

Antimicrobial Substances
Antioxidants
Aromatic Amines
Azodyes
Bisphenol A
Chlorinated Aromatics
Dioxin-like Polychlorinated Biphenyls
Mycotoxins
Nitro- and Nitroso Aromatics
Nonylphenols
Organochlorine Pesticides
Organonitrohen Pesticides
Organophosphate Plasticizers
Organophosphorous Pesticides
Persistent Organic Pollutants
Phthalates
Polybrominated Diphenyl Ethers
Polychlorinated Bipenyls
Polychlorinated Dibenzodioxins
Polychlorinated Dibenzofuranes
Polycyclic Aromatic Hydrocarbons
Pyrethroids
Synthetic Musk Fragrances
Toxaphens
Zearalenone
...



GPC_{uno}

GPC_{quattro}

Sample Clean-Up with Low and Medium Pressure Chromatography

Parallelization for a High Sample Throughput

- ✓ e.g. for sample preparation for pesticide analysis
- ✓ also suitable in pharmaceuticals, active ingredient research, ...

SOLUTIONS BY

LC*Tech*
SAMPLE PREPARATION & ANALYSIS

A Simple Sample Preparation System

Flexibility at a Good Price

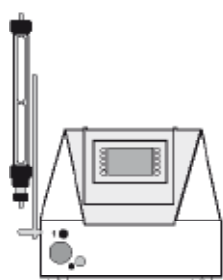
The GPC uno by LCTech is a simple and universal system for gel permeation chromatography for the clean-up of food and feed samples as well as environmental samples.

After manual injection, the GPC uno processes your samples automatically.

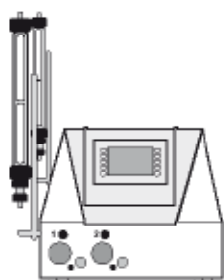
This system gives fast and inexpensive access to GPC, and its basic version is fully adequate for laboratories processing a smaller number of samples.

Additional modules can be installed expanding the GPC uno by further GPC lines at any time. Thereby, the system can be adapted to a greater number of samples or different applications.

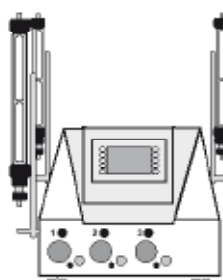
Expand your system according to your needs:



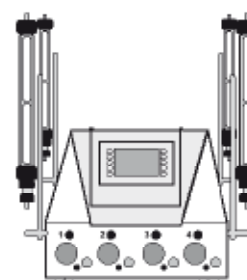
One GPC column



Two GPC columns



Three GPC columns



Four GPC columns

The Control: Intuitive and Clear



The clearly laid out standard screen gives an overview of all current settings.

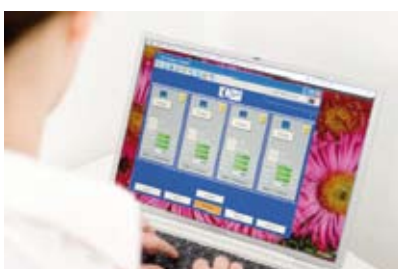
From here you can start each individual column instantly.

The control is intuitive and can be managed without previous knowledge.

Like to see greater detail?

Follow the run of each column in real time - with the time bar, numerical time display and a constantly updated diagram of the flow paths as well as the process status.

The alternative: The display on the PC allows you to follow the system processes even from work stations a little further away.



The control of the GPC uno, via system screen or via PC.

Service-Friendly Design



Simply open lid and gain easy access to pumps.

An LC pump has been fitted for each individual GPC line.

