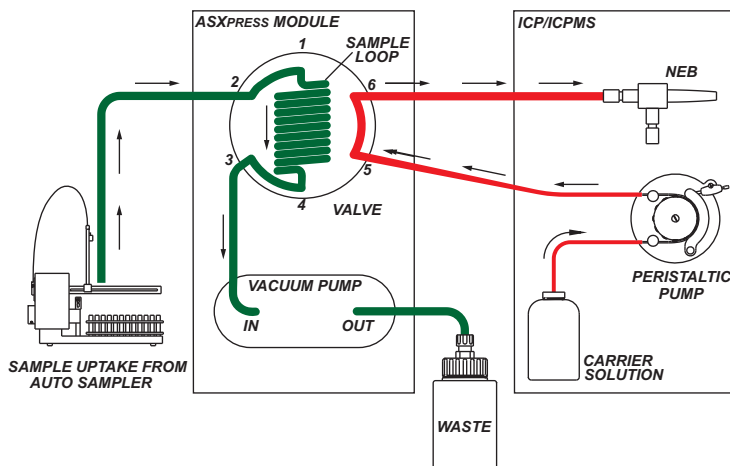


System with DSA-7 Technology

The DSA-7 utilizes a high speed vacuum pump in addition to the ICP/ICP-MS peristaltic pump. The 6-port valve allows the use of both pumps simultaneously, as is illustrated below, reducing total sample analysis time significantly.

Load Position

The vacuum pump rapidly fills the sample loop (green path), while the ICP-AES or ICP-MS peristaltic pump simultaneously transports carrier solution, keeping the plasma stable (red path).



Inject/Rinse Position

The loaded sample is then pushed into the nebulizer for analysis via the carrier solution flowing through the ICP-AES or ICP-MS peristaltic pump (red/green path). Simultaneously, the autosampler probe is moved to the rinse station and the uptake flow path is flushed with rinse solution via the vacuum pump (blue path).

