

# How do you explain HPLC?

- ▶ AZURA Educational System for tomorrow's HPLC professionals



# AZURA Compact HPLC

Analytical HPLC for the training of future HPLC professionals

We believe that a lively and entertaining training is the best way to inspire school and university students to strive for a career in science. KNAUER is Germany's largest family-owned manufacturer of HPLC (High Performance Liquid Chromatography) instruments with an experience of over 40 years in this field. Liquid chromatography is one of the most important analytical techniques used in research, environmental protection, laboratory diagnostics and quality control today. Let us show you the wide range of HPLC applications and share our knowledge with you.

Together with the Hamburg University of Technology, KNAUER started the KNAUER Explorer Club a couple of years ago. It aims to give students a solid understanding of chromatography and its applications such as the detection and analysis of pollutants in rivers, ingredients in soft drinks and doping in sports.

We would like to support you in your efforts to teach chromatography in theory and practice with the AZURA Educational System. Our special package for training includes:

- ▶ AZURA Compact HPLC: an isocratic HPLC system with manual injection valve, pump, HPLC column and UV detector as well as eluent tray and solvent bottles.
- ▶ A laptop and the HPLC software ClarityChrom® to control the system and analyze results.
- ▶ Training material: flow chart for installation and capillary connection, detailed application note and video tutorials.

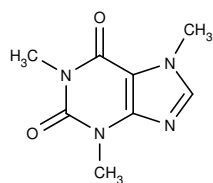
AZURA Compact HPLC:  
Robust, modern and cost-effective.

Discover more with the AZURA Educational System

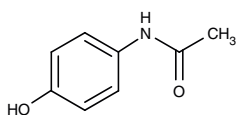


## How do you explain analytical experiments?

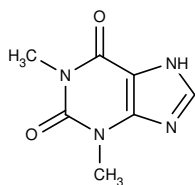
Your AZURA Educational System includes printed training material that explains several applications of HPLC. For example, the quantitative determination of caffeine and paracetamol in samples of your choice (e.g. coffee, soft drinks, medicine) is explained in detail. In simple steps, the students are introduced to basic concepts and terms used in HPLC such as calibration curve and internal standard. The easy to understand instructions guide them through the complete experiment, including the setup, run and analysis.



Caffeine



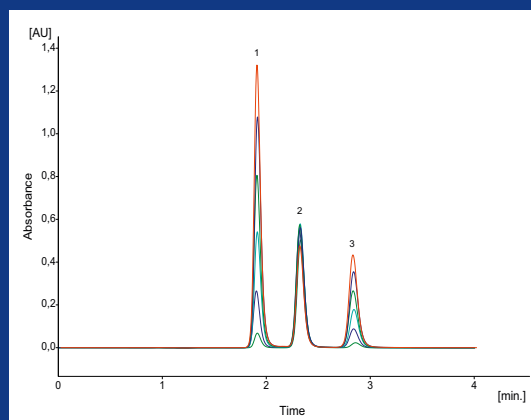
Paracetamol



Theophylline

## What is an internal standard?

The internal standard (IS) responds to inaccuracies in quantitative analysis. It is added to the calibration solution and samples in a fixed amount. Ideally, the IS produces the same peak areas in all measurements. If this should not be the case, the IS can be used to correct for this variability.

