# LINEX

Automated Pyrolysis, Thermal Desorbtion, DMI

# Automated LINer EXchanger

Automated GC liner exchange is a technique that is already marketed by ATAS GL for many years. LINEX is a new revolutionary approach, allowing you to perform direct (in-injector) analysis of different samples with little, if any, sample preparation.

### LINEX Advanced Features

- Can be installed on any type of GC
- Little, if any, sample preparation is required
- Can be automated by CTC Analytics PAL Combi-*xt* autosampler
- Based on proven OPTIC 3 injection technology
- Uses standard wide bore (3.4 mm ID) OPTIC liners
- Sample tray for 28 or 98 samples (option)
- Uses standard 11 mm septa or Merlin Microseal®
- Retains true injector septum purge
- Liquid injection can also be done while injector head is closed
- No liner transport adapter is required
- Low consumable costs

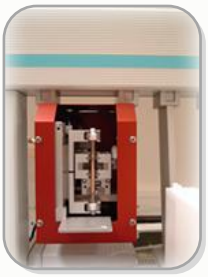
### LINEX-DMI

LINEX-DMI is a system designed to be used for the GC analysis of dirty liquid samples. It can be quickly, in a matter of minutes, mounted on any standard OPTIC injector. Standard wide-bore DMI liners can be handled by LINEX either in manual or automated mode. In the automated mode liners are transported between the sample tray and injector by ATAS GL FOCUS sampling robot equipped with a pneumatic gripping arm.

With LINEX-DMI, the multi-sample analysis sequence works in a simple way: head of the injector is automatically opened and a liner containing sample in a sample container (micro-vial) or the liner with the empty micro-vial is introduced into the injector. The head is closed and the liner is purged with carrier gas. Next, after the sample injection (if it was not done outside injector), the injector is heated and the sample is transferred onto the column. At the end of the analysis the liner is moved back to the tray and the cycle is repeated.

The newly developed LINEX-DMI is a most promising automated system for the analysis of samples containing difficult non-volatile or solid-like suspended matrix using the ATAS GL Difficult Matrix Introduction (DMI) technique*.




## LINEX-DMI Advanced Features

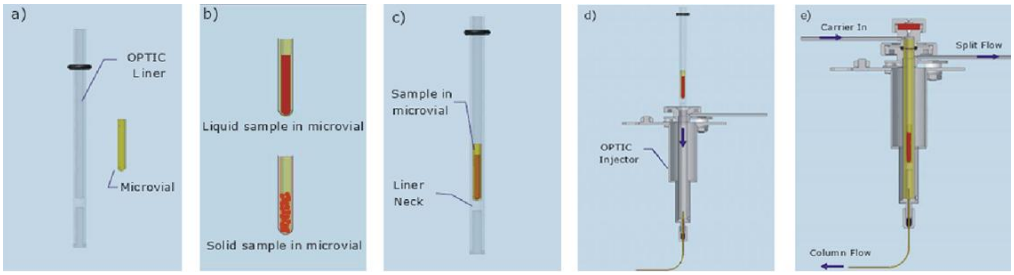
You are able to perform GC analysis of difficult samples containing dirty matrix. The extract is introduced directly into the injector in a DMI micro-vial, which in turn is inserted into an injector liner – *minimum, if any, sample preparation is required*

Sample is desorbed directly onto head of the GC capillary column – *fewer steps involved, less opportunities for analyte losses*

In case of Large Volume Injection, solvent is removed by venting under controlled conditions

Non-volatiles from the matrix are kept in the micro-vial that is disposed after use – *no contamination of injector, liner can be re-used*

Compounds of interest can be transferred onto the column using the lowest possible final temperature – *limiting matrix pyrolysis.*




## LINEX-TD

Originally the automated GC liner exchange has been successfully used in ATAS GL Direct Thermal Desorption (DTD) unit. LINEX-TD is a new version of DTD, allowing you direct (in-injector) extraction of volatiles and semi-volatiles from various matrices including the solid state samples.

LINEX-TD can be quickly, in a matter of minutes, mounted on any standard OPTIC injector. Wide-bore OPTIC liners can be handled by LINEX either in manual or automated mode. In the automated mode liners are transported between the sample tray and injector by ATAS GL FOCUS sampling robot equipped with a pneumatic gripping arm.

With LINEX-TD, the multi-sample analysis sequence works in a simple way: head of the injector is automatically opened and a liner containing sample is introduced into the injector. The head is closed and the liner is purged with carrier gas. Next, the injector is heated and volatile and semi-volatile compounds are extracted and transferred onto the column. At the end of the analysis the liner is moved back to the tray and the cycle is repeated.

## Capping and De-Capping Station for LINEX

In many cases the GC injector liner should be sealed (capped) from both sides. This is normally done in order to either protect the sample placed or collected into the liner or keep the liner clean after conditioning. The liner thus should be de-capped just before it is placed into the GC injection port. The ATAS GL Capping-De-Capping (CDC) Station is designed to automate this procedure. It works under control of the CombiPAL autosampler. The CDC Station is sold as an option for the LINEX (reference number L500001).

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* *H. Jing, A. Amirav, Anal. Chem. 1997, 69, 1426-1434.*