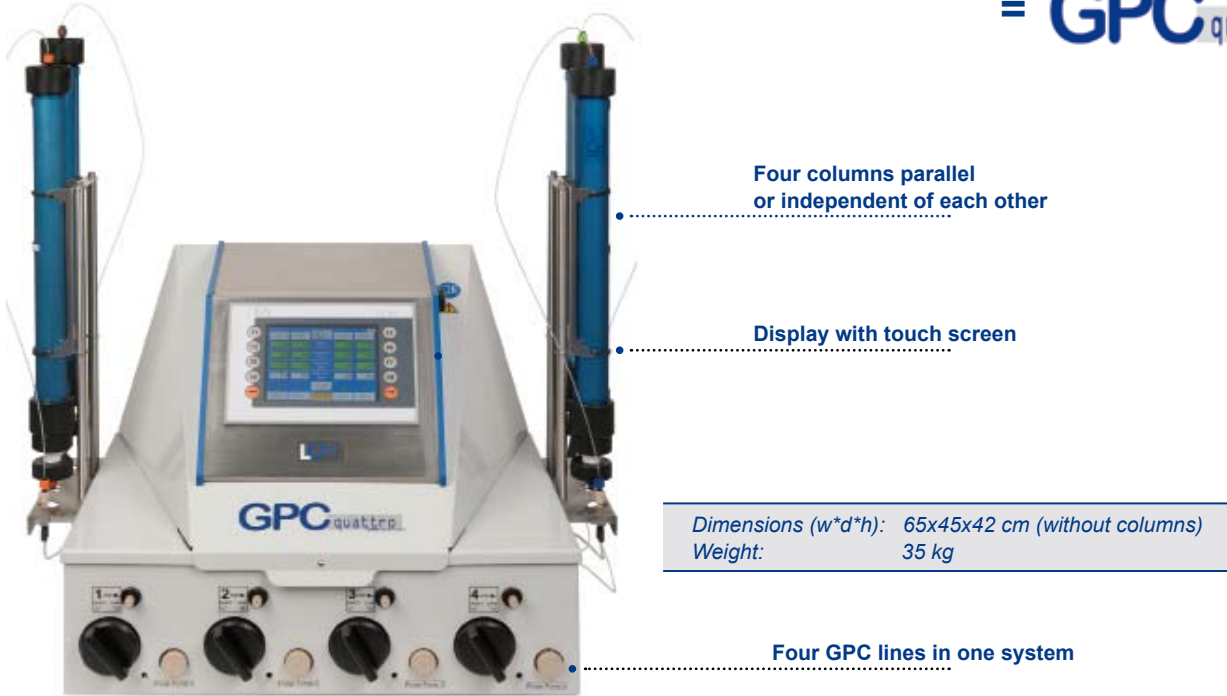
In order to expand or service the system, the pump housing has been made easily accessible. Just lift the electronic unit to gain access.

Four GPC Systems in One Machine

System Overview

GPC
+ GPC
+ GPC
+ GPC

= GPC quattro



The GPC quattro facilitates up to four parallel GPC runs – either apply the same method to all columns or run with independently defined conditions for each individual column. Each GPC line is operated by its own pump.

Thereby, in comparison to sequential processing, sample throughput can be quadrupled, e.g.

<i>Sequential Clean-up</i>	<i>Parallel Processing with the GPC quattro</i>
45 min GPC-run + 5 Min rinsing / sample = 11 samples / 9 hours	45 Min GPC-run + 5 Min rinsing / 4 samples = 44 samples / 9 hours

The GPC quattro makes your laboratory life noticeably easier. The parallel utilisation of several GPC columns helps you work efficiently and saves time.

This system already operates in renowned laboratories with a high sample throughput analysing spices in oil, azo dyes, antioxidants, pesticides and many more.

The GPC quattro marries a robust, low-maintenance design with reliability and reproducibility. It enables quick and reliable results under dependable operation.

It couldn't be any simpler!

