

Modernize your Laboratory Transform your Research

Switch from **PAL-xt** to
PAL RSI





The LC/MS Workflow Challenge

Liquid chromatography/mass spectrometry (LC/MS) is the gold standard for targeted analysis and an indispensable tool in modern laboratories. However, the complexity of LC/MS workflows often leads to bottlenecks and inconsistencies.

Manual sample preparation is time-consuming and error-prone, limiting throughput and potentially compromising the accuracy and precision of your results. Instrument downtime due to maintenance or troubleshooting further exacerbates these challenges. If you are currently using a **PAL-xt System**, you are already familiar with the benefits of automation.

The PAL RSI not only matches the performance, but exceeds the robustness of previous PAL-xt Systems.

Incorporating the latest advancements in automation technology, the PAL RSI offers enhanced robustness and reliability for high-throughput screening. Technological advances, such as the new Volumetric Pump for the LC/MS Tool, require less maintenance, leading to reduced downtime and increased throughput.

The PAL RSI is designed to address these challenges head-on.

It is not just an autosampler; it is a robust and versatile system that streamlines your entire LC/MS workflow, from sample preparation to injection.



Enhanced Productivity

Automate time-consuming tasks, increase throughput with faster injections, and free up lab members for other activities.



Improved Accuracy and Precision

Reduce human error, minimize sample loss, and maximize signal-to-noise ratios for more reliable results.



Reduced Maintenance and Downtime

Minimize instrument downtime with extended service intervals, easy-to-replace parts, and a low-maintenance volumetric pump.



PAL RSI - a safe investment

if your requirements grow an upgrade to the full RTC functionality is possible and gives access to complete workflow automation.

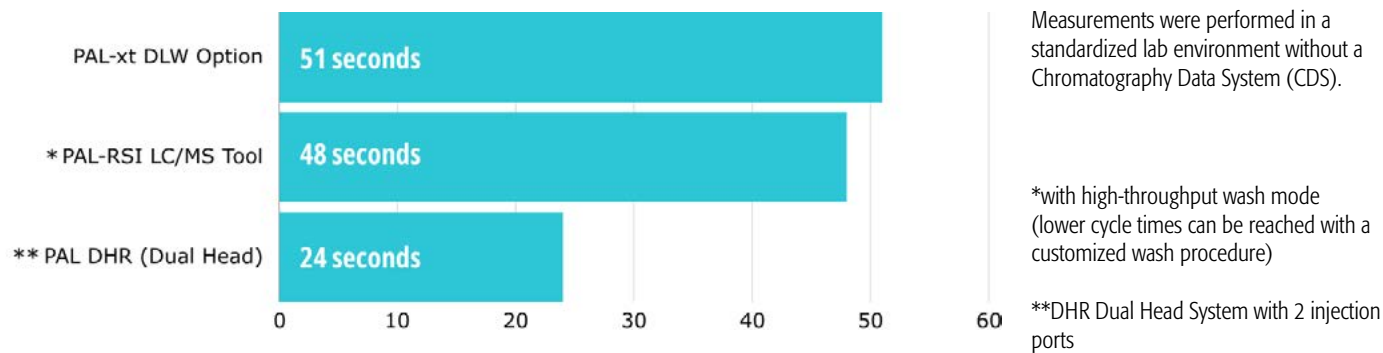
[Learn more about
PAL RTC and PAL RSI](#)

The Heart of LC/MS Automation

PAL LC/MS Tool & Volumetric Pump

The PAL LC/MS Tool is the cornerstone of the PAL RSI, designed to seamlessly integrate with your LC/MS instrument and elevate your analytical capabilities. This state-of-the-art tool is purpose-built for the demands of LC/MS workflows, offering unmatched precision, low carryover, and high throughput.

When comparing the performance of the latest high-throughput LC/MS Tool of the PAL RSI with the PAL-xt’s Dynamic Load and Wash Cycle (DLW) option, **the PAL RSI matches its performance**. Utilizing the PAL Volumetric Pump and Wash Cup, the injection cycle is reduced to just 48 seconds with a Single Head PAL and 24 seconds with a Dual Head PAL (DHR).



The New Volumetric Pump for the LC/MS Tool

At the heart of the LC/MS Tool lies the innovative PAL Volumetric Pump. This cutting-edge technology improves sample injection, providing exceptional accuracy, reproducibility, and robustness.

The pump’s robust design and minimal moving parts translate to exceptional reliability and reduced maintenance requirements. With a **service interval of 280’000 samples the service cost/sample can be as low as 0.05 US \$**.

