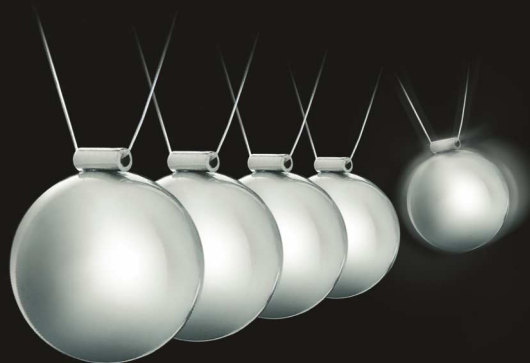


## New solutions in micro-scale proteomics research



# AccuSpot

Bringing LC to MALDI technology



### AccuSpot technology

- Designed for on-line collection of fractions eluting from Capillary/Nano LC.
- Supports micro-fractionation on MALDI-TOF/MS targets, for 96 or 384 well format MALDI plates.
- Multiple plates can be spotted continuously. The plate changer feature allows a maximum of plates to be spotted without stopping.
- Matrix solutions can be added automatically. Plates can be spotted while matrix solutions are added automatically to the LC eluent.
- A spotting monitor feature is provided as standard equipment. The system includes a CCD camera as standard accessory, so the actual spotting status can be confirmed on the PC screen.\*

LC/MS/MS is often regarded as the technique of choice in identifying components from complex mixtures, however, it is not without its limitations. An alternative approach is to consider LC/MALDI.

LC/MALDI has a number of advantages in that the LC is decoupled from the MALDI mass spectrometer that supports

- a higher data acquisition at the top of the eluting peak to allow a precise selection of precursor ions for MS/MS analysis
- the identification of isobaric peptides (in automated LC/MS/MS ion exclusion strategies often miss ions in closely related components)
- sample archiving (the MALDI plate can be stored and used to further validate protein identification if required)
- uncompromised sensitivity (MALDI analysis can focus on the peak apex)
- increased depth of coverage of the sample and enhanced sequence coverage for the detected proteins.



\* With optional video capture board

# AccuSpot

The AccuSpot automates LC micro-fractionation, spotting and preparation for MS analysis.

With the AccuSpot system, LC eluent can be accurately and continuously spotted onto target plates, in trace amounts (eg.50nl). This allows for automatic preparation of target plated for MALDI-TOF-MS measurements.

By using it in conjunction with Shimadzu's Two-Dimensional Micro LC System and Shimadzu Biotech's AXIMA MALDI-TOF instruments, proteome analysis can be performed with a higher degree of precision and with greater sequence coverage.

## Key features of the AccuSpot

- **High sample capacity**

9 MS target plates can be loaded at one time (either 96 or 384 format). [To support sample tracking an optional bar-code reader is also available]

- **Highly flexible sample loadings**

The matrix solution flow rate can be applied at rates between 0.1 $\mu$ L/min to 50  $\mu$ L/min. To accommodate different needs the spotting direction can be either straight or zigzag. To ensure that the droplet formation and collection is consistent, a CCD camera is used to monitor micro-fractionation.

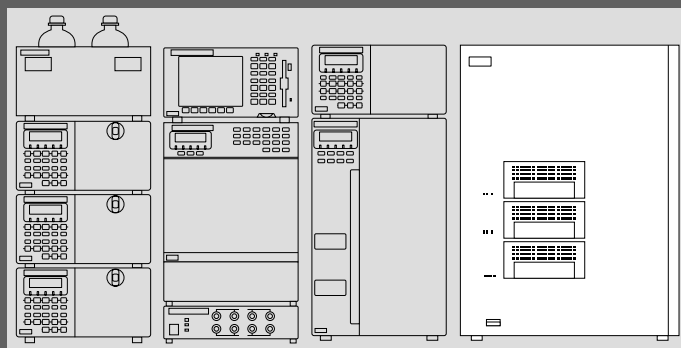
- **Unique sample spotting mode**

Spotting Method is a 'Half contact method' using plate sensors (patent pending).

- **Preparatory Mode**

Continuous Mode (spotting per fixed time period)

Time-specific Mode (continuous spotting over a given time period only): 5 to 60 sec./spot



LC delivery system

AccuSpot

## AccuSpot spotting technique.

To ensure a reproducible and accurate micro-fractionation the droplet is transferred from a static capillary position to a moving MALDI plate table.



- **Step 1-Droplet formation.** Capillary position is static whilst the MALDI plate is the standby-position.



- **Step 2-Drop deposition.** The MALDI plate is precisely moved to the droplet.



- **Step 3-Reset.** The MALDI plate returns to the standby position

SHIMADZU  BIOTECH

bringing analysis to life

The contents of this brochure are subject to change without notice

[www.shimadzu-biotech.net](http://www.shimadzu-biotech.net)

[info@shimadzu-biotech.net](mailto:info@shimadzu-biotech.net)

 SHIMADZU

Printed in Japan 3295-11310-20A-1K