- ✓ Choose method
- ✓ Inject sample
- ✓ Press „START“
- ✓ The GPC uno / quattro cleans your samples automatically

“No measurable carry-over”

“This machine delivers reproducible results”

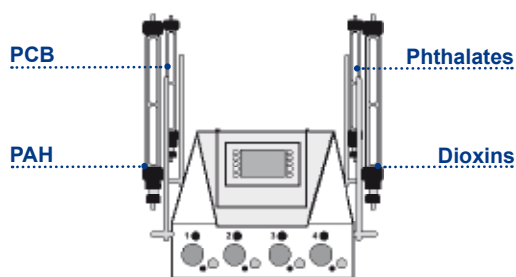
Feedback of satisfied customers, who already use the GPC quattro in their laboratory.

Determine yourself how extensive you want your system to be

Owing to their modular structure, the GPC uno and the GPC quattro remain flexible and can be tailored to your laboratory needs. The installation of upgrades is possible at any time without any complications.

In the basic model, four columns run parallel using the same method, i.e. with the same settings for flow rate, pressure and forerun, main run and tailing. Already in this version, the columns can be started independently of each other.

Upgrade 1 allows each run to be operated individually. You can use up to four different methods, column types and eluents in parallel. E.g.



Example for the GPC quattro with Upgrade 1:

The parallelisation of the GPC runs provides a four-fold productivity for the price of one system.

Upgrade 2 contains three additional sensors monitoring filling levels in the waste containers. This is the right choice, if you wish to work with up to four different eluents. One sensor is already fitted in the basic model.

Upgrade 3 enables the display of data and processes on your PC.

High Performance System, Great Results

Reproducible and reliable – the GPC quattro delivers great results with high recovery rates, as is shown by the analysis of a spiked sample:

Recovery rates: Pesticide 25 ppb			
alpha-HCH	101 %	alpha-Endosulfan	101 %
HCB	101 %	4,4'-DDE/Dieldrin	102 %
beta-HCH	99 %	Endrin	103 %
gamma-HCH	100 %	beta-Endosulfan	101 %
Heptachlor	100 %	2,4'-DDT	102 %
Aldrin	102 %	4,4'-DDD	101 %
trans-Heptachlor	102 %	4,4'-DDT	99 %

Advantages at a Glance:



Quadrupled sample throughput in comparison to sequential processing.



The systems offer flexibility – adaptable to your specific requirements.

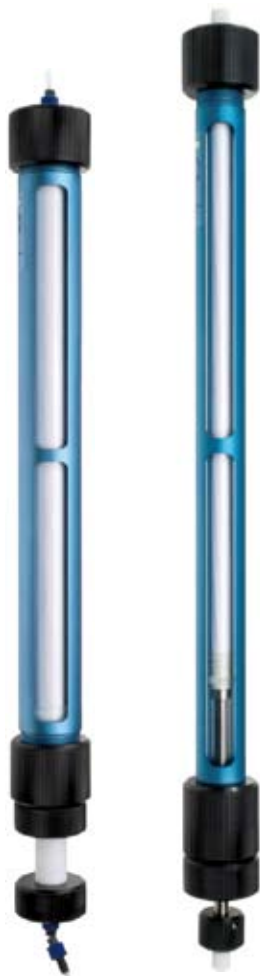


Both systems are particularly user friendly and easy to operate – by the push of one button a comprehensive overview will be displayed.



The modular concept allows for a competitive price.

LC Tech GPC Columns



LC Tech GPC-columns with their simple and self-explanatory construction as well as their robustness are designed for everyday use in the laboratory.

