

LC/MS Application Note



CHEMICAL



LIFE SCIENCE

Expert infusion automation for your high sensitivity metabolomics and lipidomics experiments



Infusion Automation - Expert infusion automation for your high sensitivity metabolomics and lipidomics experiments

TRAJAN Automation 

High-throughput, high sensitivity and low carryover: the new infusion automation from Trajan LEAP Automation offers you everything you need to bring your lipidomics mass spec workflow to its peak performance.

Move from manual sample infusion to the highest standard of infusion automation. With rapid cleanup between injections and best-in-class software architecture to integrate into your workflow, our infusion automation will elevate your lipidomics experiments.

reporting to LIMS software, as well as MS acquisition mode switching within a single infusion. The system maintains flow to the source while quickly and thoroughly washing the syringe system for the next infusion.

An exclusive inert configuration is available for your trickiest lipid classes – ensuring your samples never come into contact with any polymers.



"We just ran a whole pile of samples. It ran 24/7 without a hitch. Very reliable."

- Calvin Vary, PhD
Proteomics and Lipidomics Core Facility Main Medical Center Research Institute

The most consistent and flexible system available

Fully customizable infusion eliminates carry-over concerns while saving you time. Allows for sample infusion at flow rates between 5 and 100 $\mu\text{L}/\text{min}$ – directly into your ESI source via the injection valve – precisely and without pulsation. Compatible with both shotgun and targeted lipid analysis.

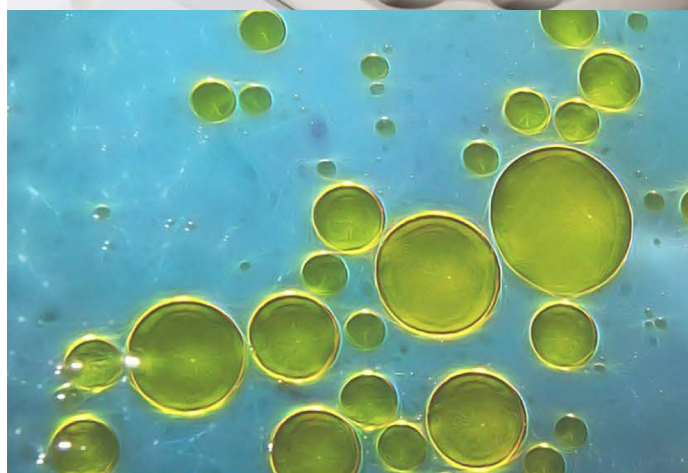
The powerful Chronos software can execute important operational and integration functions such as reading and



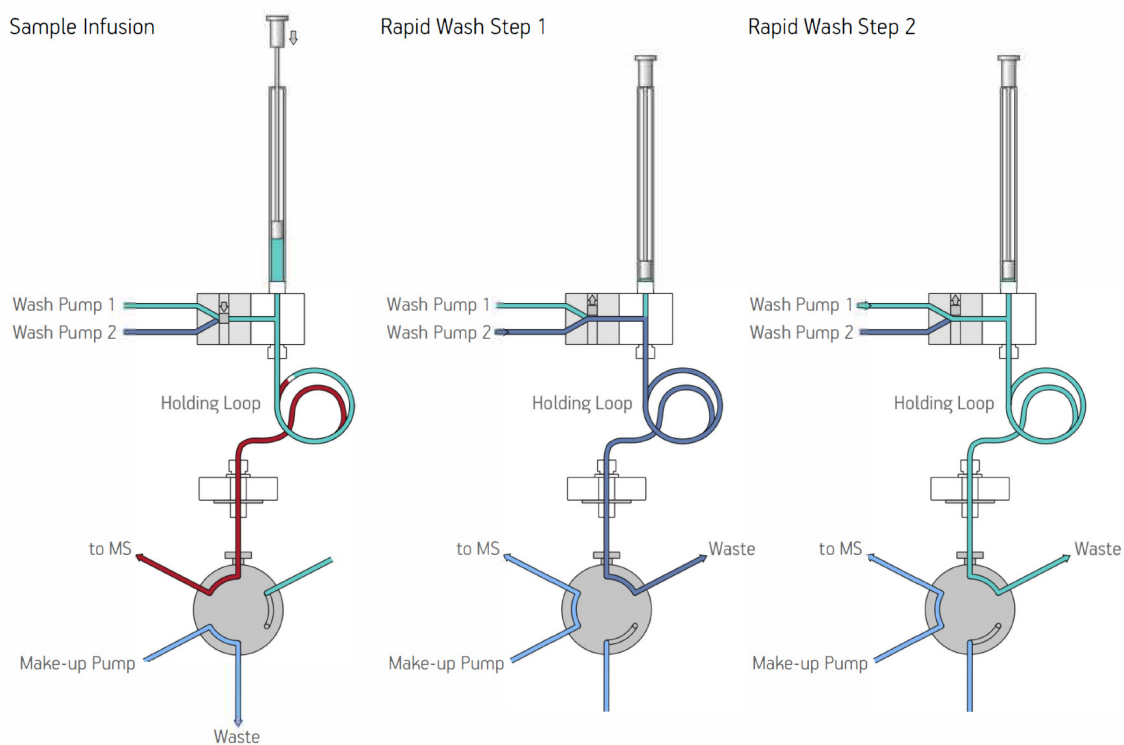
Upgrade your sample throughput without worrying about carry-over