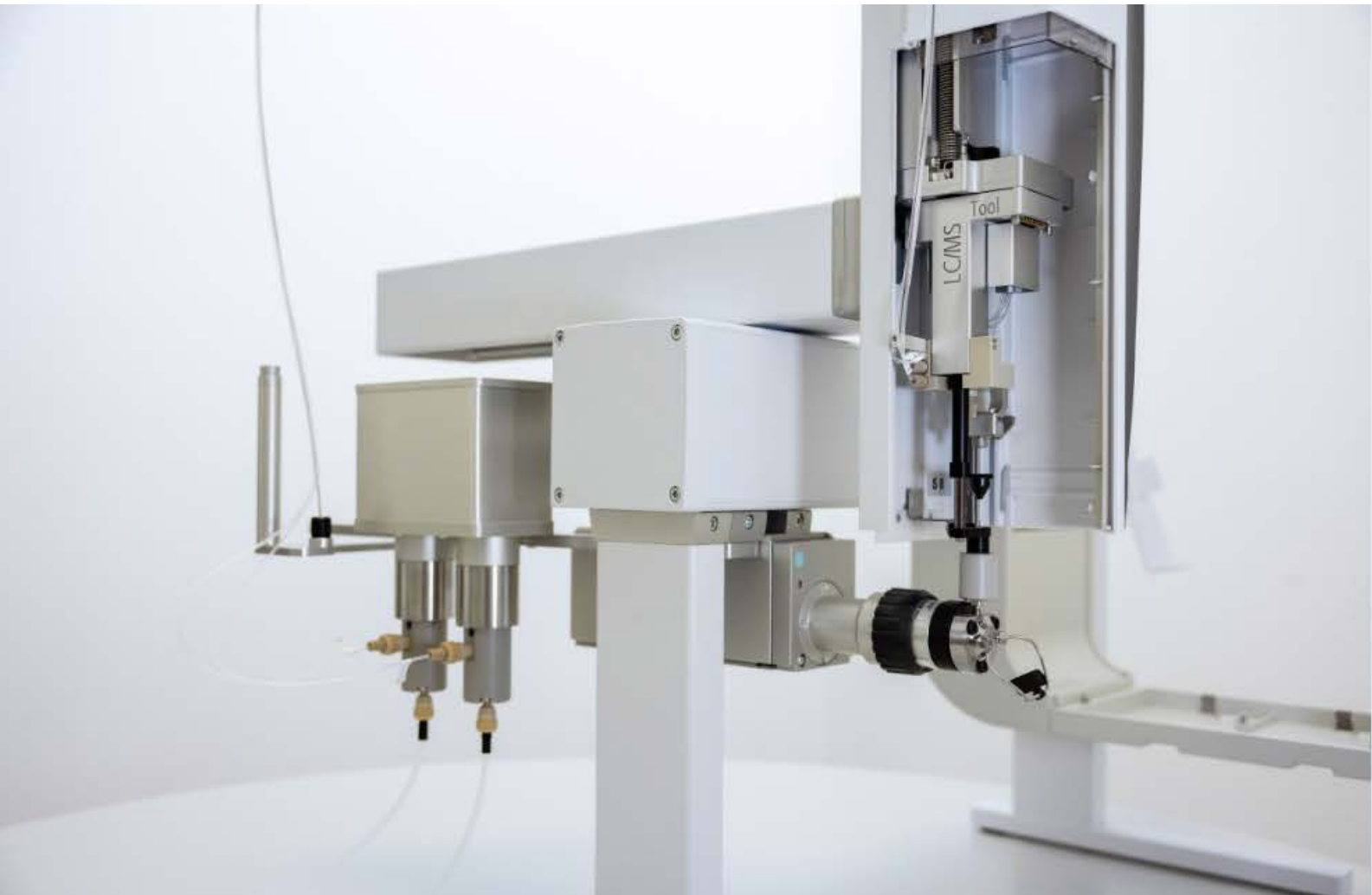
This means less downtime for your LC/MS instrument and more time dedicated to analysis, ultimately increasing your lab’s productivity.

Specifications

- Pressure rating: max. 50 bar (725 PSI)
- Flow range: 0.1-250 µl/sec 2-Channel Pump
0.1-107 µl/sec 1-Channel Pump
- Requires firmware 4.12 or higher

Applications

- Wash pump for LC/MS Tools
- Online SPE
- Syringe pump



Benefits of the New Volumetric Pump powered LC/MS Tool

Unmatched Injection Precision

Achieve unparalleled durability and reproducibility in your sample injections, even with challenging matrices.

Reduced Carryover

Eliminate the risk of cross-contamination between samples, ensuring the accuracy of your analytical data.

Increased Speed

Experience faster injection cycles, enabling higher throughput and reduced analysis times.

