

## CAMMAG TLC-MS Interface: Rapid extraction of compounds for online transfer into APCI-MS, APPI-MS or ESI-MS

The versatile instrument to extract compounds from a TLC/HPTLC plate and feed them into a mass spectrometer for substance identification or structure elucidation. CAMMAG TLC-MS Interface can be connected to any brand of LC-coupled mass spectrometer.



- Compatible with all common HPLC-MS systems
- Rapid and convenient extraction directly into your MS
- Identification of unknown substances
- Confirmation of target compounds
- Semi-automatic performance
- Reproducible results and detectability similar to HPLC-MS
- Compatible with most common TLC/HPTLC layers
- Extraction into vials for NMR or (ATR-)FTIR, static nanospray, direct inlet EI-MS and MALDI
- No more scraping off the plate

### Introduction

Surveys have shown that not all samples may be processed by HPLC-MS or HPLC-DAD systems due to no or low detection of the compounds or impurities in the UV range, a heavy matrix load or a lack of MS compatible solvents, however necessary for the HPLC separation. On the other hand HPTLC is a very fast and convenient method to separate samples. In the past unknown substances were scraped off from the TLC/HPTLC plate, eluted into a tube and transferred into the MS. Now a very convenient and universal TLC-MS Interface is available which can semi-automatically extract zones of interest and direct them online into any brand of HPLC-MS system.

The interface is quickly and easily connected (by two fittings) to any LC-coupled mass spectrometer without adjustments or mass spectrometer modifications. Questioned substances are directly extracted from a TLC/HPTLC plate and sensitive mass spectrometric signals are obtained within a minute per substance zone. The interface extracts the complete substance zone with its depth profile and thus allows detections comparable to HPLC down to the pg/zone range. The interface has been proven to be one of the most reliable and versatile interfaces for TLC/HPTLC-MS coupling.

## Principle

- Plug & play installation by two HPLC fittings at a given HPLC-MS system
- Semi-automatic instrument involving automatic piston movement for pressure seal of the TLC/HPTLC zone on both glass plates and aluminum foils
- Extraction directly from the plate using a suitable solvent delivered by the HPLC pump
- Online transfer into the mass spectrometer
- Automatic cleaning of the piston between the extractions



### Technical functionality and requirements:

The instrument extracts circular zones of 4 mm diameter from a TLC/HPTLC plate, e.g. with methanol or any other appropriate solvent, using the standard flow speed of the HPLC-MS system (e.g. 0.1 mL/min).

Additional extraction head geometries for a reduced or an enlarged layer thickness or oval geometry will be available.

Materials: Plates or aluminum foils up to 20 x 20 cm can be positioned accurately and analyzed zone by zone.

Automation: Semi-automatic instrument involving automatic piston movement, automatic cleaning of the piston, manual positioning and switching

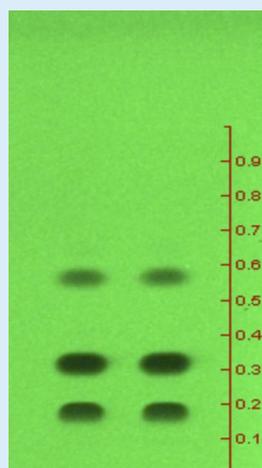
Weight: approx. 11 kg

Size: approx. 23 x 50 x 25 cm; size with optional large table is 40 x 50 x 25 cm (w x d x h)

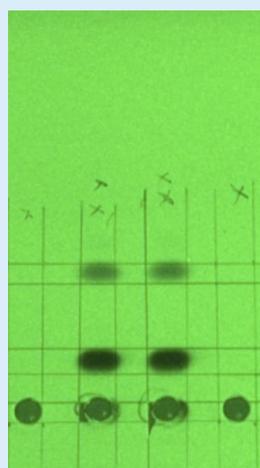
Requirements: 5 bar compressed air or N<sub>2</sub>, HPLC pump or HPLC-MS system

### Application example:

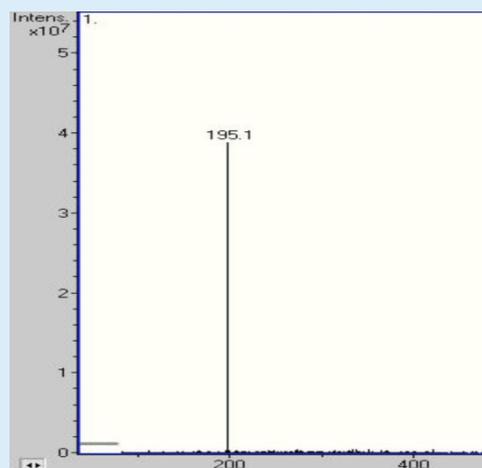
#### Identification of a substance in a mixture (caffeine, paracetamol, acetylsalicylic acid)



▲ Chromatogram with 4 mm bands



▲ Same plate after extraction of spot R<sub>f</sub> 0.15



▲ Extracted spot identified as caffeine with MS (APCI ionisation); extraction and MS-measurement of this spot was achieved within 40 s

Literature notes and further details about CAMAG TLC-MS INTERFACE is available at [www.camag.com/TLC-MS](http://www.camag.com/TLC-MS)

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