

LC **PAL**

Versatile LC injection system for modern chromatography labs



HPLC / LC MS

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Microplate Applications

Flow Injection Analysis

Preclinical Research

PAL Syringe only concept, no tubing in sample path

PAL Processes microplates and standard sample vials

PAL Small footprint, comparable to low capacity autosamplers

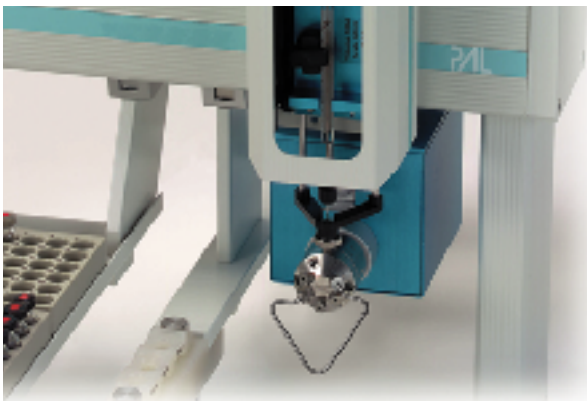
PAL Reliability and ruggedness for unattended 24 hour/day chromatography

PAL Optional cooled sample trays for the protection of labile samples

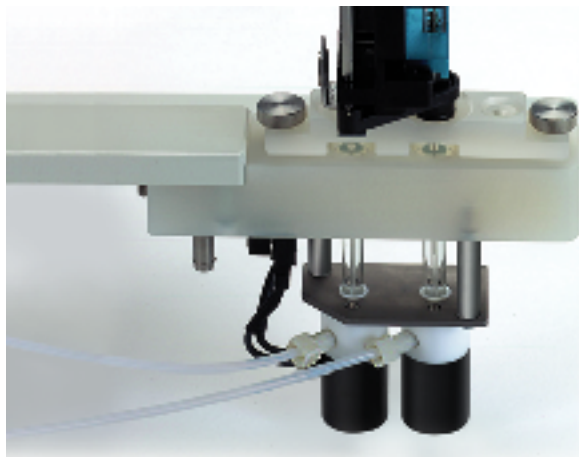
PAL Open architecture for easy access to trays



Flexible utilization of microplates with 2ml vials on the same Trayholder



Direct injection into a sample loop



Optional Fast Wash Station for high throughput applications

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Reliability is standard

Instrument reliability is a critical factor for every LC/LC MS user. Today's chromatographers run sample after sample, day after day, around the clock. We know that you expect your LC to perform reliably whenever you need it. CTC Analytics' renowned experience in the design and manufacture of automatic GC and LC injection systems is reflected in their range of the PAL series injection systems. In all PAL instruments the latest electronic and mechanical developments are combined with proven elements to give you precise sample handling for dependable analysis results.

Syringe only technology

The syringe only concept of the LC PAL combines the manual sample injection procedure of a LC chromatographer with the precision and throughput of a robotic liquid handling system. Your valuable samples are aspirated with a conventional syringe and are injected directly into the sample loop. No error prone teflon tubing or transfer lines are involved during the sample loading process.

Advanced performance

The LC PAL provides outstanding performance and maximum flexibility in a LC sample processing system. The standard unit provides sample capacity for 216 2ml vials or 4 standard- or deepwell microplates in any combination. An injection volume range of 100nl up to 2500µl meets the requirements of virtually any application. The fast cycle time of 20-30 seconds from injection to injection keep pace with the demands of fast LC and LCMS Flow Injection Analysis (FIA). Additional flexibility can be added by using the optional 4- or 10-port valves. This enables complex column switching procedures or internal loop configurations.

Intelligent system control

CTC Analytics' user interface is consistent throughout the whole product range. Every instrument type operates with the same easy-to-learn, easy-to-use handheld keyboard. This makes using CTC's injection systems fast and efficient. It's simplicity of operation translates directly into improved productivity for laboratories. For individual application requirements the PC based Windows 95/98/NT control software Cycle Composer is available.

Specifications LC PAL

System Type

XYZ robot with syringe only concept, no tubing in sample path

Syringe sizes

10, 25, 100, 250, 1000, 2500 µl

LC Injector

Electrically actuated fast switching 6 port valve

Sample Capacity

1 Trayholder for up to:
 4 Standard Microplates (96/384 wells)
 or 4 Deepwell Plates
 or 216 2ml vials

Needle, Syringe, Valve Cleaning

Wash Station for 2 different solvents
 (optional Fast wash station, 2 different solvents)

Local Control

Control panel with 4 function keys, Graphical LCD Display
 Unique scroll knob for teach functions

Remote Control

Windows 95/98/NT® based PC software

Electrical Control

2 RS 232C ports
 3 TTL Input / 1 Opto Coupler Input
 2 Relay Output

Dimensions

L: 534mm D: 385mm H: 575mm

Weight

~ 8kg (without accessories)

Power Requirements

97.5-264 VAC, 45-66Hz

Specifications are subject to change without notice

LC PAL Options

Thermostatted Sample Trays
 4 - and 10 - port electrically actuated fast switching valve

