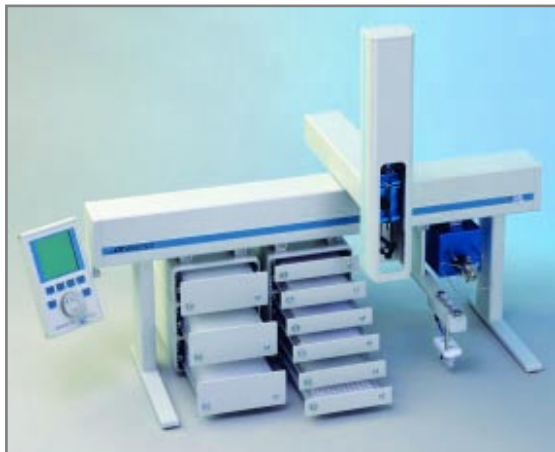


# HTS PAL

ULTIMATE FLEXIBILITY IN AUTOMATED LC AND LC/MS SAMPLE INJECTIONS



*HTS PAL offers increased laboratory productivity with automated pretreatment operations combined with precise injection of sample sequences.*

## Productivity

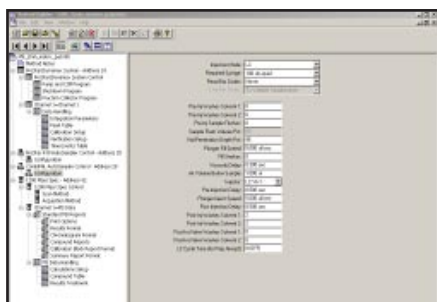
The HTS PAL delivers highly precise and accurate injections and random access to individual samples. The HTS PAL provides task-oriented programming along with options and accessories for additional sample handling routines. The autosampler employs a unique XYZ mechanism for fast sampling and/or rapid vial-to-vial transfers. Fast injection cycles coupled with a large sample capacity make the HTS PAL ideal for high throughput screening, QA/QC applications, or LC/MS Flow Injection Analysis.

## Syringe Only Technology

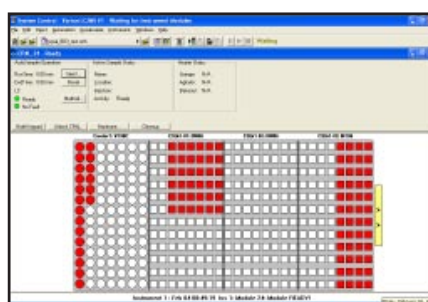
The HTS PAL combines the manual sample injection procedure with the precision and throughput of a robotic liquid handling system. Samples are aspirated with a conventional liquid syringe and are transferred directly into the sample loop. Before and after each injection, the syringe and syringe needle are rinsed in a dedicated Fast Wash Station containing two user-selectable cleaning solvents. This unique design virtually eliminates sample carryover and adsorption problems.

## Software Control

The HTS PAL is controlled by Varian MS Workstation software. GLP comes standard with MS Workstation software and includes optional tools to facilitate 21 CFR Part 11 compliance.



*Method editor screen allows complete control of the HTS PAL*



*Interactive access to sample information*

NOTICE: This document contains references to Varian. Please note that Varian, Inc. is now part of Agilent Technologies. For more information, go to [www.agilent.com/chem](http://www.agilent.com/chem).

## HTS PAL Specifications

- ▶ XYZ robot with syringe only concept
- ▶ Positioning precision:  $\pm 0.1$  mm
- ▶ Injection mode: automatic recognition of syringe type

### Syringe Size:

100  $\mu$ L standard

(Optional syringe sizes 10, 25, 250, 1000, 2500, 5000  $\mu$ L)

### Injection Volume Range:

0.1  $\mu$ L – 5000  $\mu$ L

### Injection Speed:

0.01  $\mu$ L/sec – 250  $\mu$ L/sec.

### LC Injector:

1 electrically actuated fast switching 6-port valve

(Optional multi-valve configurations available)

### Sample Capacity:

Up to:

- ▶ 600 1 mL micro vials
- ▶ 648 2 mL standard vials
- ▶ 96 10 mL or 20 mL vials
- ▶ 12 deepwell plates (96 or 384)
- ▶ 24 standard microplates (96 or 384 wells)

### Dimensions:

25.5 in./64.8 cm (h) x 32.6 in./82.8 cm (w) x 15.2 in./38.5 cm (d)

### Weight:

10 kg (without accessories)

### Needle, Syringe and Valve Cleaning:

Fast Wash Station for 2 different solvents

### Instrument Control:

- ▶ Local User Interface
- ▶ Control panel: four function keys with graphical LCD display
- ▶ Unique scroll knob for 'Teach Functions'

### Remote control:

- ▶ Varian MS Workstation Software
- ▶ Cycle Composer Windows 98/NT4/2000/XP®-based PC software

### Electrical Control:

- ▶ Two RS 232C ports
- ▶ Three TTL input/three TTL output
- ▶ Two Opto Coupler Input/two relay output

### HTS PAL Options:

- ▶ Thermostatted Trayholders (4 °C – 70 °C)
- ▶ Thermostatted Microplate Stacks (4 °C – 40 °C)
- ▶ Barcode Reader

## Ordering Information

Cat. No.	Description
PALHTS0VAR	HTS PAL without TraySet or Stack Prep and Load System for High Throughput Screening
PALTray1ml	Sample tray for 200 vials 0.7/1 mL
PALTray2ml	Sample tray for 98 vials 2 mL or 78 vials 0.7/1 mL
PALTray10ml	Sample tray for 32 vials 10/20 mL or 21 vials 2 mL
PALTrayMT2ml	Sample tray for PAL Stack6DW, PAL StkCooler or PAL MT4Holder for 54x2 mL vials (6 Trays may be used in 1 PAL Stack6DW, Stack Cooler or 4 Trays may be used in 1 PAL MT4Holder)
PALTrayMT2ml6	Set of 6 pcs. PAL TrayMT 2 mL sample trays
PALStack12MT	MT PAL System stack for 12 Microtiter plates
PALStack6DW	PAL System stack for 6 Deepwell plates or 6 PAL TrayMT 2mL
PALMTHolder	Trayholder for 2 Microtiter/Deepwell plates or 2 PAL TrayMT 2mL
PALMT4Holder	Trayholder for 4 Microtiter/Deepwell plates or 4 PAL TrayMT 2mL
PALTraySet1ml	Sample tray for 200 vials 0.7/1 mL, including Trayholder 76 mm
PALTraySet2ml	Sample tray for 98 vials 2 mL or 78 vials 0.7/1 mL, including Trayholder

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