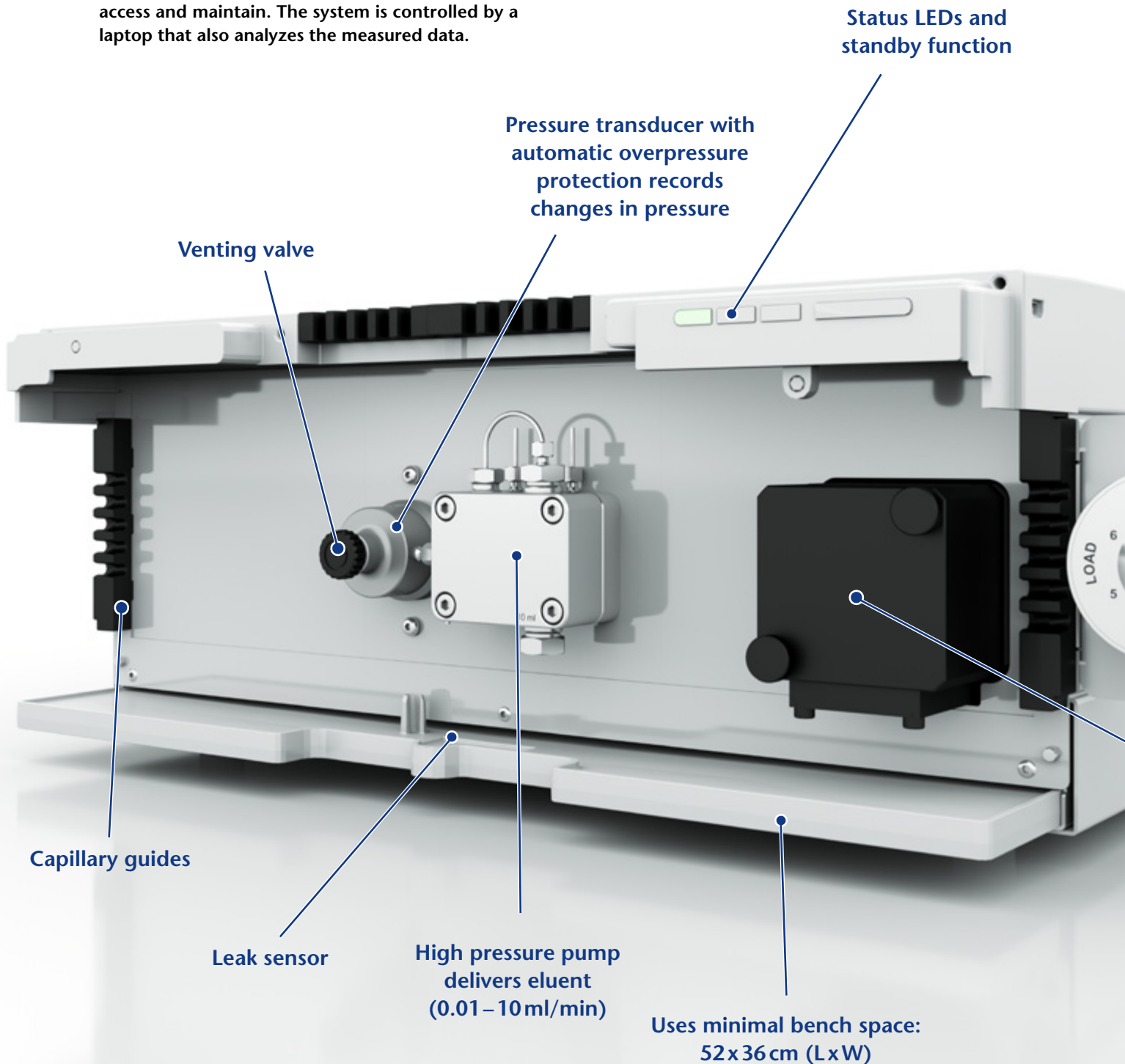


Overlay of chromatograms used for calibration.  
1. Paracetamol, 2. Theophylline (IS), 3. Caffeine



# How do you use AZURA Compact HPLC?

Intuitive and up-to-date: The clearly defined layout helps to understand the different functions of the HPLC system. All important components are easy to access and maintain. The system is controlled by a laptop that also analyzes the measured data.



Watch the tutorial video online



[www.knauer.net/cc-tutorials](http://www.knauer.net/cc-tutorials)



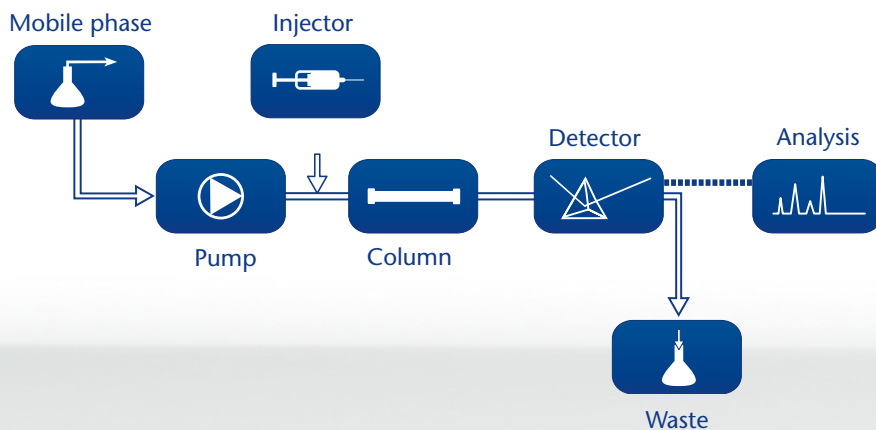
## How is the data analyzed?

ClarityChrom, the software that controls the HPLC system, is also used to record and interpret the data – for qualitative and quantitative analysis! The included video tutorials show you step-by-step how to use the program and analyze your chromatograms.

Robust manual injection valve for sample application



## What is the AZURA Compact HPLC made up of?



UV detector with variable wavelength (190–500 nm)

More information



[www.knauer.net/azuraedu](http://www.knauer.net/azuraedu)

# What is included?

The AZURA Educational System –  
Inject, Pump, Separate, Detect and Analyze

<b>HPLC system</b> <i>HPLC system AZURA Educational System, item no. AYLXBACA-A (US)</i>	AZURA Compact HPLC with pump P 4.1S and detector UVD 2.1S with flow cell (10 mm path length, 1/16" connectors)
<b>Sample application</b>	Manual injection valve including 10 µl sample loop HPLC injection syringe (straight needle), 100 µl volume Injection valve mounting bracket
<b>Start-up kit</b>	AZURA capillaries and fittings (PEEK, 1/16")
<b>Accessories</b>	Eluent tray E 2.1L Set of mobile phase bottles (2 x 1000 ml) Tool kit for HPLC system setup
<b>PC</b>	Laptop with pre-installed Windows 7
<b>PC communication</b>	Router for LAN connection (8 x)
<b>Software for controlling and recording</b>	ClarityChrom software and licence* for the AZURA Compact HPLC system
<b>Column kit</b>	Reversed-phase column with integrated pre-column, 125 mm x 4 mm (L x inner diameter), pre-packed with Eurospher II 100-5 C18 Magnetic clip to attach column
<b>Training material</b>	Easy to understand software tutorial (video on CD) Flow chart for installation Sample applications with detailed information and hand-on experiments (for more isocratic applications, visit <a href="http://www.knauer.net/applications">www.knauer.net/applications</a> )
<b>Service</b>	Need help with installation and setup? Contact our Technical Support Team. Phone: +49 30 809727-111, email: <a href="mailto:support@knauer.net">support@knauer.net</a>
<b>More options</b>	AZURA products and accessories ( <a href="http://www.knauer.net/azura">www.knauer.net/azura</a> or request)

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Technical data are subject to change without notice.

Front cover: Painting from street artist El Bocho. Created for the KNAUER Explorer Club (KEK) in which school students learn about the basics of liquid chromatography.

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## HPLC · SMB · Osmometry

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