Minimal Maintenance

Enjoy extended service intervals and less frequent maintenance requirements, maximizing your instrument's uptime.

Choose your own Path for Updating your LC/MS Setup

PAL-xt a robust partner with a maintenance challenge

We recognize that change can be difficult, especially in a dynamic lab setting with several LC/MS Setups. While the PAL-**xt** has been around for many years and is part of routine LC/MS workflows in established LC/MS Setups, change is inevitable as software changes and maintenance is becoming increasingly challenging. To give labs more flexibility and to make this transition easier, we are happy to announce the **PAL-xt Emulator Software for the PAL RSI**.

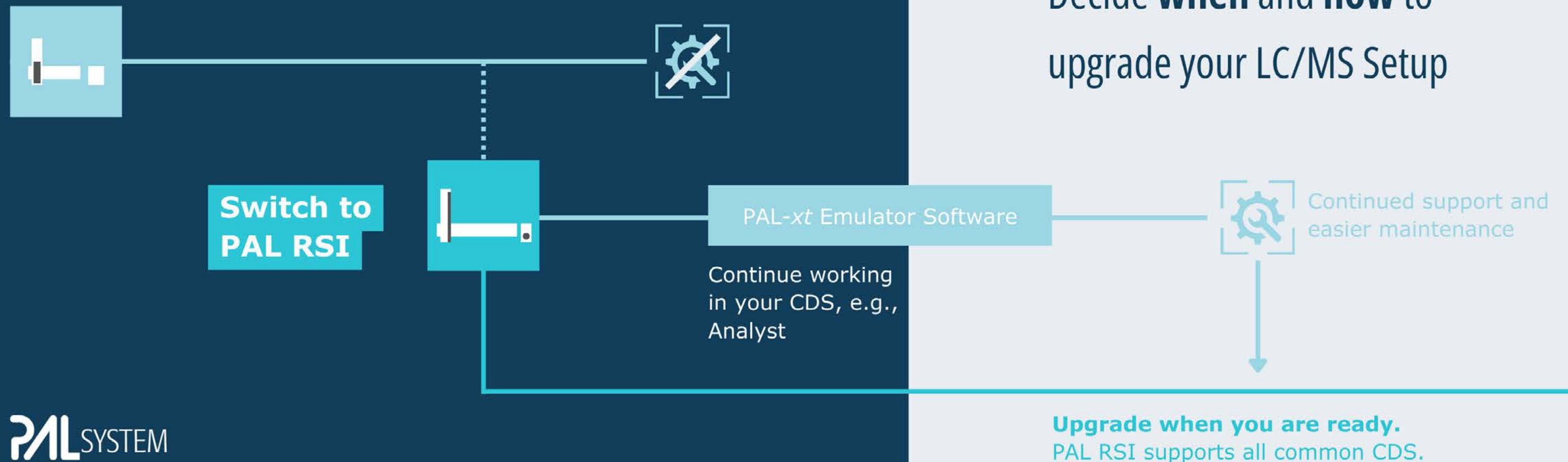
Switching to the PAL RSI with the PAL-**xt** Emulator Software, you are future-proofing your current LC/MS workflows and gain the flexibility to decide when to upgrade your LC/MS Setup.

For instance, you may continue working with Analyst for now, and when you are ready to switch to Sciex OS, simply disable the PAL-**xt** Emulator as your PAL RSI supports all major CDS.

This allows you to maintain your current workflows and be ready for the next iteration of LC/MS Setups, while also gaining more options for automated sample preparation and automation, if needed.

5 Reasons to switch to PAL RSI

1. With the PAL RSI, you get **continued support and easy maintenance**, eliminating the difficulties often associated with sourcing spare parts or finding support contracts for PAL-**xt** systems.
2. The PAL RSI comes with new hardware for more robustness and less maintenance, i.e., Volumetric Pump.
3. With the PAL-**xt** Emulator Software, you can effortlessly **transition your workflows to the PAL RSI**, maintaining compatibility with older chromatography data systems (CDS) like Analyst, as well as your LIMS.
4. The PAL RSI is **future-proof**, offering support for Sciex OS and other major CDS, ensuring your investment remains relevant for years to come.
5. The newest PAL Systems offer the potential for further sample preparation options via additional tools and modules.



Continue your LC/MS Routine Workflows

The PAL-xt Emulator Software facilitates your current workflows

The PAL RSI is more than just an instrument; it is a strategic investment in the future of your laboratory. By automating and optimizing your LC/MS workflow, the PAL RSI ensures continued support and easier maintenance.

