



PAL HTS-*xt* equipped with Maldi Option, Stacks for standard and deepwell microplates

# PAL Maldi Option

Prep and Load Platform

## On-line Fraction Collection onto MALDI Targets or microplates

Nano, capillary and microbore LC coupled with fraction collection onto MALDI targets or microplates

Single device for LC separation, fraction collection and re-injection of collected fractions

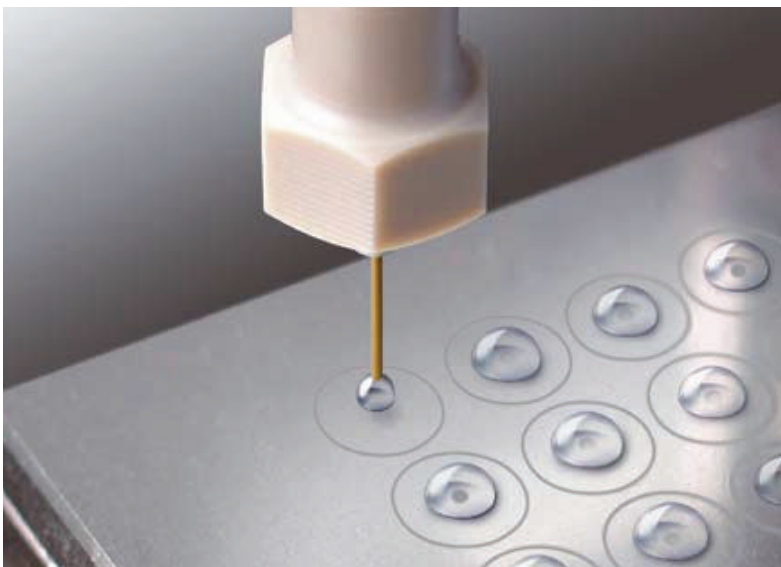
Accommodates column sizes down to 75 $\mu$ m and flow rates up to 300 $\mu$ l/min

All major MALDI Target vendors supported

Optional on-line matrix addition via Nano Y-connector

Rapid and accurate identification and quantification of proteins is one of the goals of today's proteomics research. One key requirement for this approach is the ability to resolve the individual components of peptide mixtures prior to MS analysis. The challenge is to achieve high sensitivity with limited sample amount. This requires equipment that is specifically designed for separation at low flow rates and that allows the collection of small fraction volumes, even on MALDI targets.

The micro collection/spotting system PAL MALDI Option meets this challenge. It is an ideal tool for single or multidimensional chromatographic separation of complex peptide and protein mixtures for subsequent analysis by MALDI and/or ESI mass spectrometry. The offline combination of LC separation with MALDI MS analysis gives scientists significant advantages over the widespread online ESI/MS approach. LC/MALDI "freezes" the LC separation on the MALDI plate and allows MS/MS experiments without any time constraints. Intelligent decisions can now be made during analysis, allowing results-driven analysis without rerunning the sample. Decoupling the separation from the analysis gives the opportunity to optimize the separation performance and the total sample throughput. Flexibility for LC/MALDI spotting on various target types from different vendors as well as collection into well plates (96 and 384). Probe positioning control of 0.1mm enables reproducible and robust collection of small fraction volumes from nl to the lower  $\mu$ l range. Matrix addition can be done either offline or online by premixing the matrix with the eluent.



Maldi Spotter

## Specifications PAL MALDI Option

Compatible PAL instruments  
PAL HTC-xt / PAL HTS-xt / PAL HTX-xt

Fraction vessel capacity  
PAL HTS/HTX-xt 23 MTP or 11 deepwell or 594 2ml vials  
(96 and 384 wells)  
PAL HTC-xt 11 MTP or 5 deepwell or 270 2ml vials  
(96 and 384 wells)  
(optional cooling to 4°C available)

MALDI Target Capacity  
up to 46 depending on PAL instrument type and target vendor

Spotting Tip  
Hydrophobic coated fused silica capillary

Spotting frequency  
min. 3 seconds (20 spots per minute)

Delay volume  
approx. 3 $\mu$ l with 1 meter PEEK Tubing ID 65 $\mu$ m (column in LC system)  
approx. 10nl if column is installed inside MALDI Tool  
(\* lower delay volume requires tubing ID <65 $\mu$ m)

Flow Rate  
20nl - 300 $\mu$ l

Transfer tubing kit  
PEEK tubing ID 65 $\mu$ m / OD 1/16 inch  
PEEK Nano Y-connector for 2 pcs. 360 $\mu$ m capillary tubing

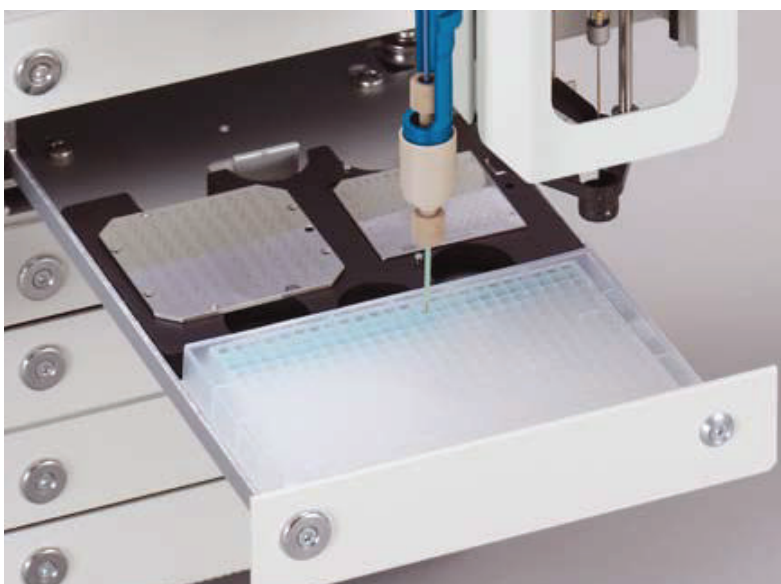
Software control  
Cycle Composer 1.5.3 or higher\*  
PAL Firmware 3.0 or higher  
(\*including example macros for Injection, Fraction Collection and Spotting)

Wetted Parts  
All liquids compatible with PEEK, Fused Silica

Supported Targets  
Bruker, ABI Sciex, Waters, Agilent, Shimadzu



Fraction collection onto Maldi target



Fraction collection into 384 microplate