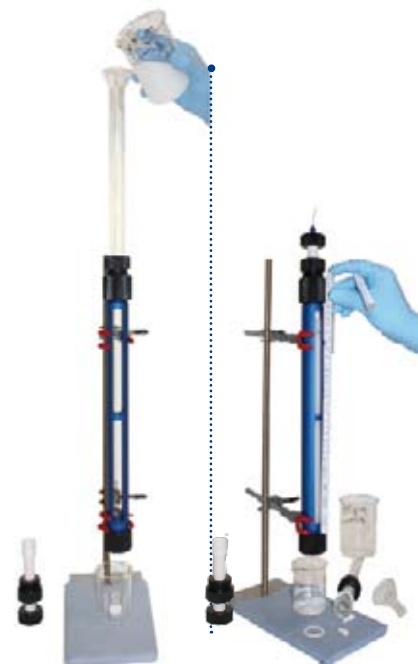
The columns are available filled with Bio-beads or unfilled, in various lengths and different filling levels. They can be used with a variety of solvents. Standard columns are obtainable for many methods, including:

- DFG S19
- Mini GPC Italy
- Modified USEPA 3640 A
- FSIS CLG- CHC3
- USEPA 3640 A
- EPA Method 1614
- USP Monographs: Lanolin, ...

The columns can be re-filled.

To re-fill the columns directly on site, LC Tech offers suitable kits for a simple and fast procedure.

The columns can be easily taken apart, cleaned and put together again. Owing to their refined construction, the columns will be instantly tight and ready for use.

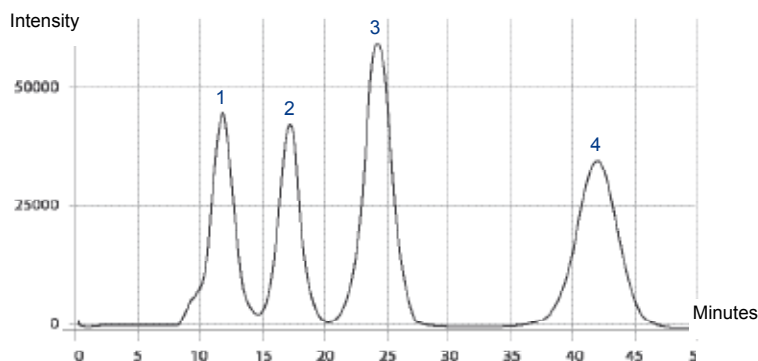


Advantages at a Glance:

- ✓ The column is encased in an aluminium sheath and therefore won't crack or burst, thereby also protecting the user.
- ✓ Chemically inert: Sample only gets into contact with glass / PTFE or stainless steel.
- ✓ All parts are solvent-resistant.
- ✓ Simple adjustment of the column bed
- ✓ No cross-contamination in subsequent samples, even in the most challenging matrices
- ✓ Suitable for many different standard methods

LC Tech GPC Columns - Tested Quality

For quality assurance purposes, each filled LC Tech GPC-column will be supplied together with a chromatogram.



Example: QA-Chromatogram of a GPC 10011 Column

*Ethyl acetate/Cyclohexane 5.0 mL/min
Injection volume 5mL
UV-measurement at 254 nm*

1. Corn oil	25.0 g/L
2. DEHP	1.0 g/L
3. Methoxy chlorine	0.2 g/L
4. Perylene	0.02 g/L



Already considered solvent recycling?

LCTech Distillation Devices

for recycling solvents and improving technical qualities

The perfect completion to your GPC.

- ✓ Cost for purchase, storage and disposal of the used solvent significantly decrease
- ✓ Easy and comfortable handling due to fully automated control
- ✓ Safe operation, low maintenance

Please ask us for details!



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Visit us at www.LCTech.de!

And a distributor nearby

Ordering Information

Article Number	Description
11601	GPC uno incl. one line for gel permeation chromatography 96 - 240 V AC, 50 - 60 Hz
12146	GPC duo incl. two lines for gel permeation chromatography
11607	Upgrade with one GPC line; set includes pump, electronics and tubing
11389	GPC quattro, for 4 GPC columns in parallel, filling level sensor included 96 - 240 V AC, 50 - 60 Hz
11391	Upgrade 1: Software for four different GPC runs
11392	Upgrade 2: Three additional filling level sensors
11393	Upgrade 3: Data and process visualisation on PC with VNC
GPC columns: Visit www.LCTech.de or order by phone	

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