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Robotic System for Automated Sample Preparation: FREESTYLE

FREESTYLE GPC

FREESTYLE GPC Module

FREESTYLE

Clean-up with Gel Permeation Chromatography

Sample clean-up via GPC (gel permeation chromatography) is used for all samples in the analysis of residues and contaminants and is therefore universally applicable.



The FREESTYLE GPC is a fully automated chromatographic sample preparation system, that is used for example for clean-up of food, feed and environmental samples. It complies in all areas with the requirements of general methods, e.g. L 00.00-34, EPA 3640A.

Particularly user-friendly is the combination of the FREESTYLE GPC with the [EVaporation module](#). The chosen fraction is collected online in the vacuum chamber and after concentration transferred into one or several vials (e.g. GC vials). The result is a sample, which can be directly introduced into the analyser.

The GPC module consists of a preparative LC-double piston pump with all its advantages e.g. minimising pulsation. With a flow rate of e.g. 5 mL/min, the preparative pump incurs only a small load and the maintenance requirements are thus extremely low. An analytical pump is optionally available.



Proven clean-up technology combined with technical finesse

- Variable depth of immersion in order to protect the needle from sediments; can be defined individually for each method
- No loss occurs during sample loading from containers sealed with septa; five injection options are offered through the software ranging from simple sample loop overfilling to residue-free quantitative sample transfer; individually assigned to each method
- Loss-free fraction collection into septa-sealed containers
- Repeated combination of the same sample fractions on one collection position; individually definable for each method (especially important for dioxin/PCB analysis)
- Optimum results through individual definition of the flow rate for each method
- Intake speed of sample adjustable depending on the type of solvent in order to avoid distortion of the sample volume caused by suction speed when using volatile solvents.

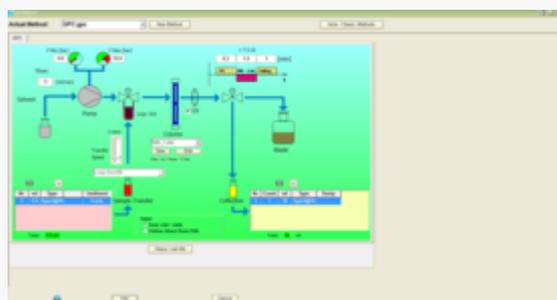
Trust is good, control is better

When using GPC, significant amounts of solvent occur. In order to protect user and laboratory, the process is controlled at significant points of the system. Parameters can be set individually.

- Under-pressure: normally due to leakages. An instant shut down of the pump prevents the uncontrolled leakage of a large amount of solvents.
- Over-pressure: Might lead to damage of the columns bed material or leakage of the system. With a special low-pressure sensor, the pressure is monitored and on reaching the set value, the system will be shut down. Over-pressure can be caused by clogging of the column.
- Waste sensor: An overflow sensor prevents overflow of the waste container (optional).

Intuitive method set-up

The method set-up for the GPC module is done via a clearly laid out graphic as the basic procedure of sample preparation with GPC is pre-defined: forerun, main run (several fractions possible) and tailings. The user just enters the values and starts the system.



Easy GPC method set-up in the software

Fast Processing of Different Samples

For the automated processing of various samples with different GPC-columns in one sequence LCTech offers an external switching valve (upgrade), which can be simply mounted besides the GPC-pump underneath the FREESTYLE system. Thus the user can select out of up to 4 different GPC-columns per sample in the software. This saves time and work, because a change of columns is not necessary anymore. However it should be considered, that all GPC-columns use the same solvent.

For more details please do not hesitate to contact us and write an e-mail to: info@LCTech.de or you can call us: +49 8082 2717-0.

Please contact us

Prices and Example Offers

Information on prices and example offers can be found in the [Distributor-Login](#) area.
We will be happy to send you your access data on request to info@lctech.de.

FREESTYLE GPC/EVA in action

[User video about automated sample preparation for residue analysis](#)

Brochure

[General FREESTYLE brochure \(pdf | 3 MB \)](#)

Application notes

[Determination of PAH via GPC/EVAporation \(pdf | 851 KB \)](#)

[Determination of PAH via GPC/EVAporation and HPLC Direct Injection \(pdf | 1 MB \)](#)

Accessories

[UV-detector: Optimal combination with the FREESTYLE GPC](#)

[GPC test standard for quality assurance of your GPC column](#)

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