Moreover, the PAL RSI contributes to a reduction in overall costs. By minimizing the risk of human error, reducing sample loss, and extending instrument uptime, the PAL RSI can yield substantial savings on maintenance and labor.

For PAL-xt users, the transition to the PAL RSI is seamless.

Building upon the familiar PAL interface and software, the RSI offers great performance and new features that elevate your LC/MS workflow. **The new PAL-xt Emulator Software also allows you to keep the routine workflows maintained and continue working in your preferred CDS, i.e., Analyst, while enjoying the advantages of the PAL RSI.**

Whether you are analyzing environmental samples, pharmaceuticals, food products, or other complex matrices, the PAL RSI is your trusted partner for accurate, efficient, and innovative LC/MS analysis across all major CDS. Below you can find an exemplary list of drivers that are supported by the PAL-xt Emulator Software besides Analyst as well as the PAL RSI.

Chromatography Data System (CDS)	PAL-xt Emulator Driver	PAL RSI Driver
Analyst	✓	✓
XCalibur	✓	✓
Chromeleon	✓	✓
Sciex OS	●	✓
Open Lab CDS	●	✓

This is an exemplary list of CDS that are supported with drivers via the PAL-xt Emulator software and the PAL RSI. PAL RSI, LSI and RTC support all major CDS, this table is incomplete. For more information visit palsystem.com or reach out directly.



Switch from PAL-xt to PAL RSI

The transition is seamless, as your new PAL System integrates in your existing CDS with the PAL-xt Emulator Software.

+ PAL-xt Emulator Software

PAL RSI Bundle



Integrate the **PAL RSI** in your routine workflows with ease.

PAL-*xt* Emulator



- Switch to the PAL RSI with the PAL-*xt* Emulator software
- Continue working in the same environment/CDS, e.g., Analyst.



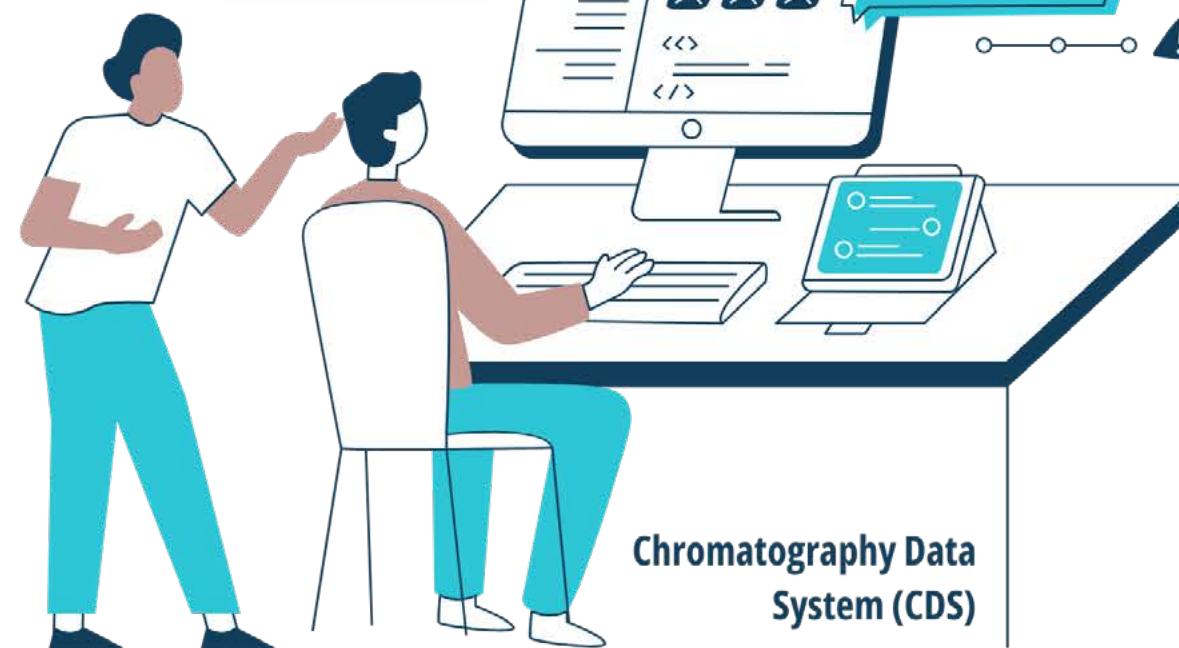
Match the performance of your current PAL-*xt* System.



Less downtime with easier maintenance due to hardware improvements.



Continued support across all major CDS.



Chromatography Data
System (CDS)

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**Learn more about
PAL RTC and PAL RSI**

PALSYSTEM
Ingenious sample handling

Contact the experts for sample preparation:
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