

ATAS GL LINEX-TD

Automated LINer EXchanger for OPTIC 3 Injection System – GC accessory enabling Thermal Desorption of gas and solid samples

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



LINEX-TD Advanced Features:

- Can be installed on any type of GC
- Can be automated by FOCUS / CombiPAL autosampler
- Based on proven OPTIC 3 injection technology
- Uses standard wide bore (3.4 mm ID) OPTIC liners
- Sample tray for up to 98 samples available
- Uses standard 11 mm septa. Compatible with Merlin Micro-seal
- Retains true injector septum purge
- Also available for 1/4" OD x 3.5" long injector tubes
- No liner transport adapter is required
- Low consumable costs



LINEX-TD is automated liner exchanger designed to be used for direct (in-injector) Thermal Desorption of gas and solid samples. It can be quickly, in a matter of minutes, mounted on any standard OPTIC injector. Standard 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.

The newly developed LINEX-TD is a very promising technique for analysis of solid and enriched gaseous samples with the fully automated OPTIC-GC or OPTIC-GC/MS system. There is also a possibility to apply the approach for the analysis of liquid samples containing dirty matrix by using LINEX-DMI version.

Available DTD Applications:

- Qualitative and quantitative determination of the organic wood preservative component *N*-cyclohexyl-diazeniumdioxide (HDO) in treated timber
- Analysis of car exhaust
- Nicotine in Tobacco
- Analysis of instant coffee

For these and other application notes you are advised to visit ATAS GL web site: www.atasgl.com



a total analytical solution

ATAS GL
international

ATAS GL LINEX-DMI

Automated LINer EXchanger for OPTIC 3 Injection System - new GC accessory enabling direct routine analysis of dirty liquid samples

Automated GC liner exchange is technique that has already been marketed by ATAS GL for many years. Originally, it has been successfully used in Direct Thermal Desorption (DTD) unit and its DTD-DMI version. LINEX-DMI is a new revolutionary approach, allowing you direct (in-injector) analysis of dirty liquid samples with little, if any, sample preparation.



LINEX-DMI Advanced Features:

- Can be installed on any type of GC
- Little, if any, sample preparation is required
- Can be automated by FOCUS / CombiPAL autosampler
- Based on proven OPTIC 3 injection technology
- Uses standard wide bore (3.4 mm ID) OPTIC liners
- Sample tray for up to 98 samples available
- Uses standard 11 mm septa. Compatible with Merlin Micro-seal
- Retains true injector septum purge
- Liquid injection can also be done while automatic injector head is closed
- No liner transport adapter is required
- Low consumable costs



LINEX-DMI is automated liner exchanger designed to be used for the GC analysis of samples containing non-volatile or solid-like suspended matrix. It can be quickly, in a matter of minutes, mounted on any standard OPTIC injector. Standard wide-bore DMI 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-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 technique for the analysis of samples containing difficult non-volatile or solid-like suspended matrix using the ATAS GL Difficult Matrix Introduction (DMI) technique*. With DMI your advantages are:

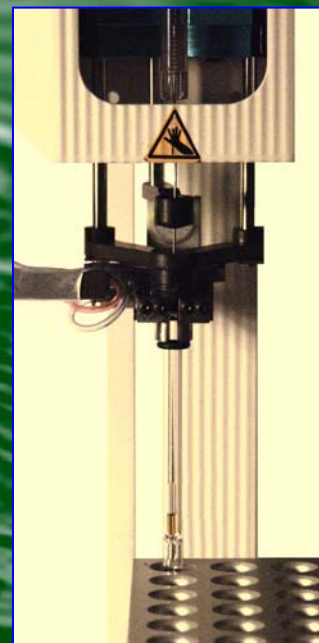
- You are able to perform GC analysis of sample containing dirty matrix, by introducing it directly into the injector. Sample is contained in a DMI micro-vial inserted into an injector liner – *minimum, if any, sample preparation is required*
- Sample is desorbed directly onto head of the GC capillary 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*

Available DMI Applications:

- Trace-level determination of pesticides in food using Difficult Matrix Introduction
- Fatty Acid Profile in vegetable oils
- Fatty Acid Profile in bacteria
- Chemical Analysis of Spores and Pollen
- Limonene in shampoo
- Benzene and toluene in crude oil
- Allergens in cosmetic products

For these and other application notes you are advised to visit ATAS GL web site:
www.atasgl.com

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



a total analytical solution

ATAS GL
international