The PAL injector head is a syringe pump itself, making it the ideal sample delivery system for ESI flow rates, unlike conventional HPLC pumps.

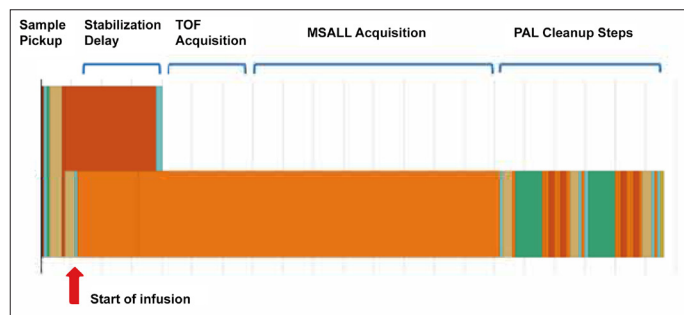
Many lipids are notorious for their adherence to glass and other surfaces resulting in carryover between samples. The special LCMS syringe tool incorporates unique features to minimize this carry-over to below 1% for the abundant neutral and phospholipids and even lower for other species.



The illustration below shows how this rapid washing is achieved. After washing the inside, the system will wash the needle externally and be ready to aspirate the next sample.



Greatest experimental control with powerful, user-friendly software



An example Chronos infusion method

The infusion process is controlled using our Chronos software, allowing maximum compatibility with your preferred Chromatography Data System, LIMS and MS data systems.

Method parameters are available for flow rates, infusion times, stabilization delays, cleanup conditions, and MS acquisition method switching.

With an optional second valve, standard chromatography methods can be used in the same sequence with direct infusion samples.

High throughput, high sensitivity and low carry-over: the new infusion automation from Trajan LEAP Automation offers you everything you need to bring your lipidomics mass spec workflow to its peak performance.

Infusion Automation

Expert infusion automation for your high sensitivity lipidomics experiments - the specifications can be found in the table below.

| Specifications | |
|---------------------------------|---|
| Flow rate range | 5 - 100 $\mu\text{L}/\text{min}$ |
| Sample formats | Sealed and unsealed vials (1mL, 2mL, 10 mL); sealed and unsealed plates (96 and 384-well) |
| Optional features | Sample cooling drawers (4 - 40°C), inert flow path, 2nd valve for chromatography autosampling |
| Sample capacity | Expandable capacity, from three plate tray holder, to 6 or 12 plate drawer stack(s). Capacity depends on vial/ tray formats and drawer configuration, maximum 4 stacks. |
| Signal stability | Signal stability on a single sample has been demonstrated for 20 minutes. Long term stability confirmed in successful analysis of 400 samples over a 36-hour period (5 minute injection per sample). |
| Computer requirements (minimum) | Operating system: Windows 7 SP1 (32 or 64 bit), Windows 8.1 or Windows 10. Hardware: Intel Dual Core 2.0 GHz, 60 GB hard disk, 4 GB RAM, dedicated ethernet port or free location on local private network switch with 1 free USB port for security dongle. Monitor: 1366x768 (recommended 1440x900 or 1920x1080) |

Visit us at www.leaptec.com or contact your regional Trajan LEAP Automation representative for assistance.

Trajan Scientific and Medical Science that benefits people. Trajan is actively engaged in developing and delivering solutions that have a positive impact on human wellbeing. Our vision revolves around collaborative partnerships that improve workflows, delivering better results.



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Imprint

Date of print: 12.2018

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